



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: GM GRAND RAPIDS
 PROJECT NUMBER: 17360-09
 CLIENT: GENERAL MOTORS
 LOCATION: WYOMING, MI

HOLE DESIGNATION: HP15-04
 DATE COMPLETED: July 20, 2004
 DRILLING METHOD: HSA/SPLIT SPOON
 FIELD PERSONNEL: D. RIVERS

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft AMSL	BOREHOLE INSTALLATION	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
48				24SS		60	7	
50				25SS		60	10	
52				26SS		80	3	
54	SW-SANDS, trace silts & fine gravels, loose, fine to coarse grained, well graded, brown, saturated	618.89		27SS		70	7	
56				28SS		70	8	
58				29SS		90	8	
60	- with gravels, compact at 60.0ft BGS			30SS		90	19	
62				31SS		80	28	
64				32SS		20	19	
66				33SS		0	25	
68				34SS		60	28	
70	- trace gravels at 70.0ft BGS			35SS		40	28	
72	- 1" fine sand seam at 71.5ft BGS			36SS		10	34	
74				37SS		0	30	
76	SM-SILTY SANDS, compact, fine to coarse grained, poorly graded, brown, saturated	595.89		38SS		40	25	
78				39SS		50	87	
80	- fine grained at 80.0ft BGS			40SS		50		
82				41SS		50	43	
84	CL-SILTY CLAYS, trace fine sands to fine gravels, stiff to very stiff, low plasticity, gray, moist	588.39 587.89		42SS		50	20	
86	END OF BOREHOLE @ 84.0ft BGS							
88								
90								

OVERBURDEN LOG 17360-09B.GPJ CRA CORP.GDT 10/21/04

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: GM GRAND RAPIDS
 PROJECT NUMBER: 17360-09
 CLIENT: GENERAL MOTORS
 LOCATION: WYOMING, MI

HOLE DESIGNATION: HP16-04
 DATE COMPLETED: July 28, 2004
 DRILLING METHOD: HSA/SPLIT SPOON
 FIELD PERSONNEL: D. RIVERS

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft AMSL	BOREHOLE INSTALLATION	SAMPLE					
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)	
	GROUND SURFACE	675.90							
0	ASPHALT-black	675.70	← ASPHALT	1SS		50		0.0	
0	CONCRETE-white	674.40	← NATIVE SOILS	2SS		25		0.0	
2	SM-SILTY SANDS W/GRAVELS (FILL), compact, fine grained, poorly graded, dark brown & brown, moist, fine subangular gravels - trace fine gravels, dark brown, trace slag debris at 6.5ft BGS - brown & dark brown at 8.5ft BGS - fine to medium grained at 10.0ft BGS - very moist to saturated at 10.8ft BGS			3SS		50	48	0.0	
4				4SS		66	27	0.0	
6				5SS		80	10	0.0	
8				6SS		75	6	0.0	
10			664.65	← 8" BOREHOLE	7SS		75	11	0.0
12	PT-PEAT, compact, black, with rootlets, moist to very moist	663.90		8SS		66	6	0.0	
14	SP-SANDS, trace silts, compact, fine to medium grained, poorly graded, tan/beige, moist - fine to coarse grained, light brown at 14.5ft BGS - fine to medium grained at 16.0ft BGS - very moist at 16.5ft BGS - saturated, brown at 17.0ft BGS - fine grained, light brown at 18.5ft BGS - fine to coarse grained, brown at 20.5ft BGS		← BENTONITE GROUT	9SS		75	7	0.0	
16				10SS		75	4	0.0	
18				11SS		75	3	0.0	
20				12SS		66	4	0.0	
22				13SS		75	6	0.0	
24				14SS		75	13	0.0	
26				15SS		90	9	0.0	
28				16SS		0	9	0.0	
30				17SS		90	9	0.0	
32				18SS		80	11	0.0	
34			19SS		75	12	0.0		
36			20SS		66	12	0.0		
38			21SS		75	9	0.0		
40			22SS		50	18	0.0		
42	- fine to coarse grained at 42.5ft BGS								

OVERBURDEN LOG 17360-09B.GPJ, CRA_CORP.GDT 10/21/04

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: GM GRAND RAPIDS
 PROJECT NUMBER: 17360-09
 CLIENT: GENERAL MOTORS
 LOCATION: WYOMING, MI

HOLE DESIGNATION: HP16-04
 DATE COMPLETED: July 28, 2004
 DRILLING METHOD: HSA/SPLIT SPOON
 FIELD PERSONNEL: D. RIVERS

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft AMSL	BOREHOLE INSTALLATION	SAMPLE						
				NUMBER	INTERVAL	REC (%)	N ^o VALUE	PID (ppm)		
46	SM-SILTY SANDS, compact, fine grained, poorly graded, light brown, saturated	630.90	<p style="font-size: small;">8" BOREHOLE BENTONITE GROUT</p>	23SS		80	6	0.0		
48				24SS		75	15	0.0		
50				25SS		75	8	0.0		
52				26SS		75	8	0.0		
54				27SS		85	24	0.0		
56				SP-SANDS, trace silts, loose, fine grained, poorly graded, brown to light brown, saturated - fine to medium grained, brown at 57.5ft BGS - fine to coarse grained, mostly poorly graded but occasional moderately graded seams at 58.5ft BGS	620.40	28SS		85	6	0.0
58						29SS		75	8	0.0
60						30SS		80	17	0.0
62						31SS		66	8	0.0
64						32SS		75	20	0.0
66	33SS		85			19	0.0			
68	34SS		90			12	0.0			
70	35SS		90			15	0.0			
72	36SS		85			6	0.0			
74	37SS		90			29	0.0			
76	38SS		90	12	0.0					
78	39SS		80	16	0.0					
80	40SS		80	12	0.0					
82	41SS		90	8	0.0					
84	- with fine gravels, trace clays, dense, light brown to orange-brown at 83.3ft BGS - brown at 84.0ft BGS	590.65 589.50	42SS		90	36	0.0			
86	CL-SILTY CLAYS, trace fine sands to fine gravels, stiff to very stiff, low plasticity, gray, moist END OF BOREHOLE @ 86.0ft BGS		43SS		90	14	0.0			
88										

OVERBURDEN LOG 17360-09B.GPJ CRA_CORP.GDT 10/21/04

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: GM GRAND RAPIDS
 PROJECT NUMBER: 17360-09
 CLIENT: GENERAL MOTORS
 LOCATION: WYOMING, MI

HOLE DESIGNATION: MW8-04
 DATE COMPLETED: July 30, 2004
 DRILLING METHOD: HSA/SPLIT SPOON
 FIELD PERSONNEL: D. RIVERS

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft AMSL	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	GROUND SURFACE	674.45						
2	SP-SANDS, trace silts & loose, fine to medium grained, poorly graded, light brown, moist			1SS		75	7	0.0
4				2SS		75	8	0.0
6				3SS		66	7	0.0
6	SW-SANDS, trace silts & fine gravels, loose, fine to coarse grained, well graded, tan/beige, moist	669.45		4SS		80	3	0.0
10	SP-SANDS, trace silts, loose, fine to coarse grained, poorly graded, tan/beige, moist - fine to medium grained at 10.5ft BGS - fine grained at 12.5ft BGS	665.20		5SS		66	6	0.0
12			6SS		75	4	0.0	
14			7SS		90	4	0.0	
16			8SS		85	12	0.0	
18	SM-SILTY SANDS, compact, fine grained, poorly graded, light brown, moist - very moist to saturated at 19.8ft BGS - saturated at 20.0ft BGS	657.20		9SS		80	11	0.0
20			10SS		75	13	0.0	
22			11SS		75	8	0.0	
24	SP-SANDS, trace silts, loose, fin to medium grained, poorly graded, orange brown, saturated, oxidation	649.95 648.95 648.45		12SS		75	12	0.0
26			13SS		75	7	0.0	
28			14SS		90	19	0.0	
28	SM/SP-SANDS & SILTS, loose, fine sands, brown, gray & orange brown, saturated, oxidation			15SS		25	12	0.0
30	SM-SILTY SANDS, compact, fine grained, poorly graded, moist, occasional 1"-2" SM/SP seam			16SS		75	7	0.0
32			17SS		75	9	0.0	
34			18SS		33	2	0.0	
36	END OF BOREHOLE @ 35.0ft BGS	639.45						
WELL DETAILS Screened interval: 644.45 to 639.45ft AMSL 30.00 to 35.00ft BGS Length: 5ft Diameter: 2in Slot Size: 0.010 Material: PVC Sand Pack: 647.45 to 639.45ft AMSL 27.00 to 35.00ft BGS Material: Silica Sand								

OVERBURDEN LOG 17360-09B.GPJ CRA CORP.GDT 10/21/04

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: GM GRAND RAPIDS
 PROJECT NUMBER: 17360-09
 CLIENT: GENERAL MOTORS
 LOCATION: WYOMING, MI

HOLE DESIGNATION: MW9-04
 DATE COMPLETED: August 2, 2004
 DRILLING METHOD: HSA/SPLIT SPOON
 FIELD PERSONNEL: D. RIVERS

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft AMSL	MONITORING WELL	SAMPLE					
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)	
	GROUND SURFACE	678.27							
2	SM-SILTY SANDS, trace fine gravels, compact, fine to medium grained, poorly graded, dark brown, moist			1SS		80	13	0.0	
	- brown, trace orange streaking, oxidation at 0.8ft BGS			2SS		50	5	0.0	
4	- tan/beige at 4.5ft BGS			3SS		75	8	0.0	
	- brown at 5.0ft BGS			4SS		75	6	0.0	
6	- fine grained at 6.3ft BGS			5SS		85	5	0.0	
8	- fine to medium grained at 8.8ft BGS			6SS		75	5	0.0	
10				7SS		75	9	0.0	
12	- fine grained, tan/beige, trace orange streaking, oxidation at 11.5ft BGS			8SS		75	7	0.0	
14				9SS		80	10	0.0	
16	- increase in silt content at 16.5ft BGS			10SS		75	19	0.0	
18				11SS		75	12	0.0	
20				12SS		75	11	0.0	
22	- very moist at 22.5ft BGS			13SS		66	5	0.0	
24	- saturated, brown at 23.0ft BGS			14SS		75	6	0.0	
26	- decrease in silt content at 24.5ft BGS	651.77		15SS		75	5	0.0	
28	SP-SANDS, trace silts, loose, fine to medium grained, poorly graded, brown, saturated			16SS		75	7	0.0	
30				17SS		80	6	0.0	
32	ML/SP-SANDS & SILTS, trace clays, loose/soft, fine sands, brown-gray, saturated	645.77		18SS		25	12	0.0	
34				19SS		75	9	0.0	
36	SP-SANDS, trace with silts, compact, fine to medium grained, poorly graded, brown, saturated	643.27		20SS		75	4	0.0	
38									

OVERBURDEN LOG 17360-09B.GPJ CRA_CORP.GDT 10/21/04

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: GM GRAND RAPIDS
 PROJECT NUMBER: 17360-09
 CLIENT: GENERAL MOTORS
 LOCATION: WYOMING, MI

HOLE DESIGNATION: MW9-04
 DATE COMPLETED: August 2, 2004
 DRILLING METHOD: HSA/SPLIT SPOON
 FIELD PERSONNEL: D. RIVERS

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft AMSL	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
42	- trace silts, fine to coarse grained, moderately graded in some areas at 41.0ft BGS	630.27	SAND PACK	21SS		75	5	0.0
44				22SS		80	8	0.0
46			2" PVC WELL SCREEN	23SS		80	7	0.0
48				24SS		75	17	0.0
48	END OF BOREHOLE @ 48.0ft BGS		<u>WELL DETAILS</u> Screened interval: 635.27 to 630.27ft AMSL 43.00 to 48.00ft BGS Length: 5ft Diameter: 2in Slot Size: 0.010 Material: PVC Sand Pack: 638.27 to 630.27ft AMSL 40.00 to 48.00ft BGS Material: Silica Sand					
50								
52								
54								
56								
58								
60								
62								
64								
66								
68								
70								
72								
74								
76								
78								

OVERBURDEN LOG 17360-09B.GPJ CRA_CORP.GDT 10/21/04

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: GM GRAND RAPIDS
 PROJECT NUMBER: 17360-09
 CLIENT: GENERAL MOTORS
 LOCATION: WYOMING, MI

HOLE DESIGNATION: MW10-04
 DATE COMPLETED: August 3, 2004
 DRILLING METHOD: HSA/SPLIT SPOON
 FIELD PERSONNEL: D. RIVERS

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft AMSL	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	N' VALUE	PID (ppm)
	GROUND SURFACE	666.63						
2	SM-SILTY SANDS, trace fine gravels, loose, fine to coarse grained, poorly graded, dark brown, moist, trace grasses, rootlets - brown at 1.5ft BGS - light brown, trace oxidation at 2.5ft BGS - fine grained, brown at 5.5ft BGS - fine to coarse grained, light brown at 6.5ft BGS			1SS		80	6	0.0
4				2SS		80	16	0.0
6				3SS		75	12	0.0
8				4SS		90	8	0.0
10				5SS		75	8	0.0
12				6SS		80	4	0.0
14				7SS		66	7	0.0
16	SP-SANDS, trace silts and fine gravels, loose, fine to coarse gravel, poorly to moderately graded, brown-gray, saturated - fine to medium grained, brown at 24.0ft BGS	652.13		8SS		75	6	0.0
18				9SS		90	13	0.0
20				10SS		80	8	0.0
22				11SS		75	10	0.0
24				12SS		75	7	0.0
26				13SS		75	5	0.0
28	SM-SILTY SANDS, compact, fine grained, poorly graded, brown, saturated - light brown at 30.8ft BGS - fine to medium grained, brown at 34.0ft BGS	639.63		14SS		85	12	0.0
30				15SS		75	10	0.0
32				16SS		75	8	0.0
34				17SS		75	11	0.0
36				18SS		80	8	0.0
38	19SS		75	7	0.0			
38	END OF BOREHOLE @ 38.0ft BGS	628.63						

WELL DETAILS
 Screened interval:
 633.63 to 628.63ft AMSL
 33.00 to 38.00ft BGS
 Length: 5ft
 Diameter: 2in
 Slot Size: 0.010
 Material: PVC
 Sand Pack:
 636.63 to 628.63ft AMSL
 30.00 to 38.00ft BGS
 Material: Silica Sand

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

OVERBURDEN LOG - 17360-09B.GPJ CRA_CORP.GDT 10/21/04



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: GM GRAND RAPIDS
 PROJECT NUMBER: 17360-09
 CLIENT: GENERAL MOTORS
 LOCATION: WYOMING, MI

HOLE DESIGNATION: MW11-04
 DATE COMPLETED: August 3, 2004
 DRILLING METHOD: HSA/SPLIT SPOON
 FIELD PERSONNEL: D. RIVERS

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft AMSL	MONITORING WELL	SAMPLE					
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)	
	GROUND SURFACE	663.71							
5	SM-SILTY SANDS with clays, trace fine gravels, loose, fine grained, poorly graded, non-plastic, dark brown, moist, trace peat - light brown, compact at 3.3ft BGS - brown & dark brown banding, occasional 1/4" to 1/2" peat seam at 4.5ft BGS - fine to coarse grained, brown with silts at 6.0ft BGS - very moist to saturated at 8.5ft BGS - saturated at 9.0ft BGS	654.46		1SS		75	9	0.0	
				2SS		66	11	0.0	
				3SS		75	14	0.0	
				4SS		66	15	0.0	
				5SS		66	16	0.0	
				6SS		75	10	0.0	
				7SS		75	12	0.0	
				8SS		75	10	0.0	
				9SS		80	6	0.0	
				10SS		90	12	0.0	
				11SS		90	6	0.0	
				12SS		90	14	0.0	
				13SS		85	40	0.0	
				14SS		75	11	0.0	
				15SS		66	16	0.0	
				16SS		90	11	0.0	
				17SS		80	19	0.0	
				18SS		75	4	0.0	
				19SS		75	13	0.0	
				20SS		80	11	0.0	
				21SS		90	13	0.0	
				22SS		75	12	0.0	
				23SS		25	2	0.0	
	END OF BOREHOLE @ 45.0ft BGS	618.71							

OVERBURDEN LOG 17360-09B.GPJ CRA CORP.GDT 10/21/04

WELL DETAILS
 Screened interval:
 623.71 to 618.71ft AMSL
 40.00 to 45.00ft BGS
 Length: 5ft
 Diameter: 2in
 Slot Size: 0.010
 Material: PVC
 Sand Pack:
 626.71 to 618.71ft AMSL

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: GM GRAND RAPIDS

HOLE DESIGNATION: MW11-04

PROJECT NUMBER: 17360-09

DATE COMPLETED: August 3, 2004

CLIENT: GENERAL MOTORS

DRILLING METHOD: HSA/SPLIT SPOON

LOCATION: WYOMING, MI

FIELD PERSONNEL: D. RIVERS

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft AMSL	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
60								
65								
70								
75								
80								
85								
90								
95								
100								
105								

37.00 to 45.00ft BGS
Material: Silica Sand

OVERBURDEN LOG 17360-09B.GPJ_CRA_CORP.GDT_10/21/04

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS 



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: GM GRAND RAPIDS
 PROJECT NUMBER: 17360-09
 CLIENT: GENERAL MOTORS
 LOCATION: WYOMING, MI

HOLE DESIGNATION: MW13-04
 DATE COMPLETED: August 2, 2004
 DRILLING METHOD: HSA/SPLIT SPOON
 FIELD PERSONNEL: D. RIVERS

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft AMSL	MONITORING WELL	SAMPLE					
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)	
	GROUND SURFACE	678.85							
2	SM-SILTY SANDS, trace fine gravels, compact, fine grained, poorly graded, dark brown, moist, trace rootlets		CONCRETE	1SS		75	12	0.1	
4	- fine to coarse grained, orange brown at 2.8ft BGS		NATIVE SOILS	2SS		75	13	0.0	
6	- fine grained, light brown at 5.0ft BGS			3SS		75	9	0.0	
8	- no gravels at 6.8ft BGS		8-1/2" BOREHOLE	4SS		66	7	0.0	
10	- fine to coarse grained, dark brown and orange-brown at 9.5ft BGS			5SS		75	7	0.0	
12	- light brown at 10.8ft BGS			6SS		75	8	0.0	
14	- fine to medium grained, tan/beige, trace fine gravels at 13.3ft BGS		2" PVC WELL CASING	7SS		90	7	0.0	
16	- fine to coarse grained at 14.5ft BGS			8SS		90	11	0.0	
18	- fine to medium grained at 17.5ft BGS			9SS		85	10	0.0	
20	- very moist to saturated, brown at 19.5ft BGS		BENTONITE GROUT	10SS		75	9	0.0	
22	- saturated, fine grained at 20.0ft BGS			11SS		75	5	0.0	
24	- fine to coarse grained at 23.5ft BGS			12SS		90	15	0.0	
26	SP-SANDS, trace silts and fine gravels, compact, fine to coarse grained, poorly graded, brown, saturated	654.35	2" PVC WELL SCREEN	13SS		75	9	0.0	
28	SM-SILTY SANDS, compact, fine grained, poorly graded, brown, saturated	651.85	SAND PACK	14SS		100	9	0.0	
30	CL-SILTY CLAYS, stiff, low plasticity, gray, moist	649.85		15SS		25	11	0.0	
30	END OF BOREHOLE @ 30.0ft BGS	648.85							

WELL DETAILS
 Screened interval:
 653.85 to 648.85ft AMSL
 25.00 to 30.00ft BGS
 Length: 5ft
 Diameter: 2in
 Slot Size: 0.010
 Material: PVC
 Sand Pack:
 656.85 to 648.85ft AMSL
 22.00 to 30.00ft BGS
 Material: Silica Sand

OVERBURDEN LOG 17360-09B.GPJ CRA_CORP.GDT 10/21/04

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: GM GRAND RAPIDS
 PROJECT NUMBER: 17360-09
 CLIENT: GENERAL MOTORS
 LOCATION: WYOMING, MI

HOLE DESIGNATION: MW14-04
 DATE COMPLETED: July 16, 2004
 DRILLING METHOD: HSA/SPLIT SPOON
 FIELD PERSONNEL: D. RIVERS

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft AMSL	MONITORING WELL	SAMPLE					
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)	
	GROUND SURFACE	681.05							
	WOOD BLOCK FLOORING	680.80							
	CONCRETE-with fine gravels, white, competent	680.05	CONCRETE	1HA		100		6.9	
2			NATIVE SOILS	2SS		66	10	5.8	
4	SM-SILTY SANDS WITH GRAVELS, loose, fine to coarse grained, poorly graded, brown, moist, fine to medium gravels			3SS		33	19	4.9	
6	- trace fine gravels, fine to medium grained at 3.0ft BGS			4SS		66	10	4.4	
8	- trace fine to medium gravels, fine to coarse grained at 4.0ft BGS			5SS		66	7	9.8	
	- fine grained, no gravels, light brown, trace orange streaking, oxidation at 5.3ft BGS			6SS		66	13	4.2	
12	- fine to medium grained at 11.3ft BGS			7SS		50	10	4.8	
14	SW-SANDS, trace silts and fine gravels, fine to coarse grained, well graded, brown and gray, moist	667.80		8SS		50	10	2.9	
16	- compact at 16.0ft BGS		2" PVC WELL CASING	9SS		50	8	1.8	
18				10SS		50	14	1.9	
20				11SS		50	18	1.3	
22				12SS		50	12	1.0	
24	- saturated at 23.0ft BGS			13SS					
26	- gray at 26.0ft BGS		BENTONITE GROUT	14SS		25	22	0.8	
28				15SS		33	5	0.9	
30				16SS		33	6	0.8	
32			8-1/2" BOREHOLE	17SS		50	8	1.2	
34				18SS		50	13	0.8	
36				19SS		33	15	0.7	
38				20SS		50	16	0.8	

OVERBURDEN LOG 17360-09B.GPJ CRA CORP.GDT 10/21/04

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS





STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: GM GRAND RAPIDS
 PROJECT NUMBER: 17360-09
 CLIENT: GENERAL MOTORS
 LOCATION: WYOMING, MI

HOLE DESIGNATION: MW14-04
 DATE COMPLETED: July 16, 2004
 DRILLING METHOD: HSA/SPLIT SPOON
 FIELD PERSONNEL: D. RIVERS

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft AMSL	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	P/D (ppm)
42	SP-SANDS, trace silts, compact, fine to coarse grained, poorly graded, brown-gray, saturated - fine to medium grained at 47.5ft BGS	641.05		21SS		50	17	0.7
44				22SS		50	18	0.6
46				23SS		50	16	0.8
48				24SS		50	27	0.6
50				25SS		25	17	0.8
50	END OF BOREHOLE @ 50.0ft BGS	631.05	<p>WELL DETAILS Screened interval: 636.05 to 631.05ft AMSL 45.00 to 50.00ft BGS Length: 5ft Diameter: 2in Slot Size: 0.010 Material: PVC Sand Pack: 639.05 to 631.05ft AMSL 42.00 to 50.00ft BGS Material: Silica Sand</p>					
52								
54								
56								
58								
60								
62								
64								
66								
68								
70								
72								
74								
76								
78								

OVERBURDEN LOG 17360-09B.GPJ CRA_CORP.GDT 10/21/04

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: GM GRAND RAPIDS
 PROJECT NUMBER: 17360-09
 CLIENT: GENERAL MOTORS
 LOCATION: WYOMING, MI

HOLE DESIGNATION: MW15-04
 DATE COMPLETED: July 30, 2004
 DRILLING METHOD: HSA/SPLIT SPOON
 FIELD PERSONNEL: D. RIVERS

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft AMSL	MONITORING WELL	SAMPLE					
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)	
	GROUND SURFACE	671.89							
2	ASPHALT-black SM-SILTY SANDS, loose, fine to coarse grained, poorly graded, dark brown, moist - orange-brown, oxidation at 2.3ft BGS	671.89	CONCRETE NATIVE SOILS	1SS		50	7	0.0	
4	- brown, with concrete and slag debris at 4.5ft BGS			2SS		75	3	0.0	
6				3SS		66	6	0.0	
8				4SS		50	5	0.0	
10			8-1/2" BOREHOLE	5SS		25	2	0.0	
12	PT-PEAT, trace fine sands, soft, black, trace rootlets	661.64		6SS		75	6	0.0	
14	OL-ORGANIC CLAYS, trace fine sands, soft, low plasticity, light gray, moist SM-SILTY SANDS, loose, fine to coarse grained, poorly graded, tan/beige, moist - very moist at 14.0ft BGS	661.14 660.39		7SS		75	16	0.0	
16	SP-SANDS, trace silts and fine gravels, compact, fine to coarse grained, poorly graded, saturated	657.39	2" PVC WELL CASING	8SS		85	16	0.0	
18	- moderately graded at 19.0ft BGS		BENTONITE GROUT	9SS		85	12	0.0	
20				10SS		75	11	0.0	
22				11SS		85	9	0.0	
24	- poorly graded at 23.5ft BGS			12SS		85	13	0.0	
26			2" PVC WELL SCREEN	13SS		75	7	0.0	
28			SAND PACK	14SS		75	7	0.0	
30	END OF BOREHOLE @ 30.0ft BGS	641.89		15SS		75	12	0.0	

WELL DETAILS
 Screened interval:
 646.89 to 641.89ft AMSL
 25.00 to 30.00ft BGS
 Length: 5ft
 Diameter: 2in
 Slot Size: 0.010
 Material: PVC
 Sand Pack:
 649.89 to 641.89ft AMSL
 22.00 to 30.00ft BGS
 Material: Silica Sand

OVERBURDEN LOG 17360-09B.GPJ CRA_CORP.GDT 10/21/04

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: GM GRAND RAPIDS
 PROJECT NUMBER: 17360-09
 CLIENT: GENERAL MOTORS
 LOCATION: WYOMING, MI

HOLE DESIGNATION: SB1-04
 DATE COMPLETED: July 15, 2004
 DRILLING METHOD: HSA/SPLIT SPOON
 FIELD PERSONNEL: D. RIVERS

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE INSTALLATION	SAMPLE					
				NUMBER	INTERVAL	REC (%)	N' VALUE	PID (ppm)	
	wood block floor	0.20							
	CONCRETE-with fine gravels, white	1.00	CONCRETE	1HA				402	
2	SM-SILTY SAND, trace fine gravels, compact, fine grained, poorly graded, dark brown, moist			2SS			14	397	
4	- orange brown-oxidation at 2.5ft BGS			3SS			15	12.8	
6	- fine grained at 5.3ft BGS			4SS			21	10.1	
8	- light brown at 6.5ft BGS			5SS			21	7	
10	- orange-brown at 9.5ft BGS		8" BOREHOLE	6SS			15	3.1	
12	- brown at 11.5ft BGS			7SS			21	3.0	
14	- fine to medium grained, tan/beige at 13.3ft BGS			8SS			12	2.8	
16			BENTONITE CHIPS	9SS			29	1.8	
18	- fine to coarse grained, light gray to white, trace fine to medium gravels at 17.5ft BGS			10SS			46	2.1	
20				11SS			12	1.4	
22	- fine grained, tan/beige, no gravels at 21.0ft BGS	22.00							
	END OF BOREHOLE @ 22.0ft BGS								
24									
26									
28									
30									
32									
34									
36									
38									
40									
42									
44									

OVERBURDEN LOG 17360-09B.GPJ CRA CORP.GDT 9/30/04

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: GM GRAND RAPIDS
 PROJECT NUMBER: 17360-09
 CLIENT: GENERAL MOTORS
 LOCATION: WYOMING, MI

HOLE DESIGNATION: SB2-04
 DATE COMPLETED: July 14, 2004
 DRILLING METHOD: HSA/SPLIT SPOON
 FIELD PERSONNEL: D. RIVERS

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE INSTALLATION	SAMPLE				
				NUMBER	INTERVAL	REC (%)	N' VALUE	
	wood block floor	0.20	← CONCRETE	(1HA)				
	CONCRETE-with fine gravels, white	1.00		(2SS)			17	
-2	SM-SILTY SAND, trace fine gravels, compact, fine grained, poorly graded, red brown, moist - orange brown-oxidation at 3.0ft BGS - fine to medium grained at 3.5ft BGS - no gravels, fine grained, tan/beige at 6.5ft BGS - orange-brown at 8.5ft BGS - fine to medium grained, light gray to white at 9.5ft BGS - fine to coarse grained, tan/beige at 12.5ft BGS - dense, fine to medium grained at 17.0ft BGS - fine to coarse grained, tan/beige at 18.0ft BGS - fine grained at 20.5ft BGS - very moist at 21.3ft BGS		← 8" BOREHOLE	(3SS)			16	
-4				(4SS)			17	
-6				(5SS)			16	
-8				(6SS)			10	
-10				← BENTONITE CHIPS	(7SS)			28
-12					(8SS)			23
-14					(9SS)			30
-16					(10SS)			21
-18					(11SS)			21
-20								
-22		END OF BOREHOLE @ 22.0ft BGS	22.00					
-24								
-26								
-28								
-30								
-32								
-34								
-36								
-38								
-40								
-42								
-44								

OVERBURDEN LOG 17360-09B.GPJ CRA_CORP.GDT 9/30/04

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ○



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: GM GRAND RAPIDS
 PROJECT NUMBER: 17360-09
 CLIENT: GENERAL MOTORS
 LOCATION: WYOMING, MI

HOLE DESIGNATION: SB3-04
 DATE COMPLETED: July 14, 2004
 DRILLING METHOD: HSA/SPLIT SPOON
 FIELD PERSONNEL: D. RIVERS

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE INSTALLATION	SAMPLE					
				NUMBER	INTERVAL	REC (%)	N' VALUE	PID (ppm)	
	wood block floor	0.20							
	CONCRETE-with fine gravels, white	1.00	← CONCRETE	1HA					3.6
2	SM-SILTY SAND, trace fine gravels, compact, fine grained, poorly graded, red brown, moist			2SS				24	3.1
4	- light brown at 2.5ft BGS			3SS				18	4.1
6	- fine to medium grained, orange brown, oxidation at 5.0ft BGS			4SS				18	3.7
8	- fine grained, tan/beige, no gravels at 6.5ft BGS			5SS				23	2.9
10	- fine to coarse grained, light gray to white, trace fine gravels at 8.3ft BGS		← 8" BOREHOLE	6SS				20	3.1
12				7SS				24	3.7
14				8SS				21	2.4
16			← BENTONITE CHIPS	9SS				45	3.4
18	- dense, fine grained, no gravels, tan/beige at 17.5ft BGS			10SS				26	3.9
20	- compact, fine to medium grained at 18.8ft BGS			11SS				20	3.1
22	- fine grained at 20.5ft BGS								
22	- very moist at 21.8ft BGS	22.00							
22	END OF BOREHOLE @ 22.0ft BGS								
24									
26									
28									
30									
32									
34									
36									
38									
40									
42									
44									

OVERBURDEN LOG 17360-09B.GPJ CRA CORP.GDT 9/30/04

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ○



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: GM GRAND RAPIDS
 PROJECT NUMBER: 17360-09
 CLIENT: GENERAL MOTORS
 LOCATION: WYOMING, MI

HOLE DESIGNATION: SB4-04
 DATE COMPLETED: July 15, 2004
 DRILLING METHOD: HSA/SPLIT SPOON
 FIELD PERSONNEL: D. RIVERS

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE INSTALLATION	SAMPLE					
				NUMBER	INTERVAL	REC (%)	N' VALUE	PID (ppm)	
	wood block floor	0.20							
	CONCRETE-with fine gravels, white	1.00	← CONCRETE	1HA				430	
2	SM-SILTY SAND, trace fine gravels, compact, fine grained, poorly graded, red brown, moist - orange-brown oxidation at 2.8ft BGS			2SS			14	442	
4	- fine grained, brown, no gravels at 5.0ft BGS			3SS			14	412	
6				4SS			7	87.1	
8				5SS			8	402	
10	- fine to medium grained, medium brown at 11.0ft BGS		← 8" BOREHOLE	6SS			10	431	
12	- fine to coarse grained, light gray to white, trace fine gravels at 12.5ft BGS			7SS			4	317	
14				8SS			42	306	
16			← BENTONITE CHIPS	9SS			18	265	
18	- fine grained, tan/beige, no gravels at 17.5ft BGS			10SS			28	178	
20	- fine to coarse grained, trace fine gravels at 18.8ft BGS			11SS			13	219	
22	END OF BOREHOLE @ 22.0ft BGS	22.00							
24									
26									
28									
30									
32									
34									
36									
38									
40									
42									
44									

OVERBURDEN LOG 17360-09B.GPJ CRA CORP.GDT 9/30/04

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: GM GRAND RAPIDS
 PROJECT NUMBER: 17360-09
 CLIENT: GENERAL MOTORS
 LOCATION: WYOMING, MI

HOLE DESIGNATION: SB5-04
 DATE COMPLETED: July 15, 2004
 DRILLING METHOD: HSA/SPLIT SPOON
 FIELD PERSONNEL: D. RIVERS

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE INSTALLATION	SAMPLE					
				NUMBER	INTERVAL	REC (%)	N' VALUE	PID (ppm)	
	wood block floor	0.20							
	CONCRETE	1.00	CONCRETE SEAL	1HA					786
-2	SM-SILTY SAND, trace fine gravels, compact, fine grained, poorly graded, red brown, moist			2SS					+2000
-4	- dark brown at 2.5ft BGS			3SS					14 957
-6	- orange brown, oxidation, fine to medium grained, at 3.0ft BGS			4SS					22 794
-8	- light brown at 5.0ft BGS			5SS					13 586
-10	- fine grained, tan/beige at 6.5ft BGS		8" BOREHOLE	6SS					14 639
-12	- fine to coarse grained, light gray to white, trace fine gravels at 11.5ft BGS			7SS					10 473
-14				8SS					5 498
-16			BENTONITE CHIPS	9SS					12 +2000
-18	- well graded at 17.3ft BGS			10SS					16 1151
-20	- fine grained, tan/beige, no gravels at 19.5ft BGS			11SS					6 1221
-22	END OF BOREHOLE @ 22.0ft BGS	22.00							
-24									
-26									
-28									
-30									
-32									
-34									
-36									
-38									
-40									
-42									
-44									

OVERBURDEN LOG 17360-09B.GPJ CRA_CORP.GDT 9/30/04

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS

APPENDIX B
WELL ABANDONMENT MEMORANDUMS



MEMORANDUM

TO: Gary Klepper/CRA REF. NO.: 17360-09

FROM: David C. Rivers/dcr/34/Det. DATE: 11/09/04

C.C.: Bryant Miller/CRA
Jeni Quigley/CRA

RE: **July 16, 2004 - Summary of Well Abandonment
GM- Grand Rapids
Wyoming, Michigan**

The purpose of this memorandum is to summarize the abandonment of 1 " diameter wells associated with the Soil Vapor Extraction (SVE) system at GM-Grand Rapids located in Wyoming, Michigan on July 16, 2004. This memorandum is presented in the following sections:

- 1.0 Introduction
- 2.0 Personnel
- 3.0 Well Abandonment Activities

1.0 INTRODUCTION

Field activities were conducted on July 16, 2004, in accordance with the Site-specific Scope of Work (SOW) and Conestoga-Rovers & Associates (CRA's) Standard Operating Procedures (SOPs) as outlined in the CRA Field Training Manual.

2.0 PERSONNEL

Field activities were completed by David C. Rivers from the CRA Plymouth office.

3.0 SVE WELL ABANDONMENT ACTIVITIES

On July 16, 2004, a total of seven 1" diameter wells, P1 through P7, associated with the SVE system were abandoned by CRA field personnel. The wells were abandoned using a bentonite powder and de-ionized water mixture. After removing the lid to the protective cover and the well cap, each well was abandoned incrementally on one-foot intervals by placing one foot of bentonite powder inside the well and then hydrating the powder with de-ionized water. This procedure was followed until the hydrated bentonite filled the inside of the well as well as the inside of the protective covering around the well. After abandonment the protective cover was replaced.



MEMORANDUM

TO: Gary Klepper/CRA REF. NO.: 17360-09

FROM: Joe Branch/CRA/40/Kalamazoo DATE: 12/03/04

C.C.: Bryant Miller/CRA
Jeni Quigley/CRA

RE: **November 23, 2004 - Summary of Well Abandonment
GM- Grand Rapids
Wyoming, Michigan**

The purpose of this memorandum is to summarize the abandonment of 4 " diameter extraction well associated with the Soil Vapor Extraction (SVE) system at GM-Grand Rapids located in Wyoming, Michigan on November 23, 2004. This memorandum is presented in the following sections:

- 1.0 Introduction
- 2.0 Personnel
- 3.0 Well Abandonment Activities

1.0 INTRODUCTION

Field activities were conducted on November 23, 2004, in accordance with the Site-specific Scope of Work (SOW) and Conestoga-Rovers & Associates (CRA's) Standard Operating Procedures (SOPs) as outlined in the CRA Field Training Manual.

2.0 PERSONNEL

Field activities were completed by Joe Branch from the CRA Kalamazoo office.

3.0 SVE WELL ABANDONMENT ACTIVITIES

On November 23, 2004, one 4" diameter well, 87-3, associated with the SVE system was abandoned by CRA field personnel. The well was abandoned using 3 bags bentonite chips (Halliburton Holeplug) and de-ionized water mixture. After removing the wooden floor blocks and the lid to the protective vault and the well cap, the well was abandoned incrementally in one-foot intervals by placing one foot of Holeplug inside the well and then hydrating the chips with de-ionized water. This procedure was followed until the hydrated bentonite filled the inside of the well. The inside of protective well vault was filled with concrete to floor level (approx. 8"). After abandonment the wooden floor blocks were replaced.

APPENDIX C
LABORATORY ANALYTICAL RESULTS

REC'D CRA
BB.
JUL 20 2004
29
CRA SDG G-12

STL North Canton
4101 Shuffel Drive NW
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772
www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. 17360-09

GM-GRAND RAPIDS

Lot #: A4G140175

Paul Wiseman

Conestoga Rovers & Assoc., Inc
14496 Sheldon Rd Suite 200
Plymouth, MI 48170

ORIGINAL ANALYTICAL REPORT

Project#: 17360-09 Lab#: A4G140175

Name: GM GRAND RAPIDS.

Description

SEVERN TRENT LABORATORIES, INC Event: VAS Sampling

Samples: 7waters + DCR 071-077.

Analysis: TCL VOLs

TAT: 24 HOUR TAT

Lab: STL-NC

Kim Keyser for

Amy L. McCormick
Project Manager

Checked Against Preliminary Data:

Date: N/A Init.: N/A.

Date of Validation Memo: 10/21/04

Invoice Approval Date: _____

Comments: _____

July 27, 2004

CRA

CONESTOGA-ROVERS & ASSOCIATES, INC.
14496 Sheldon Road, Suite 200
Plymouth, MI 48170 • (734) 453-5123

SHIPPED TO (Laboratory Name):

572-North Canton

REFERENCE NUMBER:

17360-09

PROJECT NAME:

GM-Grand Rapids

CHAIN OF CUSTODY RECORD

SAMPLER'S SIGNATURE: *[Signature]* PRINTED NAME: David C. Rivers

SEQ. No.	DATE	TIME	CONTAINERS	SAMPLE TYPE	REMARKS
1	7/12/04	1550	3	H ₂ O	
2	7/13/04	740	3		
3	"	745	3		
4	"	115	3		
5	"	1455	3		
6	"	1830	3		
7	"		1		

TOTAL NUMBER OF CONTAINERS

19

RELINQUISHED BY:

DATE: 7-13-04

RECEIVED BY:

DATE:

RELINQUISHED BY:

DATE: 1930

RECEIVED BY:

DATE:

RELINQUISHED BY:

DATE:

RECEIVED BY:

DATE:

METHOD OF SHIPMENT: FED EX

AIR BILL No. ~~1487-5707~~ 8318 9665 3076

White - Fully Executed Copy
Yellow - Receiving Laboratory Copy

SAMPLE TEAM: David C. Rivers

RECEIVED FOR LABORATORY BY:

[Signature]

DATE: 7/14/04 TIME: 0940

27169



CASE NARRATIVE

CASE NARRATIVE

A4G140175

The following report contains the analytical results for seven water samples submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the GM-Grand Rapids Site, project number 17360-09. The samples were received July 14, 2004, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to the Chemistry Department and Paul Wiseman on July 15, 2004. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 5.8°C.

GC/MS VOLATILES

The sample(s) that contained concentrations of target analyte(s) at a reportable level in the associated Method Blank(s) were flagged with "B". All target analytes in the Method Blank must be below the reporting limit (RL) or the associated sample(s) must be ND with the exception of common laboratory contaminants.

The sample(s) that contain results between the MDL and the RL were flagged with "J". There is a possibility of false positive or mis-identification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation was performed only down to the standard reporting limit (SRL). The acceptance criteria for QC samples may not be met at these quantitation levels.

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

Volatile (GC or GC/MS)

Methylene chloride

Acetone

2-Butanone

Semivolatile (GC/MS)

Phthalate Esters

Metals

Copper

Iron

Zinc

Lead*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the reparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

STL North Canton Certifications and Approvals:

Alabama (#41170), California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#100439), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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STL

***EXECUTIVE
SUMMARY***

EXECUTIVE SUMMARY - Detection Highlights

A4G140175

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
GW-17360-071204-DCR-071 07/12/04 15:50 001				
Acetone	2.6 J	25	ug/L	SW846 8260B
Benzene	0.34 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	0.36 J	1.0	ug/L	SW846 8260B
Carbon disulfide	0.39 J	5.0	ug/L	SW846 8260B
Chloroform	2.4	1.0	ug/L	SW846 8260B
Toluene	0.70 J	1.0	ug/L	SW846 8260B
Trichloroethene	0.40 J	1.0	ug/L	SW846 8260B
GW-17360-071304-DCR-072 07/13/04 07:40 002				
Acetone	1.8 J	25	ug/L	SW846 8260B
Bromodichloromethane	0.44 J	1.0	ug/L	SW846 8260B
Chloroform	2.8	1.0	ug/L	SW846 8260B
Methyl tert-butyl ether	0.21 J	5.0	ug/L	SW846 8260B
Toluene	0.24 J	1.0	ug/L	SW846 8260B
Trichloroethene	0.46 J	1.0	ug/L	SW846 8260B
GW-17360-071304-DCR-073 07/13/04 07:45 003				
Acetone	2.3 J	25	ug/L	SW846 8260B
Bromodichloromethane	0.45 J	1.0	ug/L	SW846 8260B
Chloroform	2.8	1.0	ug/L	SW846 8260B
Methyl tert-butyl ether	0.24 J	5.0	ug/L	SW846 8260B
Toluene	0.24 J	1.0	ug/L	SW846 8260B
Trichloroethene	0.48 J	1.0	ug/L	SW846 8260B
GW-17360-071304-DCR-074 07/13/04 11:55 004				
Acetone	5.4 J	25	ug/L	SW846 8260B
Benzene	0.42 J	1.0	ug/L	SW846 8260B
2-Butanone	0.81 J	25	ug/L	SW846 8260B
Chloroform	3.4	1.0	ug/L	SW846 8260B
Ethylbenzene	0.25 J	1.0	ug/L	SW846 8260B
Toluene	0.90 J	1.0	ug/L	SW846 8260B
Trichloroethene	0.38 J	1.0	ug/L	SW846 8260B
GW-17360-071304-DCR-075 07/13/04 14:55 005				
Acetone	3.7 J	25	ug/L	SW846 8260B
Benzene	0.31 J	1.0	ug/L	SW846 8260B
2-Butanone	0.76 J	25	ug/L	SW846 8260B
Chloroform	3.9	1.0	ug/L	SW846 8260B
Ethylbenzene	0.20 J	1.0	ug/L	SW846 8260B

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

A4G140175

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
GW-17360-071304-DCR-075 07/13/04 14:55 005				
Toluene	0.72 J	1.0	ug/L	SW846 8260B
Trichloroethene	0.33 J	1.0	ug/L	SW846 8260B
GW-17360-071304-DCR-076 07/13/04 18:30 006				
Acetone	1.9 J	25	ug/L	SW846 8260B
Bromodichloromethane	7.2	1.0	ug/L	SW846 8260B
Chloroform	16	1.0	ug/L	SW846 8260B
Dibromochloromethane	2.8	1.0	ug/L	SW846 8260B
Toluene	6.5	1.0	ug/L	SW846 8260B
GW-17360-071304-DCR-077 07/13/04 007				
Acetone	8.1 J	25	ug/L	SW846 8260B
Carbon disulfide	2.0 J	5.0	ug/L	SW846 8260B
Methylene chloride	4.9 J,B	5.0	ug/L	SW846 8260B



METHOD SUMMARY

ANALYTICAL METHODS SUMMARY

A4G140175

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Volatile Organics by GC/MS	SW846 8260B

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.



SAMPLE SUMMARY



***SHIPPING
AND
RECEIVING DOCUMENTS***

CRA

CONESTOGA-ROVERS & ASSOCIATES, INC.
 14496 Sheldon Road, Suite 200
 Plymouth, MI 48170 • (734) 453-5123

SHIPPED TO (Laboratory Name): *STL - North Canton*

CHAIN OF CUSTODY RECORD

REFERENCE NUMBER: *17360-09*
 PROJECT NAME: *Gm1 - Grand Rapids*

SAMPLER'S SIGNATURE: *[Signature]* PRINTED NAME: *David C Rivers*

SEQ. No.	DATE	TIME		SAMPLE TYPE	NO. OF CONTAINERS	PARAMETERS	REMARKS
1	7/12/09	1533	Gw-17360-071209-Dcr-071	H20	3	TCL VOCs	
2	7/13/09	740	Gw-17360-071309-Dcr-072		3	TCL VOCs	
3	"	745	"	"	3	TCL VOCs	
4	"	115	"	"	3	TCL VOCs	
5	"	1455	"	"	3	TCL VOCs	
6	"	1830	"	"	3	TCL VOCs	
7	"	-	"	"	1	TCL VOCs	

TOTAL NUMBER OF CONTAINERS *19*

RELINQUISHED BY: <i>[Signature]</i>	DATE: <i>7-13-09</i>	RECEIVED BY: <i>[Signature]</i>	DATE: <i>7-13-09</i>
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:

METHOD OF SHIPMENT: *Fed Ex* AIR BILL No. *14825701-831996653026*

White - Fully Executed Copy
 Yellow - Receiving Laboratory Copy
 Pink - Goddard
 Shipper Copy - Sampler Copy

SAMPLE TEAM: *David C Rivers*

RECEIVED FOR LABORATORY BY: *[Signature]*
 DATE: *7/14/09* TIME: *0940*

CRA

CONESTOGA-ROVERS & ASSOCIATES, INC.
 14496 Sheldon Road, Suite 200
 Plymouth, MI 48170 • (734) 453-5123

SHIPPED TO (Laboratory Name):

STL North Canton

CHAIN OF CUSTODY RECORD

REFERENCE NUMBER:
17368-09

PROJECT NAME: GM-Grand Rapids

SAMPLERS SIGNATURE: *[Signature]* PRINTED NAME: David C Rivers

SEQ. No.	DATE	TIME	SAMPLE TYPE	NO. OF CONTAINERS	PARAMETERS			REMARKS
					TEL	VOCS	TAT	
1	7/12/09	1533	GW-17360-071209-DXM-071	3	Y	Y	Y	
2	7/13/09	740	GW-17360-071309-DCR-072	3	Y	Y	Y	
3	"	745	"	3	Y	Y	Y	
4	"	115	"	3	Y	Y	Y	
5	"	1455	"	3	Y	Y	Y	
6	"	1830	"	3	Y	Y	Y	
7	"	"	"	1	Y	Y	Y	

TOTAL NUMBER OF CONTAINERS

19

AAA Gabeck Paul Cissman

RELINQUISHED BY: <i>[Signature]</i>	DATE: 7-13-09	RECEIVED BY:	DATE:
RELINQUISHED BY:	DATE: 7-13-09	RECEIVED BY:	DATE:
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:

METHOD OF SHIPMENT: Fed Ex

AIR BILL No. 4825701-8310 96653070

Write Fully Executed Copy - Shipper Copy
 Yellow Receiving Laboratory Copy - Goldenrod - Sampler Copy

SAMPLE TEAM: David C Rivers

RECEIVED FOR LABORATORY BY: *[Signature]*

27169

DATE: 7/14/09 TIME: 0940

RSR280

Client: 57787

Lot #: A4G140175

Case Number/SDG: 17360-09

Storage Location: MS

**Severn Trent Laboratories, Inc.
Sample Control Record**

Laboratory Sample I.D.	Transferred By	Date	Entered	Removed	Reason	Date Returned
GK2DN	SANDERSA	7/14/04	Yes		Storage	
GK2DW	SANDERSA	7/14/04	Yes		Storage	
GK2D0	SANDERSA	7/14/04	Yes		Storage	
GK2D1	SANDERSA	7/14/04	Yes		Storage	
GK2D2	SANDERSA	7/14/04	Yes		Storage	
GK2D5	SANDERSA	7/14/04	Yes		Storage	
GK2D7	SANDERSA	7/14/04	Yes		Storage	

STL Cooler Receipt Form/Narrative
North Canton Facility

Lot Number: AHC140175

Client: CRA
 Cooler Received on: 7/14/04

Project: GM-Grand Rapids Quote#: _____
 Opened on: 7/14/04

by: [Signature]
 (Signature)

Fedx Client Drop Off UPS DHL FAS Other: _____
 STL Cooler No# _____ Foam Box Client Cooler Other _____

1. Were custody seals on the outside of the cooler? Yes No Intact? Yes No NA
 If YES, Quantity _____
 Were the custody seals signed and dated? Yes No NA
2. Shipper's packing slip attached to this form? Yes No NA
3. Did custody papers accompany the samples? Yes No NA
4. Did you sign the custody papers in the appropriate place? Yes No NA
5. Packing material used: Bubble Wrap Foam None Other: _____
6. Cooler temperature upon receipt 5.8 °C (see back of form for multiple coolers/temp)

METHOD: Temp Vial Coolant & Sample Against Bottles IR ICE/H₂O Slurry
 COOLANT: Wet Ice Blue Ice Dry Ice Water None

7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels and/or tags be reconciled with the COC? Yes No
9. Were samples at the correct pH? (record below/on back) Yes No NA
10. Were correct bottles used for the tests indicated? Yes No
11. Were air bubbles >6 mm in any VOA vials? Yes No NA
12. Sufficient quantity received to perform indicated analyses? Yes No

Contacted PM _____ Date: _____ by: _____ via Voice Mail Verbal Other

Concerning: _____

1. CHAIN OF CUSTODY

The following discrepancies occurred:
* Samples -75, -76, and -77 do not have sample times on labels.
- log per COC

2. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.

3. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot #122603-HNO₃; Sulfuric Acid Lot # 011-304-H₂SO₄; Sodium Hydroxide Lot # 111401-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 112801-CH₃COO₂Zn/NaOH
 Sample(s) _____ were received with bubble > 6 mm in diameter (cc: PM)

4. Other (see below or back)

Client ID	pH	Date	Initials

STL Cooler Receipt Form/Narrative North Canton Facility

Client ID	pH	Date	Initials

Cooler	Temp	Method	Coolant

Discrepancies Cont.

GCMS VOLATILE DATA

CONESTOGA ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-071204-DCR-071

GC/MS Volatiles

Lot-Sample #...: A4G140175-001 Work Order #...: GK2DN1AA Matrix.....: WG
 Date Sampled...: 07/12/04 15:50 Date Received...: 07/14/04
 Prep Date.....: 07/14/04 Analysis Date...: 07/14/04
 Prep Batch #...: 4196578
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	2.6 J	25	ug/L	0.74
Benzene	0.34 J	1.0	ug/L	0.22
Bromodichloromethane	0.36 J	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	0.39 J	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	2.4	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

(Continued on next page)

CONESTOGA ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-071204-DCR-071

GC/MS Volatiles

Lot-Sample #...: A4G140175-001 Work Order #...: GK2DN1AA Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	0.70 J	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	0.40 J	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	113	(73 - 122)
1,2-Dichloroethane-d4	109	(61 - 128)
Toluene-d8	86	(76 - 110)
4-Bromofluorobenzene	81	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

CONESTOGA ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-071304-DCR-072

GC/MS Volatiles

Lot-Sample #...: A4G140175-002 Work Order #...: GK2DW1AA Matrix.....: WG
 Date Sampled...: 07/13/04 07:40 Date Received...: 07/14/04
 Prep Date.....: 07/14/04 Analysis Date...: 07/14/04
 Prep Batch #...: 4196578
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260E

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	1.8 J	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	0.44 J	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	2.8	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	0.21 J	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

(Continued on next page)

CONESTOGA ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-071304-DCR-072

GC/MS Volatiles

Lot-Sample #...: A4G140175-002 Work Order #...: GK2DW1AA Matrix.....: WG

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	0.24 J	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	0.46 J	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	109	(73 - 122)
1,2-Dichloroethane-d4	114	(61 - 128)
Toluene-d8	84	(76 - 110)
4-Bromofluorobenzene	80	(74 - 116)

NOTE (S):

J Estimated result. Result is less than RL.

CONESTOGA ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-071304-DCR-073

GC/MS Volatiles

Lot-Sample #....: A4G140175-003 Work Order #....: GK2D01AA Matrix.....: WG
 Date Sampled....: 07/13/04 07:45 Date Received...: 07/14/04
 Prep Date.....: 07/14/04 Analysis Date...: 07/14/04
 Prep Batch #....: 4196578
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	2.3 J	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	0.45 J	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	2.8	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	0.24 J	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-071304-DCR-073

GC/MS Volatiles

Lot-Sample #...: A4G140175-003 Work Order #...: GK2D01AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	0.24 J	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	0.48 J	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	118	(73 - 122)
1,2-Dichloroethane-d4	112	(61 - 128)
Toluene-d8	86	(76 - 110)
4-Bromofluorobenzene	84	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

CONESTOGA ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-071304-DCR-074

GC/MS Volatiles

Lot-Sample #....: A4G140175-004 Work Order #....: GK2D11AA Matrix.....: WG
 Date Sampled....: 07/13/04 11:55 Date Received...: 07/14/04
 Prep Date.....: 07/14/04 Analysis Date...: 07/14/04
 Prep Batch #....: 4196578
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	5.4 J	25	ug/L	0.74
Benzene	0.42 J	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	0.81 J	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	3.4	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	0.25 J	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-071304-DCR-074

GC/MS Volatiles

Lot-Sample #....: A4G140175-004 Work Order #....: GK2D11AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	0.90 J	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	0.38 J	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	112	(73 - 122)
1,2-Dichloroethane-d4	114	(61 - 128)
Toluene-d8	85	(76 - 110)
4-Bromofluorobenzene	83	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

CONESTOGA ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-071304-DCR-075

GC/MS Volatiles

Lot-Sample #....: A4G140175-005 Work Order #....: GK2D21AA Matrix.....: WG
 Date Sampled....: 07/13/04 14:55 Date Received...: 07/14/04
 Prep Date.....: 07/14/04 Analysis Date...: 07/14/04
 Prep Batch #....: 4196578
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	3.7 J	25	ug/L	0.74
Benzene	0.31 J	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	0.76 J	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	3.9	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	0.20 J	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-071304-DCR-075

GC/MS Volatiles

Lot-Sample #....: A4G140175-005 Work Order #....: GK2D21AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	0.72 J	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	0.33 J	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	112	(73 - 122)
1,2-Dichloroethane-d4	113	(61 - 128)
Toluene-d8	89	(76 - 110)
4-Bromofluorobenzene	82	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

CONESTOGA ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-071304-DCR-076

GC/MS Volatiles

Lot-Sample #...: A4G140175-006 Work Order #...: GK2D51AA Matrix.....: WG
 Date Sampled...: 07/13/04 18:30 Date Received...: 07/14/04
 Prep Date.....: 07/14/04 Analysis Date...: 07/14/04
 Prep Batch #...: 4196578
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	1.9 J	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	7.2	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	16	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	2.8	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-071304-DCR-076

GC/MS Volatiles

Lot-Sample #....: A4G140175-006 Work Order #....: GK2D51AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	6.5	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	112	(73 - 122)
1,2-Dichloroethane-d4	110	(61 - 128)
Toluene-d8	82	(76 - 110)
4-Bromofluorobenzene	80	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

CONESTOGA ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-071304-DCR-077

GC/MS Volatiles

Lot-Sample #....: A4G140175-007 Work Order #....: GK2D71AA Matrix.....: WG
 Date Sampled....: 07/13/04 Date Received...: 07/14/04
 Prep Date.....: 07/14/04 Analysis Date...: 07/14/04
 Prep Batch #....: 4196578
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	LIMIT	UNITS	MDL
Acetone	8.1 J	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	2.0 J	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	4.9 J,B	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-071304-DCR-077

GC/MS Volatiles

Lot-Sample #....: A4G140175-007 Work Order #....: GK2D71AA Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	ND	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	120	(73 - 122)
1,2-Dichloroethane-d4	114	(61 - 128)
Toluene-d8	86	(76 - 110)
4-Bromofluorobenzene	79	(74 - 116)

NOTE(S):

- J Estimated result. Result is less than RL.
- B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G140175
 NB Lot-Sample #: A4G140000-578

Work Order #...: GK4G51AA

Matrix.....: WATER

Analysis Date...: 07/14/04
 Dilution Factor: 1

Prep Date.....: 07/14/04
 Prep Batch #...: 4196578
 Initial Wgt/Vol: 5 mL

Final Wgt/Vol...: 5 mL

PARAMETER	RESULT	REPORTING		METHOD
		LIMIT	UNITS	
Acetone	ND	25	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	1.0	ug/L	SW846 8260B
2-Butanone	ND	25	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	1.0	ug/L	SW846 8260B
Cyclohexane	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromoethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
Dichlorodifluoromethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
2-Hexanone	ND	50	ug/L	SW846 8260B
Isopropylbenzene	ND	5.0	ug/L	SW846 8260B
Methyl acetate	ND	10	ug/L	SW846 8260B
Methylene chloride	0.42 J	5.0	ug/L	SW846 8260B
Methylcyclohexane	ND	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	50	ug/L	SW846 8260B
Methyl tert-butyl ether	ND	5.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G140175

Work Order #...: GK4G51AA

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	ND	5.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	3.0	ug/L	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	111	(73 - 122)
1,2-Dichloroethane-d4	111	(61 - 128)
Toluene-d8	86	(76 - 110)
4-Bromofluorobenzene	78	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: A4G140175 Work Order #...: GK4G51AC-LCS Matrix.....: WATER
 LCS Lot-Sample#: A4G140000-578 GK4G51AD-LCSD
 Prep Date.....: 07/14/04 Analysis Date...: 07/14/04
 Prep Batch #...: 4196578
 Dilution Factor: 1 Final Wgt/Vol...: 5 mL
 Initial Wgt/Vol: 5 mL

<u>PARAMETER</u>	<u>SPIKE</u> <u>AMOUNT</u>	<u>MEASURED</u> <u>AMOUNT</u>	<u>UNITS</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>
Benzene	10	10	ug/L	103		SW846 8260B
	10	11	ug/L	108	4.3	SW846 8260B
Chlorobenzene	10	9.9	ug/L	99		SW846 8260B
	10	10	ug/L	102	2.8	SW846 8260B
1,1-Dichloroethene	10	11	ug/L	111		SW846 8260B
	10	12	ug/L	116	5.2	SW846 8260B
Toluene	10	10	ug/L	102		SW846 8260B
	10	10	ug/L	102	0.74	SW846 8260B
Trichloroethene	10	10	ug/L	101		SW846 8260B
	10	11	ug/L	108	6.6	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
Dibromofluoromethane	106	(73 - 122)
	106	(73 - 122)
1,2-Dichloroethane-d4	99	(61 - 128)
	103	(61 - 128)
Toluene-d8	97	(76 - 110)
	94	(76 - 110)
4-Bromofluorobenzene	104	(74 - 116)
	108	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A4G140175 Work Order #...: GK4G51AC-LCS Matrix... : WATER
 LCS Lot-Sample#: A4G140000-578 GK4G51AD-LCSD
 Prep Date.....: 07/14/04 Analysis Date...: 07/14/04
 Prep Batch #...: 4196578
 Dilution Factor: 1 Final Wgt/Vol...: 5 mL
 Initial Wgt/Vol: 5 mL

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	103	(80 - 116)			SW846 8260B
	108	(80 - 116)	4.3	(0-20)	SW846 8260B
Chlorobenzene	99	(76 - 117)			SW846 8260B
	102	(76 - 117)	2.8	(0-20)	SW846 8260B
1,1-Dichloroethene	111	(63 - 130)			SW846 8260B
	116	(63 - 130)	5.2	(0-20)	SW846 8260B
Toluene	102	(74 - 119)			SW846 8260B
	102	(74 - 119)	0.74	(0-20)	SW846 8260B
Trichloroethene	101	(75 - 122)			SW846 8260B
	108	(75 - 122)	6.6	(0-20)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	106	(73 - 122)
	106	(73 - 122)
1,2-Dichloroethane-d4	99	(61 - 128)
	103	(61 - 128)
Toluene-d8	97	(76 - 110)
	94	(76 - 110)
4-Bromofluorobenzene	104	(74 - 116)
	108	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: A4G140175 Work Order #...: GKLMA1AC-MS Matrix.: WATER
 MS Lot-Sample #: A4G070213-001 GKLMA1AD-MSD
 Date Sampled...: 07/06/04 15:00 Date Received...: 07/07/04
 Prep Date.....: 07/14/04 Analysis Date...: 07/14/04
 Prep Batch #...: 4196578
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

PARAMETER	SAMPLE	SPIKE	MEASRD	UNITS	PERCNT		METHOD
	AMOUNT	AMT	AMOUNT		RECVRY	RPD	
Benzene	ND	10	11	ug/L	107		SW846 8260B
	ND	10	10	ug/L	105	1.6	SW846 8260B
Chlorobenzene	ND	10	9.9	ug/L	99		SW846 8260B
	ND	10	9.9	ug/L	99	0.05	SW846 8260B
1,1-Dichloroethene	ND	10	11	ug/L	111		SW846 8260B
	ND	10	11	ug/L	115	2.9	SW846 8260B
Toluene	ND	10	9.8	ug/L	98		SW846 8260B
	ND	10	9.8	ug/L	98	0.48	SW846 8260B
Trichloroethene	ND	10	9.8	ug/L	98		SW846 8260B
	ND	10	10	ug/L	101	3.2	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	108	(73 - 122)
	110	(73 - 122)
1,2-Dichloroethane-d4	109	(61 - 128)
	104	(61 - 128)
Toluene-d8	94	(76 - 110)
	94	(76 - 110)
4-Bromofluorobenzene	107	(74 - 116)
	106	(74 - 116)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A4G140175 Work Order #...: GKLMA1AC-MS Matrix.....: WATER
 MS Lot-Sample #: A4G070213-001 GKLMA1AD-MSD
 Date Sampled...: 07/06/04 15:00 Date Received...: 07/07/04
 Prep Date.....: 07/14/04 Analysis Date...: 07/14/04
 Prep Batch #...: 4196578
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	107	(78 - 118)			SW846 8260B
	105	(78 - 118)	1.6	(0-20)	SW846 8260B
Chlorobenzene	99	(76 - 117)			SW846 8260B
	99	(76 - 117)	0.05	(0-20)	SW846 8260B
1,1-Dichloroethene	111	(62 - 130)			SW846 8260B
	115	(62 - 130)	2.9	(0-20)	SW846 8260B
Toluene	98	(70 - 119)			SW846 8260B
	98	(70 - 119)	0.48	(0-20)	SW846 8260B
Trichloroethene	98	(62 - 130)			SW846 8260B
	101	(62 - 130)	3.2	(0-20)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	108	(73 - 122)
	110	(73 - 122)
1,2-Dichloroethane-d4	109	(61 - 128)
	104	(61 - 128)
Toluene-d8	94	(76 - 110)
	94	(76 - 110)
4-Bromofluorobenzene	107	(74 - 116)
	106	(74 - 116)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

END OF REPORT

REC'D CRA
AUG - 4 2004
CRA SDG G-15

STL North Canton
4101 Shuffel Drive NW
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772
www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. 17360-09

GM-GRAND RAPIDS

Lot #: A4G200170

Paul Wiseman

Conestoga Rovers & Assoc., Inc
14496 Sheldon Rd Suite 200
Plymouth, MI 48170

ORIGINAL ANALYTICAL REPORT

Project#: 17360-09 Lab#: A4G200170

Name: GM-GRAND RAPIDS

Description

Event: VAS Sampling

SEVERN TRENT LABORATORIES, INC. Samples: 3waters dec 133-135

Analysis: TCL VOCs.

TAT: 48 HR TAT.

Lab: STL-NC

Seporal
Amy L. McCormick
Project Manager

Checked Against Preliminary Data:

Date: N/A Init.: N/A.

Date of Validation Memo: 10/21/04

Invoice Approval Date: _____

Comments: _____

July 28, 2004

CRA

CONESTOGA-ROVERS & ASSOCIATES, INC.
14496 Sheldon Road, Suite 200
Plymouth, MI 48170 • (734) 453-5123

CHAIN OF CUSTODY RECORD

SAMPLER'S SIGNATURE: *[Signature]* PRINTED NAME: David Rivers

SEQ. No. DATE TIME

1	7/17/04	1100	Gw-17360-071909-DCR-133	H ₂ O	3	X			
2	↓	1200	↓	↓	3	X			
3	↓	-	↓	↓	1	X			

PARAMETERS

TCL VOCs

ASPK-STAT

SAMPLE TYPE

No. Of CONTAINERS

REMARKS

CRA Contact
Paul Wiseman

SHIPPED TO (Laboratory Name): STZ North Canton

REFERENCE NUMBER: 17360-09

PROJECT NAME: Om-Grand Rapids

TOTAL NUMBER OF CONTAINERS 7

RELINQUISHED BY: *[Signature]*

DATE: 7-19-04
TIME: 1800

RECEIVED BY: 1.

DATE:
TIME:

RELINQUISHED BY: 2.

DATE:
TIME:

RECEIVED BY: 2.

DATE:
TIME:

RELINQUISHED BY: 3.

DATE:
TIME:

RECEIVED BY: 1.

DATE:
TIME:

METHOD OF SHIPMENT: FED EX

AIR BILL No. 846177724184

White - Fully Executed Copy
Yellow - Receiving Laboratory Copy

SAMPLE TEAM:

David Rivers

RECEIVED FOR LABORATORY BY:

Natalie Brubaker
DATE: 7-20-04 TIME: 9:35

27175

CASE NARRATIVE

CASE NARRATIVE

A4G200170

The following report contains the analytical results for two water samples and one quality control sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the GM-Grand Rapids Site, project number 17360-09. The samples were received July 20, 2004, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to the Chemistry Department on July 22, 2004. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 2.2°C.

GC/MS VOLATILES

The sample(s) that contain results between the MDL and the RL were flagged with "J". There is a possibility of false positive or mis-identification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation was performed only down to the standard reporting limit (SRL). The acceptance criteria for QC samples may not be met at these quantitation levels.

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

Volatile (GC or GC/MS)

Methylene chloride
Acetone
2-Butanone

Semivolatile (GC/MS)

Phthalate Esters

Metals

Copper
Iron
Zinc
Lead*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the reparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

STL North Canton Certifications and Approvals:

Alabama (#41170), California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#100439), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Ohio (#6090), Ohio VAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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***EXECUTIVE
SUMMARY***

EXECUTIVE SUMMARY - Detection Highlights

AAG200170

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
GW-17360-071904-DCR-133 07/19/04 11:00 001				
Acetone	1.6 J	25	ug/L	SW846 8260B
Benzene	0.32 J	1.0	ug/L	SW846 8260B
2-Butanone	0.54 J	25	ug/L	SW846 8260B
Methyl tert-butyl ether	0.22 J	5.0	ug/L	SW846 8260B
Toluene	0.59 J	1.0	ug/L	SW846 8260B
GW-17360-071904-DCR-134 07/19/04 12:00 002				
Acetone	3.4 J	25	ug/L	SW846 8260B
Bromodichloromethane	1.6	1.0	ug/L	SW846 8260B
2-Butanone	0.82 J	25	ug/L	SW846 8260B
Carbon disulfide	0.67 J	5.0	ug/L	SW846 8260B
Chloroform	4.5	1.0	ug/L	SW846 8260B
Dibromochloromethane	0.71 J	1.0	ug/L	SW846 8260B
Toluene	1.1	1.0	ug/L	SW846 8260B
Trichloroethene	0.49 J	1.0	ug/L	SW846 8260B
GW-17360-071904-DCR-135 07/19/04 003				
Acetone	8.9 J	25	ug/L	SW846 8260B
Carbon disulfide	1.3 J	5.0	ug/L	SW846 8260B
1,1-Dichloroethene	0.26 J	1.0	ug/L	SW846 8260B
Methylene chloride	3.7 J	5.0	ug/L	SW846 8260B
Toluene	0.27 J	1.0	ug/L	SW846 8260B

METHOD SUMMARY

ANALYTICAL METHODS SUMMARY

A4G200170

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Volatile Organics by GC/MS	SW846 8260B

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

SAMPLE SUMMARY

A4G200170

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
GLEM8	001	GW-17360-071904-DCR-133	07/19/04	11:00
GLENK	002	GW-17360-071904-DCR-134	07/19/04	12:00
GLENL	003	GW-17360-071904-DCR-135	07/19/04	

NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.



STL

***SHIPPING
AND
RECEIVING DOCUMENTS***

RRR280

Client: 57787

Lot #: MAG200170

Case Number/SDG: 17360-09

Storage Location: MS

Severn Trent Laboratories, Inc.
Sample Control Record

Laboratory Sample I.D.	Transferred By	Date	Entered	Removed	Reason	Date Returned
GLEM8	SANDERSA	7/20/04	Yes		Storage	
GLENK	SANDERSA	7/20/04	Yes		Storage	
GLENL	SANDERSA	7/20/04	Yes		Storage	

STL Cooler Receipt Form/Narrative

Lot Number: PHG200170

North Canton Facility

Client: CRA

Project: Gym - Grand Rapids

Quote#: _____

Cooler Received on: 7-20-04

Opened on: 7-20-04

by: Natalie Brubler
(Signature)

Fedx Client Drop Off UPS DHL FAS Other: _____

STL Cooler No# _____ Foam Box Client Cooler Other _____

1. Were custody seals on the outside of the cooler? Yes No Intact? Yes No NA
If YES, Quantity _____
Were the custody seals signed and dated? Yes No NA
2. Shipper's packing slip attached to this form? Yes No NA
3. Did custody papers accompany the samples? Yes No Relinquished by client? Yes No
4. Did you sign the custody papers in the appropriate place? Yes No
5. Packing material used: Bubble Wrap Foam None Other: _____
6. Cooler temperature upon receipt 2.2 °C (see back of form for multiple coolers/temp)

METHOD: Temp Vial Coolant & Sample Against Bottles IR ICE/H₂O Slurry

COOLANT: Wet Ice Blue Ice Dry Ice Water None

7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels and/or tags be reconciled with the COC? Yes No
9. Were samples at the correct pH? (record below/on back) Yes No NA
10. Were correct bottles used for the tests indicated? Yes No
11. Were air bubbles >6 mm in any VOA vials? Yes No NA
12. Sufficient quantity received to perform indicated analyses? Yes No

Contacted PM _____ Date: _____ by: _____ via Voice Mail Verbal Other

Concerning: _____

1. CHAIN OF CUSTODY

The following discrepancies occurred:

*COC = GW-17360-071904-DLR-133; label = -133
-134; I = -134
-135; I = 135
 will log per COC (AM)

2. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

3. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot #122603-HNO₃; Sulfuric Acid Lot # 011-504-H₂SO₄; Sodium Hydroxide Lot # 111401-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 112801-CH₃COO₂ZN/NaOH

Sample(s) _____ were received with bubble > 6 mm in diameter (cc: PM)

4. Other (see below or back)

Client ID	pH	Date	Initials

GCMS VOLATILE DATA

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-071904-DCR-133

GC/MS Volatiles

Lot-Sample #...: A4G200170-001 Work Order #...: GLEM81AA Matrix.....: WG
 Date Sampled...: 07/19/04 11:00 Date Received...: 07/20/04
 Prep Date.....: 07/21/04 Analysis Date...: 07/21/04
 Prep Batch #...: 4203601
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	1.6 J	25	ug/L	0.74
Benzene	0.32 J	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	0.54 J	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	0.22 J	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-071904-DCR-133

GC/MS Volatiles

Lot-Sample #....: A4G200170-001 Work Order #....: GLEM81AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	0.59 J	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	95	(73 - 122)
1,2-Dichloroethane-d4	105	(61 - 128)
Toluene-d8	101	(76 - 110)
4-Bromofluorobenzene	98	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-071904-DCR-134

GC/MS Volatiles

Lot-Sample #....: A4G200170-002 Work Order #....: GLENK1AA Matrix.....: WG
 Date Sampled....: 07/19/04 12:00 Date Received...: 07/20/04
 Prep Date.....: 07/21/04 Analysis Date...: 07/21/04
 Prep Batch #....: 4203601
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	3.4 J	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	1.6	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	0.82 J	25	ug/L	0.39
Carbon disulfide	0.67 J	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	4.5	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	0.71 J	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-071904-DCR-134

GC/MS Volatiles

Lot-Sample #...: A4G200170-002 Work Order #...: GLENK1AA Matrix.....: WG

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	1.1	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	0.49 J	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	94	(73 - 122)
1,2-Dichloroethane-d4	108	(61 - 128)
Toluene-d8	101	(76 - 110)
4-Bromofluorobenzene	101	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-071904-DCR-135

GC/MS Volatiles

Lot-Sample #....: A4G200170-003 Work Order #....: GLENL1AA Matrix.....: WQ
 Date Sampled....: 07/19/04 Date Received...: 07/20/04
 Prep Date.....: 07/21/04 Analysis Date...: 07/21/04
 Prep Batch #....: 4203254
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	8.9 J	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	1.3 J	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	0.26 J	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	3.7 J	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-071904-DCR-135

GC/MS Volatiles

Lot-Sample #...: A4G200170-003 Work Order #...: GLENL1AA Matrix.....: WQ

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	0.27 J	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	90	(73 - 122)
1,2-Dichloroethane-d4	87	(61 - 128)
Toluene-d8	86	(76 - 110)
4-Bromofluorobenzene	78	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G200170
 MB Lot-Sample #: A4G210000-254
 Analysis Date...: 07/21/04
 Dilution Factor: 1

Work Order #...: GLHGELAA
 Prep Date.....: 07/21/04
 Prep Batch #...: 4203254
 Initial Wgt/Vol: 5 mL

Matrix.....: WATER
 Final Wgt/Vol...: 5 mL

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Acetone	ND	25	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	1.0	ug/L	SW846 8260B
2-Butanone	ND	25	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	1.0	ug/L	SW846 8260B
Cyclohexane	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromoethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
Dichlorodifluoromethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
2-Hexanone	ND	50	ug/L	SW846 8260B
Isopropylbenzene	ND	5.0	ug/L	SW846 8260B
Methyl acetate	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
Methylcyclohexane	ND	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	50	ug/L	SW846 8260B
Methyl tert-butyl ether	ND	5.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G200170

Work Order #...: GLHGELAA

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>
		<u>LIMIT</u>	<u>UNITS</u>	
1,2,4-Trichloro-benzene	ND	5.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	3.0	ug/L	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	94	(73 - 122)
1,2-Dichloroethane-d4	93	(61 - 128)
Toluene-d8	91	(76 - 110)
4-Bromofluorobenzene	83	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G200170
 MB Lot-Sample #: A4G210000-601

Work Order #...: GLJ9E1AA

Matrix.....: WATER

Analysis Date...: 07/21/04
 Dilution Factor: 1

Prep Date.....: 07/21/04

Final Wgt/Vol...: 5 mL

Prep Batch #...: 4203601

Initial Wgt/Vol: 5 mL

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Acetone	ND	25	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	1.0	ug/L	SW846 8260B
2-Butanone	ND	25	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	1.0	ug/L	SW846 8260B
Cyclohexane	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromoethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
Dichlorodifluoromethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
2-Hexanone	ND	50	ug/L	SW846 8260B
Isopropylbenzene	ND	5.0	ug/L	SW846 8260B
Methyl acetate	ND	10	ug/L	SW846 8260B
Methylene chloride	0.31 J	5.0	ug/L	SW846 8260B
Methylcyclohexane	ND	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	50	ug/L	SW846 8260B
Methyl tert-butyl ether	ND	5.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G200170

Work Order #...: GLJ9E1AA

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		
		<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	ND	5.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	3.0	ug/L	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	93	(73 - 122)
1,2-Dichloroethane-d4	106	(61 - 128)
Toluene-d8	102	(76 - 110)
4-Bromofluorobenzene	99	(74 - 116)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: A4G200170 Work Order #...: GLHGELAC-LCS Matrix.....: WATER
 LCS Lot-Sample#: A4G210000-254 GLHGELAD-LCSD
 Prep Date.....: 07/21/04 Analysis Date...: 07/21/04
 Prep Batch #...: 4203254
 Dilution Factor: 1 Final Wgt/Vol...: 5 mL
 Initial Wgt/Vol: 5 mL

<u>PARAMETER</u>	<u>SPIKE AMOUNT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCENT RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>
Benzene	10	9.8	ug/L	98		SW846 8260B
	10	9.6	ug/L	96	1.3	SW846 8260B
Chlorobenzene	10	10	ug/L	100		SW846 8260B
	10	9.4	ug/L	94	5.9	SW846 8260B
1,1-Dichloroethene	10	10	ug/L	103		SW846 8260B
	10	10	ug/L	104	1.4	SW846 8260B
Toluene	10	10	ug/L	100		SW846 8260B
	10	9.4	ug/L	94	6.2	SW846 8260B
Trichloroethene	10	9.9	ug/L	99		SW846 8260B
	10	9.6	ug/L	96	2.9	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	95	(73 - 122)
	91	(73 - 122)
1,2-Dichloroethane-d4	99	(61 - 128)
	95	(61 - 128)
Toluene-d8	96	(76 - 110)
	91	(76 - 110)
4-Bromofluorobenzene	89	(74 - 116)
	84	(74 - 116)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #....: A4G200170 Work Order #....: GLHGELAC-LCS Matrix.....: WATER
 LCS Lot-Sample#: A4G210000-254 GLHGELAD-LCSD
 Prep Date.....: 07/21/04 Analysis Date...: 07/21/04
 Prep Batch #....: 4203254
 Dilution Factor: 1 Final Wgt/Vol...: 5 mL
 Initial Wgt/Vol: 5 mL

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	98	(80 - 116)			SW846 8260B
	96	(80 - 116)	1.3	(0-20)	SW846 8260B
Chlorobenzene	100	(76 - 117)			SW846 8260B
	94	(76 - 117)	5.9	(0-20)	SW846 8260B
1,1-Dichloroethene	103	(63 - 130)			SW846 8260B
	104	(63 - 130)	1.4	(0-20)	SW846 8260B
Toluene	100	(74 - 119)			SW846 8260B
	94	(74 - 119)	6.2	(0-20)	SW846 8260B
Trichloroethene	99	(75 - 122)			SW846 8260B
	96	(75 - 122)	2.9	(0-20)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	95	(73 - 122)
	91	(73 - 122)
1,2-Dichloroethane-d4	99	(61 - 128)
	95	(61 - 128)
Toluene-d8	96	(76 - 110)
	91	(76 - 110)
4-Bromofluorobenzene	89	(74 - 116)
	84	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #....: A4G200170 Work Order #....: GLJ9E1AC Matrix.....: WATER
 LCS Lot-Sample#: A4G210000-601
 Prep Date.....: 07/21/04 Analysis Date...: 07/21/04
 Prep Batch #....: 4203601
 Dilution Factor: 1 Final Wgt/Vol...: 5 mL
 Initial Wgt/Vol: 5 mL

<u>PARAMETER</u>	<u>SPIKE</u> <u>AMOUNT</u>	<u>MEASURED</u> <u>AMOUNT</u>	<u>UNITS</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>METHOD</u>
Benzene	10	9.4	ug/L	94	SW846 8260B
Chlorobenzene	10	9.3	ug/L	93	SW846 8260B
1,1-Dichloroethene	10	9.9	ug/L	99	SW846 8260B
Toluene	10	9.9	ug/L	99	SW846 8260B
Trichloroethene	10	8.5	ug/L	85	SW846 8260B
<u>SURROGATE</u>		<u>PERCENT</u> <u>RECOVERY</u>		<u>RECOVERY</u> <u>LIMITS</u>	
Dibromofluoromethane		93		(73 - 122)	
1,2-Dichloroethane-d4		101		(61 - 128)	
Toluene-d8		99		(76 - 110)	
4-Bromofluorobenzene		99		(74 - 116)	

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A4G200170 Work Order #...: GLJ9E1AC Matrix.....: WATER
 LCS Lot-Sample#: A4G210000-601
 Prep Date.....: 07/21/04 Analysis Date...: 07/21/04
 Prep Batch #...: 4203601
 Dilution Factor: 1 Final Wgt/Vol...: 5 mL
 Initial Wgt/Vol: 5 mL

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>
Benzene	94	(80 - 116)	SW846 8260B
Chlorobenzene	93	(76 - 117)	SW846 8260B
1,1-Dichloroethene	99	(63 - 130)	SW846 8260B
Toluene	99	(74 - 119)	SW846 8260B
Trichloroethene	85	(75 - 122)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	93	(73 - 122)
1,2-Dichloroethane-d4	101	(61 - 128)
Toluene-d8	99	(76 - 110)
4-Bromofluorobenzene	99	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: A4G200170 Work Order #...: GKVR21A9-MS Matrix.....: WATER
 MS Lot-Sample #: A4G100208-003 GKVR21CA-MSD
 Date Sampled...: 07/09/04 09:11 Date Received...: 07/10/04
 Prep Date.....: 07/21/04 Analysis Date...: 07/21/04
 Prep Batch #...: 4203254
 Dilution Factor: 10 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Benzene	ND	100	86	ug/L	86		SW846 8260B
	ND	100	88	ug/L	88	1.8	SW846 8260B
Chlorobenzene	ND	100	86	ug/L	86		SW846 8260B
	ND	100	87	ug/L	87	1.3	SW846 8260B
1,1-Dichloroethene	ND	100	95	ug/L	95		SW846 8260B
	ND	100	97	ug/L	97	2.2	SW846 8260B
Toluene	ND	100	86	ug/L	86		SW846 8260B
	ND	100	87	ug/L	87	1.6	SW846 8260B
Trichloroethene	ND	100	86	ug/L	86		SW846 8260B
	ND	100	89	ug/L	89	3.8	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	92	(73 - 122)
	93	(73 - 122)
1,2-Dichloroethane-d4	96	(61 - 128)
	98	(61 - 128)
Toluene-d8	91	(76 - 110)
	91	(76 - 110)
4-Bromofluorobenzene	85	(74 - 116)
	84	(74 - 116)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A4G200170 Work Order #...: GKVR21A9-MS Matrix.....: WATER
 MS Lot-Sample #: A4G100208-003 GKVR21CA-MSD
 Date Sampled...: 07/09/04 09:11 Date Received...: 07/10/04
 Prep Date.....: 07/21/04 Analysis Date...: 07/21/04
 Prep Batch #...: 4203254
 Dilution Factor: 10 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

PARAMETER	PERCENT	RECOVERY	RPD	RPD	METHOD
	RECOVERY	LIMITS		LIMITS	
Benzene	86	(78 - 118)			SW846 8260B
	88	(78 - 118)	1.8	(0-20)	SW846 8260B
Chlorobenzene	86	(76 - 117)			SW846 8260B
	87	(76 - 117)	1.3	(0-20)	SW846 8260B
1,1-Dichloroethene	95	(62 - 130)			SW846 8260B
	97	(62 - 130)	2.2	(0-20)	SW846 8260B
Toluene	86	(70 - 119)			SW846 8260B
	87	(70 - 119)	1.6	(0-20)	SW846 8260B
Trichloroethene	86	(62 - 130)			SW846 8260B
	89	(62 - 130)	3.8	(0-20)	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	92	(73 - 122)
	93	(73 - 122)
1,2-Dichloroethane-d4	96	(61 - 128)
	98	(61 - 128)
Toluene-d8	91	(76 - 110)
	91	(76 - 110)
4-Bromofluorobenzene	85	(74 - 116)
	84	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: A4G200170 Work Order #...: GK42P1AQ-MS Matrix.....: WATER
 MS Lot-Sample #: A4G150134-004 GK42P1AR-MSD
 Date Sampled...: 07/14/04 08:30 Date Received...: 07/15/04
 Prep Date.....: 07/21/04 Analysis Date...: 07/21/04
 Prep Batch #...: 4203601
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

PARAMETER	SAMPLE	SPIKE	MEASRD	UNITS	PERCNT		METHOD
	AMOUNT	AMT	AMOUNT		RECVRY	RPD	
Benzene	ND	10	9.6	ug/L	96		SW846 8260B
	ND	10	9.7	ug/L	97	1.6	SW846 8260B
Chlorobenzene	ND	10	9.7	ug/L	97		SW846 8260B
	ND	10	9.6	ug/L	96	0.33	SW846 8260B
1,1-Dichloroethene	ND	10	10	ug/L	102		SW846 8260B
	ND	10	9.9	ug/L	99	3.5	SW846 8260B
Toluene	ND	10	10	ug/L	102		SW846 8260B
	ND	10	10	ug/L	102	0.05	SW846 8260B
Trichloroethene	4.3	10	13	ug/L	84		SW846 8260B
	4.3	10	13	ug/L	84	0.29	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	91	(73 - 122)
	94	(73 - 122)
1,2-Dichloroethane-d4	112	(61 - 128)
	111	(61 - 128)
Toluene-d8	101	(76 - 110)
	101	(76 - 110)
4-Bromofluorobenzene	102	(74 - 116)
	102	(74 - 116)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #....: A4G200170 Work Order #....: GK42P1AQ-MS Matrix.....: WATER
 MS Lot-Sample #: A4G150134-004 GK42P1AR-MSD
 Date Sampled....: 07/14/04 08:30 Date Received...: 07/15/04
 Prep Date.....: 07/21/04 Analysis Date...: 07/21/04
 Prep Batch #....: 4203601
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

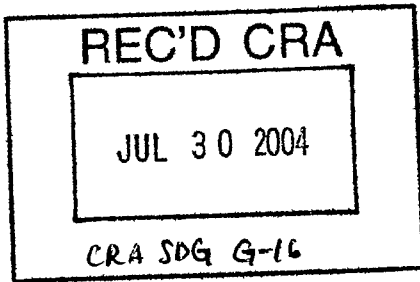
<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	96	(78 - 118)			SW846 8260B
	97	(78 - 118)	1.6	(0-20)	SW846 8260B
Chlorobenzene	97	(76 - 117)			SW846 8260B
	96	(76 - 117)	0.33	(0-20)	SW846 8260B
1,1-Dichloroethene	102	(62 - 130)			SW846 8260B
	99	(62 - 130)	3.5	(0-20)	SW846 8260B
Toluene	102	(70 - 119)			SW846 8260B
	102	(70 - 119)	0.05	(0-20)	SW846 8260B
Trichloroethene	84	(62 - 130)			SW846 8260B
	84	(62 - 130)	0.29	(0-20)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	91	(73 - 122)
	94	(73 - 122)
1,2-Dichloroethane-d4	112	(61 - 128)
	111	(61 - 128)
Toluene-d8	101	(76 - 110)
	101	(76 - 110)
4-Bromofluorobenzene	102	(74 - 116)
	102	(74 - 116)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

END OF REPORT



STL

STL North Canton
4101 Shuffel Drive NW
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772
www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. 17360-09

GM-GRAND RAPIDS

Lot #: A4G210154

Paul Wiseman

Conestoga Rovers & Assoc., Inc
14496 Sheldon Rd Suite 200
Plymouth, MI 48170

ORIGINAL ANALYTICAL REPORT

Project#: 17360-09 Lab#: A4G210154

Name: GM GRAND RAPIDS

Description

Event: VAS Sampling

SEVERN TRENT LABORATORIES, INC Samples: 8 waters DCR 136-143

Analysis: TCL VOC

TAT: 48 HOUR TAT

Lab: STL-NC

Amy L. McCormick

Amy L. McCormick
Project Manager

Checked Against Preliminary Data:

Date: N/A Init.: N/A

Date of Validation Memo: 10/21/04

Invoice Approval Date: _____

Comments: _____

July 28, 2004

CRA

CONESTOGA-ROVERS & ASSOCIATES, INC.
 14496 Sheldon Road, Suite 200
 Plymouth, MI 48170 • (734) 453-5123

SHIPPED TO (Laboratory Name): STL - North Canton

CHAIN OF CUSTODY RECORD

REFERENCE NUMBER:
17360-09

PROJECT NAME: Gm - Grand Rapids

SAMPLER'S SIGNATURE: [Signature] PRINTED NAME: David C. Rivers

SEQ. No.	DATE	TIME	CONTAINERS	SAMPLE TYPE	PARAMETERS	REMARKS
1	7/29/04	940	3	hrs	X	
2		1030	3		X	
3		1035	3		X	
4		1125	9		X	
5		1230	3		X	
6		1645	3		X	
7		1730	3		X	
8			1		X	
TOTAL NUMBER OF CONTAINERS					24	

Chad Confort
Paul Wiseman

RELINQUISHED BY: <u>[Signature]</u>	DATE: <u>7-20-04</u>	RECEIVED BY:	DATE:
	TIME: <u>1800</u>	1.	TIME:
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:
	TIME:	2.	TIME:
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:
	TIME:	1.	TIME:

METHOD OF SHIPMENT: FED EX AIR BILL No. 84617772 4232

RECEIVED FOR LABORATORY BY: [Signature]
 DATE: 7/21/04 TIME: 9:40

SAMPLE TEAM: David C. Rivers

White - Fully Executed Copy
 Yellow - Receiving Laboratory Copy

27176

**SEVERN
TREN** **STL**

CASE NARRATIVE

CASE NARRATIVE

A4G210154

The following report contains the analytical results for eight water samples submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the GM-Grand Rapids Site, project number 17360-09. The samples were received July 21, 2004, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to the Chemistry Department on July 23, 2004. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 5.1°C.

GC/MS VOLATILES

The sample(s) that contained concentrations of target analyte(s) at a reportable level in the associated Method Blank(s) were flagged with "B". All target analytes in the Method Blank must be below the reporting limit (RL) or the associated sample(s) must be ND with the exception of common laboratory contaminants.

The sample(s) that contain results between the MDL and the RL were flagged with "J". There is a possibility of false positive or mis-identification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation was performed only down to the standard reporting limit (SRL). The acceptance criteria for QC samples may not be met at these quantitation levels.

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

Volatile (GC or GC/MS)

Methylene chloride
Acetone
2-Butanone

Semivolatile (GC/MS)

Phthalate Esters

Metals

Copper
Iron
Zinc
Lead*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the reparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprep and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be reprep and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.



STL North Canton Certifications and Approvals:

Alabama (#41170), California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#100439), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY - Detection Highlights

A4G210154

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
GW-17360-072004-DCR-136 07/20/04 09:40 001				
Acetone	3.9 J,B	25	ug/L	SW846 8260B
Benzene	0.55 J	1.0	ug/L	SW846 8260B
2-Butanone	0.72 J	25	ug/L	SW846 8260B
Carbon disulfide	0.85 J	5.0	ug/L	SW846 8260B
Chloroform	0.17 J	1.0	ug/L	SW846 8260B
Cyclohexane	0.37 J	1.0	ug/L	SW846 8260B
Ethylbenzene	0.27 J	1.0	ug/L	SW846 8260B
Toluene	0.89 J	1.0	ug/L	SW846 8260B
Trichloroethene	0.32 J	1.0	ug/L	SW846 8260B
GW-17360-072004-DCR-137 07/20/04 10:30 002				
Acetone	2.2 J,B	25	ug/L	SW846 8260B
Bromodichloromethane	3.1	1.0	ug/L	SW846 8260B
Chloroform	5.8	1.0	ug/L	SW846 8260B
Chloromethane	0.20 J,B	1.0	ug/L	SW846 8260B
Dibromochloromethane	1.6	1.0	ug/L	SW846 8260B
Toluene	2.6	1.0	ug/L	SW846 8260B
GW-17360-072004-DCR-138 07/20/04 10:35 003				
Acetone	2.2 J,B	25	ug/L	SW846 8260B
Bromodichloromethane	3.1	1.0	ug/L	SW846 8260B
Chloroform	5.9	1.0	ug/L	SW846 8260B
Chloromethane	0.20 J,B	1.0	ug/L	SW846 8260B
Dibromochloromethane	1.5	1.0	ug/L	SW846 8260B
Toluene	2.6	1.0	ug/L	SW846 8260B
GW-17360-072004-DCR-139 07/20/04 11:25 004				
Acetone	2.6 J,B	25	ug/L	SW846 8260B
Benzene	0.51 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	0.43 J	1.0	ug/L	SW846 8260B
Carbon disulfide	0.43 J	5.0	ug/L	SW846 8260B
Chloroform	0.78 J	1.0	ug/L	SW846 8260B
Chloromethane	0.18 J,B	1.0	ug/L	SW846 8260B
Cyclohexane	0.32 J	1.0	ug/L	SW846 8260B
Ethylbenzene	0.23 J	1.0	ug/L	SW846 8260B
Methyl tert-butyl ether	0.29 J	5.0	ug/L	SW846 8260B
Tetrachloroethene	0.25 J	1.0	ug/L	SW846 8260B
Toluene	1.8	1.0	ug/L	SW846 8260B

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

A4G210154

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
GW-17360-072004-DCR-140 07/20/04 12:30 005				
Acetone	3.5 J,B	25	ug/L	SW846 8260B
Benzene	0.54 J	1.0	ug/L	SW846 8260B
2-Butanone	0.75 J	25	ug/L	SW846 8260B
Chloroform	2.0	1.0	ug/L	SW846 8260B
Chloromethane	0.22 J,B	1.0	ug/L	SW846 8260B
Cyclohexane	0.29 J	1.0	ug/L	SW846 8260B
Ethylbenzene	0.22 J	1.0	ug/L	SW846 8260B
Methyl tert-butyl ether	0.18 J	5.0	ug/L	SW846 8260B
Toluene	2.5	1.0	ug/L	SW846 8260B
GW-17360-072004-DCR-141 07/20/04 16:45 006				
Acetone	2.5 J,B	25	ug/L	SW846 8260B
Benzene	0.71 J	1.0	ug/L	SW846 8260B
2-Butanone	0.45 J	25	ug/L	SW846 8260B
Carbon disulfide	0.45 J	5.0	ug/L	SW846 8260B
Cyclohexane	0.38 J	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	0.28 J	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	0.96 J	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	0.38 J	1.0	ug/L	SW846 8260B
Ethylbenzene	0.27 J	1.0	ug/L	SW846 8260B
Toluene	1.1	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	12	1.0	ug/L	SW846 8260B
Trichloroethene	2.5	1.0	ug/L	SW846 8260B
GW-17360-072004-DCR-142 07/20/04 17:30 007				
Acetone	1.6 J,B	25	ug/L	SW846 8260B
Benzene	0.27 J	1.0	ug/L	SW846 8260B
Cyclohexane	0.17 J	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	0.41 J	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	1.5	1.0	ug/L	SW846 8260B
Toluene	0.45 J	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	16	1.0	ug/L	SW846 8260B
Trichloroethene	2.7	1.0	ug/L	SW846 8260B
GW-17360-072004-DCR-143 07/20/04 008				
Acetone	13 J,B	25	ug/L	SW846 8260B
1,1-Dichloroethene	0.51 J	1.0	ug/L	SW846 8260B
Methylene chloride	4.4 J	5.0	ug/L	SW846 8260B

METHOD SUMMARY

ANALYTICAL METHODS SUMMARY

A4G210154

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Volatile Organics by GC/MS	SW846 8260B

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY



*SHIPPING
AND
RECEIVING DOCUMENTS*

CONESTOGA-ROVERS & ASSOCIATES, INC.
14496 Sheldon Road, Suite 200
Plymouth, MI 48170 • (734) 453-5123

SHIPPED TO (Laboratory Name): STL - North Canton

CHAIN OF CUSTODY RECORD

REFERENCE NUMBER:
17360-09

PROJECT NAME: Gm - Grand Rapids

SAMPLER'S SIGNATURE: *[Signature]* PRINTED NAME: David C. Rivers

SEQ. No.	DATE	TIME	SAMPLE TYPE	% OF CONTAINERS
1	7/24/04	940	GW-17360-07 2004-D 01-136	3
2		1030		3
3		1035		3
4		1125		9
5		1230		2
6		1645		3
7		1730		3
8				1

PARAMETERS
TLL Vols
98% TAT

REMARKS

TOTAL NUMBER OF CONTAINERS 24

Chk on file
Pinal Wiseman

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
1. <i>[Signature]</i>	7-20-04	1800	1. <i>[Signature]</i>		
2.			2.		
3.			1.		

METHOD OF SHIPMENT: FEDEX

AIR BILL NO. 84617772 4232

White - Fully Executed Copy
Yellow - Receiving Laboratory Copy

Pink - Slipper Copy
Goldendrod - Sampler Copy

SAMPLE TEAM: David C. Rivers

RECEIVED FOR LABORATORY BY: *[Signature]*
DATE: 7/21/04 TIME: 9:40

RSR280
 Client: 57787
 Lot #: A4G210154
 Case Number/SDG: 17360-09
 Storage Location: MS

Severn Trent Laboratories, Inc.
 Sample Control Record

Laboratory Sample I.D.	Transferred By	Date	Entered	Removed	Reason	Date Returned
GLG2G	STILLERJ	7/21/04	Yes		Storage	
GLG2J	STILLERJ	7/21/04	Yes		Storage	
GLG2K	STILLERJ	7/21/04	Yes		Storage	
GLG2L	STILLERJ	7/21/04	Yes		Storage	
GLG2M	STILLERJ	7/21/04	Yes		Storage	
GLG2N	STILLERJ	7/21/04	Yes		Storage	
GLG2T	STILLERJ	7/21/04	Yes		Storage	
GLG2V	STILLERJ	7/21/04	Yes		Storage	

STL Cooler Receipt Form/Narrative

Lot Number: A46710154

North Canton Facility

Client: CRA - Mich

Project: GM - Grand Rapids

Quote#: _____

Cooler Received on: 7-21-04

Opened on: 7-21-04

by: [Signature]
(Signature)

Fedex Client Drop Off UPS DHL FAS Other: _____

STL Cooler No# _____ Foam Box Client Cooler Other _____

1. Were custody seals on the outside of the cooler? Yes No Intact? Yes No NA
If YES, Quantity _____

Were the custody seals signed and dated? Yes No NA

2. Shipper's packing slip attached to this form? Yes No NA

3. Did custody papers accompany the samples? Yes No Relinquished by client? Yes No

4. Did you sign the custody papers in the appropriate place? Yes No

5. Packing material used: Bubble Wrap Foam None Other: _____

6. Cooler temperature upon receipt 5.1 °C (see back of form for multiple coolers/temp)

METHOD: Temp Vial Coolant & Sample Against Bottles IR ICE/H₂O Slurry

COOLANT: Wet Ice Blue Ice Dry Ice Water None

7. Did all bottles arrive in good condition (Unbroken)? Yes No

8. Could all bottle labels and/or tags be reconciled with the COC? Yes No

9. Were samples at the correct pH? (record below/on back) Yes No NA

10. Were correct bottles used for the tests indicated? Yes No

11. Were air bubbles >6 mm in any VOA vials? Yes No NA

12. Sufficient quantity received to perform indicated analyses? Yes No

Contacted PM _____ Date: _____ by: _____ via Voice Mail Verbal Other

Concerning: _____

1. CHAIN OF CUSTODY

The following discrepancies occurred:

2. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

3. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot #122603-HNO₃; Sulfuric Acid Lot # 011-304-H₂SO₄; Sodium Hydroxide Lot # 111401-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 112801-CH₃COO₂ZN/NaOH

Sample(s) _____ were received with bubble > 6 mm in diameter (cc: PM)

4. Other (see below or back)

Client ID	pH	Date	Initials

GCMS VOLATILE DATA

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072004-DCR-136

GC/MS Volatiles

Lot-Sample #....: A4G210154-001 Work Order #....: GLG2G1AA Matrix.....: WG
 Date Sampled...: 07/20/04 09:40 Date Received...: 07/21/04
 Prep Date.....: 07/22/04 Analysis Date...: 07/22/04
 Prep Batch #....: 4205088
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	3.9 J,B	25	ug/L	0.74
Benzene	0.55 J	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	0.72 J	25	ug/L	0.39
Carbon disulfide	0.85 J	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	0.17 J	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.37 J	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	0.27 J	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072004-DCR-136

GC/MS Volatiles

Lot-Sample #....: A4G210154-001 Work Order #....: GLG2G1AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	0.89 J	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	0.32 J	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	100	(73 - 122)
1,2-Dichloroethane-d4	100	(61 - 128)
Toluene-d8	84	(76 - 110)
4-Bromofluorobenzene	76	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072004-DCR-137

GC/MS Volatiles

Lot-Sample #....: A4G210154-002 Work Order #....: GLG2J1AA Matrix.....: WG
 Date Sampled....: 07/20/04 10:30 Date Received...: 07/21/04
 Prep Date.....: 07/22/04 Analysis Date...: 07/22/04
 Prep Batch #....: 4205088
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	2.2 J,B	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	3.1	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	5.8	1.0	ug/L	0.16
Chloromethane	0.20 J,B	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	1.6	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072004-DCR-137

GC/MS Volatiles

Lot-Sample #...: A4G210154-002 Work Order #...: GLG2J1AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	2.6	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	106	(73 - 122)
1,2-Dichloroethane-d4	102	(61 - 128)
Toluene-d8	87	(76 - 110)
4-Bromofluorobenzene	77	(74 - 116)

NOTE (S) :

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072004-DCR-138

GC/MS Volatiles

Lot-Sample #...: A4G210154-003 Work Order #...: GLG2K1AA Matrix.....: WG
 Date Sampled...: 07/20/04 10:35 Date Received...: 07/21/04
 Prep Date.....: 07/22/04 Analysis Date...: 07/22/04
 Prep Batch #...: 4205088
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	2.2 J,B	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	3.1	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	5.9	1.0	ug/L	0.16
Chloromethane	0.20 J,B	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	1.5	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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COMESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072004-DCR-138

GC/MS Volatiles

Lot-Sample #...: A4G210154-003 Work Order #...: GLG2K1AA Matrix.....: WG

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	2.6	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	108	(73 - 122)
1,2-Dichloroethane-d4	105	(61 - 128)
Toluene-d8	90	(76 - 110)
4-Bromofluorobenzene	79	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072004-DCR-139

GC/MS Volatiles

Lot-Sample #....: A4G210154-004 Work Order #....: GLG2L1AA Matrix.....: WG
 Date Sampled....: 07/20/04 11:25 Date Received...: 07/21/04
 Prep Date.....: 07/22/04 Analysis Date...: 07/22/04
 Prep Batch #....: 4205088
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	2.6 J,B	25	ug/L	0.74
Benzene	0.51 J	1.0	ug/L	0.22
Bromodichloromethane	0.43 J	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	0.43 J	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	0.78 J	1.0	ug/L	0.16
Chloromethane	0.18 J,B	1.0	ug/L	0.14
Cyclohexane	0.32 J	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	0.23 J	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	0.29 J	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072004-DCR-139

GC/MS Volatiles

Lot-Sample #...: A4G210154-004 Work Order #...: GLG2L1AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethane	0.25 J	1.0	ug/L	0.19
Toluene	1.8	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	110	(73 - 122)
1,2-Dichloroethane-d4	105	(61 - 128)
Toluene-d8	88	(76 - 110)
4-Bromofluorobenzene	78	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072004-DCR-140

GC/MS Volatiles

Lot-Sample #...: A4G210154-005 Work Order #...: GLG2M1AA Matrix.....: WG
 Date Sampled...: 07/20/04 12:30 Date Received...: 07/21/04
 Prep Date.....: 07/22/04 Analysis Date...: 07/22/04
 Prep Batch #...: 4205088
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	3.5 J,B	25	ug/L	0.74
Benzene	0.54 J	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	0.75 J	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	2.0	1.0	ug/L	0.16
Chloromethane	0.22 J,B	1.0	ug/L	0.14
Cyclohexane	0.29 J	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	0.22 J	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	0.18 J	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072004-DCR-140

GC/MS Volatiles

Lot-Sample #...: A4G210154-005 Work Order #...: GLG2M1AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	2.5	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	104	(73 - 122)
1,2-Dichloroethane-d4	102	(61 - 128)
Toluene-d8	90	(76 - 110)
4-Bromofluorobenzene	81	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072004-DCR-141

GC/MS Volatiles

Lot-Sample #...: A4G210154-006 Work Order #...: GLG2N1AA Matrix.....: WG
 Date Sampled...: 07/20/04 16:45 Date Received...: 07/21/04
 Prep Date.....: 07/22/04 Analysis Date...: 07/22/04
 Prep Batch #...: 4205088
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	2.5 J,B	25	ug/L	0.74
Benzene	0.71 J	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	0.45 J	25	ug/L	0.39
Carbon disulfide	0.45 J	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.38 J	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	0.28 J	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	0.96 J	1.0	ug/L	0.18
cis-1,2-Dichloroethene	0.38 J	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	0.27 J	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072004-DCR-141

GC/MS Volatiles

Lot-Sample #...: A4G210154-006 Work Order #...: GLG2N1AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	1.1	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	12	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	2.5	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	111	(73 - 122)
1,2-Dichloroethane-d4	105	(61 - 128)
Toluene-d8	90	(76 - 110)
4-Bromofluorobenzene	77	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072004-DCR-142

GC/MS Volatiles

Lot-Sample #....: A4G210154-007 Work Order #....: GLG2T1AA Matrix.....: WG
 Date Sampled....: 07/20/04 17:30 Date Received...: 07/21/04
 Prep Date.....: 07/22/04 Analysis Date...: 07/22/04
 Prep Batch #....: 4205088
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	1.6 J,B	25	ug/L	0.74
Benzene	0.27 J	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.17 J	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	0.41 J	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	1.5	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072004-DCR-142

GC/MS Volatiles

Lot-Sample #...: A4G210154-007 Work Order #...: GLG2T1AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	0.45 J	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	16	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	2.7	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	113	(73 - 122)
1,2-Dichloroethane-d4	108	(61 - 128)
Toluene-d8	90	(76 - 110)
4-Bromofluorobenzene	76	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072004-DCR-143

GC/MS Volatiles

Lot-Sample #....: A4G210154-008
 Date Sampled....: 07/20/04
 Prep Date.....: 07/22/04
 Prep Batch #....: 4205088
 Dilution Factor: 1

Work Order #....: GLG2V1AA
 Date Received...: 07/21/04
 Analysis Date...: 07/22/04

Matrix.....: WQ

Initial Wgt/Vol: 5 mL
 Method.....: SW846 8260B

Final Wgt/Vol...: 5 mL

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	13 J, B	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	0.51 J	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	4.4 J	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072004-DCR-143

GC/MS Volatiles

Lot-Sample #...: A4G210154-008 Work Order #...: GLG2V1AA Matrix.....: WQ

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	ND	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	114	(73 - 122)
1,2-Dichloroethane-d4	109	(61 - 128)
Toluene-d8	90	(76 - 110)
4-Bromofluorobenzene	80	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G210154
 MB Lot-Sample #: A4G230000-088

Work Order #...: GLM7X1AA

Matrix.....: WATER

Analysis Date...: 07/22/04
 Dilution Factor: 1

Prep Date.....: 07/22/04

Final Wgt/Vol...: 5 mL

Prep Batch #...: 4205088

Initial Wgt/Vol: 5 mL

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acetone	1.2 J	25	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	1.0	ug/L	SW846 8260B
2-Butanone	ND	25	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	0.16 J	1.0	ug/L	SW846 8260B
Cyclohexane	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromoethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
Dichlorodifluoromethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
2-Hexanone	ND	50	ug/L	SW846 8260B
Isopropylbenzene	ND	5.0	ug/L	SW846 8260B
Methyl acetate	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
Methylcyclohexane	ND	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	50	ug/L	SW846 8260B
Methyl tert-butyl ether	ND	5.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G210154

Work Order #...: GLM7X1AA

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>
		<u>LIMIT</u>	<u>UNITS</u>	
1,2,4-Trichloro-benzene	0.19 J	5.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	3.0	ug/L	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	112	(73 - 122)
1,2-Dichloroethane-d4	106	(61 - 128)
Toluene-d8	93	(76 - 110)
4-Bromofluorobenzene	83	(74 - 116)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #....: A4G210154 Work Order #....: GLM7X1AC-LCS Matrix.....: WATER
 LCS Lot-Sample#: A4G230000-088 GLM7X1AD-LCSD
 Prep Date.....: 07/22/04 Analysis Date...: 07/22/04
 Prep Batch #....: 4205088
 Dilution Factor: 1 Final Wgt/Vol...: 5 mL
 Initial Wgt/Vol: 5 mL

<u>PARAMETER</u>	<u>SPIKE AMOUNT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCENT RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>
Benzene	10	10	ug/L	101		SW846 8260B
	10	10	ug/L	100	1.4	SW846 8260B
Chlorobenzene	10	9.8	ug/L	98		SW846 8260B
	10	10	ug/L	100	2.0	SW846 8260B
1,1-Dichloroethene	10	10	ug/L	105		SW846 8260B
	10	11	ug/L	105	0.44	SW846 8260B
Toluene	10	9.9	ug/L	99		SW846 8260B
	10	10	ug/L	103	3.5	SW846 8260B
Trichloroethene	10	9.9	ug/L	99		SW846 8260B
	10	9.9	ug/L	99	0.72	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	97	(73 - 122)
	96	(73 - 122)
1,2-Dichloroethane-d4	95	(61 - 128)
	94	(61 - 128)
Toluene-d8	91	(76 - 110)
	94	(76 - 110)
4-Bromofluorobenzene	92	(74 - 116)
	92	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A4G210154 Work Order #...: GLM7X1AC-LCS Matrix.....: WATER
 LCS Lot-Sample#: A4G230000-088 GLM7X1AD-LCSD
 Prep Date.....: 07/22/04 Analysis Date...: 07/22/04
 Prep Batch #...: 4205088
 Dilution Factor: 1 Final Wgt/Vol...: 5 mL
 Initial Wgt/Vol: 5 mL

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	101	(80 - 116)			SW846 8260B
	100	(80 - 116)	1.4	(0-20)	SW846 8260B
Chlorobenzene	98	(76 - 117)			SW846 8260B
	100	(76 - 117)	2.0	(0-20)	SW846 8260B
1,1-Dichloroethene	105	(63 - 130)			SW846 8260B
	105	(63 - 130)	0.44	(0-20)	SW846 8260B
Toluene	99	(74 - 119)			SW846 8260B
	103	(74 - 119)	3.5	(0-20)	SW846 8260B
Trichloroethene	99	(75 - 122)			SW846 8260B
	99	(75 - 122)	0.72	(0-20)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	97	(73 - 122)
	96	(73 - 122)
1,2-Dichloroethane-d4	95	(61 - 128)
	94	(61 - 128)
Toluene-d8	91	(76 - 110)
	94	(76 - 110)
4-Bromofluorobenzene	92	(74 - 116)
	92	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: A4G210154 Work Order #...: GLG2L1AC-MS Matrix.....: WG
 MS Lot-Sample #: A4G210154-004 GLG2L1AD-MSD
 Date Sampled...: 07/20/04 11:25 Date Received...: 07/21/04
 Prep Date.....: 07/22/04 Analysis Date...: 07/22/04
 Prep Batch #...: 4205088
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

PARAMETER	SAMPLE	SPIKE	MEASRD	UNITS	PERCNT		METHOD
	AMOUNT	AMT	AMOUNT		RECVRY	RPD	
Benzene	0.51	10	10	ug/L	96		SW846 8260B
	0.51	10	10	ug/L	95	0.92	SW846 8260B
Chlorobenzene	ND	10	9.5	ug/L	95		SW846 8260B
	ND	10	9.4	ug/L	94	0.78	SW846 8260B
1,1-Dichloroethene	ND	10	10	ug/L	104		SW846 8260B
	ND	10	11	ug/L	106	2.2	SW846 8260B
Toluene	1.8	10	12	ug/L	99		SW846 8260B
	1.8	10	12	ug/L	97	1.9	SW846 8260B
Trichloroethene	ND	10	9.8	ug/L	98		SW846 8260B
	ND	10	10	ug/L	100	1.9	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	103	(73 - 122)
	103	(73 - 122)
1,2-Dichloroethane-d4	103	(61 - 128)
	99	(61 - 128)
Toluene-d8	95	(76 - 110)
	95	(76 - 110)
4-Bromofluorobenzene	93	(74 - 116)
	94	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A4G210154 Work Order #...: GLG2L1AC-MS Matrix.....: WG
 MS Lot-Sample #: A4G210154-004 GLG2L1AD-MSD
 Date Sampled...: 07/20/04 11:25 Date Received...: 07/21/04
 Prep Date.....: 07/22/04 Analysis Date...: 07/22/04
 Prep Batch #...: 4205088
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	96	(78 - 118)			SW846 8260B
	95	(78 - 118)	0.92	(0-20)	SW846 8260B
Chlorobenzene	95	(76 - 117)			SW846 8260B
	94	(76 - 117)	0.78	(0-20)	SW846 8260B
1,1-Dichloroethene	104	(62 - 130)			SW846 8260B
	106	(62 - 130)	2.2	(0-20)	SW846 8260B
Toluene	99	(70 - 119)			SW846 8260B
	97	(70 - 119)	1.9	(0-20)	SW846 8260B
Trichloroethene	98	(62 - 130)			SW846 8260B
	100	(62 - 130)	1.9	(0-20)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	103	(73 - 122)
	103	(73 - 122)
1,2-Dichloroethane-d4	103	(61 - 128)
	99	(61 - 128)
Toluene-d8	95	(76 - 110)
	95	(76 - 110)
4-Bromofluorobenzene	93	(74 - 116)
	94	(74 - 116)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

END OF REPORT

REC'D CRA
AUG - 4 2004
CRA SDG G-17.

SEVERN
TRENT

STL

STL North Canton
4101 Shuffel Drive NW
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772
www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. 17360-09

GM GRAND RAPIDS

Lot #: A4G220188

Paul Wiseman

Conestoga Rovers & Assoc., Inc
14496 Sheldon Rd Suite 200
Plymouth, MI 48170

ORIGINAL ANALYTICAL REPORT

Project#: 17360-09 Lab#: A4G220188
Name: GM GRAND RAPIDS.

SEVERN TRENT LABORATORIES, INC
Description: VAS Sampling
Event: VAS Sampling
Samples: 6 waters BM 144-149.
Analysis: TCL VOCs.

TAT: 72 HR TAT
Lab: STL-NC
Checked Against Preliminary Data:
Date: N/A Init.: N/A

Amy L. McCormick
Project Manager

Date of Validation Memo: 10/2/04

Invoice Approval Date: _____

August 2, 2004 Comments: _____

CRA

CONESTOGA-ROVERS & ASSOCIATES, INC.
14496 Sheldon Road, Suite 200
Plymouth, MI 48170 • (734) 453-5123

SHIPPED TO (Laboratory Name):

STC NORTH CAWTON

REFERENCE NUMBER:

17360-09

PROJECT NAME:

GM GRAND RAPIDS

CHAIN OF CUSTODY RECORD

SEQ. No.	DATE	TIME	SAMPLER'S SIGNATURE	PRINTED NAME	SAMPLE TYPE	No. of CONTAINERS	PARAMETERS	REMARKS	
1	07/21/04	08:30	<i>[Signature]</i>	BRYANT MILLER	WATER	3		72-HR TMT	
2	"	08:30		-145	WATER	3			
3	"	11:12		-146	WATER	3		CRM CONTACT	
4	"	12:46		-147	WATER	3		KATHY SHAW	
5	"	14:00		-148	WATER	3		734-453-5123	
6	"	15:30		-149	WATER	3			
7	"			TOP BLANK	WATER	1			
				62-17360-073104-BM-150	WATER	1		TOP BLANK	
						TOTAL NUMBER OF CONTAINERS			19

RELINQUISHED BY: *[Signature]* DATE: 07-21-04

RECEIVED BY: *[Signature]* DATE: 07-21-04

RELINQUISHED BY: *[Signature]* DATE: 16:15

RECEIVED BY: *[Signature]* DATE: 16:15

RELINQUISHED BY: *[Signature]* DATE: 16:15

RECEIVED BY: *[Signature]* DATE: 16:15

METHOD OF SHIPMENT: FEDEX

AIR BILL No.

White - Fully Executed Copy
Yellow - Receiving Laboratory Copy

Pink - Shipper Copy
Goldendrod - Sampler Copy

SAMPLE TEAM: BRYANT MILLER

RECEIVED FOR LABORATORY BY: *[Signature]*

27177

DATE: 7/20/04 TIME: 10:40

SEVERN
TRENT

STL

CASE NARRATIVE

CASE NARRATIVE

A4G220188

The following report contains the analytical results for six water samples and one quality control sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the GM Grand Rapids Site, project number 17360-09. The samples were received July 22, 2004, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to the Chemistry Department on July 27, 2004. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 4.6°C.

CASE NARRATIVE (continued)

GC/MS VOLATILES

The sample(s) that contain results between the MDL and the RL were flagged with "J". There is a possibility of false positive or mis-identification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation was performed only down to the standard reporting limit (SRL). The acceptance criteria for QC samples may not be met at these quantitation levels.

The pH of the sample GW-173600-072104-BM-149 was greater than 2. The sample(s) was analyzed within the normal 14 day holding time; however, experimental evidence suggests that some aromatic compounds in wastewater samples, notably Benzene, Toluene, and Ethylbenzene are susceptible to biological degradation if samples are not preserved to a pH of 2.

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

Volatile (GC or GC/MS)

Methylene chloride

Acetone

2-Butanone

Semivolatile (GC/MS)

Phthalate Esters

Metals

Copper

Iron

Zinc

Lead*

- for analyses run on TJA Trace ICP, ICPMS or GFAA only

QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

STL North Canton Certifications and Approvals:

Alabama (#41170), California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#100439), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Ohio (#6090), Ohio VAP (#CLO024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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STL

***EXECUTIVE
SUMMARY***

EXECUTIVE SUMMARY - Detection Highlights

A4G220188

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
GW-17360-072104-BM-144 07/21/04 08:30 001				
Acetone	2.1 J	25	ug/L	SW846 8260B
Benzene	0.22 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	0.36 J	1.0	ug/L	SW846 8260B
Carbon disulfide	0.28 J	5.0	ug/L	SW846 8260B
Chloroform	0.85 J	1.0	ug/L	SW846 8260B
Cyclohexane	0.23 J	1.0	ug/L	SW846 8260B
Toluene	1.1	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	6.5	1.0	ug/L	SW846 8260B
Trichloroethene	0.52 J	1.0	ug/L	SW846 8260B
GW-17360-072104-BM-145 07/21/04 09:30 002				
Acetone	1.3 J	25	ug/L	SW846 8260B
Benzene	0.25 J	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	0.58 J	1.0	ug/L	SW846 8260B
Toluene	0.64 J	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	18	1.0	ug/L	SW846 8260B
Trichloroethene	0.76 J	1.0	ug/L	SW846 8260B
GW-17360-072104-BM-146 07/21/04 11:12 003				
Acetone	2.5 J	25	ug/L	SW846 8260B
Benzene	0.25 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	3.5	1.0	ug/L	SW846 8260B
2-Butanone	0.52 J	25	ug/L	SW846 8260B
Chloroform	8.7	1.0	ug/L	SW846 8260B
Dibromochloromethane	1.4	1.0	ug/L	SW846 8260B
Toluene	6.3	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	4.0	1.0	ug/L	SW846 8260B
GW-17360-072104-BM-147 07/21/04 12:40 004				
Acetone	1.7 J	25	ug/L	SW846 8260B
Benzene	0.33 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	1.5	1.0	ug/L	SW846 8260B
Chloroform	3.1	1.0	ug/L	SW846 8260B
Cyclohexane	0.19 J	1.0	ug/L	SW846 8260B
Dibromochloromethane	0.49 J	1.0	ug/L	SW846 8260B
Toluene	2.1	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	0.23 J	1.0	ug/L	SW846 8260B
Trichloroethene	0.30 J	1.0	ug/L	SW846 8260B

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

AAG220188

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
GW-17360-072104-BM-148 07/21/04 14:00 005				
Acetone	2.5 J	25	ug/L	SW846 8260B
Benzene	0.25 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	1.4	1.0	ug/L	SW846 8260B
Chloroform	4.1	1.0	ug/L	SW846 8260B
Cyclohexane	0.17 J	1.0	ug/L	SW846 8260B
Dibromochloromethane	0.46 J	1.0	ug/L	SW846 8260B
Toluene	2.7	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	0.52 J	1.0	ug/L	SW846 8260B
GW-17360-072104-BM-149 07/21/04 15:30 006				
Acetone	3.1 J	25	ug/L	SW846 8260B
2-Butanone	0.58 J	25	ug/L	SW846 8260B
Chloroform	2.7	1.0	ug/L	SW846 8260B
Toluene	2.0	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	0.39 J	1.0	ug/L	SW846 8260B
Trichloroethene	0.58 J	1.0	ug/L	SW846 8260B
W-17360-072104-BM-150 07/21/04 007				
Acetone	2.8 J	25	ug/L	SW846 8260B
2-Butanone	0.51 J	25	ug/L	SW846 8260B
Methylene chloride	0.68 J	5.0	ug/L	SW846 8260B

METHOD SUMMARY

ANALYTICAL METHODS SUMMARY

A4G220188

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Volatile Organics by GC/MS	SW846 8260B

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

SAMPLE SUMMARY

A4G220188

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
GLK29	001	GW-17360-072104-BM-144	07/21/04	08:30
GLK3J	002	GW-17360-072104-BM-145	07/21/04	09:30
GLK3K	003	GW-17360-072104-BM-146	07/21/04	11:12
GLK3L	004	GW-17360-072104-BM-147	07/21/04	12:40
GLK3N	005	GW-17360-072104-BM-148	07/21/04	14:00
GLK3P	006	GW-17360-072104-BM-149	07/21/04	15:30
GLK3Q	007	W-17360-072104-BM-150	07/21/04	

NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

***SHIPPING
AND
RECEIVING DOCUMENTS***

CRA

CONESTOGA-ROVERS & ASSOCIATES, INC.
14496 Sheldon Road, Suite 200
Plymouth, MI 48170 • (734) 453-5123

SHIPPED TO (Laboratory Name):

STL NORTH CANTON

REFERENCE NUMBER:

17360-09

PROJECT NAME:

GM GRAND RAPIDS

CHAIN OF CUSTODY RECORD

SAMPLER'S SIGNATURE: *[Signature]* PRINTED NAME: BRYANT MILLER

SEQ. No. DATE TIME

SAMPLE TYPE

of CONTAINERS

PARAMETERS

REMARKS

SEQ. No.	DATE	TIME	SAMPLE TYPE	of CONTAINERS	PARAMETERS	REMARKS
1	07/21/04	08:30	603-17360-072104-RW-144	3	WATER	72-HZ TMT
2	"	08:30	"	3	WATER	
3	"	11:12	"	3	WATER	GM CONTACT
4	"	12:46	"	3	WATER	KATHY SHAW
5	"	14:00	"	3	WATER	734-453-5123
6	"	15:30	"	3	WATER	
7	"	"	603-17360-072104-RW-150	1	WATER	

TOTAL NUMBER OF CONTAINERS

19

RELINQUISHED BY: *[Signature]* BRANT MILLER

DATE: 07-21-04 TIME: 16:15

RECEIVED BY: 1.

DATE: TIME:

RELINQUISHED BY: 2.

DATE: TIME:

RECEIVED BY: 2.

DATE: TIME:

RELINQUISHED BY: 3.

DATE: TIME:

RECEIVED BY: 1.

DATE: TIME:

METHOD OF SHIPMENT: **FEDEX**

AIR BILL No.

White - Fully Executed Copy
Yellow - Receiving Laboratory Copy

Pink - Shipper Copy
Goldendrod - Sampler Copy

RECEIVED FOR LABORATORY BY: *[Signature]*

DATE: 7/22/04 TIME: 10:40

271177

**Severn Trent Laboratories, Inc.
Sample Control Record**

RSR280
 Client: 57787
 Lot #: A4G220188
 Case Number/SDG: 17360-09
 Storage Location: MS

Laboratory Sample I.D.	Transferred By	Date	Entered	Removed	Reason	Date Returned
GLK29	EARLES	7/22/04	Yes		Storage	
GLK3J	EARLES	7/22/04	Yes		Storage	
GLK3K	EARLES	7/22/04	Yes		Storage	
GLK3L	EARLES	7/22/04	Yes		Storage	
GLK3N	EARLES	7/22/04	Yes		Storage	
GLK3P	EARLES	7/22/04	Yes		Storage	
GLK3O	EARLES	7/22/04	Yes		Storage	

STL Cooler Receipt Form/Narrative

Lot Number: A46220188

North Canton Facility

Client: CLA Project: GML Grand Rapids Quote#: _____
 Cooler Received on: 7-22-04 Opened on: 7-22-04 by: J. Stiller
 (Signature)

Fedx Client Drop Off UPS DHL FAS Other: _____
 STL Cooler No# _____ Foam Box Client Cooler Other _____

1. Were custody seals on the outside of the cooler? Yes No Intact? Yes No NA
 If YES, Quantity _____
 Were the custody seals signed and dated? Yes No NA
 2. Shipper's packing slip attached to this form? Yes No NA
 3. Did custody papers accompany the samples? Yes No Relinquished by client? Yes No
 4. Did you sign the custody papers in the appropriate place? Yes No
 5. Packing material used: Bubble Wrap Foam None Other: _____
 6. Cooler temperature upon receipt 4.6 °C (see back of form for multiple coolers/temp)
- METHOD: Temp Vial Coolant & Sample Against Bottles IR ICE/H₂O Slurry
 COOLANT: Wet Ice Blue Ice Dry Ice Water None
7. Did all bottles arrive in good condition (Unbroken)? Yes No
 8. Could all bottle labels and/or tags be reconciled with the COC? Yes No
 9. Were samples at the correct pH? (record below/on back) Yes No NA
 10. Were correct bottles used for the tests indicated? Yes No
 11. Were air bubbles >6 mm in any VOA vials? Yes No NA
 12. Sufficient quantity received to perform indicated analyses? Yes No
- Contacted PM _____ Date: _____ by: _____ via Voice Mail Verbal Other
 Concerning: _____

√

1. CHAIN OF CUSTODY

The following discrepancies occurred:

2. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.

3. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot #122603-HNO₃; Sulfuric Acid Lot # 011-304-H₂SO₄; Sodium Hydroxide Lot # 111401-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 112801-CH₃COO₂ZN/NaOH
 Sample(s) _____ were received with bubble > 6 mm in diameter (cc: PM)

4. Other (see below or back)

Client ID	pH	Date	Initials

GCMS VOLATILE DATA

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072104-BM-144

GC/MS Volatiles

Lot-Sample #....: A4G220188-001 Work Order #....: GLK291AA Matrix.....: WG
 Date Sampled....: 07/21/04 08:30 Date Received...: 07/22/04
 Prep Date.....: 07/26/04 Analysis Date...: 07/26/04
 Prep Batch #....: 4207075
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	2.1 J	25	ug/L	0.74
Benzene	0.22 J	1.0	ug/L	0.22
Bromodichloromethane	0.36 J	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	0.28 J	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	0.85 J	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.23 J	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072104-BM-144

GC/MS Volatiles

Lot-Sample #...: A4G220188-001 Work Order #...: GLK291AA Matrix.....: WG

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	1.1	1.0	ug/L	0.17
1,2,4-Trichloro-benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	6.5	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	0.52 J	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	95	(73 - 122)
1,2-Dichloroethane-d4	93	(61 - 128)
Toluene-d8	86	(76 - 110)
4-Bromofluorobenzene	76	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072104-BM-145

GC/MS Volatiles

Lot-Sample #....: A4G220188-002 Work Order #....: GLK3J1AA Matrix.....: WG
 Date Sampled....: 07/21/04 09:30 Date Received...: 07/22/04
 Prep Date.....: 07/26/04 Analysis Date...: 07/26/04
 Prep Batch #....: 4207075
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	1.3 J	25	ug/L	0.74
Benzene	0.25 J	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	0.58 J	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072104-BM-145

GC/MS Volatiles

Lot-Sample #...: A4G220188-002 Work Order #...: GLK3J1AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	0.64 J	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	18	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	0.76 J	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	98	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
Toluene-d8	91	(76 - 110)
4-Bromofluorobenzene	79	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072104-BM-146

GC/MS Volatiles

Lot-Sample #...: A4G220188-003 Work Order #...: GLK3K1AA Matrix.....: WG
 Date Sampled...: 07/21/04 11:12 Date Received...: 07/22/04
 Prep Date.....: 07/26/04 Analysis Date...: 07/26/04
 Prep Batch #...: 4207075
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	2.5 J	25	ug/L	0.74
Benzene	0.25 J	1.0	ug/L	0.22
Bromodichloromethane	3.5	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	0.52 J	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	8.7	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	1.4	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072104-BM-146

GC/MS Volatiles

Lot-Sample #...: A4G220188-003 Work Order #...: GLK3K1AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	6.3	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	4.0	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	98	(73 - 122)
1,2-Dichloroethane-d4	99	(61 - 128)
Toluene-d8	89	(76 - 110)
4-Bromofluorobenzene	77	(74 - 116)

NOTE (S) :

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072104-BM-147

GC/MS Volatiles

Lot-Sample #...: A4G220188-004 Work Order #...: GLK3L1AA Matrix.....: WG
 Date Sampled...: 07/21/04 12:40 Date Received...: 07/22/04
 Prep Date.....: 07/26/04 Analysis Date...: 07/26/04
 Prep Batch #...: 4207075
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	1.7 J	25	ug/L	0.74
Benzene	0.33 J	1.0	ug/L	0.22
Bromodichloromethane	1.5	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	3.1	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.19 J	1.0	ug/L	0.12
Dibromochloromethane	0.49 J	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072104-BM-147

GC/MS Volatiles

Lot-Sample #...: A4G220188-004 Work Order #...: GLK3L1AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	2.1	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	0.23 J	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	0.30 J	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	99	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
Toluene-d8	88	(76 - 110)
4-Bromofluorobenzene	75	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072104-BM-148

GC/MS Volatiles

Lot-Sample #...: A4G220188-005 Work Order #...: GLK3N1AA Matrix.....: WG
 Date Sampled...: 07/21/04 14:00 Date Received...: 07/22/04
 Prep Date.....: 07/26/04 Analysis Date...: 07/26/04
 Prep Batch #...: 4207075
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	2.5 J	25	ug/L	0.74
Benzene	0.25 J	1.0	ug/L	0.22
Bromodichloromethane	1.4	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	4.1	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.17 J	1.0	ug/L	0.12
Dibromochloromethane	0.46 J	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072104-BM-148

GC/MS Volatiles

Lot-Sample #...: A4G220188-005 Work Order #...: GLK3N1AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	2.7	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	0.52 J	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	97	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
Toluene-d8	89	(76 - 110)
4-Bromofluorobenzene	77	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072104-BM-149

GC/MS Volatiles

Lot-Sample #....: A4G220188-006 Work Order #....: GLK3P1AA Matrix.....: WG
 Date Sampled....: 07/21/04 15:30 Date Received...: 07/22/04
 Prep Date.....: 07/26/04 Analysis Date...: 07/26/04
 Prep Batch #....: 4207075
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	3.1 J	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	0.58 J	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	2.7	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072104-BM-149

GC/MS Volatiles

Lot-Sample #....: A4G220188-006 Work Order #....: GLK3P1AA Matrix.....: WG

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	2.0	1.0	ug/L	0.17
1,2,4-Trichloro-benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	0.39 J	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	0.58 J	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	97	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
Toluene-d8	89	(76 - 110)
4-Bromofluorobenzene	77	(74 - 116)

NOTE (S) :

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-17360-072104-BM-150

GC/MS Volatiles

Lot-Sample #....: A4G220188-007 Work Order #....: GLK3Q1AA Matrix.....: WQ
 Date Sampled....: 07/21/04 Date Received...: 07/22/04
 Prep Date.....: 07/26/04 Analysis Date...: 07/26/04
 Prep Batch #....: 4207075
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	2.8 J	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	0.51 J	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	0.68 J	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-17360-072104-BM-150

GC/MS Volatiles

Lot-Sample #...: A4G220188-007 Work Order #...: GLK3Q1AA Matrix.....: WQ

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	ND	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	96	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
Toluene-d8	89	(76 - 110)
4-Bromofluorobenzene	77	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G220188
 MB Lot-Sample #: A4G250000-075

Work Order #...: GLTK81AA

Matrix.....: WATER

Analysis Date...: 07/25/04
 Dilution Factor: 1

Prep Date.....: 07/25/04
 Prep Batch #...: 4207075
 Initial Wgt/Vol: 5 mL

Final Wgt/Vol...: 5 mL

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Acetone	ND	25	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	1.0	ug/L	SW846 8260B
2-Butanone	ND	25	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	1.0	ug/L	SW846 8260B
Cyclohexane	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromoethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
Dichlorodifluoromethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
2-Hexanone	ND	50	ug/L	SW846 8260B
Isopropylbenzene	ND	5.0	ug/L	SW846 8260B
Methyl acetate	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
Methylcyclohexane	ND	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	50	ug/L	SW846 8260B
Methyl tert-butyl ether	ND	5.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G220188

Work Order #...: GLTK81AA

Matrix.....: WATER

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
1,2,4-Trichloro-benzene	ND	5.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	3.0	ug/L	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	97	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
Toluene-d8	89	(76 - 110)
4-Bromofluorobenzene	78	(74 - 116)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: A4G220188 Work Order #...: GLTK81AC-LCS Matrix.....: WATER
 LCS Lot-Sample#: A4G250000-075 GLTK81AD-LCSD
 Prep Date.....: 07/25/04 Analysis Date...: 07/25/04
 Prep Batch #...: 4207075
 Dilution Factor: 1

<u>PARAMETER</u>	<u>SPIKE</u> <u>AMOUNT</u>	<u>MEASURED</u> <u>AMOUNT</u>	<u>UNITS</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>
Benzene	10	9.2	ug/L	92		SW846 8260B
	10	9.4	ug/L	94	2.4	SW846 8260B
Chlorobenzene	10	9.1	ug/L	91		SW846 8260B
	10	9.3	ug/L	93	2.2	SW846 8260B
1,1-Dichloroethene	10	9.7	ug/L	97		SW846 8260B
	10	9.8	ug/L	98	1.1	SW846 8260B
Toluene	10	9.1	ug/L	91		SW846 8260B
	10	9.2	ug/L	92	0.67	SW846 8260B
Trichloroethene	10	9.3	ug/L	93		SW846 8260B
	10	9.4	ug/L	94	1.7	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
Dibromofluoromethane	97	(73 - 122)
	93	(73 - 122)
1,2-Dichloroethane-d4	99	(61 - 128)
	100	(61 - 128)
Toluene-d8	92	(76 - 110)
	92	(76 - 110)
4-Bromofluorobenzene	83	(74 - 116)
	81	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A4G220188 Work Order #...: GLTK81AC-LCS Matrix.....: WATER
 LCS Lot-Sample#: A4G250000-075 GLTK81AD-LCSD
 Prep Date.....: 07/25/04 Analysis Date...: 07/25/04
 Prep Batch #...: 4207075
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	92	(80 - 116)			SW846 8260B
	94	(80 - 116)	2.4	(0-20)	SW846 8260B
Chlorobenzene	91	(76 - 117)			SW846 8260B
	93	(76 - 117)	2.2	(0-20)	SW846 8260B
1,1-Dichloroethene	97	(63 - 130)			SW846 8260B
	98	(63 - 130)	1.1	(0-20)	SW846 8260B
Toluene	91	(74 - 119)			SW846 8260B
	92	(74 - 119)	0.67	(0-20)	SW846 8260B
Trichloroethene	93	(75 - 122)			SW846 8260B
	94	(75 - 122)	1.7	(0-20)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	97	(73 - 122)
	93	(73 - 122)
1,2-Dichloroethane-d4	99	(61 - 128)
	100	(61 - 128)
Toluene-d8	92	(76 - 110)
	92	(76 - 110)
4-Bromofluorobenzene	83	(74 - 116)
	81	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: A4G220188 Work Order #...: GLKJN1AC-MS Matrix.....: WATER
 MS Lot-Sample #: A4G220119-003 GLKJN1AD-MSD
 Date Sampled...: 07/20/04 18:00 Date Received...: 07/22/04
 Prep Date.....: 07/25/04 Analysis Date...: 07/25/04
 Prep Batch #...: 4207075
 Dilution Factor: 3333.33 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

PARAMETER	SAMPLE	SPIKE	MEASRD	UNITS	PERCNT		METHOD
	AMOUNT	AMT	AMOUNT		RECVRY	RPD	
Benzene	ND	33000	32000	ug/L	95		SW846 8260B
	ND	33000	32000	ug/L	95	0.01	SW846 8260B
Chlorobenzene	ND	33000	31000	ug/L	93		SW846 8260B
	ND	33000	30000	ug/L	91	2.3	SW846 8260B
1,1-Dichloroethene	ND	33000	33000	ug/L	98		SW846 8260B
	ND	33000	33000	ug/L	99	0.87	SW846 8260B
Toluene	ND	33000	31000	ug/L	92		SW846 8260B
	ND	33000	30000	ug/L	91	1.8	SW846 8260B
Trichloroethene	99000	33000	140000	ug/L	108		SW846 8260B
	99000	33000	140000	ug/L	107	0.22	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	95	(73 - 122)
	97	(73 - 122)
1,2-Dichloroethane-d4	100	(61 - 128)
	99	(61 - 128)
Toluene-d8	93	(76 - 110)
	91	(76 - 110)
4-Bromofluorobenzene	85	(74 - 116)
	84	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A4G220188 Work Order #...: GLKJN1AC-MS Matrix.....: WATER
 MS Lot-Sample #: A4G220119-003 GLKJN1AD-MSD
 Date Sampled...: 07/20/04 18:00 Date Received...: 07/22/04
 Prep Date.....: 07/25/04 Analysis Date...: 07/25/04
 Prep Batch #...: 4207075
 Dilution Factor: 3333.33 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	95	(78 - 118)			SW846 8260B
	95	(78 - 118)	0.01	(0-20)	SW846 8260B
Chlorobenzene	93	(76 - 117)			SW846 8260B
	91	(76 - 117)	2.3	(0-20)	SW846 8260B
1,1-Dichloroethene	98	(62 - 130)			SW846 8260B
	99	(62 - 130)	0.87	(0-20)	SW846 8260B
Toluene	92	(70 - 119)			SW846 8260B
	91	(70 - 119)	1.8	(0-20)	SW846 8260B
Trichloroethene	108	(62 - 130)			SW846 8260B
	107	(62 - 130)	0.22	(0-20)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	95	(73 - 122)
	97	(73 - 122)
1,2-Dichloroethane-d4	100	(61 - 128)
	99	(61 - 128)
Toluene-d8	93	(76 - 110)
	91	(76 - 110)
4-Bromofluorobenzene	85	(74 - 116)
	84	(74 - 116)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

END OF REPORT

REC'D CRA
AUG - 4 2004
CRA SDG G-18.

STL North Canton
4101 Shuffel Drive NW
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772
www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. 17360-09

GM-GRAND RAPIDS

Lot #: A4G230184

Paul Wiseman

Conestoga Rovers & Assoc., Inc
14496 Sheldon Rd Suite 200
Plymouth, MI 48170

ORIGINAL ANALYTICAL REPORT

Project#: 17360-09 Lab#: A4G230184

Name: GM-GRAND RAPIDS

Description

SEVERN TRENT LABORATORIES, EVANSVILLE, IN: VAS Sampling

Samples: 6 waters DCR 151-156.

Analysis: TCL VOCs.

TAT: 48 HOUR TAT.

Ken Keyser for Lab: STL-NC

Amy L. McCormick Checked Against Preliminary Data:

Project Manager Date: N/A Init.: N/A.

Date of Validation Memo: 10/21/04

Invoice Approval Date: _____

August 2, 2004 Comments: _____

CRA

CONESTOGA-ROVERS & ASSOCIATES, INC.

14496 Sheldon Road, Suite 200
Plymouth, MI 48170 • (734) 453-5123

SHIPPED TO (Laboratory Name):

STC- North Canton

REFERENCE NUMBER:

17360-09

PROJECT NAME:

Gm-Grand Rapids

CHAIN OF CUSTODY RECORD

SAMPLER'S SIGNATURE: *[Signature]* PRINTED NAME: David C. Rivers

PARAMETERS
*TOL Vols
48-45 TAT*

SEQ. No.	DATE	TIME	CONTAINERS	SAMPLE TYPE	REMARKS
1	7/22/04	1000	3	H20	
2		1050	3		
3		1055	3		
4		1145	3		
5		1305	3		
6		-	1		

TOTAL NUMBER OF CONTAINERS 16

CRA contact
Paul Wiseman

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
1. <i>[Signature]</i>	7-22-04	1830	1. _____	_____	_____
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
2. _____	_____	_____	2. _____	_____	_____
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
3. _____	_____	_____	1. _____	_____	_____

METHOD OF SHIPMENT: Fed Ex AIR BILL No. 8393 5580 8886

White Yellow	-Fully Executed Copy -Receiving Laboratory Copy	Pink Goldentrod	-Shipper Copy -Sampler Copy	SAMPLE TEAM: <u>David C. Rivers</u>	RECEIVED FOR LABORATORY BY: <i>[Signature]</i>
27179				DATE: <u>7/23/04</u>	TIME: <u>9:40</u>

CASE NARRATIVE

CASE NARRATIVE

A4G230184

The following report contains the analytical results for five water samples and one quality control sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the GM-Grand Rapids Site, project number 17360-09. The samples were received July 23, 2004, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to the Chemistry Department on July 27, 2004. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 2.4°C.

CASE NARRATIVE (continued)

GC/MS VOLATILES

The sample(s) that contained concentrations of target analyte(s) at a reportable level in the associated Method Blank(s) were flagged with "B". All target analytes in the Method Blank must be below the reporting limit (RL) or the associated sample(s) must be ND with the exception of common laboratory contaminants.

The sample(s) that contain results between the MDL and the RL were flagged with "J". There is a possibility of false positive or mis-identification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation was performed only down to the standard reporting limit (SRL). The acceptance criteria for QC samples may not be met at these quantitation levels.

The matrix spike/matrix spike duplicate(s) for batch(es) 4209406 had recoveries outside acceptance limits. However, since the associated method blank(s) and laboratory control sample(s) were in control, no corrective action was necessary.

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

Volatile (GC or GC/MS)

Methylene chloride
Acetone
2-Butanone

Semivolatile (GC/MS)

Phthalate Esters

Metals

Copper
Iron
Zinc
Lead*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the reparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

STL North Canton Certifications and Approvals:

Alabama (#41170), California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#100439), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Ohio (#6090), OhioVAP (#CLO024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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STL

***EXECUTIVE
SUMMARY***

EXECUTIVE SUMMARY - Detection Highlights

A4G230184

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
GW-17360-072204-DCR-151 07/22/04 10:00 001				
Acetone	2.5 J,B	25	ug/L	SW846 8260B
Carbon disulfide	1.1 J	5.0	ug/L	SW846 8260B
Toluene	0.37 J	1.0	ug/L	SW846 8260B
GW-17360-072204-DCR-152 07/22/04 10:50 002				
Acetone	2.8 J,B	25	ug/L	SW846 8260B
Benzene	0.38 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	1.9	1.0	ug/L	SW846 8260B
Chloroform	13	1.0	ug/L	SW846 8260B
Cyclohexane	0.31 J	1.0	ug/L	SW846 8260B
Tetrachloroethene	0.35 J	1.0	ug/L	SW846 8260B
Toluene	0.85 J	1.0	ug/L	SW846 8260B
Trichloroethene	2.0	1.0	ug/L	SW846 8260B
GW-17360-072204-DCR-153 07/22/04 10:55 003				
Acetone	2.8 J,B	25	ug/L	SW846 8260B
Benzene	0.35 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	1.9	1.0	ug/L	SW846 8260B
Chloroform	13	1.0	ug/L	SW846 8260B
Cyclohexane	0.25 J	1.0	ug/L	SW846 8260B
Tetrachloroethene	0.39 J	1.0	ug/L	SW846 8260B
Toluene	0.75 J	1.0	ug/L	SW846 8260B
Trichloroethene	2.1	1.0	ug/L	SW846 8260B
GW-17360-072204-DCR-154 07/22/04 11:45 004				
Acetone	2.3 J,B	25	ug/L	SW846 8260B
Benzene	0.22 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	1.5	1.0	ug/L	SW846 8260B
Chloroform	3.9	1.0	ug/L	SW846 8260B
Cyclohexane	0.16 J	1.0	ug/L	SW846 8260B
Dibromochloromethane	0.74 J	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	0.56 J	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	1.4	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	0.24 J	1.0	ug/L	SW846 8260B
Tetrachloroethene	0.58 J	1.0	ug/L	SW846 8260B
Toluene	0.53 J	1.0	ug/L	SW846 8260B
Trichloroethene	0.91 J	1.0	ug/L	SW846 8260B

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

A4G230184

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
GW-17360-072204-DCR-155 07/22/04 13:05 005				
Acetone	2.3 J, B	25	ug/L	SW846 8260B
Benzene	0.22 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	6.1	1.0	ug/L	SW846 8260B
Chloroform	13	1.0	ug/L	SW846 8260B
Dibromochloromethane	2.1	1.0	ug/L	SW846 8260B
Toluene	2.3	1.0	ug/L	SW846 8260B
GW-17360-072204-DCR-156 07/22/04 006				
Acetone	6.2 J, B	25	ug/L	SW846 8260B
2-Butanone	0.81 J	25	ug/L	SW846 8260B
Methylene chloride	3.1 J	5.0	ug/L	SW846 8260B



METHOD SUMMARY

ANALYTICAL METHODS SUMMARY

A4G230184

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Volatile Organics by GC/MS	SW846 8260B

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

SAMPLE SUMMARY

A4G230184

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
GLNWJ	001	GW-17360-072204-DCR-151	07/22/04	10:00
GLNWK	002	GW-17360-072204-DCR-152	07/22/04	10:50
GLNWL	003	GW-17360-072204-DCR-153	07/22/04	10:55
GLNWN	004	GW-17360-072204-DCR-154	07/22/04	11:45
GLNWP	005	GW-17360-072204-DCR-155	07/22/04	13:05
GLNWQ	006	GW-17360-072204-DCR-156	07/22/04	

NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

**SEVERN
TRENT** **STL**

***SHIPPING
AND
RECEIVING DOCUMENTS***

CRA

CONESTOGA-ROVERS & ASSOCIATES, INC.
 14496 Sheldon Road, Suite 200
 Plymouth, MI 48170 • (734) 453-5123

SHIPPED TO (Laboratory Name): **STL - North Canton**

CHAIN OF CUSTODY RECORD

REFERENCE NUMBER:
17360-09

PROJECT NAME: **Gm Grand Rapids**

SAMPLER'S SIGNATURE: *[Signature]* PRINTED NAME: **David C. Rivers**

SEQ. No.	DATE	TIME	SAMPLE TYPE	NO OF CONTAINERS	PARAMETERS	REMARKS
1	7/23/09	1000	Gm-17360-072204-DCA-151	3	TOL, VOL, 48-W-TAT	
2		1050		3	X	
3		1055		3	X	
4		1145		3	X	
5		1305		3	X	
6				1	X	

TOTAL NUMBER OF CONTAINERS: **16**

*CRA contact
 Paul Wiseman*

RELINQUISHED BY: <i>[Signature]</i>	DATE: 7-22-09	RECEIVED BY: 1.	DATE: _____
RELINQUISHED BY: _____	TIME: 1830	RECEIVED BY: 2.	DATE: _____
RELINQUISHED BY: _____	DATE: _____	RECEIVED BY: 1.	DATE: _____
RELINQUISHED BY: _____	TIME: _____	RECEIVED BY: _____	DATE: _____

METHOD OF SHIPMENT: **Fed Ex** AIR BILL No. **8393 5582 8886**

White - Fully Executed Copy	Pink - Shipper Copy	SAMPLE TEAM: David C. Rivers	RECEIVED FOR LABORATORY BY: <i>[Signature]</i>
Yellow - Receiving Laboratory Copy	Goldendred - Sampler Copy		DATE: 7/23/09
27179			TIME: 9:40

**Severn Trent Laboratories, Inc.
Sample Control Record**

RRR280

Client:

57787

Lot #:

A4G230184

Case Number/SDG:

17360-09

Storage Location:

MS

Laboratory Sample I.D.	Transferred By	Date	Entered	Removed	Reason	Date Returned
GLNWJ	SANDERSA	7/23/04	Yes		Storage	
GLNWK	SANDERSA	7/23/04	Yes		Storage	
GLNWL	SANDERSA	7/23/04	Yes		Storage	
GLNWN	SANDERSA	7/23/04	Yes		Storage	
GLNWP	SANDERSA	7/23/04	Yes		Storage	
GLNWQ	SANDERSA	7/23/04	Yes		Storage	

STL Cooler Receipt Form/Narrative

Lot Number: ATG030184

North Canton Facility

Client: CRK - Mich
Cooler Received on: 7-23-04

Project: GM - Grand Rapids
Opened on: 7-23-04

Quote#: _____
by: [Signature]
(Signature)

Fedex Client Drop Off UPS DHL FAS Other: _____

STL Cooler No# _____ Foam Box Client Cooler Other _____

1. Were custody seals on the outside of the cooler? Yes No Intact? Yes No NA
If YES, Quantity _____
Were the custody seals signed and dated? Yes No NA
 2. Shipper's packing slip attached to this form? Yes No NA
 3. Did custody papers accompany the samples? Yes No Relinquished by client? Yes No
 4. Did you sign the custody papers in the appropriate place? Yes No
 5. Packing material used: Bubble Wrap Foam None Other: _____
 6. Cooler temperature upon receipt 2.4 °C (see back of form for multiple coolers/temp)
- METHOD: Temp Vial Coolant & Sample Against Bottles IR ICE/H₂O Slurry
COOLANT: Wet Ice Blue Ice Dry Ice Water None
7. Did all bottles arrive in good condition (Unbroken)? Yes No
 8. Could all bottle labels and/or tags be reconciled with the COC? Yes No
 9. Were samples at the correct pH? (record below/on back) Yes No NA
 10. Were correct bottles used for the tests indicated? Yes No
 11. Were air bubbles >6 mm in any VOA vials? Yes No NA
 12. Sufficient quantity received to perform indicated analyses? Yes No
- Contacted PM _____ Date: _____ by: _____ via Voice Mail Verbal Other

Concerning:

✓ _____

1. CHAIN OF CUSTODY

The following discrepancies occurred:

2. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

3. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot #052804-HNO₃; Sulfuric Acid Lot # 011-504-H₂SO₄; Sodium Hydroxide Lot #-031804-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 112801-CH₃COO₂ZN/NaOH

Sample(s) _____ were received with bubble > 6 mm in diameter (cc: PM)

4. Other (see below or back)

Client ID	pH	Date	Initials



STL

GCMS VOLATILE DATA

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072204-DCR-151

GC/MS Volatiles

Lot-Sample #...: A4G230184-001 Work Order #...: GLNWX1AA Matrix.....: WG
 Date Sampled...: 07/22/04 10:00 Date Received...: 07/23/04
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #...: 4209406
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	2.5 J,B	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	1.1 J	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072204-DCR-151

GC/MS Volatiles

Lot-Sample #...: A4G230184-001 Work Order #...: GLNWJ1AA Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	0.37 J	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	97	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
Toluene-d8	89	(76 - 110)
4-Bromofluorobenzene	74	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072204-DCR-152

GC/MS Volatiles

Lot-Sample #....: A4G230184-002 Work Order #....: GLNWK1AA Matrix.....: WG
 Date Sampled....: 07/22/04 10:50 Date Received...: 07/23/04
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #....: 4209406
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	2.8 J,B	25	ug/L	0.74
Benzene	0.38 J	1.0	ug/L	0.22
Bromodichloromethane	1.9	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	13	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.31 J	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072204-DCR-152

GC/MS Volatiles

Lot-Sample #...: A4G230184-002 Work Order #...: GLNWK1AA Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	0.35 J	1.0	ug/L	0.19
Toluene	0.85 J	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	2.0	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	97	(73 - 122)
1,2-Dichloroethane-d4	96	(61 - 128)
Toluene-d8	90	(76 - 110)
4-Bromofluorobenzene	75	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072204-DCR-153

GC/MS Volatiles

Lot-Sample #....: A4G230184-003 Work Order #....: GLNWL1AA Matrix.....: WG
 Date Sampled....: 07/22/04 10:55 Date Received...: 07/23/04
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #....: 4209406
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	2.8 J,B	25	ug/L	0.74
Benzene	0.35 J	1.0	ug/L	0.22
Bromodichloromethane	1.9	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	13	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.25 J	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072204-DCR-153

GC/MS Volatiles

Lot-Sample #...: A4G230184-003 Work Order #...: GLNWL1AA Matrix.....: WG

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	0.39 J	1.0	ug/L	0.19
Toluene	0.75 J	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	2.1	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	97	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
Toluene-d8	88	(76 - 110)
4-Bromofluorobenzene	75	(74 - 116)

NOTE(S) :

- J Estimated result. Result is less than RL.
- B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072204-DCR-154

GC/MS Volatiles

Lot-Sample #...: A4G230184-004 Work Order #...: GLNWN1AA Matrix.....: WG
 Date Sampled...: 07/22/04 11:45 Date Received...: 07/23/04
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #...: 4209406
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	2.3 J,B	25	ug/L	0.74
Benzene	0.22 J	1.0	ug/L	0.22
Bromodichloromethane	1.5	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	3.9	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.16 J	1.0	ug/L	0.12
Dibromochloromethane	0.74 J	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	0.56 J	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	1.4	1.0	ug/L	0.21
trans-1,2-Dichloroethene	0.24 J	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072204-DCR-154

GC/MS Volatiles

Lot-Sample #....: A4G230184-004 Work Order #....: GLNWN1AA Matrix.....: WG

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	0.58 J	1.0	ug/L	0.19
Toluene	0.53 J	1.0	ug/L	0.17
1,2,4-Trichloro-benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	0.91 J	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	98	(73 - 122)
1,2-Dichloroethane-d4	99	(61 - 128)
Toluene-d8	88	(76 - 110)
4-Bromofluorobenzene	75	(74 - 116)

NOTE(S):

- J Estimated result. Result is less than RL.
- B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072204-DCR-155

GC/MS Volatiles

Lot-Sample #...: A4G230184-005 Work Order #...: GLNWP1AA Matrix.....: WG
 Date Sampled...: 07/22/04 13:05 Date Received...: 07/23/04
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #...: 4209406
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	2.3 J,B	25	ug/L	0.74
Benzene	0.22 J	1.0	ug/L	0.22
Bromodichloromethane	6.1	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	13	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	2.1	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072204-DCR-155

GC/MS Volatiles

Lot-Sample #...: A4G230184-005 Work Order #...: GLNWP1AA Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	2.3	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	101	(73 - 122)
1,2-Dichloroethane-d4	100	(61 - 128)
Toluene-d8	88	(76 - 110)
4-Bromofluorobenzene	74	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072204-DCR-156

GC/MS Volatiles

Lot-Sample #....: A4G230184-006 Work Order #....: GLNWQ1AA Matrix.....: WQ
 Date Sampled....: 07/22/04 Date Received...: 07/23/04
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #....: 4209406
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	6.2 J,B	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	0.81 J	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	3.1 J	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072204-DCR-156

GC/MS Volatiles

Lot-Sample #...: A4G230184-006 Work Order #...: GLNWQ1AA Matrix.....: WQ

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	ND	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	99	(73 - 122)
1,2-Dichloroethane-d4	99	(61 - 128)
Toluene-d8	89	(76 - 110)
4-Bromofluorobenzene	75	(74 - 116)

NOTE (S) :

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G230184
 MB Lot-Sample #: A4G270000-406
 Analysis Date...: 07/27/04
 Dilution Factor: 1

Work Order #...: GLXV81AA
 Prep Date.....: 07/27/04
 Prep Batch #...: 4209406
 Initial Wgt/Vol: 5 mL

Matrix.....: WATER
 Final Wgt/Vol...: 5 mL

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Acetone	1.1 J	25	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	1.0	ug/L	SW846 8260B
2-Butanone	ND	25	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	1.0	ug/L	SW846 8260B
Cyclohexane	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromoethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
Dichlorodifluoromethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
2-Hexanone	ND	50	ug/L	SW846 8260B
Isopropylbenzene	ND	5.0	ug/L	SW846 8260B
Methyl acetate	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
Methylcyclohexane	ND	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	50	ug/L	SW846 8260B
Methyl tert-butyl ether	ND	5.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G230184

Work Order #...: GLXV81AA

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	ND	5.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	3.0	ug/L	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	98	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
Toluene-d8	89	(76 - 110)
4-Bromofluorobenzene	76	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #....: A4G230184 Work Order #....: GLXV81AC-LCS Matrix.....: WATER
 LCS Lot-Sample#: A4G270000-406 GLXV81AD-LCSD
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #....: 4209406
 Dilution Factor: 1 Final Wgt/Vol...: 5 mL
 Initial Wgt/Vol: 5 mL

<u>PARAMETER</u>	<u>SPIKE AMOUNT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCENT RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>
Benzene	10	9.3	ug/L	93		SW846 8260B
	10	9.7	ug/L	97	4.5	SW846 8260B
Chlorobenzene	10	9.0	ug/L	90		SW846 8260B
	10	9.4	ug/L	94	4.5	SW846 8260B
1,1-Dichloroethene	10	9.5	ug/L	95		SW846 8260B
	10	10	ug/L	104	9.0	SW846 8260B
Toluene	10	8.8	ug/L	88		SW846 8260B
	10	9.3	ug/L	93	5.3	SW846 8260B
Trichloroethene	10	9.0	ug/L	90		SW846 8260B
	10	9.7	ug/L	97	7.0	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	95	(73 - 122)
	96	(73 - 122)
1,2-Dichloroethane-d4	100	(61 - 128)
	103	(61 - 128)
Toluene-d8	91	(76 - 110)
	92	(76 - 110)
4-Bromofluorobenzene	83	(74 - 116)
	83	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #....: A4G230184 Work Order #....: GLXV81AC-LCS Matrix.....: WATER
 LCS Lot-Sample#: A4G270000-406 GLXV81AD-LCSD
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #....: 4209406
 Dilution Factor: 1 Final Wgt/Vol...: 5 mL
 Initial Wgt/Vol: 5 mL

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	93	(80 - 116)			SW846 8260B
	97	(80 - 116)	4.5	(0-20)	SW846 8260B
Chlorobenzene	90	(76 - 117)			SW846 8260B
	94	(76 - 117)	4.5	(0-20)	SW846 8260B
1,1-Dichloroethene	95	(63 - 130)			SW846 8260B
	104	(63 - 130)	9.0	(0-20)	SW846 8260B
Toluene	88	(74 - 119)			SW846 8260B
	93	(74 - 119)	5.3	(0-20)	SW846 8260B
Trichloroethene	90	(75 - 122)			SW846 8260B
	97	(75 - 122)	7.0	(0-20)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	95	(73 - 122)
	96	(73 - 122)
1,2-Dichloroethane-d4	100	(61 - 128)
	103	(61 - 128)
Toluene-d8	91	(76 - 110)
	92	(76 - 110)
4-Bromofluorobenzene	83	(74 - 116)
	83	(74 - 116)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #....: A4G230184 Work Order #....: GLL2A1AC-MS Matrix.....: WATER
 MS Lot-Sample #: A4G220306-011 GLL2A1AD-MSD
 Date Sampled....: 07/19/04 19:21 Date Received...: 07/21/04
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #....: 4209406
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

PARAMETER	SAMPLE	SPIKE	MEASRD	UNITS	PERCNT		METHOD	
	AMOUNT	AMT	AMOUNT		RECVRY	RPD		
Benzene	ND	10	6.8	ug/L	68 a		SW846	8260B
	ND	10	7.9	ug/L	79	15	SW846	8260B
Chlorobenzene	ND	10	6.6	ug/L	66 a		SW846	8260B
	ND	10	7.5	ug/L	75 a	12	SW846	8260B
1,1-Dichloroethene	ND	10	7.1	ug/L	71		SW846	8260B
	ND	10	8.6	ug/L	86	19	SW846	8260B
Toluene	ND	10	6.5	ug/L	65 a		SW846	8260B
	ND	10	7.4	ug/L	74	14	SW846	8260B
Trichloroethene	ND	10	6.6	ug/L	66		SW846	8260B
	ND	10	7.7	ug/L	77	15	SW846	8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	96	(73 - 122)
	98	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
	101	(61 - 128)
Toluene-d8	90	(76 - 110)
	91	(76 - 110)
4-Bromofluorobenzene	83	(74 - 116)
	82	(74 - 116)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A4G230184 Work Order #...: GLL2A1AC-MS Matrix.....: WATER
 MS Lot-Sample #: A4G220306-011 GLL2A1AD-MSD
 Date Sampled...: 07/19/04 19:21 Date Received...: 07/21/04
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #...: 4209406
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	68 a	(78 - 118)			SW846 8260B
	79	(78 - 118)	15	(0-20)	SW846 8260B
Chlorobenzene	66 a	(76 - 117)			SW846 8260B
	75 a	(76 - 117)	12	(0-20)	SW846 8260B
1,1-Dichloroethene	71	(62 - 130)			SW846 8260B
	86	(62 - 130)	19	(0-20)	SW846 8260B
Toluene	65 a	(70 - 119)			SW846 8260B
	74	(70 - 119)	14	(0-20)	SW846 8260B
Trichloroethene	66	(62 - 130)			SW846 8260B
	77	(62 - 130)	15	(0-20)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	96	(73 - 122)
	98	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
	101	(61 - 128)
Toluene-d8	90	(76 - 110)
	91	(76 - 110)
4-Bromofluorobenzene	83	(74 - 116)
	82	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

END OF REPORT

REC'D CRA
AUG - 9 2004
CRA SDG G-19.

STL North Canton
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North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772
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ANALYTICAL REPORT

PROJECT NO. 17360-09

GM-GRAND RAPIDS

Lot #: A4G240144

Paul Wiseman

Conestoga Rovers & Assoc., Inc
14496 Sheldon Rd Suite 200
Plymouth, MI 48170

ORIGINAL ANALYTICAL REPORT
Project#: 17360-09 Lab#: A4G240144
Name: GM GRAND RAPIDS.

SEVERN TRENT LABORATORIES, INC. Description
Event: VAS Sampling
Samples: 5 waters DCR 157-162
Analysis: TCL VOCs.

TAT: 48 HOUR TAT
Lab: STL-NC

Deborah Dwyer
Amy L. McCormick
Project Manager
Checked Against Preliminary Data:
Date: N/A Init.: N/A

Date of Validation Memo: 10/21/04
Invoice Approval Date: _____
Comments: _____

August 4, 2004

SEVERN
TRENT

STL

CASE NARRATIVE

CASE NARRATIVE

A4G240144

The following report contains the analytical results for five water samples and one quality control sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the GM-Grand Rapids Site, project number 17360-09. The samples were received July 24, 2004, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to the Chemistry Department on July 28, 2004. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 4.1°C.

CASE NARRATIVE (continued)

GC/MS VOLATILES

The sample(s) that contained concentrations of target analyte(s) at a reportable level in the associated Method Blank(s) were flagged with "B". All target analytes in the Method Blank must be below the reporting limit (RL) or the associated sample(s) must be ND with the exception of common laboratory contaminants.

The sample(s) that contain results between the MDL and the RL were flagged with "J". There is a possibility of false positive or mis-identification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation was performed only down to the standard reporting limit (SRL). The acceptance criteria for QC samples may not be met at these quantitation levels.

The matrix spike/matrix spike duplicate(s) for batch(es) 4209406 had recoveries outside acceptance limits. However, since the associated method blank(s) and laboratory control sample(s) were in control, no corrective action was necessary.

The pH of the sample GW-17360-072304-DCR-157 was greater than 2. The sample(s) was analyzed within the normal 14 day holding time; however, experimental evidence suggests that some aromatic compounds in wastewater samples, notably Benzene, Toluene, and Ethylbenzene are susceptible to biological degradation if samples are not preserved to a pH of 2.

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

Volatile (GC or GC/MS)

Methylene chloride
Acetone
2-Butanone

Semivolatile (GC/MS)

Phthalate Esters

Metals

Copper
Iron
Zinc
Lead*

- for analyses run on TJA Trace ICP, ICPMS or GFAA only

QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

STL North Canton Certifications and Approvals:

Alabama (#41170), California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#100439), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)





STL

***EXECUTIVE
SUMMARY***

EXECUTIVE SUMMARY - Detection Highlights

A4G240144

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
GW-17360-072304-DCR-157 07/23/04 09:25 001				
Acetone	8.9 J,B	25	ug/L	SW846 8260B
Benzene	0.34 J	1.0	ug/L	SW846 8260B
Chloroform	2.3	1.0	ug/L	SW846 8260B
Chloromethane	0.33 J	1.0	ug/L	SW846 8260B
Toluene	0.68 J	1.0	ug/L	SW846 8260B
GW-17360-072304-DCR-158 07/23/04 10:15 002				
Acetone	1.6 J	25	ug/L	SW846 8260B
Benzene	0.31 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	0.71 J	1.0	ug/L	SW846 8260B
Chloroform	4.9	1.0	ug/L	SW846 8260B
Dibromochloromethane	0.28 J	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	0.37 J	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	0.75 J	1.0	ug/L	SW846 8260B
Ethylbenzene	0.26 J	1.0	ug/L	SW846 8260B
Tetrachloroethene	0.45 J	1.0	ug/L	SW846 8260B
Toluene	0.84 J	1.0	ug/L	SW846 8260B
Trichloroethene	1.6	1.0	ug/L	SW846 8260B
GW-17360-072304-DCR-159 07/23/04 11:05 003				
Acetone	1.5 J	25	ug/L	SW846 8260B
Benzene	0.52 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	0.22 J	1.0	ug/L	SW846 8260B
2-Butanone	0.44 J	25	ug/L	SW846 8260B
Chloroform	1.5	1.0	ug/L	SW846 8260B
Cyclohexane	0.40 J	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	0.50 J	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	1.2	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	0.33 J	1.0	ug/L	SW846 8260B
Ethylbenzene	0.34 J	1.0	ug/L	SW846 8260B
Tetrachloroethene	0.58 J	1.0	ug/L	SW846 8260B
Toluene	1.2	1.0	ug/L	SW846 8260B
Trichloroethene	2.7	1.0	ug/L	SW846 8260B
GW-17360-072304-DCR-160 07/23/04 12:15 004				
Acetone	3.0 J,B	25	ug/L	SW846 8260B
Bromodichloromethane	3.4	1.0	ug/L	SW846 8260B
2-Butanone	0.54 J	25	ug/L	SW846 8260B
Chloroform	16	1.0	ug/L	SW846 8260B
Dibromochloromethane	0.92 J	1.0	ug/L	SW846 8260B

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

A4G240144

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
GW-17360-072304-DCR-160 07/23/04 12:15 004				
Tetrachloroethene	0.47 J	1.0	ug/L	SW846 8260B
Toluene	1.3	1.0	ug/L	SW846 8260B
Trichloroethene	0.46 J	1.0	ug/L	SW846 8260B
GW-17360-072304-DCR-161 07/23/04 13:55 005				
Acetone	3.3 J,B	25	ug/L	SW846 8260B
Bromodichloromethane	5.7	1.0	ug/L	SW846 8260B
Chloroform	16	1.0	ug/L	SW846 8260B
Dibromochloromethane	1.9	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	0.67 J	50	ug/L	SW846 8260B
Toluene	1.4	1.0	ug/L	SW846 8260B
GW-17360-072304-DCR-162 07/23/04 006				
Acetone	6.2 J,B	25	ug/L	SW846 8260B
2-Butanone	3.7 J	25	ug/L	SW846 8260B
1,1-Dichloroethene	0.50 J	1.0	ug/L	SW846 8260B
Methylene chloride	0.58 J	5.0	ug/L	SW846 8260B
Toluene	0.24 J	1.0	ug/L	SW846 8260B



STL

METHOD SUMMARY

ANALYTICAL METHODS SUMMARY

A4G240144

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Volatile Organics by GC/MS	SW846 8260B

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

SAMPLE SUMMARY

A4G240144

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
GLRMD	001	GW-17360-072304-DCR-157	07/23/04	09:25
GLRMG	002	GW-17360-072304-DCR-158	07/23/04	10:15
GLRMH	003	GW-17360-072304-DCR-159	07/23/04	11:05
GLRMJ	004	GW-17360-072304-DCR-160	07/23/04	12:15
GLRMK	005	GW-17360-072304-DCR-161	07/23/04	13:55
GLRMM	006	GW-17360-072304-DCR-162	07/23/04	

NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.



***SHIPPING
AND
RECEIVING DOCUMENTS***

CRA

CONESTOGA-ROVERS & ASSOCIATES, INC.
 14496 Sheldon Road, Suite 200
 Plymouth, MI 48170 • (734) 453-5123

SHIPPED TO (Laboratory Name):

STL North Canton

CHAIN OF CUSTODY RECORD

REFERENCE NUMBER:
17360-09

PROJECT NAME: Gun - Grand Rapids

SAMPLER'S SIGNATURE: *[Signature]* PRINTED NAME: David Rivers

SEQ. No.	DATE	TIME	SAMPLE TYPE	NO. OF CONTAINERS	PARAMETERS	REMARKS
1	7/16/97	925	Gun-17360-072304-DX2-157	2	TCL Vol's 48hr TAT	
2	7/16/97	1415	-158	3	X	
3	7/16/97	1105	-155	3	X	
4	7/16/97	1215	-160	3	X	
5	7/16/97	1355	-161	3	X	
6	7/16/97	1402	-162	1	X	

TOTAL NUMBER OF CONTAINERS: 15

CRA contact
David Williams

RELINQUISHED BY: <i>[Signature]</i>	DATE: 7-23-97	RECEIVED BY: 1.	DATE: _____
RELINQUISHED BY: _____	TIME: 1930	RECEIVED BY: 2.	DATE: _____
RELINQUISHED BY: _____	DATE: _____	RECEIVED BY: 3.	DATE: _____
RELINQUISHED BY: _____	TIME: _____	RECEIVED BY: 1.	DATE: _____
RELINQUISHED BY: _____	DATE: _____	RECEIVED BY: 2.	DATE: _____
RELINQUISHED BY: _____	TIME: _____	RECEIVED BY: 3.	DATE: _____

METHOD OF SHIPMENT: Fed ex AIR BILL NO. 8436 7999 4248

White Fully Executed Copy	Pink Shipper Copy	SAMPLE TEAM: <u>David Rivers</u>	RECEIVED FOR LABORATORY BY: <u>[Signature]</u>
Yellow Receiving Laboratory Copy	Goldentod Sampler Copy	DATE: <u>7/23/97</u>	TIME: <u>1900</u>
27158			

RSR280
 Client: 57787
 Lot #: 14G240144

Case Number/SDG: 17360-09

Storage Location: MS

Severn Trent Laboratories, Inc.
 Sample Control Record

Laboratory Sample I.D.	Transferred By	Date	Entered	Removed	Reason	Date Returned
GLRMD	SANDERSA	7/24/04	Yes		Storage	
GLRMB	SANDERSA	7/24/04	Yes		Storage	
GLRHH	SANDERSA	7/24/04	Yes		Storage	
GLRPU	SANDERSA	7/24/04	Yes		Storage	
GLRHK	SANDERSA	7/24/04	Yes		Storage	
GLRHM	SANDERSA	7/24/04	Yes		Storage	

STL Cooler Receipt Form/Narrative
North Canton Facility

Lot Number: 17024114

Client: CPA Project: GM Cond Exp. Is Quote#: _____
 Cooler Received on: 7/24/04 Opened on: 7/24/04 by: [Signature]
 (Signature)

Fedx Client Drop Off UPS DHL FAS Other: _____

STL Cooler No# _____ Foam Box Client Cooler Other _____

- Were custody seals on the outside of the cooler? Yes No Intact? Yes No NA
 If YES, Quantity _____
 Were the custody seals signed and dated? Yes No NA
 - Shipper's packing slip attached to this form? Yes No NA
 - Did custody papers accompany the samples? Yes No Relinquished by client? Yes No
 - Did you sign the custody papers in the appropriate place? Yes No
 - Packing material used: Bubble Wrap Foam None Other: _____
 - Cooler temperature upon receipt 4.2 °C (see back of form for multiple coolers/temp)
 METHOD: Temp Vial Coolant & Sample Against Bottles IR ICE/H₂O Slurry
 COOLANT: Wet Ice Blue Ice Dry Ice Water None
 - Did all bottles arrive in good condition (Unbroken)? Yes No
 - Could all bottle labels and/or tags be reconciled with the COC? Yes No
 - Were samples at the correct pH? (record below/on back) Yes No NA
 - Were correct bottles used for the tests indicated? Yes No
 - Were air bubbles >6 mm in any VOA vials? Yes No NA
 - Sufficient quantity received to perform indicated analyses? Yes No
- Contacted PM _____ Date: _____ by: _____ via Voice Mail Verbal Other

Concerning: _____

1. CHAIN OF CUSTODY

The following discrepancies occurred:
No sample times on any of the labels - log per COC

2. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.

3. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot #052804-HNO₃; Sulfuric Acid Lot # 011-504-H₂SO₄; Sodium Hydroxide Lot # -031804-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 112801-CH₃COO₂ZN/NaOH
 Sample(s) 1x -157 were received with bubble > 6 mm in diameter (cc: PM)

4. Other (see below or back)

Client ID	pH	Date	Initials



STL

GCMS VOLATILE DATA

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072304-DCR-157

GC/MS Volatiles

Lot-Sample #...: A4G240144-001 Work Order #...: GLRMD1AA Matrix.....: WG
 Date Sampled...: 07/23/04 09:25 Date Received...: 07/24/04
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #...: 4209406
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	8.9 J,B	25	ug/L	0.74
Benzene	0.34 J	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	2.3	1.0	ug/L	0.16
Chloromethane	0.33 J	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072304-DCR-157

GC/MS Volatiles

Lot-Sample #...: A4G240144-001 Work Order #...: GLRMD1AA Matrix.....: WG

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	0.68 J	1.0	ug/L	0.17
1,2,4-Trichloro-benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	99	(73 - 122)
1,2-Dichloroethane-d4	102	(61 - 128)
Toluene-d8	91	(76 - 110)
4-Bromofluorobenzene	78	(74 - 116)

NOTE (S) :

- J Estimated result. Result is less than RL.
- B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072304-DCR-158

GC/MS Volatiles

Lot-Sample #...: A4G240144-002 Work Order #...: GLRMG1AA Matrix.....: WG
 Date Sampled...: 07/23/04 10:15 Date Received...: 07/24/04
 Prep Date.....: 07/28/04 Analysis Date...: 07/28/04
 Prep Batch #...: 4210204
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	1.6 J	25	ug/L	0.74
Benzene	0.31 J	1.0	ug/L	0.22
Bromodichloromethane	0.71 J	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	4.9	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	0.28 J	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	0.37 J	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	0.75 J	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	0.26 J	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072304-DCR-158

GC/MS Volatiles

Lot-Sample #...: A4G240144-002 Work Order #...: GLRMG1AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	0.45 J	1.0	ug/L	0.19
Toluene	0.84 J	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	1.6	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	99	(73 - 122)
1,2-Dichloroethane-d4	96	(61 - 128)
Toluene-d8	102	(76 - 110)
4-Bromofluorobenzene	100	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072304-DCR-159

GC/MS Volatiles

Lot-Sample #....: A4G240144-003 Work Order #....: GLRMH1AA Matrix.....: WG
 Date Sampled....: 07/23/04 11:05 Date Received...: 07/24/04
 Prep Date.....: 07/28/04 Analysis Date...: 07/28/04
 Prep Batch #....: 4210204
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	1.5 J	25	ug/L	0.74
Benzene	0.52 J	1.0	ug/L	0.22
Bromodichloromethane	0.22 J	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	0.44 J	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	1.5	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.40 J	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	0.50 J	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	1.2	1.0	ug/L	0.21
trans-1,2-Dichloroethene	0.33 J	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	0.34 J	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072304-DCR-159

GC/MS Volatiles

Lot-Sample #...: A4G240144-003 Work Order #...: GLRMH1AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	0.58 J	1.0	ug/L	0.19
Toluene	1.2	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	2.7	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	100	(73 - 122)
1,2-Dichloroethane-d4	96	(61 - 128)
Toluene-d8	98	(76 - 110)
4-Bromofluorobenzene	99	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072304-DCR-160

GC/MS Volatiles

Lot-Sample #...: A4G240144-004 Work Order #...: GLRMJ1AA Matrix.....: WG
 Date Sampled...: 07/23/04 12:15 Date Received...: 07/24/04
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #...: 4209406
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	3.0 J,B	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	3.4	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	0.54 J	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	16	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	0.92 J	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072304-DCR-160

GC/MS Volatiles

Lot-Sample #...: A4G240144-004 Work Order #...: GLRMJ1AA Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	0.47 J	1.0	ug/L	0.19
Toluene	1.3	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	0.46 J	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	101	(73 - 122)
1,2-Dichloroethane-d4	99	(61 - 128)
Toluene-d8	89	(76 - 110)
4-Bromofluorobenzene	76	(74 - 116)

NOTE (S) :

- J Estimated result. Result is less than RL.
- B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072304-DCR-161

GC/MS Volatiles

Lot-Sample #...: A4G240144-005 Work Order #...: GLRMK1AA Matrix.....: WG
 Date Sampled...: 07/23/04 13:55 Date Received...: 07/24/04
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #...: 4209406
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	3.3 J,B	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	5.7	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	16	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	1.9	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	0.67 J	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072304-DCR-161

GC/MS Volatiles

Lot-Sample #...: A4G240144-005 Work Order #...: GLRMK1AA Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	1.4	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	102	(73 - 122)
1,2-Dichloroethane-d4	100	(61 - 128)
Toluene-d8	90	(76 - 110)
4-Bromofluorobenzene	75	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072304-DCR-162

GC/MS Volatiles

Lot-Sample #....: A4G240144-006 Work Order #....: GLRMM1AA Matrix.....: WQ
 Date Sampled....: 07/23/04 Date Received...: 07/24/04
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #....: 4209406
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	6.2 J,B	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	3.7 J	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	0.50 J	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	0.58 J	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072304-DCR-162

GC/MS Volatiles

Lot-Sample #...: A4G240144-006 Work Order #...: GLRMM1AA Matrix.....: WQ

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	0.24 J	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	101	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
Toluene-d8	87	(76 - 110)
4-Bromofluorobenzene	74	(74 - 116)

NOTE (S) :

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G240144
 MB Lot-Sample #: A4G270000-406

Work Order #...: GLXV81AA
 Prep Date.....: 07/27/04
 Prep Batch #...: 4209406
 Initial Wgt/Vol: 5 mL

Matrix.....: WATER
 Final Wgt/Vol...: 5 mL

Analysis Date...: 07/27/04
 Dilution Factor: 1

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Acetone	1.1 J	25	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	1.0	ug/L	SW846 8260B
2-Butanone	ND	25	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	1.0	ug/L	SW846 8260B
Cyclohexane	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromoethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
Dichlorodifluoromethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
2-Hexanone	ND	50	ug/L	SW846 8260B
Isopropylbenzene	ND	5.0	ug/L	SW846 8260B
Methyl acetate	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
Methylcyclohexane	ND	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	50	ug/L	SW846 8260B
Methyl tert-butyl ether	ND	5.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G240144

Work Order #...: GLXV81AA

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>
		<u>LIMIT</u>	<u>UNITS</u>	
1,2,4-Trichloro- benzene	ND	5.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	3.0	ug/L	SW846 8260B
	<u>PERCENT</u>	<u>RECOVERY</u>		
<u>SURROGATE</u>	<u>RECOVERY</u>	<u>LIMITS</u>		
Dibromofluoromethane	98	(73 - 122)		
1,2-Dichloroethane-d4	97	(61 - 128)		
Toluene-d8	89	(76 - 110)		
4-Bromofluorobenzene	76	(74 - 116)		

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G240144
 MB Lot-Sample #: A4G280000-204
 Analysis Date...: 07/28/04
 Dilution Factor: 1

Work Order #...: GL1NG1AA
 Prep Date.....: 07/28/04
 Prep Batch #...: 4210204
 Initial Wgt/Vol: 5 mL

Matrix.....: WATER
 Final Wgt/Vol...: 5 mL

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Acetone	ND	25	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	1.0	ug/L	SW846 8260B
2-Butanone	ND	25	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	1.0	ug/L	SW846 8260B
Cyclohexane	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromoethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
Dichlorodifluoromethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
2-Hexanone	ND	50	ug/L	SW846 8260B
Isopropylbenzene	ND	5.0	ug/L	SW846 8260B
Methyl acetate	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
Methylcyclohexane	ND	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	50	ug/L	SW846 8260B
Methyl tert-butyl ether	ND	5.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G240144

Work Order #...: GL1NG1AA

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>
		<u>LIMIT</u>	<u>UNITS</u>	
1,2,4-Trichloro- benzene	ND	5.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	3.0	ug/L	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	100	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
Toluene-d8	97	(76 - 110)
4-Bromofluorobenzene	96	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: A4G240144 Work Order #...: GLXV81AC-LCS Matrix.....: WATER
 LCS Lot-Sample#: A4G270000-406 GLXV81AD-LCSD
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #...: 4209406
 Dilution Factor: 1 Final Wgt/Vol...: 5 mL
 Initial Wgt/Vol: 5 mL

<u>PARAMETER</u>	<u>SPIKE</u> <u>AMOUNT</u>	<u>MEASURED</u> <u>AMOUNT</u>	<u>UNITS</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>
Benzene	10	9.3	ug/L	93		SW846 8260B
	10	9.7	ug/L	97	4.5	SW846 8260B
Chlorobenzene	10	9.0	ug/L	90		SW846 8260B
	10	9.4	ug/L	94	4.5	SW846 8260B
1,1-Dichloroethene	10	9.5	ug/L	95		SW846 8260B
	10	10	ug/L	104	9.0	SW846 8260B
Toluene	10	8.8	ug/L	88		SW846 8260B
	10	9.3	ug/L	93	5.3	SW846 8260B
Trichloroethene	10	9.0	ug/L	90		SW846 8260B
	10	9.7	ug/L	97	7.0	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
Dibromofluoromethane	95	(73 - 122)
	96	(73 - 122)
1,2-Dichloroethane-d4	100	(61 - 128)
	103	(61 - 128)
Toluene-d8	91	(76 - 110)
	92	(76 - 110)
4-Bromofluorobenzene	83	(74 - 116)
	83	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #....: A4G240144 Work Order #....: GLXV81AC-LCS Matrix.....: WATER
 LCS Lot-Sample#: A4G270000-406 GLXV81AD-LCSD
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #....: 4209406
 Dilution Factor: 1 Final Wgt/Vol...: 5 mL
 Initial Wgt/Vol: 5 mL

PARAMETER	PERCENT	RECOVERY	RPD		METHOD
	RECOVERY	LIMITS	RPD	LIMITS	
Benzene	93	(80 - 116)			SW846 8260B
	97	(80 - 116)	4.5	(0-20)	SW846 8260B
Chlorobenzene	90	(76 - 117)			SW846 8260B
	94	(76 - 117)	4.5	(0-20)	SW846 8260B
1,1-Dichloroethene	95	(63 - 130)			SW846 8260B
	104	(63 - 130)	9.0	(0-20)	SW846 8260B
Toluene	88	(74 - 119)			SW846 8260B
	93	(74 - 119)	5.3	(0-20)	SW846 8260B
Trichloroethene	90	(75 - 122)			SW846 8260B
	97	(75 - 122)	7.0	(0-20)	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	95	(73 - 122)
	96	(73 - 122)
1,2-Dichloroethane-d4	100	(61 - 128)
	103	(61 - 128)
Toluene-d8	91	(76 - 110)
	92	(76 - 110)
4-Bromofluorobenzene	83	(74 - 116)
	83	(74 - 116)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: A4G240144 Work Order #...: GL1NG1AC-LCS Matrix.....: WATER
 LCS Lot-Sample#: A4G280000-204 GL1NG1AD-LCSD
 Prep Date.....: 07/28/04 Analysis Date...: 07/28/04
 Prep Batch #...: 4210204
 Dilution Factor: 1 Final Wgt/Vol...: 5 mL
 Initial Wgt/Vol: 5 mL

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Benzene	10	9.8	ug/L	98		SW846 8260B
	10	9.9	ug/L	99	0.40	SW846 8260B
Chlorobenzene	10	9.8	ug/L	98		SW846 8260B
	10	9.7	ug/L	97	0.57	SW846 8260B
1,1-Dichloroethene	10	10	ug/L	101		SW846 8260B
	10	9.7	ug/L	97	3.4	SW846 8260B
Toluene	10	9.6	ug/L	96		SW846 8260B
	10	9.8	ug/L	98	1.1	SW846 8260B
Trichloroethene	10	9.7	ug/L	97		SW846 8260B
	10	10	ug/L	101	4.8	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	99	(73 - 122)
	96	(73 - 122)
1,2-Dichloroethane-d4	95	(61 - 128)
	94	(61 - 128)
Toluene-d8	99	(76 - 110)
	100	(76 - 110)
4-Bromofluorobenzene	103	(74 - 116)
	100	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A4G240144 Work Order #...: GL1NG1AC-LCS Matrix.....: WATER
 LCS Lot-Sample#: A4G280000-204 GL1NG1AD-LCSD
 Prep Date.....: 07/28/04 Analysis Date...: 07/28/04
 Prep Batch #...: 4210204
 Dilution Factor: 1 Final Wgt/Vol...: 5 mL
 Initial Wgt/Vol: 5 mL

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	98	(80 - 116)			SW846 8260B
	99	(80 - 116)	0.40	(0-20)	SW846 8260B
Chlorobenzene	98	(76 - 117)			SW846 8260B
	97	(76 - 117)	0.57	(0-20)	SW846 8260B
1,1-Dichloroethene	101	(63 - 130)			SW846 8260B
	97	(63 - 130)	3.4	(0-20)	SW846 8260B
Toluene	96	(74 - 119)			SW846 8260B
	98	(74 - 119)	1.1	(0-20)	SW846 8260B
Trichloroethene	97	(75 - 122)			SW846 8260B
	101	(75 - 122)	4.8	(0-20)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	99	(73 - 122)
	96	(73 - 122)
1,2-Dichloroethane-d4	95	(61 - 128)
	94	(61 - 128)
Toluene-d8	99	(76 - 110)
	100	(76 - 110)
4-Bromofluorobenzene	103	(74 - 116)
	100	(74 - 116)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: A4G240144 Work Order #...: GLL2A1AC-MS Matrix.....: WATER
 MS Lot-Sample #: A4G220306-011 GLL2A1AD-MSD
 Date Sampled...: 07/19/04 19:21 Date Received...: 07/21/04
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #...: 4209406
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

PARAMETER	SAMPLE	SPIKE	MEASRD	UNITS	PERCNT		METHOD
	AMOUNT	AMT	AMOUNT		RECVRY	RPD	
Benzene	ND	10	6.8	ug/L	68 a		SW846 8260B
	ND	10	7.9	ug/L	79	15	SW846 8260B
Chlorobenzene	ND	10	6.6	ug/L	66 a		SW846 8260B
	ND	10	7.5	ug/L	75 a	12	SW846 8260B
1,1-Dichloroethene	ND	10	7.1	ug/L	71		SW846 8260B
	ND	10	8.6	ug/L	86	19	SW846 8260B
Toluene	ND	10	6.5	ug/L	65 a		SW846 8260B
	ND	10	7.4	ug/L	74	14	SW846 8260B
Trichloroethene	ND	10	6.6	ug/L	66		SW846 8260B
	ND	10	7.7	ug/L	77	15	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	96	(73 - 122)
	98	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
	101	(61 - 128)
Toluene-d8	90	(76 - 110)
	91	(76 - 110)
4-Bromofluorobenzene	83	(74 - 116)
	82	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A4G240144 Work Order #...: GLL2A1AC-MS Matrix.....: WATER
 MS Lot-Sample #: A4G220306-011 GLL2A1AD-MSD
 Date Sampled...: 07/19/04 19:21 Date Received...: 07/21/04
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #...: 4209406
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	68 a	(78 - 118)			SW846 8260B
	79	(78 - 118)	15	(0-20)	SW846 8260B
Chlorobenzene	66 a	(76 - 117)			SW846 8260B
	75 a	(76 - 117)	12	(0-20)	SW846 8260B
1,1-Dichloroethene	71	(62 - 130)			SW846 8260B
	86	(62 - 130)	19	(0-20)	SW846 8260B
Toluene	65 a	(70 - 119)			SW846 8260B
	74	(70 - 119)	14	(0-20)	SW846 8260B
Trichloroethene	66	(62 - 130)			SW846 8260B
	77	(62 - 130)	15	(0-20)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	96	(73 - 122)
	98	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
	101	(61 - 128)
Toluene-d8	90	(76 - 110)
	91	(76 - 110)
4-Bromofluorobenzene	83	(74 - 116)
	82	(74 - 116)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: A4G240144 Work Order #...: GLTVG1AE-MS Matrix.....: WATER
 MS Lot-Sample #: A4G260107-001 GLTVG1AF-MSD
 Date Sampled...: 07/22/04 12:00 Date Received...: 07/24/04
 Prep Date.....: 07/28/04 Analysis Date...: 07/28/04
 Prep Batch #...: 4210204
 Dilution Factor: 1000 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

PARAMETER	SAMPLE	SPIKE	MEASRD	UNITS	PERCNT		METHOD
	AMOUNT	AMT	AMOUNT		RECVRY	RPD	
Benzene	470	10000	9900	ug/L	94		SW846 8260B
	470	10000	10000	ug/L	98	4.0	SW846 8260B
Chlorobenzene	ND	10000	9800	ug/L	98		SW846 8260B
	ND	10000	9700	ug/L	97	0.70	SW846 8260B
1,1-Dichloroethene	ND	10000	9200	ug/L	92		SW846 8260B
	ND	10000	8800	ug/L	88	4.5	SW846 8260B
Toluene	1200	10000	10000	ug/L	93		SW846 8260B
	1200	10000	11000	ug/L	96	3.4	SW846 8260B
Trichloroethene	ND	10000	9800	ug/L	98		SW846 8260B
	ND	10000	10000	ug/L	100	1.3	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	95	(73 - 122)
	94	(73 - 122)
1,2-Dichloroethane-d4	91	(61 - 128)
	92	(61 - 128)
Toluene-d8	98	(76 - 110)
	98	(76 - 110)
4-Bromofluorobenzene	98	(74 - 116)
	101	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A4G240144 Work Order #...: GLTVG1AE-MS Matrix.....: WATER
 MS Lot-Sample #: A4G260107-001 GLTVG1AF-MSD
 Date Sampled...: 07/22/04 12:00 Date Received...: 07/24/04
 Prep Date.....: 07/28/04 Analysis Date...: 07/28/04
 Prep Batch #...: 4210204
 Dilution Factor: 1000 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	94	(78 - 118)			SW846 8260B
	98	(78 - 118)	4.0	(0-20)	SW846 8260B
Chlorobenzene	98	(76 - 117)			SW846 8260B
	97	(76 - 117)	0.70	(0-20)	SW846 8260B
1,1-Dichloroethene	92	(62 - 130)			SW846 8260B
	88	(62 - 130)	4.5	(0-20)	SW846 8260B
Toluene	93	(70 - 119)			SW846 8260B
	96	(70 - 119)	3.4	(0-20)	SW846 8260B
Trichloroethene	98	(62 - 130)			SW846 8260B
	100	(62 - 130)	1.3	(0-20)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	95	(73 - 122)
	94	(73 - 122)
1,2-Dichloroethane-d4	91	(61 - 128)
	92	(61 - 128)
Toluene-d8	98	(76 - 110)
	98	(76 - 110)
4-Bromofluorobenzene	98	(74 - 116)
	101	(74 - 116)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters



STL

END OF REPORT



STL

REC'D CRA
AUG 19 2004
G-20

STL North Canton
4101 Shuffel Drive NW
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772
www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. 17360-09

GM-GRAND RAPIDS

Lot #: A4G270183

ORIGINAL ANALYTICAL REPORT

Project#: 17360-09 Lab#: A4G270183

Name: GM GR

Paul Wiseman

Conestoga Rovers & Assoc., Inc
14496 Sheldon Rd Suite 200
Plymouth, MI 48170

Description

Event: Quarterly GW

Samples: 8 water

Analysis: TOL VOC

TAT: 2 day

Lab: STL

Checked Against Preliminary Data:

SEVERN TRENT LABORATORIES, INC. Date: — Init.: KAK

Date of Validation Memo: 10/24/04

Invoice Approval Date:

Comments:

for: Rebecca Stunt
Amy L. McCormick
Project Manager

August 17, 2004

CRA

CONESTOGA-ROVERS & ASSOCIATES, INC.

14496 Sheldon Road, Suite 200
Plymouth, MI 48170 • (734) 453-5123

CHAIN OF CUSTODY RECORD

SAMPLER'S SIGNATURE: *[Signature]* PRINTED NAME: David C Rivers

SHIPPED TO (Laboratory Name): STL - North Canton

REFERENCE NUMBER: 17360-09

PROJECT NAME: Gm - Grand Rapids

PARAMETERS: TLC VOCs

CONTAINERS: 1 ML

SEQ. No.	DATE	TIME	SAMPLE TYPE	NO OF CONTAINERS	PARAMETERS	REMARKS
1	7/26/09	1030	H ₂ O	3	X	
2		1120		3	X	
3		1215		3	X	
4		1315		9	X	ms/pasd
5		1445		3	X	
6		1645		3	X	
7		1750		3	X	
8		-		1	X	

TOTAL NUMBER OF CONTAINERS 28

CRA Contact
Paul Wiseman

RELINQUISHED BY: *[Signature]* DATE: 7-26-09 TIME: 1930

RECEIVED BY: _____ DATE: _____ TIME: _____

RELINQUISHED BY: _____ DATE: _____ TIME: _____

RECEIVED BY: _____ DATE: _____ TIME: _____

RELINQUISHED BY: _____ DATE: _____ TIME: _____

RECEIVED BY: _____ DATE: _____ TIME: _____

METHOD OF SHIPMENT: FED EX AIR BILL No. 839355888875

White - Fully Executed Copy
Yellow - Receiving Laboratory Copy

SAMPLE TEAM: David Rivers

RECEIVED FOR LABORATORY BY: [Signature]

DATE: 7/27/09 TIME: 9:45

25941



CASE NARRATIVE

CASE NARRATIVE

A4G270183

The following report contains the analytical results for eight water samples submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the GM-Grand Rapids Site, project number 17360-09. The samples were received July 27, 2004, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to the Chemistry Department on July 29, 2004. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 4.5°C.

CASE NARRATIVE (continued)

GC/MS VOLATILES

The sample(s) that contained concentrations of target analyte(s) at a reportable level in the associated Method Blank(s) were flagged with "B". All target analytes in the Method Blank must be below the reporting limit (RL) or the associated sample(s) must be ND with the exception of common laboratory contaminants.

The sample(s) that contain results between the MDL and the RL were flagged with "J". There is a possibility of false positive or mis-identification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation was performed only down to the standard reporting limit (SRL). The acceptance criteria for QC samples may not be met at these quantitation levels.

The pH of the sample GW-17360-072604-DCR-164 was greater than 2. The sample(s) was analyzed within the normal 14 day holding time; however, experimental evidence suggests that some aromatic compounds in wastewater samples, notably Benzene, Toluene, and Ethylbenzene are susceptible to biological degradation if samples are not preserved to a pH of 2.

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

Volatile (GC or GC/MS)

Methylene chloride
Acetone
2-Butanone

Semivolatile (GC/MS)

Phthalate Esters

Metals

Copper
Iron
Zinc
Lead*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepiped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be reprepiped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

STL North Canton Certifications and Approvals:

Alabama (#41170), California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#100439), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Ohio (#6090), OhioVAP (#CLO024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



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***EXECUTIVE
SUMMARY***

EXECUTIVE SUMMARY - Detection Highlights

A4G270183

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
GW-17360-072604-DCR-163 07/26/04 10:30 001				
Acetone	1.5 J	25	ug/L	SW846 8260B
Benzene	0.49 J	1.0	ug/L	SW846 8260B
2-Butanone	0.78 J	25	ug/L	SW846 8260B
Carbon disulfide	1.3 J	5.0	ug/L	SW846 8260B
Cyclohexane	0.39 J	1.0	ug/L	SW846 8260B
Ethylbenzene	0.36 J	1.0	ug/L	SW846 8260B
Isopropylbenzene	0.46 J, B	5.0	ug/L	SW846 8260B
Methylcyclohexane	0.50 J	1.0	ug/L	SW846 8260B
Toluene	1.1	1.0	ug/L	SW846 8260B
GW-17360-072604-DCR-164 07/26/04 11:20 002				
Acetone	6.9 J	25	ug/L	SW846 8260B
Benzene	0.57 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	1.3	1.0	ug/L	SW846 8260B
2-Butanone	2.1 J	25	ug/L	SW846 8260B
Chloroform	4.2	1.0	ug/L	SW846 8260B
Cyclohexane	0.43 J	1.0	ug/L	SW846 8260B
Dibromochloromethane	0.53 J	1.0	ug/L	SW846 8260B
Ethylbenzene	0.44 J	1.0	ug/L	SW846 8260B
Isopropylbenzene	0.46 J, B	5.0	ug/L	SW846 8260B
Methylcyclohexane	0.53 J	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	1.5 J	50	ug/L	SW846 8260B
Toluene	4.6	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	0.45 J	1.0	ug/L	SW846 8260B
Trichloroethene	0.53 J	1.0	ug/L	SW846 8260B
Xylenes (total)	0.85 J	3.0	ug/L	SW846 8260B
GW-17360-072604-DCR-165 07/26/04 12:15 003				
Benzene	0.45 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	0.20 J	1.0	ug/L	SW846 8260B
2-Butanone	0.41 J	25	ug/L	SW846 8260B
Chloroform	1.2	1.0	ug/L	SW846 8260B
Chloromethane	0.16 J	1.0	ug/L	SW846 8260B
Cyclohexane	0.30 J	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	0.46 J	1.0	ug/L	SW846 8260B
Ethylbenzene	0.28 J	1.0	ug/L	SW846 8260B
Isopropylbenzene	0.46 J, B	5.0	ug/L	SW846 8260B
Methylcyclohexane	0.57 J	1.0	ug/L	SW846 8260B
Toluene	1.3	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	5.4	1.0	ug/L	SW846 8260B
Trichloroethene	11	1.0	ug/L	SW846 8260B

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

A4G270183

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
GW-17360-072604-DCR-166 07/26/04 13:15 004				
Bromodichloromethane	0.23 J	1.0	ug/L	SW846 8260B
Chloroform	1.4	1.0	ug/L	SW846 8260B
Toluene	0.23 J	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	2.7	1.0	ug/L	SW846 8260B
Trichloroethene	0.90 J	1.0	ug/L	SW846 8260B
GW-17360-072604-DCR-167 07/26/04 14:45 005				
Acetone	0.94 J	25	ug/L	SW846 8260B
Benzene	0.31 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	1.0	1.0	ug/L	SW846 8260B
2-Butanone	0.62 J	25	ug/L	SW846 8260B
Chloroform	2.7	1.0	ug/L	SW846 8260B
Cyclohexane	0.18 J	1.0	ug/L	SW846 8260B
Dibromochloromethane	0.39 J	1.0	ug/L	SW846 8260B
Isopropylbenzene	0.46 J,B	5.0	ug/L	SW846 8260B
Toluene	3.8	1.0	ug/L	SW846 8260B
1,2,4-Trichloro- benzene	0.91 J,B	5.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	0.96 J	1.0	ug/L	SW846 8260B
Trichloroethene	0.86 J	1.0	ug/L	SW846 8260B
GW-17360-072604-DCR-168 07/26/04 16:45 006				
Acetone	0.90 J	25	ug/L	SW846 8260B
Benzene	0.28 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	0.76 J	1.0	ug/L	SW846 8260B
2-Butanone	0.58 J	25	ug/L	SW846 8260B
Chloroform	3.2	1.0	ug/L	SW846 8260B
Chloromethane	0.14 J	1.0	ug/L	SW846 8260B
Cyclohexane	0.14 J	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	0.35 J	50	ug/L	SW846 8260B
Toluene	3.8	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	1.0	1.0	ug/L	SW846 8260B
Trichloroethene	0.73 J	1.0	ug/L	SW846 8260B
GW-17360-072604-DCR-169 07/26/04 17:50 007				
Acetone	1.5 J	25	ug/L	SW846 8260B
Benzene	0.31 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	0.69 J	1.0	ug/L	SW846 8260B
2-Butanone	0.77 J	25	ug/L	SW846 8260B
Chloroform	4.3	1.0	ug/L	SW846 8260B

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

A4G270183

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
GW-17360-072604-DCR-169 07/26/04 17:50 007				
Cyclohexane	0.18 J	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	0.39 J	50	ug/L	SW846 8260B
Toluene	4.4	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	0.68 J	1.0	ug/L	SW846 8260B
Trichloroethene	0.79 J	1.0	ug/L	SW846 8260B
GW-17360-072604-DCR-170 07/26/04 008				
Acetone	1.5 J	25	ug/L	SW846 8260B
2-Butanone	1.4 J	25	ug/L	SW846 8260B
Carbon disulfide	0.48 J	5.0	ug/L	SW846 8260B
1,1-Dichloroethene	0.64 J	1.0	ug/L	SW846 8260B
Toluene	0.21 J	1.0	ug/L	SW846 8260B

METHOD SUMMARY

ANALYTICAL METHODS SUMMARY

A4G270183

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Volatile Organics by GC/MS	SW846 8260B

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

SAMPLE SUMMARY

A4G270183

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
GLW82	001	GW-17360-072604-DCR-163	07/26/04	10:30
GLW84	002	GW-17360-072604-DCR-164	07/26/04	11:20
GLW85	003	GW-17360-072604-DCR-165	07/26/04	12:15
GLW86	004	GW-17360-072604-DCR-166	07/26/04	13:15
GLW88	005	GW-17360-072604-DCR-167	07/26/04	14:45
GLW89	006	GW-17360-072604-DCR-168	07/26/04	16:45
GLW9A	007	GW-17360-072604-DCR-169	07/26/04	17:50
GLW9C	008	GW-17360-072604-DCR-170	07/26/04	

NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.



STL

***SHIPPING
AND
RECEIVING DOCUMENTS***

CRA

CONESTOGA-ROVERS & ASSOCIATES, INC.
14496 Sheldon Road, Suite 200
Plymouth, MI 48170 • (734) 453-5123

CHAIN OF CUSTODY RECORD

SAMPLER'S SIGNATURE: *[Signature]* PRINTED NAME: David C Rivers

SEQ. No.	DATE	TIME	CONTAINERS	SAMPLE TYPE	REMARKS
1	7/26/94	1030	3	H2O	
2	7/26/94	1128	3		
3	7/26/94	1215	3		
4	7/26/94	1305	9		
5	7/26/94	1445	3		
6	7/26/94	1645	3		
7	7/26/94	1750	3		
8			1		

PROJECT NAME: GM - Grand Rapids
 REFERENCE NUMBER: 17360-09
 SHIPPED TO (Laboratory Name): STZ - North Canton
 TOTAL NUMBER OF CONTAINERS: 28

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
1. <i>[Signature]</i>	7-26-94	1930	1.		
2.			2.		
3.			1.		

METHOD OF SHIPMENT: FED EX
 AIR BILL No. 839 355 88 8875
 RECEIVED FOR LABORATORY BY: *[Signature]*
 DATE: 7/27/94 TIME: 9:45
 SAMPLE TEAM: David Rivers
 25941

RSR280
 Client: 57787
 Lot #: AAG270183
 Case Number/SDG: 17360-09
 Storage Location: MS

Severn Trent Laboratories, Inc.
 Sample Control Record

Laboratory Sample I.D.	Transferred By	Date	Entered	Removed	Reason	Date Returned
GLW82	STILLERJ	7/27/04	Yes		Storage	
GLW84	STILLERJ	7/27/04	Yes		Storage	
GLW85	STILLERJ	7/27/04	Yes		Storage	
GLW86	STILLERJ	7/27/04	Yes		Storage	
GLW88	STILLERJ	7/27/04	Yes		Storage	
GLW89	STILLERJ	7/27/04	Yes		Storage	
GLW9A	STILLERJ	7/27/04	Yes		Storage	
GLW9C	STILLERJ	7/27/04	Yes		Storage	

STL Cooler Receipt Form/Narrative
North Canton Facility

Lot Number: 446270183

Client: CBA
 Cooler Received on: 2/27/04

Project: G17-Liquid Rapids
 Opened on: 2/27/04

Quote#: _____
 by: [Signature]
 (Signature)

Fedx Client Drop Off UPS DHL FAS Other: _____

STL Cooler No# M-235 Foam Box Client Cooler Other _____

1. Were custody seals on the outside of the cooler? Yes No Intact? Yes No NA
 If YES, Quantity _____
 Were the custody seals signed and dated? Yes No NA
 2. Shipper's packing slip attached to this form? Yes No NA
 3. Did custody papers accompany the samples? Yes No Relinquished by client? Yes No
 4. Did you sign the custody papers in the appropriate place? Yes No
 5. Packing material used: Bubble Wrap Foam None Other: _____
 6. Cooler temperature upon receipt 4.5 °C (see back of form for multiple coolers/temp)
- METHOD: Temp Vial Coolant & Sample Against Bottles IR ICE/H₂O Slurry
 COOLANT: Wet Ice Blue Ice Dry Ice Water None
7. Did all bottles arrive in good condition (Unbroken)? Yes No
 8. Could all bottle labels and/or tags be reconciled with the COC? Yes No
 9. Were samples at the correct pH? (record below/on back) Yes No NA
 10. Were correct bottles used for the tests indicated? Yes No
 11. Were air bubbles >6 mm in any VOA vials? Yes No NA
 12. Sufficient quantity received to perform indicated analyses? Yes No
- Contacted PM _____ Date: _____ by: _____ via Voice Mail Verbal Other

Concerning: _____

1. CHAIN OF CUSTODY

The following discrepancies occurred:

2. SAMPLE CONDITION

- Sample(s) _____ were received after the recommended holding time had expired.
- Sample(s) _____ were received in a broken container.

3. SAMPLE PRESERVATION

- Sample(s) _____ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot #052804-HNO₃; Sulfuric Acid Lot # 011-504-H₂SO₄; Sodium Hydroxide Lot # -031804-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 112801-CH₃COO₂ZN/NaOH
- Sample(s) _____ were received with bubble > 6 mm in diameter (cc: PM)

4. Other (see below or back)

Client ID	pH	Date	Initials

GCMS VOLATILE DATA

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072604-DCR-163

GC/MS Volatiles

Lot-Sample #...: A4G270183-001 Work Order #...: GLW821AA Matrix.....: WG
 Date Sampled...: 07/26/04 10:30 Date Received...: 07/27/04
 Prep Date.....: 07/28/04 Analysis Date...: 07/28/04
 Prep Batch #...: 4210345
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	1.5 J	25	ug/L	0.74
Benzene	0.49 J	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	0.78 J	25	ug/L	0.39
Carbon disulfide	1.3 J	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.39 J	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	0.36 J	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	0.46 J,B	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	0.50 J	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072604-DCR-163

GC/MS Volatiles

Lot-Sample #...: A4G270183-001 Work Order #...: GLW821AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	1.1	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	96	(73 - 122)
1,2-Dichloroethane-d4	92	(61 - 128)
Toluene-d8	88	(76 - 110)
4-Bromofluorobenzene	80	(74 - 116)

NOTE(S) :

- J Estimated result. Result is less than RL.
- B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072604-DCR-164

GC/MS Volatiles

Lot-Sample #....: A4G270183-002 Work Order #....: GLW841AA Matrix.....: WG
 Date Sampled....: 07/26/04 11:20 Date Received...: 07/27/04
 Prep Date.....: 07/28/04 Analysis Date...: 07/28/04
 Prep Batch #....: 4210345
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	6.9 J	25	ug/L	0.74
Benzene	0.57 J	1.0	ug/L	0.22
Bromodichloromethane	1.3	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	2.1 J	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	4.2	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.43 J	1.0	ug/L	0.12
Dibromochloromethane	0.53 J	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	0.44 J	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	0.46 J,B	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	0.53 J	1.0	ug/L	0.50
4-Methyl-2-pentanone	1.5 J	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072604-DCR-164

GC/MS Volatiles

Lot-Sample #...: A4G270183-002 Work Order #...: GLW841AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	4.6	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	0.45 J	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	0.53 J	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	0.85 J	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	99	(73 - 122)
1,2-Dichloroethane-d4	93	(61 - 128)
Toluene-d8	88	(76 - 110)
4-Bromofluorobenzene	82	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072604-DCR-165

GC/MS Volatiles

Lot-Sample #...: A4G270183-003 Work Order #...: GLW851AA Matrix.....: WG
 Date Sampled...: 07/26/04 12:15 Date Received...: 07/27/04
 Prep Date.....: 07/28/04 Analysis Date...: 07/28/04
 Prep Batch #...: 4210345
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	ND	25	ug/L	0.74
Benzene	0.45 J	1.0	ug/L	0.22
Bromodichloromethane	0.20 J	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	0.41 J	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	1.2	1.0	ug/L	0.16
Chloromethane	0.16 J	1.0	ug/L	0.14
Cyclohexane	0.30 J	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	0.46 J	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	0.28 J	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	0.46 J,B	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	0.57 J	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072604-DCR-165

GC/MS Volatiles

Lot-Sample #...: A4G270183-003 Work Order #...: GLW851AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	1.3	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	5.4	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	11	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	97	(73 - 122)
1,2-Dichloroethane-d4	94	(61 - 128)
Toluene-d8	89	(76 - 110)
4-Bromofluorobenzene	79	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072604-DCR-166

GC/MS Volatiles

Lot-Sample #...: A4G270183-004 Work Order #...: GLW861AA Matrix.....: WG
 Date Sampled...: 07/26/04 13:15 Date Received...: 07/27/04
 Prep Date.....: 07/28/04 Analysis Date...: 07/28/04
 Prep Batch #...: 4210345
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	ND	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	0.23 J	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	1.4	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072604-DCR-166

GC/MS Volatiles

Lot-Sample #...: A4G270183-004 Work Order #...: GLW861AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	0.23 J	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	2.7	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	0.90 J	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	102	(73 - 122)
1,2-Dichloroethane-d4	95	(61 - 128)
Toluene-d8	87	(76 - 110)
4-Bromofluorobenzene	79	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072604-DCR-167

GC/MS Volatiles

Lot-Sample #...: A4G270183-005 Work Order #...: GLW881AA Matrix.....: WG
 Date Sampled...: 07/26/04 14:45 Date Received...: 07/27/04
 Prep Date.....: 07/28/04 Analysis Date...: 07/28/04
 Prep Batch #...: 4210345
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	0.94 J	25	ug/L	0.74
Benzene	0.31 J	1.0	ug/L	0.22
Bromodichloromethane	1.0	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	0.62 J	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	2.7	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.18 J	1.0	ug/L	0.12
Dibromochloromethane	0.39 J	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	0.46 J,B	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072604-DCR-167

GC/MS Volatiles

Lot-Sample #...: A4G270183-005 Work Order #...: GLW881AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	3.8	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	0.91 J,B	5.0	ug/L	0.19
1,1,1-Trichloroethane	0.96 J	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	0.86 J	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	98	(73 - 122)
1,2-Dichloroethane-d4	94	(61 - 128)
Toluene-d8	87	(76 - 110)
4-Bromofluorobenzene	80	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072604-DCR-168

GC/MS Volatiles

Lot-Sample #...: A4G270183-006 Work Order #...: GLW891AA Matrix.....: WG
 Date Sampled...: 07/26/04 16:45 Date Received...: 07/27/04
 Prep Date.....: 07/28/04 Analysis Date...: 07/28/04
 Prep Batch #...: 4210345
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	0.90 J	25	ug/L	0.74
Benzene	0.28 J	1.0	ug/L	0.22
Bromodichloromethane	0.76 J	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	0.58 J	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	3.2	1.0	ug/L	0.16
Chloromethane	0.14 J	1.0	ug/L	0.14
Cyclohexane	0.14 J	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	0.35 J	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072604-DCR-168

GC/MS Volatiles

Lot-Sample #...: A4G270183-006 Work Order #...: GLW891AA Matrix.....: WG

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	3.8	1.0	ug/L	0.17
1,2,4-Trichloro-benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	1.0	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	0.73 J	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	97	(73 - 122)
1,2-Dichloroethane-d4	94	(61 - 128)
Toluene-d8	88	(76 - 110)
4-Bromofluorobenzene	79	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072604-DCR-169

GC/MS Volatiles

Lot-Sample #...: A4G270183-007 Work Order #...: GLW9A1AA Matrix.....: WG
 Date Sampled...: 07/26/04 17:50 Date Received...: 07/27/04
 Prep Date.....: 07/28/04 Analysis Date...: 07/28/04
 Prep Batch #...: 4210345
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	1.5 J	25	ug/L	0.74
Benzene	0.31 J	1.0	ug/L	0.22
Bromodichloromethane	0.69 J	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	0.77 J	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	4.3	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.18 J	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	0.39 J	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072604-DCR-169

GC/MS Volatiles

Lot-Sample #...: A4G270183-007 Work Order #...: GLW9A1AA Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	4.4	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	0.68 J	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	0.79 J	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	99	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
Toluene-d8	87	(76 - 110)
4-Bromofluorobenzene	80	(74 - 116)

NOTE (S):

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072604-DCR-170

GC/MS Volatiles

Lot-Sample #....: A4G270183-008 Work Order #....: GLW9C1AA Matrix.....: WG
 Date Sampled....: 07/26/04 Date Received...: 07/27/04
 Prep Date.....: 07/28/04 Analysis Date...: 07/28/04
 Prep Batch #....: 4210345
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	1.5 J	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	1.4 J	25	ug/L	0.39
Carbon disulfide	0.48 J	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	0.64 J	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072604-DCR-170

GC/MS Volatiles

Lot-Sample #...: A4G270183-008 Work Order #...: GLW9C1AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	0.21 J	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	99	(73 - 122)
1,2-Dichloroethane-d4	99	(61 - 128)
Toluene-d8	87	(76 - 110)
4-Bromofluorobenzene	78	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G270183
 MB Lot-Sample #: A4G280000-345

Work Order #...: GL1901AA

Matrix.....: WATER

Analysis Date...: 07/28/04
 Dilution Factor: 1

Prep Date.....: 07/28/04

Final Wgt/Vol...: 5 mL

Prep Batch #...: 4210345

Initial Wgt/Vol: 5 mL

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Acetone	ND	25	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	1.0	ug/L	SW846 8260B
2-Butanone	ND	25	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	1.0	ug/L	SW846 8260B
Cyclohexane	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromoethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
Dichlorodifluoromethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
2-Hexanone	ND	50	ug/L	SW846 8260B
Isopropylbenzene	0.44 J	5.0	ug/L	SW846 8260B
Methyl acetate	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
Methylcyclohexane	ND	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	50	ug/L	SW846 8260B
Methyl tert-butyl ether	ND	5.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G270183

Work Order #...: GL1901AA

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
1,2,4-Trichloro- benzene	0.92 J	5.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	3.0	ug/L	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	94	(73 - 122)
1,2-Dichloroethane-d4	90	(61 - 128)
Toluene-d8	86	(76 - 110)
4-Bromofluorobenzene	77	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #....: A4G270183 Work Order #....: GL1901AC-LCS Matrix.....: WATER
 LCS Lot-Sample#: A4G280000-345 GL1901AD-LCSD
 Prep Date.....: 07/28/04 Analysis Date...: 07/28/04
 Prep Batch #....: 4210345
 Dilution Factor: 1 Final Wgt/Vol...: 5 mL
 Initial Wgt/Vol: 5 mL

<u>PARAMETER</u>	<u>SPIKE AMOUNT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCENT RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>
Benzene	10	9.8	ug/L	98		SW846 8260B
	10	9.9	ug/L	99	0.76	SW846 8260B
Chlorobenzene	10	9.7	ug/L	97		SW846 8260B
	10	10	ug/L	101	3.2	SW846 8260B
1,1-Dichloroethene	10	10	ug/L	104		SW846 8260B
	10	11	ug/L	106	2.2	SW846 8260B
Toluene	10	10	ug/L	103		SW846 8260B
	10	10	ug/L	104	1.2	SW846 8260B
Trichloroethene	10	10	ug/L	101		SW846 8260B
	10	10	ug/L	100	1.5	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	92	(73 - 122)
	86	(73 - 122)
1,2-Dichloroethane-d4	87	(61 - 128)
	86	(61 - 128)
Toluene-d8	92	(76 - 110)
	93	(76 - 110)
4-Bromofluorobenzene	97	(74 - 116)
	96	(74 - 116)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A4G270183 Work Order #...: GL1901AC-LCS Matrix.....: WATER
 LCS Lot-Sample#: A4G280000-345 GL1901AD-LCSD
 Prep Date.....: 07/28/04 Analysis Date...: 07/28/04
 Prep Batch #...: 4210345
 Dilution Factor: 1 Final Wgt/Vol...: 5 mL
 Initial Wgt/Vol: 5 mL

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	98	(80 - 116)			SW846 8260B
	99	(80 - 116)	0.76	(0-20)	SW846 8260B
Chlorobenzene	97	(76 - 117)			SW846 8260B
	101	(76 - 117)	3.2	(0-20)	SW846 8260B
1,1-Dichloroethene	104	(63 - 130)			SW846 8260B
	106	(63 - 130)	2.2	(0-20)	SW846 8260B
Toluene	103	(74 - 119)			SW846 8260B
	104	(74 - 119)	1.2	(0-20)	SW846 8260B
Trichloroethene	101	(75 - 122)			SW846 8260B
	100	(75 - 122)	1.5	(0-20)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	92	(73 - 122)
	86	(73 - 122)
1,2-Dichloroethane-d4	87	(61 - 128)
	86	(61 - 128)
Toluene-d8	92	(76 - 110)
	93	(76 - 110)
4-Bromofluorobenzene	97	(74 - 116)
	96	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: A4G270183 Work Order #...: GLW861AC-MS Matrix.....: WG
 MS Lot-Sample #: A4G270183-004 GLW861AD-MSD
 Date Sampled...: 07/26/04 13:15 Date Received...: 07/27/04
 Prep Date.....: 07/28/04 Analysis Date...: 07/28/04
 Prep Batch #...: 4210345
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

PARAMETER	SAMPLE	SPIKE	MEASRD	UNITS	PERCNT		METHOD
	AMOUNT	AMT	AMOUNT		RECVRY	RPD	
Benzene	ND	10	9.5	ug/L	95		SW846 8260B
	ND	10	9.5	ug/L	95	0.64	SW846 8260B
Chlorobenzene	ND	10	9.5	ug/L	95		SW846 8260B
	ND	10	9.5	ug/L	95	0.49	SW846 8260B
1,1-Dichloroethene	ND	10	11	ug/L	105		SW846 8260B
	ND	10	11	ug/L	105	0.06	SW846 8260B
Toluene	0.23	10	10	ug/L	98		SW846 8260B
	0.23	10	10	ug/L	100	1.4	SW846 8260B
Trichloroethene	0.90	10	10	ug/L	95		SW846 8260B
	0.90	10	11	ug/L	97	2.2	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	95	(73 - 122)
	94	(73 - 122)
1,2-Dichloroethane-d4	88	(61 - 128)
	87	(61 - 128)
Toluene-d8	94	(76 - 110)
	93	(76 - 110)
4-Bromofluorobenzene	97	(74 - 116)
	97	(74 - 116)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #....: A4G270183 Work Order #....: GLW861AC-MS Matrix.....: WG
 MS Lot-Sample #: A4G270183-004 GLW861AD-MSD
 Date Sampled...: 07/26/04 13:15 Date Received...: 07/27/04
 Prep Date.....: 07/28/04 Analysis Date...: 07/28/04
 Prep Batch #....: 4210345
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	95	(78 - 118)			SW846 8260B
	95	(78 - 118)	0.64	(0-20)	SW846 8260B
Chlorobenzene	95	(76 - 117)			SW846 8260B
	95	(76 - 117)	0.49	(0-20)	SW846 8260B
1,1-Dichloroethene	105	(62 - 130)			SW846 8260B
	105	(62 - 130)	0.06	(0-20)	SW846 8260B
Toluene	98	(70 - 119)			SW846 8260B
	100	(70 - 119)	1.4	(0-20)	SW846 8260B
Trichloroethene	95	(62 - 130)			SW846 8260B
	97	(62 - 130)	2.2	(0-20)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	95	(73 - 122)
	94	(73 - 122)
1,2-Dichloroethane-d4	88	(61 - 128)
	87	(61 - 128)
Toluene-d8	94	(76 - 110)
	93	(76 - 110)
4-Bromofluorobenzene	97	(74 - 116)
	97	(74 - 116)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

END OF REPORT

REC'D CRA
AUG 19 2004
~~G-20~~
G-21

SEVERN
TRENT

STL

STL North Canton
4101 Shuffel Drive NW
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772
www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. 17360-09
GM GRAND RAPIDS
Lot #: A4G280151

Paul Wiseman

Conestoga Rovers & Assoc., Inc
14496 Sheldon Rd Suite 200
Plymouth, MI 48170

ORIGINAL ANALYTICAL REPORT

Project#: 17360-09 Lab#: A4G280151
Name: GM - GR

Description

Event: Quarterly GW

SEVERN TRENT LABORATORIES, INC. Samples: G water

Analysis: TU VOC

TAT: 2 DAY

Lab: STL

for: *Rebecca Stant*
Amy L. McCormick
Project Manager

Checked Against Preliminary Data:

Date: _____ Init.: KAK

Date of Validation Memo: 10/21/04

Invoice Approval Date: _____

Comments: _____

August 17, 2004

CRA

CONESTOGA-ROVERS & ASSOCIATES, INC.
 14496 Sheldon Road, Suite 200
 Plymouth, MI 48170 • (734) 453-5123

SHIPPED TO (Laboratory Name): *STZ - North Canton*

REFERENCE NUMBER:
17360-09

PROJECT NAME: *GM Grand Rapids*

CHAIN OF CUSTODY RECORD

SAMPLER'S SIGNATURE: *[Signature]* PRINTED NAME: *David C. Rivers*

SEQ. No.	DATE	TIME	SAMPLE TYPE	NO. OF CONTAINERS	PARAMETERS	REMARKS
1	7/27/04	845	H ₂ O	3	X	
2	1425			2	X	
3	1510			2	X	
4	1605			2	X	
5	1655			2	X	
6	1700			2	X	
7	1755			2	X	
8	-			1	X	

TOTAL NUMBER OF CONTAINERS

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
1. <i>[Signature]</i>	7-27-04	1900			
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
2.					
RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
3.					

METHOD OF SHIPMENT: *FedEx* AIR BILL No. *8393 5588 8864*

White	Fully Executed Copy	Pink	SHIPPER COPY
Yellow	-Receiving Laboratory Copy	Goldenrod	-Sampler Copy
SAMPLE TEAM: <i>David Rivers</i>			
RECEIVED FOR LABORATORY BY: <i>[Signature]</i>			
DATE: <i>7/28/04</i> TIME: <i>9:35</i>			

27159

CASE NARRATIVE

CASE NARRATIVE

A4G280151

The following report contains the analytical results for eight water samples submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the GM Grand Rapids Site, project number 17360-09. The samples were received July 28, 2004, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to the Chemistry Department on July 30, 2004. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 5.4°C.

CASE NARRATIVE (continued)

GC/MS VOLATILES

The sample(s) that contained concentrations of target analyte(s) at a reportable level in the associated Method Blank(s) were flagged with "B". All target analytes in the Method Blank must be below the reporting limit (RL) or the associated sample(s) must be ND with the exception of common laboratory contaminants.

The sample(s) that contain results between the MDL and the RL were flagged with "J". There is a possibility of false positive or mis-identification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation was performed only down to the standard reporting limit (SRL). The acceptance criteria for QC samples may not be met at these quantitation levels.

The pH of the sample GW-17360-072704-DCR-177 was greater than 2. The sample(s) was analyzed within the normal 14 day holding time; however, experimental evidence suggests that some aromatic compounds in wastewater samples, notably Benzene, Toluene, and Ethylbenzene are susceptible to biological degradation if samples are not preserved to a pH of 2.

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

Volatile (GC or GC/MS)

Methylene chloride
Acetone
2-Butanone

Semivolatile (GC/MS)

Phthalate Esters

Metals

Copper
Iron
Zinc
Lead*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the reparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.



STL North Canton Certifications and Approvals:

Alabama (#41170), California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#100439), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)

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STL

***EXECUTIVE
SUMMARY***

EXECUTIVE SUMMARY - Detection Highlights

A4G280151

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
GW-17360-072704-DCR-171 07/27/04 08:45 001				
Acetone	4.9 J,B	25	ug/L	SW846 8260B
Benzene	0.54 J	1.0	ug/L	SW846 8260B
2-Butanone	1.1 J	25	ug/L	SW846 8260B
Chloroform	3.8	1.0	ug/L	SW846 8260B
Ethylbenzene	0.28 J	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	0.43 J	50	ug/L	SW846 8260B
Toluene	4.1	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	0.51 J	1.0	ug/L	SW846 8260B
Trichloroethene	0.72 J	1.0	ug/L	SW846 8260B
GW-17360-072704-DCR-172 07/27/04 14:25 002				
Acetone	1.0 J,B	25	ug/L	SW846 8260B
Benzene	0.48 J	1.0	ug/L	SW846 8260B
Cyclohexane	0.36 J	1.0	ug/L	SW846 8260B
Ethylbenzene	0.25 J	1.0	ug/L	SW846 8260B
Toluene	1.0	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	0.73 J	1.0	ug/L	SW846 8260B
Trichloroethene	0.93 J	1.0	ug/L	SW846 8260B
GW-17360-072704-DCR-173 07/27/04 15:10 003				
cis-1,2-Dichloroethene	0.82 J	1.0	ug/L	SW846 8260B
Methyl tert-butyl ether	2.7 J	5.0	ug/L	SW846 8260B
Toluene	0.24 J	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	0.21 J	1.0	ug/L	SW846 8260B
Trichloroethene	4.5	1.0	ug/L	SW846 8260B
GW-17360-072704-DCR-174 07/27/04 16:05 004				
Acetone	2.0 J,B	50	ug/L	SW846 8260B
Benzene	0.45 J	2.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	57	2.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	4.9	2.0	ug/L	SW846 8260B
Methyl tert-butyl ether	2.3 J	10	ug/L	SW846 8260B
Toluene	0.92 J	2.0	ug/L	SW846 8260B
Trichloroethene	23	2.0	ug/L	SW846 8260B
GW-17360-072704-DCR-175 07/27/04 16:55 005				
Acetone	2.1 J,B	42	ug/L	SW846 8260B
Chloroform	0.42 J	1.7	ug/L	SW846 8260B
cis-1,2-Dichloroethene	38	1.7	ug/L	SW846 8260B

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

AAG280151

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
GW-17360-072704-DCR-175 07/27/04 16:55 005				
trans-1,2-Dichloroethene	4.4	1.7	ug/L	SW846 8260B
Methyl tert-butyl ether	1.9 J	8.4	ug/L	SW846 8260B
Tetrachloroethene	17	1.7	ug/L	SW846 8260B
Toluene	0.61 J	1.7	ug/L	SW846 8260B
Trichloroethene	34	1.7	ug/L	SW846 8260B
GW-17360-072704-DCR-176 07/27/04 17:00 006				
Acetone	2.5 J,B	42	ug/L	SW846 8260B
Chloroform	0.44 J	1.7	ug/L	SW846 8260B
cis-1,2-Dichloroethene	39	1.7	ug/L	SW846 8260B
trans-1,2-Dichloroethene	4.9	1.7	ug/L	SW846 8260B
Methyl tert-butyl ether	2.9 J	8.4	ug/L	SW846 8260B
Tetrachloroethene	15	1.7	ug/L	SW846 8260B
Toluene	0.59 J	1.7	ug/L	SW846 8260B
Trichloroethene	33	1.7	ug/L	SW846 8260B
GW-17360-072704-DCR-177 07/27/04 17:55 007				
Acetone	3.5 J,B	42	ug/L	SW846 8260B
Benzene	0.41 J	1.7	ug/L	SW846 8260B
Bromodichloromethane	0.36 J	1.7	ug/L	SW846 8260B
Chloroform	1.5 J	1.7	ug/L	SW846 8260B
cis-1,2-Dichloroethene	37	1.7	ug/L	SW846 8260B
trans-1,2-Dichloroethene	2.9	1.7	ug/L	SW846 8260B
Methyl tert-butyl ether	1.3 J	8.4	ug/L	SW846 8260B
Tetrachloroethene	15	1.7	ug/L	SW846 8260B
Toluene	1.8	1.7	ug/L	SW846 8260B
Trichloroethene	19	1.7	ug/L	SW846 8260B
GW-17360-072704-DCR-178 07/27/04 008				
Acetone	1.6 J,B	25	ug/L	SW846 8260B
Carbon disulfide	0.37 J	5.0	ug/L	SW846 8260B
Methylene chloride	0.80 J	5.0	ug/L	SW846 8260B



STL

METHOD SUMMARY

ANALYTICAL METHODS SUMMARY

A4G280151

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Volatile Organics by GC/MS	SW846 8260B

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.



SAMPLE SUMMARY

SAMPLE SUMMARY

A4G280151

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
GL1HT	001	GW-17360-072704-DCR-171	07/27/04	08:45
GL1H0	002	GW-17360-072704-DCR-172	07/27/04	14:25
GL1H1	003	GW-17360-072704-DCR-173	07/27/04	15:10
GL1H2	004	GW-17360-072704-DCR-174	07/27/04	16:05
GL1H3	005	GW-17360-072704-DCR-175	07/27/04	16:55
GL1H5	006	GW-17360-072704-DCR-176	07/27/04	17:00
GL1H7	007	GW-17360-072704-DCR-177	07/27/04	17:55
GL1H8	008	GW-17360-072704-DCR-178	07/27/04	

NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.



***SHIPPING
AND
RECEIVING DOCUMENTS***

CRA

CONESTOGA-ROVERS & ASSOCIATES, INC.

14496 Sheldon Road, Suite 200
Plymouth, MI 48170 • (734) 453-5123

SHIPPED TO (Laboratory Name): **STL - North Canton**

CHAIN OF CUSTODY RECORD

REFERENCE NUMBER:
17360-09

PROJECT NAME: **Gm Grand Rapids**

SAMPLERS SIGNATURE: *[Signature]* PRINTED NAME: **David C Rivers**

SEQ. NO.	DATE	TIME	SAMPLE TYPE	NO. OF CONTAINERS	PARAMETERS		REMARKS
					TOL	VOCs	
1	7/27/04	845	Gm-17360-072704-DCA-171	3	X	X	
2		1925		2	X	X	
3		1510		2	X	X	
4		1605		2	X	X	
5		1655		2	X	X	
6		1700		2	X	X	
7		1755		2	X	X	
8				1	X	X	

TOTAL NUMBER OF CONTAINERS

*CEA Contact
Paul Wiseman*

RELINQUISHED BY: 1. <i>[Signature]</i>	DATE: 7-27-04	RECEIVED BY: 1. _____	DATE: _____
RELINQUISHED BY: 2. _____	DATE: _____	RECEIVED BY: 2. _____	DATE: _____
RELINQUISHED BY: 3. _____	DATE: _____	RECEIVED BY: 3. _____	DATE: _____

METHOD OF SHIPMENT: **Fed Ex** AIR BILL NO. **8393 5588 8864**

White - Fully Executed Copy	Pink - Shopper Copy	SAMPLE TEAM: David Rivers	RECEIVED FOR LABORATORY BY: <i>[Signature]</i>
Yellow - Receiving Laboratory Copy	Goldentred - Sampler Copy		DATE: 7/28/04 TIME: 9:35

RSR280

Client:

Lot #:

Case Number/SDG:

Storage Location:

57787

A4G280151

17360-09

MS

Severn Trent Laboratories, Inc.
Sample Control Record

Laboratory Sample I.D.	Transferred By	Date	Entered	Removed	Reason	Date Returned
GL1H7	STILLERJ	7/28/04	Yes		Storage	
GL1H0	STILLERJ	7/28/04	Yes		Storage	
GL1H1	STILLERJ	7/28/04	Yes		Storage	
GL1H2	STILLERJ	7/28/04	Yes		Storage	
GL1H3	STILLERJ	7/28/04	Yes		Storage	
GL1H5	STILLERJ	7/28/04	Yes		Storage	
GL1H7	STILLERJ	7/28/04	Yes		Storage	
GL1H8	STILLERJ	7/28/04	Yes		Storage	

STL Cooler Receipt Form/Narrative

Lot Number: 496280151

North Canton Facility

Client: CRA

Project: GM Grand Rapids Quote#: _____

Cooler Received on: 7/28/07

Opened on: 7/28/07

by: [Signature]
(Signature)

Fedx Client Drop Off UPS DHL FAS Other: _____

STL Cooler No# _____ Foam Box Client Cooler Other _____

1. Were custody seals on the outside of the cooler? Yes No Intact? Yes No NA
If YES, Quantity _____
Were the custody seals signed and dated? Yes No NA
 2. Shipper's packing slip attached to this form? Yes No NA
 3. Did custody papers accompany the samples? Yes No NA
 4. Did you sign the custody papers in the appropriate place? Yes No NA
 5. Packing material used: Bubble Wrap Foam None Other: _____
 6. Cooler temperature upon receipt 5.4 °C (see back of form for multiple coolers/temp).
METHOD: Temp Vial Coolant & Sample Against Bottles IR ICE/H₂O Slurry
COOLANT: Wet Ice Blue Ice Dry Ice Water None
 7. Did all bottles arrive in good condition (Unbroken)? Yes No NA
 8. Could all bottle labels and/or tags be reconciled with the COC? Yes No NA
 9. Were samples at the correct pH? (record below/on back) Yes No NA
 10. Were correct bottles used for the tests indicated? Yes No NA
 11. Were air bubbles >6 mm in any VOA vials? Yes No NA
 12. Sufficient quantity received to perform indicated analyses? Yes No NA
- Contacted PM _____ Date: _____ by: _____ via Voice Mail Verbal Other
- Concerning: _____

1. CHAIN OF CUSTODY

The following discrepancies occurred:

2. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.

3. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot #052804-HNO₃; Sulfuric Acid Lot # 011-504-H₂SO₄; Sodium Hydroxide Lot # -031804-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 112801-CH₃COO₂ZN/NaOH
Sample(s) _____ were received with bubble > 6 mm in diameter (cc: PM)

4. Other (see below or back)

48 hr test OK per AIM 7/28/07

Client ID	pH	Date	Initials



STL

GCMS VOLATILE DATA

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072704-DCR-171

GC/MS Volatiles

Lot-Sample #....: A4G280151-001 Work Order #....: GL1HT1AA Matrix.....: WG
 Date Sampled....: 07/27/04 08:45 Date Received...: 07/28/04
 Prep Date.....: 07/29/04 Analysis Date...: 07/29/04
 Prep Batch #....: 4212184
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	4.9 J,B	25	ug/L	0.74
Benzene	0.54 J	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	1.1 J	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	3.8	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	0.28 J	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	0.43 J	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072704-DCR-171

GC/MS Volatiles

Lot-Sample #...: A4G280151-001 Work Order #...: GL1HT1AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	4.1	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	0.51 J	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	0.72 J	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	94	(73 - 122)
1,2-Dichloroethane-d4	92	(61 - 128)
Toluene-d8	98	(76 - 110)
4-Bromofluorobenzene	102	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072704-DCR-172

GC/MS Volatiles

Lot-Sample #....: A4G280151-002 Work Order #....: GL1H01AA Matrix.....: WG
 Date Sampled....: 07/27/04 14:25 Date Received...: 07/28/04
 Prep Date.....: 07/29/04 Analysis Date...: 07/29/04
 Prep Batch #....: 4212184
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	1.0 J,B	25	ug/L	0.74
Benzene	0.48 J	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.36 J	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	0.25 J	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072704-DCR-172

GC/MS Volatiles

Lot-Sample #...: A4G280151-002 Work Order #...: GL1H01AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	1.0	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	0.73 J	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	0.93 J	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	95	(73 - 122)
1,2-Dichloroethane-d4	91	(61 - 128)
Toluene-d8	99	(76 - 110)
4-Bromofluorobenzene	98	(74 - 116)

NOTE (S) :

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072704-DCR-173

GC/MS Volatiles

Lot-Sample #...: A4G280151-003 Work Order #...: GL1H11AA Matrix.....: WG
 Date Sampled...: 07/27/04 15:10 Date Received...: 07/28/04
 Prep Date.....: 07/29/04 Analysis Date...: 07/29/04
 Prep Batch #...: 4212184
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	ND	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	0.82 J	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	2.7 J	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072704-DCR-173

GC/MS Volatiles

Lot-Sample #...: A4G280151-003 Work Order #...: GL1H11AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	0.24 J	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	0.21 J	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	4.5	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	93	(73 - 122)
1,2-Dichloroethane-d4	95	(61 - 128)
Toluene-d8	99	(76 - 110)
4-Bromofluorobenzene	101	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072704-DCR-174

GC/MS Volatiles

Lot-Sample #...: A4G280151-004 Work Order #...: GL1H21AA Matrix.....: WG
 Date Sampled...: 07/27/04 16:05 Date Received...: 07/28/04
 Prep Date.....: 07/29/04 Analysis Date...: 07/29/04
 Prep Batch #...: 4212184
 Dilution Factor: 2 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	2.0 J,B	50	ug/L	1.5
Benzene	0.45 J	2.0	ug/L	0.44
Bromodichloromethane	ND	2.0	ug/L	0.28
Bromoform	ND	2.0	ug/L	0.34
Bromomethane	ND	2.0	ug/L	0.72
2-Butanone	ND	50	ug/L	0.78
Carbon disulfide	ND	10	ug/L	0.56
Carbon tetrachloride	ND	2.0	ug/L	0.38
Chlorobenzene	ND	2.0	ug/L	0.40
Chloroethane	ND	2.0	ug/L	0.48
Chloroform	ND	2.0	ug/L	0.32
Chloromethane	ND	2.0	ug/L	0.28
Cyclohexane	ND	2.0	ug/L	0.24
Dibromochloromethane	ND	2.0	ug/L	0.38
1,2-Dibromo-3-chloro- propane	ND	2.0	ug/L	0.56
1,2-Dibromoethane	ND	2.0	ug/L	0.48
1,2-Dichlorobenzene	ND	2.0	ug/L	0.40
1,3-Dichlorobenzene	ND	2.0	ug/L	0.36
1,4-Dichlorobenzene	ND	2.0	ug/L	0.44
Dichlorodifluoromethane	ND	2.0	ug/L	0.50
1,1-Dichloroethane	ND	2.0	ug/L	0.42
1,2-Dichloroethane	ND	2.0	ug/L	0.32
1,1-Dichloroethene	ND	2.0	ug/L	0.36
cis-1,2-Dichloroethene	57	2.0	ug/L	0.42
trans-1,2-Dichloroethene	4.9	2.0	ug/L	0.32
1,2-Dichloropropane	ND	2.0	ug/L	0.30
cis-1,3-Dichloropropene	ND	2.0	ug/L	0.24
trans-1,3-Dichloropropene	ND	2.0	ug/L	0.34
Ethylbenzene	ND	2.0	ug/L	0.38
2-Hexanone	ND	100	ug/L	0.70
Isopropylbenzene	ND	10	ug/L	0.30
Methyl acetate	ND	20	ug/L	1.0
Methylene chloride	ND	10	ug/L	0.38
Methylcyclohexane	ND	2.0	ug/L	1.0
4-Methyl-2-pentanone	ND	100	ug/L	0.64
Methyl tert-butyl ether	2.3 J	10	ug/L	0.36
Styrene	ND	2.0	ug/L	0.26

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072704-DCR-174

GC/MS Volatiles

Lot-Sample #...: A4G280151-004 Work Order #...: GL1H21AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	2.0	ug/L	0.44
Tetrachloroethene	ND	2.0	ug/L	0.38
Toluene	0.92 J	2.0	ug/L	0.34
1,2,4-Trichloro- benzene	ND	10	ug/L	0.38
1,1,1-Trichloroethane	ND	2.0	ug/L	0.42
1,1,2-Trichloroethane	ND	2.0	ug/L	0.44
Trichloroethene	23	2.0	ug/L	0.56
Trichlorofluoromethane	ND	2.0	ug/L	0.32
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	2.0	ug/L	0.52
Vinyl chloride	ND	2.0	ug/L	0.42
Xylenes (total)	ND	6.0	ug/L	0.88

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	99	(73 - 122)
1,2-Dichloroethane-d4	94	(61 - 128)
Toluene-d8	97	(76 - 110)
4-Bromofluorobenzene	98	(74 - 116)

NOTE (S) :

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072704-DCR-175

GC/MS Volatiles

Lot-Sample #...: A4G280151-005 Work Order #...: GL1H31AA Matrix.....: WG
 Date Sampled...: 07/27/04 16:55 Date Received...: 07/28/04
 Prep Date.....: 07/29/04 Analysis Date...: 07/29/04
 Prep Batch #...: 4212184
 Dilution Factor: 1.67 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	2.1 J,B	42	ug/L	1.2
Benzene	ND	1.7	ug/L	0.37
Bromodichloromethane	ND	1.7	ug/L	0.23
Bromoform	ND	1.7	ug/L	0.28
Bromomethane	ND	1.7	ug/L	0.60
2-Butanone	ND	42	ug/L	0.65
Carbon disulfide	ND	8.4	ug/L	0.47
Carbon tetrachloride	ND	1.7	ug/L	0.32
Chlorobenzene	ND	1.7	ug/L	0.33
Chloroethane	ND	1.7	ug/L	0.40
Chloroform	0.42 J	1.7	ug/L	0.27
Chloromethane	ND	1.7	ug/L	0.23
Cyclohexane	ND	1.7	ug/L	0.20
Dibromochloromethane	ND	1.7	ug/L	0.32
1,2-Dibromo-3-chloro- propane	ND	1.7	ug/L	0.47
1,2-Dibromoethane	ND	1.7	ug/L	0.40
1,2-Dichlorobenzene	ND	1.7	ug/L	0.33
1,3-Dichlorobenzene	ND	1.7	ug/L	0.30
1,4-Dichlorobenzene	ND	1.7	ug/L	0.37
Dichlorodifluoromethane	ND	1.7	ug/L	0.42
1,1-Dichloroethane	ND	1.7	ug/L	0.35
1,2-Dichloroethane	ND	1.7	ug/L	0.27
1,1-Dichloroethene	ND	1.7	ug/L	0.30
cis-1,2-Dichloroethene	38	1.7	ug/L	0.35
trans-1,2-Dichloroethene	4.4	1.7	ug/L	0.27
1,2-Dichloropropane	ND	1.7	ug/L	0.25
cis-1,3-Dichloropropene	ND	1.7	ug/L	0.20
trans-1,3-Dichloropropene	ND	1.7	ug/L	0.28
Ethylbenzene	ND	1.7	ug/L	0.32
2-Hexanone	ND	84	ug/L	0.58
Isopropylbenzene	ND	8.4	ug/L	0.25
Methyl acetate	ND	17	ug/L	0.87
Methylene chloride	ND	8.4	ug/L	0.32
Methylcyclohexane	ND	1.7	ug/L	0.84
4-Methyl-2-pentanone	ND	84	ug/L	0.53
Methyl tert-butyl ether	1.9 J	8.4	ug/L	0.30
Styrene	ND	1.7	ug/L	0.22

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072704-DCR-175

GC/MS Volatiles

Lot-Sample #...: A4G280151-005 Work Order #...: GL1H31AA Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.7	ug/L	0.37
Tetrachloroethene	17	1.7	ug/L	0.32
Toluene	0.61 J	1.7	ug/L	0.28
1,2,4-Trichloro- benzene	ND	8.4	ug/L	0.32
1,1,1-Trichloroethane	ND	1.7	ug/L	0.35
1,1,2-Trichloroethane	ND	1.7	ug/L	0.37
Trichloroethene	34	1.7	ug/L	0.47
Trichlorofluoromethane	ND	1.7	ug/L	0.27
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.7	ug/L	0.43
Vinyl chloride	ND	1.7	ug/L	0.35
Xylenes (total)	ND	5.0	ug/L	0.73

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	91	(73 - 122)
1,2-Dichloroethane-d4	90	(61 - 128)
Toluene-d8	97	(76 - 110)
4-Bromofluorobenzene	100	(74 - 116)

NOTE (S) :

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072704-DCR-176

GC/MS Volatiles

Lot-Sample #...: A4G280151-006 Work Order #...: GL1H51AA Matrix.....: WG
 Date Sampled...: 07/27/04 17:00 Date Received...: 07/28/04
 Prep Date.....: 07/29/04 Analysis Date...: 07/29/04
 Prep Batch #...: 4212184
 Dilution Factor: 1.67 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	2.5 J,B	42	ug/L	1.2
Benzene	ND	1.7	ug/L	0.37
Bromodichloromethane	ND	1.7	ug/L	0.23
Bromoform	ND	1.7	ug/L	0.28
Bromomethane	ND	1.7	ug/L	0.60
2-Butanone	ND	42	ug/L	0.65
Carbon disulfide	ND	8.4	ug/L	0.47
Carbon tetrachloride	ND	1.7	ug/L	0.32
Chlorobenzene	ND	1.7	ug/L	0.33
Chloroethane	ND	1.7	ug/L	0.40
Chloroform	0.44 J	1.7	ug/L	0.27
Chloromethane	ND	1.7	ug/L	0.23
Cyclohexane	ND	1.7	ug/L	0.20
Dibromochloromethane	ND	1.7	ug/L	0.32
1,2-Dibromo-3-chloro- propane	ND	1.7	ug/L	0.47
1,2-Dibromoethane	ND	1.7	ug/L	0.40
1,2-Dichlorobenzene	ND	1.7	ug/L	0.33
1,3-Dichlorobenzene	ND	1.7	ug/L	0.30
1,4-Dichlorobenzene	ND	1.7	ug/L	0.37
Dichlorodifluoromethane	ND	1.7	ug/L	0.42
1,1-Dichloroethane	ND	1.7	ug/L	0.35
1,2-Dichloroethane	ND	1.7	ug/L	0.27
1,1-Dichloroethene	ND	1.7	ug/L	0.30
cis-1,2-Dichloroethene	39	1.7	ug/L	0.35
trans-1,2-Dichloroethene	4.9	1.7	ug/L	0.27
1,2-Dichloropropane	ND	1.7	ug/L	0.25
cis-1,3-Dichloropropene	ND	1.7	ug/L	0.20
trans-1,3-Dichloropropene	ND	1.7	ug/L	0.28
Ethylbenzene	ND	1.7	ug/L	0.32
2-Hexanone	ND	84	ug/L	0.58
Isopropylbenzene	ND	8.4	ug/L	0.25
Methyl acetate	ND	17	ug/L	0.87
Methylene chloride	ND	8.4	ug/L	0.32
Methylcyclohexane	ND	1.7	ug/L	0.84
4-Methyl-2-pentanone	ND	84	ug/L	0.53
Methyl tert-butyl ether	2.9 J	8.4	ug/L	0.30
Styrene	ND	1.7	ug/L	0.22

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072704-DCR-176

GC/MS Volatiles

Lot-Sample #...: A4G280151-006 Work Order #...: GL1H51AA Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.7	ug/L	0.37
Tetrachloroethene	15	1.7	ug/L	0.32
Toluene	0.59 J	1.7	ug/L	0.28
1,2,4-Trichloro- benzene	ND	8.4	ug/L	0.32
1,1,1-Trichloroethane	ND	1.7	ug/L	0.35
1,1,2-Trichloroethane	ND	1.7	ug/L	0.37
Trichloroethene	33	1.7	ug/L	0.47
Trichlorofluoromethane	ND	1.7	ug/L	0.27
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.7	ug/L	0.43
Vinyl chloride	ND	1.7	ug/L	0.35
Xylenes (total)	ND	5.0	ug/L	0.73

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	97	(73 - 122)
1,2-Dichloroethane-d4	94	(61 - 128)
Toluene-d8	95	(76 - 110)
4-Bromofluorobenzene	96	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072704-DCR-177

GC/MS Volatiles

Lot-Sample #...: A4G280151-007 Work Order #...: GL1H71AA Matrix.....: WG
 Date Sampled...: 07/27/04 17:55 Date Received...: 07/28/04
 Prep Date.....: 07/29/04 Analysis Date...: 07/29/04
 Prep Batch #...: 4212184
 Dilution Factor: 1.67 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	3.5 J,B	42	ug/L	1.2
Benzene	0.41 J	1.7	ug/L	0.37
Bromodichloromethane	0.36 J	1.7	ug/L	0.23
Bromoform	ND	1.7	ug/L	0.28
Bromomethane	ND	1.7	ug/L	0.60
2-Butanone	ND	42	ug/L	0.65
Carbon disulfide	ND	8.4	ug/L	0.47
Carbon tetrachloride	ND	1.7	ug/L	0.32
Chlorobenzene	ND	1.7	ug/L	0.33
Chloroethane	ND	1.7	ug/L	0.40
Chloroform	1.5 J	1.7	ug/L	0.27
Chloromethane	ND	1.7	ug/L	0.23
Cyclohexane	ND	1.7	ug/L	0.20
Dibromochloromethane	ND	1.7	ug/L	0.32
1,2-Dibromo-3-chloro- propane	ND	1.7	ug/L	0.47
1,2-Dibromoethane	ND	1.7	ug/L	0.40
1,2-Dichlorobenzene	ND	1.7	ug/L	0.33
1,3-Dichlorobenzene	ND	1.7	ug/L	0.30
1,4-Dichlorobenzene	ND	1.7	ug/L	0.37
Dichlorodifluoromethane	ND	1.7	ug/L	0.42
1,1-Dichloroethane	ND	1.7	ug/L	0.35
1,2-Dichloroethane	ND	1.7	ug/L	0.27
1,1-Dichloroethene	ND	1.7	ug/L	0.30
cis-1,2-Dichloroethene	37	1.7	ug/L	0.35
trans-1,2-Dichloroethene	2.9	1.7	ug/L	0.27
1,2-Dichloropropane	ND	1.7	ug/L	0.25
cis-1,3-Dichloropropene	ND	1.7	ug/L	0.20
trans-1,3-Dichloropropene	ND	1.7	ug/L	0.28
Ethylbenzene	ND	1.7	ug/L	0.32
2-Hexanone	ND	84	ug/L	0.58
Isopropylbenzene	ND	8.4	ug/L	0.25
Methyl acetate	ND	17	ug/L	0.87
Methylene chloride	ND	8.4	ug/L	0.32
Methylcyclohexane	ND	1.7	ug/L	0.84
4-Methyl-2-pentanone	ND	84	ug/L	0.53
Methyl tert-butyl ether	1.3 J	8.4	ug/L	0.30
Styrene	ND	1.7	ug/L	0.22

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072704-DCR-177

GC/MS Volatiles

Lot-Sample #...: A4G280151-007 Work Order #...: GL1H71AA Matrix.....: WG

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.7	ug/L	0.37
Tetrachloroethene	15	1.7	ug/L	0.32
Toluene	1.8	1.7	ug/L	0.28
1,2,4-Trichloro- benzene	ND	8.4	ug/L	0.32
1,1,1-Trichloroethane	ND	1.7	ug/L	0.35
1,1,2-Trichloroethane	ND	1.7	ug/L	0.37
Trichloroethene	19	1.7	ug/L	0.47
Trichlorofluoromethane	ND	1.7	ug/L	0.27
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.7	ug/L	0.43
Vinyl chloride	ND	1.7	ug/L	0.35
Xylenes (total)	ND	5.0	ug/L	0.73

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	96	(73 - 122)
1,2-Dichloroethane-d4	90	(61 - 128)
Toluene-d8	101	(76 - 110)
4-Bromofluorobenzene	100	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072704-DCR-178

GC/MS Volatiles

Lot-Sample #....: A4G280151-008 Work Order #....: GL1H81AA Matrix.....: WG
 Date Sampled....: 07/27/04 Date Received...: 07/28/04
 Prep Date.....: 07/29/04 Analysis Date...: 07/29/04
 Prep Batch #....: 4212184
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	1.6 J,B	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	0.37 J	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	0.80 J	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072704-DCR-178

GC/MS Volatiles

Lot-Sample #....: A4G280151-008 Work Order #....: GL1H81AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	ND	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	92	(73 - 122)
1,2-Dichloroethane-d4	90	(61 - 128)
Toluene-d8	97	(76 - 110)
4-Bromofluorobenzene	93	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G280151
 MB Lot-Sample #: A4G300000-184
 Analysis Date...: 07/29/04
 Dilution Factor: 1

Work Order #...: GL60N1AA
 Prep Date.....: 07/29/04
 Prep Batch #...: 4212184
 Initial Wgt/Vol: 5 mL

Matrix.....: WATER
 Final Wgt/Vol...: 5 mL

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Acetone	0.75 J	25	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	1.0	ug/L	SW846 8260B
2-Butanone	ND	25	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	1.0	ug/L	SW846 8260B
Cyclohexane	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromoethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
Dichlorodifluoromethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
2-Hexanone	ND	50	ug/L	SW846 8260B
Isopropylbenzene	ND	5.0	ug/L	SW846 8260B
Methyl acetate	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
Methylcyclohexane	ND	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	50	ug/L	SW846 8260B
Methyl tert-butyl ether	ND	5.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G280151

Work Order #...: GL60N1AA

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>
		<u>LIMIT</u>	<u>UNITS</u>	
1,2,4-Trichloro- benzene	ND	5.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	3.0	ug/L	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
Dibromofluoromethane	97	(73 - 122)
1,2-Dichloroethane-d4	91	(61 - 128)
Toluene-d8	95	(76 - 110)
4-Bromofluorobenzene	97	(74 - 116)

NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: A4G280151 Work Order #...: GL60N1AC-LCS Matrix.....: WATER
 LCS Lot-Sample#: A4G300000-184 GL60N1AD-LCSD
 Prep Date.....: 07/29/04 Analysis Date...: 07/29/04
 Prep Batch #...: 4212184
 Dilution Factor: 1 Final Wgt/Vol...: 5 mL
 Initial Wgt/Vol: 5 mL

<u>PARAMETER</u>	<u>SPIKE</u> <u>AMOUNT</u>	<u>MEASURED</u> <u>AMOUNT</u>	<u>UNITS</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>
Benzene	10	9.6	ug/L	96		SW846 8260B
	10	10	ug/L	100	4.1	SW846 8260B
Chlorobenzene	10	9.3	ug/L	93		SW846 8260B
	10	9.6	ug/L	96	3.3	SW846 8260B
1,1-Dichloroethene	10	8.8	ug/L	88		SW846 8260B
	10	8.2	ug/L	82	7.1	SW846 8260B
Toluene	10	9.1	ug/L	91		SW846 8260B
	10	9.7	ug/L	97	6.2	SW846 8260B
Trichloroethene	10	9.6	ug/L	96		SW846 8260B
	10	9.9	ug/L	99	3.1	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
Dibromofluoromethane	96	(73 - 122)
	98	(73 - 122)
1,2-Dichloroethane-d4	101	(61 - 128)
	96	(61 - 128)
Toluene-d8	98	(76 - 110)
	100	(76 - 110)
4-Bromofluorobenzene	101	(74 - 116)
	99	(74 - 116)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A4G280151 Work Order #...: GL60N1AC-LCS Matrix.....: WATER
 LCS Lot-Sample#: A4G300000-184 GL60N1AD-LCSD
 Prep Date.....: 07/29/04 Analysis Date...: 07/29/04
 Prep Batch #...: 4212184
 Dilution Factor: 1 Final Wgt/Vol...: 5 mL
 Initial Wgt/Vol: 5 mL

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	96	(80 - 116)			SW846 8260B
	100	(80 - 116)	4.1	(0-20)	SW846 8260B
Chlorobenzene	93	(76 - 117)			SW846 8260B
	96	(76 - 117)	3.3	(0-20)	SW846 8260B
1,1-Dichloroethene	88	(63 - 130)			SW846 8260B
	82	(63 - 130)	7.1	(0-20)	SW846 8260B
Toluene	91	(74 - 119)			SW846 8260B
	97	(74 - 119)	6.2	(0-20)	SW846 8260B
Trichloroethene	96	(75 - 122)			SW846 8260B
	99	(75 - 122)	3.1	(0-20)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	96	(73 - 122)
	98	(73 - 122)
1,2-Dichloroethane-d4	101	(61 - 128)
	96	(61 - 128)
Toluene-d8	98	(76 - 110)
	100	(76 - 110)
4-Bromofluorobenzene	101	(74 - 116)
	99	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: A4G280151 Work Order #...: GLQNH1AC-MS Matrix.....: WATER
 MS Lot-Sample #: A4G230398-004 GLQNH1AD-MSD
 Date Sampled...: 07/20/04 09:59 Date Received...: 07/22/04
 Prep Date.....: 07/29/04 Analysis Date...: 07/29/04
 Prep Batch #...: 4212184
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCENT		METHOD
					RECVRY	RPD	
Benzene	ND	10	9.6	ug/L	96		SW846 8260B
	ND	10	9.6	ug/L	96	0.21	SW846 8260B
Chlorobenzene	ND	10	9.0	ug/L	90		SW846 8260B
	ND	10	9.1	ug/L	91	1.0	SW846 8260B
1,1-Dichloroethene	0.82	10	9.8	ug/L	89		SW846 8260B
	0.82	10	10	ug/L	92	2.4	SW846 8260B
Toluene	0.27	10	9.5	ug/L	92		SW846 8260B
	0.27	10	9.6	ug/L	93	1.1	SW846 8260B
Trichloroethene	13	10	22	ug/L	93		SW846 8260B
	13	10	23	ug/L	100	3.0	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
	Dibromofluoromethane	92
	99	(73 - 122)
1,2-Dichloroethane-d4	96	(61 - 128)
	96	(61 - 128)
Toluene-d8	100	(76 - 110)
	97	(76 - 110)
4-Bromofluorobenzene	97	(74 - 116)
	98	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A4G280151 Work Order #...: GLQNH1AC-MS Matrix.....: WATER
 MS Lot-Sample #: A4G230398-004 GLQNH1AD-MSD
 Date Sampled...: 07/20/04 09:59 Date Received...: 07/22/04
 Prep Date.....: 07/29/04 Analysis Date...: 07/29/04
 Prep Batch #...: 4212184
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	96	(78 - 118)			SW846 8260B
	96	(78 - 118)	0.21	(0-20)	SW846 8260B
Chlorobenzene	90	(76 - 117)			SW846 8260B
	91	(76 - 117)	1.0	(0-20)	SW846 8260B
1,1-Dichloroethene	89	(62 - 130)			SW846 8260B
	92	(62 - 130)	2.4	(0-20)	SW846 8260B
Toluene	92	(70 - 119)			SW846 8260B
	93	(70 - 119)	1.1	(0-20)	SW846 8260B
Trichloroethene	93	(62 - 130)			SW846 8260B
	100	(62 - 130)	3.0	(0-20)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	92	(73 - 122)
	99	(73 - 122)
1,2-Dichloroethane-d4	96	(61 - 128)
	96	(61 - 128)
Toluene-d8	100	(76 - 110)
	97	(76 - 110)
4-Bromofluorobenzene	97	(74 - 116)
	98	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

END OF REPORT

REC'D CRA
AUG 26 2004
G-22

SEVERN
TRENT

STL

STL North Canton
4101 Shuffel Drive NW
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772
www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. 17360-09

GM GRAND RAPIDS

Lot #: A4G290136

Paul Wiseman

Conestoga Rovers & Assoc., Inc
14496 Sheldon Rd Suite 200
Plymouth, MI 48170

SEVERN TRENT LABORATORIES, INC.

Ken Kuylen for
Amy L. McCormick
Project Manager

August 24, 2004

ORIGINAL ANALYTICAL REPORT

Project#: 17360-09 Lab#: A4G290136

Name: GM-GR

Description

Event: GW Monitoring

Samples: 4 water

Analysis: VOC

TAT: 2 day

Lab: STL

Checked Against Preliminary Data:

Date: 8/27/04 Init: KAR

Date of Validation Memo: 10/21/04

Invoice Approval Date: _____

Comments: _____

CRA

CONESTOGA-ROVERS & ASSOCIATES, INC.
 14496 Sheldon Road, Suite 200
 Plymouth, MI 48170 • (734) 453-5123

SHIPPED TO (Laboratory Name): *STZ - North Canton*

CHAIN OF CUSTODY RECORD

REFERENCE NUMBER: *17360-09*
 PROJECT NAME: *Gm Grand Rapids*

SAMPLER'S SIGNATURE: *[Signature]* PRINTED NAME: *David C Rovers*

SEQ. No.	DATE	TIME	SAMPLE TYPE	No. OF CONTAINERS	PARAMETERS	REMARKS
1	7/29/04	8:55	H ₂ O	2	X X X	
2	10:30			2	X X	
3	10:55			2	X X	
4				1	X	

TOTAL NUMBER OF CONTAINERS							7
RECEIVED BY: <i>Paul Wiseman</i>							

RELINQUISHED BY: 1. <i>[Signature]</i>	DATE: 7/29/04	RECEIVED BY: 1. _____	DATE: _____
RELINQUISHED BY: 2. _____	DATE: 8/30	RECEIVED BY: 2. _____	DATE: _____
RELINQUISHED BY: 3. _____	DATE: _____	RECEIVED BY: 3. _____	DATE: _____

METHOD OF SHIPMENT: *FED EX* AIR BILL NO. *8393 5588 8853*

White - Fully Executed Copy	Pink - Shipper Copy	SAMPLE TEAM: <i>David C Rovers</i>	RECEIVED FOR LABORATORY BY: <i>[Signature]</i>
Yellow - Receiving Laboratory Copy	Goldendrod - Sampler Copy	DATE: 7/29/04	TIME: 9:45
27160			



CASE NARRATIVE

CASE NARRATIVE

A4G290136

The following report contains the analytical results for three water samples and one quality control sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the GM Grand Rapids Site, project number 17360-09. The samples were received July 29, 2004, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to the Chemistry Department on August 02, 2004. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 1.9°C.

See STL's Cooler Receipt Form for additional information.

CASE NARRATIVE (continued)

GC/MS VOLATILES

The sample(s) that contain results between the MDL and the RL were flagged with "J". There is a possibility of false positive or mis-identification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation was performed only down to the standard reporting limit (SRL). The acceptance criteria for QC samples may not be met at these quantitation levels.

The pH of the sample GW-17360-072804-DCR-181 was greater than 2. The sample(s) was analyzed within the normal 14 day holding time; however, experimental evidence suggests that some aromatic compounds in wastewater samples, notably Benzene, Toluene, and Ethylbenzene are susceptible to biological degradation if samples are not preserved to a pH of 2.

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

Volatile (GC or GC/MS)

Methylene chloride

Acetone

2-Butanone

Semivolatile (GC/MS)

Phthalate Esters

Metals

Copper

Iron

Zinc

Lead*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the reparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is repped and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be repped and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.

STL North Canton Certifications and Approvals:

Alabama (#41170), California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#100439), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)



***EXECUTIVE
SUMMARY***

EXECUTIVE SUMMARY - Detection Highlights

A4G290136

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
GW-17360-072804-DCR-179 07/28/04 08:25 001				
Acetone	4.5 J	25	ug/L	SW846 8260B
Benzene	0.34 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	0.47 J	1.0	ug/L	SW846 8260B
Carbon disulfide	0.58 J	5.0	ug/L	SW846 8260B
Chloroform	1.9	1.0	ug/L	SW846 8260B
Chloromethane	0.16 J	1.0	ug/L	SW846 8260B
Cyclohexane	0.20 J	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	11	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	1.3	1.0	ug/L	SW846 8260B
Methyl tert-butyl ether	1.7 J	5.0	ug/L	SW846 8260B
Tetrachloroethene	1.2	1.0	ug/L	SW846 8260B
Toluene	1.4	1.0	ug/L	SW846 8260B
Trichloroethene	7.4	1.0	ug/L	SW846 8260B
GW-17360-072804-DCR-180 07/28/04 10:30 002				
Acetone	2.3 J	25	ug/L	SW846 8260B
Benzene	0.38 J	1.0	ug/L	SW846 8260B
Chloroform	2.3	1.0	ug/L	SW846 8260B
Cyclohexane	0.23 J	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	25	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	3.0	1.0	ug/L	SW846 8260B
Methyl tert-butyl ether	2.5 J	5.0	ug/L	SW846 8260B
Tetrachloroethene	3.3	1.0	ug/L	SW846 8260B
Toluene	2.0	1.0	ug/L	SW846 8260B
Trichloroethene	17	1.0	ug/L	SW846 8260B
GW-17360-072804-DCR-181 07/28/04 16:55 003				
Acetone	5.6 J	25	ug/L	SW846 8260B
Benzene	0.42 J	1.0	ug/L	SW846 8260B
2-Butanone	1.8 J	25	ug/L	SW846 8260B
Cyclohexane	0.25 J	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	2.0	1.0	ug/L	SW846 8260B
Ethylbenzene	0.19 J	1.0	ug/L	SW846 8260B
Toluene	0.91 J	1.0	ug/L	SW846 8260B
Trichloroethene	6.5	1.0	ug/L	SW846 8260B
Vinyl chloride	1.2	1.0	ug/L	SW846 8260B

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

A4G290136

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
GW-17360-072804-DCR-182 07/28/04 004				
Acetone	1.6 J	25	ug/L	SW846 8260B
2-Butanone	0.66 J	25	ug/L	SW846 8260B
Carbon disulfide	0.66 J	5.0	ug/L	SW846 8260B
Methylene chloride	1.5 J	5.0	ug/L	SW846 8260B

METHOD SUMMARY

ANALYTICAL METHODS SUMMARY

A4G290136

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Volatile Organics by GC/MS	SW846 8260B

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

SAMPLE SUMMARY

A4G290136

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
GL346	001	GW-17360-072804-DCR-179	07/28/04	08:25
GL35H	002	GW-17360-072804-DCR-180	07/28/04	10:30
GL35J	003	GW-17360-072804-DCR-181	07/28/04	16:55
GL35L	004	GW-17360-072804-DCR-182	07/28/04	

NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.



STL

***SHIPPING
AND
RECEIVING DOCUMENTS***

CRA

CONESTOGA-ROVERS & ASSOCIATES, INC.
 14496 Sheldon Road, Suite 200
 Plymouth, MI 48170 • (734) 453-5123

SHIPPED TO (Laboratory Name): *STL - North Canton*

CHAIN OF CUSTODY RECORD

REFERENCE NUMBER:
17360-09

PROJECT NAME: *GM Grand Rapids*

SAMPLER'S SIGNATURE: *[Signature]* PRINTED NAME: *David Rivers*

SEQ. No.	DATE	TIME	SAMPLE TYPE	NO. OF CONTAINERS	PARAMETERS	REMARKS
1	7/29/04	8:55	GC-17360-072809-DUR-179	2	H ₂ O	
2	10/30			2	X	
3	10/30			2	X	
4				1	X	

TOTAL NUMBER OF CONTAINERS						
				<i>7</i>		

RELINQUISHED BY: <i>[Signature]</i>	DATE: <i>7/29/04</i>	RECEIVED BY: <i>[Signature]</i>	DATE: <i>7/29/04</i>
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:

METHOD OF SHIPMENT: *FED EX* AIR BILL NO. *8393 5588 8053*

White - Fully Executed Copy Pink - Shipper Copy
 Yellow - Receiving Laboratory Copy Gold - Sampler Copy

SAMPLE TEAM: *David Rivers*

RECEIVED FOR LABORATORY BY: *[Signature]*
 DATE: *7/29/04* TIME: *945*

**Severn Trent Laboratories, Inc.
Sample Control Record**

RSR280
 Client: 57787
 Lot #: A4G290136
 Case Number/SDG: 17360-09
 Storage Location: MS

Laboratory Sample I.D.	Transferred By	Date	Entered	Removed	Reason	Date Returned
GL346	EARLES	7/29/04	Yes		Storage	
GL35H	EARLES	7/29/04	Yes		Storage	
GL35J	EARLES	7/29/04	Yes		Storage	
GL35I,	EARLES	7/29/04	Yes		Storage	

STL Cooler Receipt Form/Narrative
North Canton Facility

Lot Number: A46-LT-131

Client: CA Project: Chlorine Gas Receipt Note#: _____
 Cooler Received on: 2/29/04 Opened on: 4/29/04 by: Anna Sanders
 (Signature)

Fedex Client Drop Off UPS DHL FAS Other: _____
 STL Cooler No# _____ Foam Box Client Cooler Other _____

1. Were custody seals on the outside of the cooler? Yes No Intact? Yes No NA
 If YES, Quantity _____
 Were the custody seals signed and dated? Yes No NA
 2. Shipper's packing slip attached to this form? Yes No NA
 3. Did custody papers accompany the samples? Yes No Relinquished by client? Yes No
 4. Did you sign the custody papers in the appropriate place? Yes No
 5. Packing material used: Bubble Wrap Foam None Other: _____
 6. Cooler temperature upon receipt 1.9 °C (see back of form for multiple coolers/temp)
- METHOD: Temp Vial Coolant & Sample Against Bottles IR ICE/H₂O Slurry
 COOLANT: Wet Ice Blue Ice Dry Ice Water None
7. Did all bottles arrive in good condition (Unbroken)? Yes No
 8. Could all bottle labels and/or tags be reconciled with the COC? Yes No
 9. Were samples at the correct pH? (record below/on back) Yes No NA
 10. Were correct bottles used for the tests indicated? Yes No
 11. Were air bubbles >6 mm in any VOA vials? Yes No NA
 12. Sufficient quantity received to perform indicated analyses? Yes No
- Contacted PM _____ Date: _____ by: _____ via Voice Mail Verbal Other

Concerning:

1. CHAIN OF CUSTODY

The following discrepancies occurred:
Sample ID not completed on vials - log removed

2. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.

3. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot #032804-HNO₃; Sulfuric Acid Lot # 011-304-H₂SO₄; Sodium Hydroxide Lot #-031804-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 112801-CH₃COO₂ZN/NaOH
 Sample(s) _____ were received with bubble > 6 mm in diameter (cc: PM)

4. Other (see below or back)

Client ID	pH	Date	Initials

GCMS VOLATILE DATA

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072804-DCR-179

GC/MS Volatiles

Lot-Sample #....: A4G290136-001 Work Order #....: GL3461AA Matrix.....: WG
 Date Sampled....: 07/28/04 08:25 Date Received...: 07/29/04
 Prep Date.....: 07/30/04 Analysis Date...: 07/30/04
 Prep Batch #....: 4215204
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	4.5 J	25	ug/L	0.74
Benzene	0.34 J	1.0	ug/L	0.22
Bromodichloromethane	0.47 J	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	0.58 J	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	1.9	1.0	ug/L	0.16
Chloromethane	0.16 J	1.0	ug/L	0.14
Cyclohexane	0.20 J	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	11	1.0	ug/L	0.21
trans-1,2-Dichloroethene	1.3	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	1.7 J	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072804-DCR-179

GC/MS Volatiles

Lot-Sample #...: A4G290136-001 Work Order #...: GL3461AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	1.2	1.0	ug/L	0.19
Toluene	1.4	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	7.4	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	98	(73 - 122)
1,2-Dichloroethane-d4	92	(61 - 128)
Toluene-d8	87	(76 - 110)
4-Bromofluorobenzene	81	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072804-DCR-180

GC/MS Volatiles

Lot-Sample #....: A4G290136-002 Work Order #....: GL35H1AA Matrix.....: WG
 Date Sampled....: 07/28/04 10:30 Date Received...: 07/29/04
 Prep Date.....: 07/30/04 Analysis Date...: 07/30/04
 Prep Batch #....: 4215204
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	2.3 J	25	ug/L	0.74
Benzene	0.38 J	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	2.3	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.23 J	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	25	1.0	ug/L	0.21
trans-1,2-Dichloroethene	3.0	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	2.5 J	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072804-DCR-180

GC/MS Volatiles

Lot-Sample #....: A4G290136-002 Work Order #....: GL35H1AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	3.3	1.0	ug/L	0.19
Toluene	2.0	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	17	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	96	(73 - 122)
1,2-Dichloroethane-d4	92	(61 - 128)
Toluene-d8	88	(76 - 110)
4-Bromofluorobenzene	78	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072804-DCR-181

GC/MS Volatiles

Lot-Sample #....: A4G290136-003 Work Order #....: GL35J1AA Matrix.....: WG
 Date Sampled....: 07/28/04 16:55 Date Received...: 07/29/04
 Prep Date.....: 07/30/04 Analysis Date...: 07/30/04
 Prep Batch #....: 4215204
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	5.6 J	25	ug/L	0.74
Benzene	0.42 J	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	1.8 J	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.25 J	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	2.0	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	0.19 J	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072804-DCR-181

GC/MS Volatiles

Lot-Sample #...: A4G290136-003 Work Order #...: GL35J1AA Matrix.....: WG

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	0.91 J	1.0	ug/L	0.17
1,2,4-Trichloro-benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	6.5	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	1.2	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	96	(73 - 122)
1,2-Dichloroethane-d4	95	(61 - 128)
Toluene-d8	87	(76 - 110)
4-Bromofluorobenzene	77	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072804-DCR-182

GC/MS Volatiles

Lot-Sample #....: A4G290136-004 Work Order #....: GL35L1AA Matrix.....: WQ
 Date Sampled....: 07/28/04 Date Received...: 07/29/04
 Prep Date.....: 07/30/04 Analysis Date...: 07/30/04
 Prep Batch #....: 4215204
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	1.6 J	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	0.66 J	25	ug/L	0.39
Carbon disulfide	0.66 J	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	1.5 J	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072804-DCR-182

GC/MS Volatiles

Lot-Sample #....: A4G290136-004 Work Order #....: GL35L1AA Matrix.....: WQ

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	ND	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	101	(73 - 122)
1,2-Dichloroethane-d4	95	(61 - 128)
Toluene-d8	87	(76 - 110)
4-Bromofluorobenzene	79	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G290136
 MB Lot-Sample #: A4H020000-204

Work Order #...: GMAJ21AA

Matrix.....: WATER

Analysis Date...: 07/30/04
 Dilution Factor: 1

Prep Date.....: 07/30/04

Final Wgt/Vol...: 5 mL

Prep Batch #...: 4215204

Initial Wgt/Vol: 5 mL

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Acetone	ND	25	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	1.0	ug/L	SW846 8260B
2-Butanone	ND	25	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	1.0	ug/L	SW846 8260B
Cyclohexane	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromoethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
Dichlorodifluoromethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
2-Hexanone	ND	50	ug/L	SW846 8260B
Isopropylbenzene	0.45 J	5.0	ug/L	SW846 8260B
Methyl acetate	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
Methylcyclohexane	ND	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	50	ug/L	SW846 8260B
Methyl tert-butyl ether	ND	5.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G290136

Work Order #...: GMAJ21AA

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>
		<u>LIMIT</u>	<u>UNITS</u>	
1,2,4-Trichloro- benzene	ND	5.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	3.0	ug/L	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	95	(73 - 122)
1,2-Dichloroethane-d4	92	(61 - 128)
Toluene-d8	86	(76 - 110)
4-Bromofluorobenzene	80	(74 - 116)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #....: A4G290136 Work Order #....: GMAJ21AC-LCS Matrix.....: WATER
 LCS Lot-Sample#: A4H020000-204 GMAJ21AD-LCSD
 Prep Date.....: 07/30/04 Analysis Date...: 07/30/04
 Prep Batch #....: 4215204
 Dilution Factor: 1 Final Wgt/Vol...: 5 mL
 Initial Wgt/Vol: 5 mL

<u>PARAMETER</u>	<u>SPIKE</u> <u>AMOUNT</u>	<u>MEASURED</u> <u>AMOUNT</u>	<u>UNITS</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>
Benzene	10	9.3	ug/L	93		SW846 8260B
	10	9.5	ug/L	95	2.9	SW846 8260B
Chlorobenzene	10	10	ug/L	101		SW846 8260B
	10	10	ug/L	100	0.90	SW846 8260B
1,1-Dichloroethene	10	10	ug/L	103		SW846 8260B
	10	10	ug/L	103	0.030	SW846 8260B
Toluene	10	11	ug/L	106		SW846 8260B
	10	10	ug/L	104	2.5	SW846 8260B
Trichloroethene	10	9.5	ug/L	95		SW846 8260B
	10	9.5	ug/L	95	0.52	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
Dibromofluoromethane	90	(73 - 122)
	92	(73 - 122)
1,2-Dichloroethane-d4	83	(61 - 128)
	87	(61 - 128)
Toluene-d8	97	(76 - 110)
	97	(76 - 110)
4-Bromofluorobenzene	99	(74 - 116)
	98	(74 - 116)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #....: A4G290136 Work Order #....: GMAJ21AC-LCS Matrix.....: WATER
 LCS Lot-Sample#: A4H020000-204 GMAJ21AD-LCSD
 Prep Date.....: 07/30/04 Analysis Date...: 07/30/04
 Prep Batch #....: 4215204
 Dilution Factor: 1 Final Wgt/Vol...: 5 mL
 Initial Wgt/Vol: 5 mL

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	93	(80 - 116)			SW846 8260B
	95	(80 - 116)	2.9	(0-20)	SW846 8260B
Chlorobenzene	101	(76 - 117)			SW846 8260B
	100	(76 - 117)	0.90	(0-20)	SW846 8260B
1,1-Dichloroethene	103	(63 - 130)			SW846 8260B
	103	(63 - 130)	0.030	(0-20)	SW846 8260B
Toluene	106	(74 - 119)			SW846 8260B
	104	(74 - 119)	2.5	(0-20)	SW846 8260B
Trichloroethene	95	(75 - 122)			SW846 8260B
	95	(75 - 122)	0.52	(0-20)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	90	(73 - 122)
	92	(73 - 122)
1,2-Dichloroethane-d4	83	(61 - 128)
	87	(61 - 128)
Toluene-d8	97	(76 - 110)
	97	(76 - 110)
4-Bromofluorobenzene	99	(74 - 116)
	98	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #....: A4G290136 Work Order #....: GLQNX1AD-MS Matrix.....: WATER
 MS Lot-Sample #: A4G230398-010 GLQNX1AE-MSD
 Date Sampled...: 07/22/04 08:00 Date Received...: 07/22/04
 Prep Date.....: 07/30/04 Analysis Date...: 07/30/04
 Prep Batch #....: 4215204
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

PARAMETER	SAMPLE	SPIKE	MEASRD	UNITS	PERCNT		METHOD
	AMOUNT	AMT	AMOUNT		RECVRY	RPD	
Benzene	0.24	10	9.2	ug/L	89		SW846 8260B
	0.24	10	9.3	ug/L	91	1.5	SW846 8260B
Chlorobenzene	ND	10	9.6	ug/L	96		SW846 8260B
	ND	10	9.5	ug/L	95	1.2	SW846 8260B
1,1-Dichloroethene	ND	10	9.7	ug/L	97		SW846 8260B
	ND	10	9.8	ug/L	98	0.49	SW846 8260B
Toluene	0.78	10	11	ug/L	100		SW846 8260B
	0.78	10	11	ug/L	98	2.0	SW846 8260B
Trichloroethene	ND	10	9.0	ug/L	90		SW846 8260B
	ND	10	9.2	ug/L	92	2.4	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	92	(73 - 122)
	90	(73 - 122)
1,2-Dichloroethane-d4	96	(61 - 128)
	87	(61 - 128)
Toluene-d8	96	(76 - 110)
	94	(76 - 110)
4-Bromofluorobenzene	102	(74 - 116)
	98	(74 - 116)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A4G290136 Work Order #...: GLQNX1AD-MS Matrix.....: WATER
 MS Lot-Sample #: A4G230398-010 GLQNX1AE-MSD
 Date Sampled...: 07/22/04 08:00 Date Received...: 07/22/04
 Prep Date.....: 07/30/04 Analysis Date...: 07/30/04
 Prep Batch #...: 4215204
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	89	(78 - 118)			SW846 8260B
	91	(78 - 118)	1.5	(0-20)	SW846 8260B
Chlorobenzene	96	(76 - 117)			SW846 8260B
	95	(76 - 117)	1.2	(0-20)	SW846 8260B
1,1-Dichloroethene	97	(62 - 130)			SW846 8260B
	98	(62 - 130)	0.49	(0-20)	SW846 8260B
Toluene	100	(70 - 119)			SW846 8260B
	98	(70 - 119)	2.0	(0-20)	SW846 8260B
Trichloroethene	90	(62 - 130)			SW846 8260B
	92	(62 - 130)	2.4	(0-20)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	92	(73 - 122)
	90	(73 - 122)
1,2-Dichloroethane-d4	96	(61 - 128)
	87	(61 - 128)
Toluene-d8	96	(76 - 110)
	94	(76 - 110)
4-Bromofluorobenzene	102	(74 - 116)
	98	(74 - 116)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters



STL

END OF REPORT

REC'D CRA
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CRA STD G-23

SEVERN
TRENT

STL

STL North Canton
4101 Shuffel Drive NW
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772
www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. 17360-09

GM GRAND RAPIDS

Lot #: A4G300129

Paul Wiseman

Conestoga Rovers & Assoc., Inc
14496 Sheldon Rd Suite 200
Plymouth, MI 48170

ORIGINAL ANALYTICAL REPORT


Project#: 17360-09 Lab#: A4G300129
Name: GM GRAND RAPIDS.

Description

SEVERN TRENT LABORATORIES, IN Event: GW MONITORING
Samples: B waters DCR 183-190
Analysis: TCL VOCs.

TAT: 24 HOUR TAT

Lab: STL-NC.


FOR Amy L. McCormick
Project Manager

Checked Against Preliminary Data:

Date: N/A Init.: N/A.

Date of Validation Memo: 10/21/04

Invoice Approval Date: _____

Comments: _____

August 25, 2004

CRA

CONESTOGA-ROVERS & ASSOCIATES, INC.

14496 Sheldon Road, Suite 200
Plymouth, MI 48170 • (734) 453-5123

SHIPPED TO (Laboratory Name):

STL - North Canton

REFERENCE NUMBER:

17360-09

PROJECT NAME:

GM Grand Rapids

CHAIN OF CUSTODY RECORD

SAMPLER'S SIGNATURE: *[Signature]* PRINTED NAME: **David C. Rivers**

SEQ. No.	DATE	TIME	SAMPLE TYPE	No. OF CONTAINERS	PARAMETERS	REMARKS
1	7/29/09	850	H20	2	TU VOCs 24W TAT	
2		855		2		
3		930		3		
4		1030		3		
5		1240		3		
6		1330		6		
7		1445		3		NO S/m/MSD
8		1600		3		

TOTAL NUMBER OF CONTAINERS

25

CRA Contact
Paul Wiseman

RELINQUISHED BY: *[Signature]*

DATE: 7-29-09
TIME: 1930

RECEIVED BY: 1.

DATE: TIME:

RELINQUISHED BY: 2.

DATE: TIME:

RECEIVED BY: 2.

DATE: TIME:

RELINQUISHED BY: 3.

DATE: TIME:

RECEIVED BY: 1.

DATE: TIME:

METHOD OF SHIPMENT: **FED EX**

AIR BILL No. 8393 5588 8842

White - Fully Executed Copy
Yellow - Receiving Laboratory Copy

Pink - Shipper Copy
Goldendrod - Sampler Copy

SAMPLE TEAM:

David Rivers

RECEIVED FOR LABORATORY BY:

Matthew G. Binkley

27161

DATE: 7-30-09 TIME: 9:15



CASE NARRATIVE

CASE NARRATIVE

A4G300129

The following report contains the analytical results for eight water samples submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the GM Grand Rapids Site, project number 17360-09. The samples were received July 30, 2004, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to the Chemistry Department on August 02, 2004. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 3.3°C.

CASE NARRATIVE (continued)

GC/MS VOLATILES

The sample(s) that contained concentrations of target analyte(s) at a reportable level in the associated Method Blank(s) were flagged with "B". All target analytes in the Method Blank must be below the reporting limit (RL) or the associated sample(s) must be ND with the exception of common laboratory contaminants.

The sample(s) that contain results between the MDL and the RL were flagged with "J". There is a possibility of false positive or mis-identification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation was performed only down to the standard reporting limit (SRL). The acceptance criteria for QC samples may not be met at these quantitation levels.

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

Volatile (GC or GC/MS)

Methylene chloride

Acetone

2-Butanone

Semivolatile (GC/MS)

Phthalate Esters

Metals

Copper

Iron

Zinc

Lead*

- for analyses run on TJA Trace ICP, ICPMS or GFAA only

QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the reparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprep and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be reprep and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.



STL North Canton Certifications and Approvals:

Alabama (#41170), California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#100439), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Ohio (#6090), OhioVAP (#CLO024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)

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STL

***EXECUTIVE
SUMMARY***

EXECUTIVE SUMMARY - Detection Highlights

A4G300129

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
GW-17360-072904-DCR-183 07/29/04 08:50 001				
Benzene	0.26 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	0.76 J	1.0	ug/L	SW846 8260B
Chloroform	1.4	1.0	ug/L	SW846 8260B
Cyclohexane	0.52 J	1.0	ug/L	SW846 8260B
Dibromochloromethane	0.76 J	1.0	ug/L	SW846 8260B
Ethylbenzene	0.61 J	1.0	ug/L	SW846 8260B
Methylcyclohexane	0.68 J	1.0	ug/L	SW846 8260B
Toluene	1.2 B	1.0	ug/L	SW846 8260B
Xylenes (total)	1.8 J	3.0	ug/L	SW846 8260B
GW-17360-072904-DCR-184 07/29/04 08:55 002				
Benzene	0.26 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	0.84 J	1.0	ug/L	SW846 8260B
Chloroform	1.3	1.0	ug/L	SW846 8260B
Cyclohexane	0.52 J	1.0	ug/L	SW846 8260B
Dibromochloromethane	0.73 J	1.0	ug/L	SW846 8260B
Ethylbenzene	0.63 J	1.0	ug/L	SW846 8260B
Methylcyclohexane	0.72 J	1.0	ug/L	SW846 8260B
Toluene	1.2 B	1.0	ug/L	SW846 8260B
Xylenes (total)	1.8 J	3.0	ug/L	SW846 8260B
GW-17360-072904-DCR-185 07/29/04 09:30 003				
Bromodichloromethane	5.5	1.0	ug/L	SW846 8260B
Chloroform	8.2	1.0	ug/L	SW846 8260B
Dibromochloromethane	2.9	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	0.87 J	50	ug/L	SW846 8260B
Toluene	2.9 B	1.0	ug/L	SW846 8260B
GW-17360-072904-DCR-186 07/29/04 10:30 004				
Benzene	0.24 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	1.7	1.0	ug/L	SW846 8260B
Chloroform	2.5	1.0	ug/L	SW846 8260B
Cyclohexane	0.47 J	1.0	ug/L	SW846 8260B
Dibromochloromethane	1.1	1.0	ug/L	SW846 8260B
Ethylbenzene	0.56 J	1.0	ug/L	SW846 8260B
Methylcyclohexane	0.62 J	1.0	ug/L	SW846 8260B
Toluene	1.7 B	1.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	0.22 J	1.0	ug/L	SW846 8260B
Xylenes (total)	1.6 J	3.0	ug/L	SW846 8260B

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

A4G300129

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
GW-17360-072904-DCR-187 07/29/04 12:10 005				
Benzene	0.24 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	3.7	1.0	ug/L	SW846 8260B
Chloroform	6.0	1.0	ug/L	SW846 8260B
Cyclohexane	0.46 J	1.0	ug/L	SW846 8260B
Dibromochloromethane	1.9	1.0	ug/L	SW846 8260B
Ethylbenzene	0.54 J	1.0	ug/L	SW846 8260B
Methylcyclohexane	0.64 J	1.0	ug/L	SW846 8260B
Toluene	3.5 B	1.0	ug/L	SW846 8260B
Xylenes (total)	1.6 J	3.0	ug/L	SW846 8260B
GW-17360-072904-DCR-188 07/29/04 13:30 006				
Benzene	0.41 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	2.1	1.0	ug/L	SW846 8260B
Chloroform	4.0	1.0	ug/L	SW846 8260B
Cyclohexane	0.65 J	1.0	ug/L	SW846 8260B
Dibromochloromethane	1.2	1.0	ug/L	SW846 8260B
Ethylbenzene	0.60 J	1.0	ug/L	SW846 8260B
Methylcyclohexane	0.76 J	1.0	ug/L	SW846 8260B
Toluene	2.7 B	1.0	ug/L	SW846 8260B
Xylenes (total)	1.7 J	3.0	ug/L	SW846 8260B
GW-17360-072904-DCR-189 07/29/04 14:45 007				
Acetone	1.0 J	25	ug/L	SW846 8260B
Benzene	0.35 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	3.0	1.0	ug/L	SW846 8260B
2-Butanone	0.53 J	25	ug/L	SW846 8260B
Chloroform	6.4	1.0	ug/L	SW846 8260B
Cyclohexane	0.52 J	1.0	ug/L	SW846 8260B
Dibromochloromethane	1.7	1.0	ug/L	SW846 8260B
Ethylbenzene	0.59 J	1.0	ug/L	SW846 8260B
Methylcyclohexane	0.71 J	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	0.92 J	50	ug/L	SW846 8260B
Toluene	4.5 B	1.0	ug/L	SW846 8260B
Xylenes (total)	1.7 J	3.0	ug/L	SW846 8260B
GW-17360-072904-DCR-190 07/29/04 16:00 008				
Acetone	1.0 J	25	ug/L	SW846 8260B
Benzene	0.32 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	3.1	1.0	ug/L	SW846 8260B
2-Butanone	0.56 J	25	ug/L	SW846 8260B

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

A4G300129

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
GW-17360-072904-DCR-190 07/29/04 16:00 008				
Chloroform	6.0	1.0	ug/L	SW846 8260B
Cyclohexane	0.47 J	1.0	ug/L	SW846 8260B
Dibromochloromethane	1.7	1.0	ug/L	SW846 8260B
Ethylbenzene	0.57 J	1.0	ug/L	SW846 8260B
Methylcyclohexane	0.71 J	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	0.90 J	50	ug/L	SW846 8260B
Toluene	4.8 B	1.0	ug/L	SW846 8260B
Xylenes (total)	1.7 J	3.0	ug/L	SW846 8260B

METHOD SUMMARY

ANALYTICAL METHODS SUMMARY

A4G300129

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Volatile Organics by GC/MS	SW846 8260B

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

SAMPLE SUMMARY

A4G300129

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
GL6LF	001	GW-17360-072904-DCR-183	07/29/04	08:50
GL6LH	002	GW-17360-072904-DCR-184	07/29/04	08:55
GL6LJ	003	GW-17360-072904-DCR-185	07/29/04	09:30
GL6LL	004	GW-17360-072904-DCR-186	07/29/04	10:30
GL6LR	005	GW-17360-072904-DCR-187	07/29/04	12:10
GL6LV	006	GW-17360-072904-DCR-188	07/29/04	13:30
GL6LX	007	GW-17360-072904-DCR-189	07/29/04	14:45
GL6LI	008	GW-17360-072904-DCR-190	07/29/04	16:00

NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

SHIPPING
AND
RECEIVING DOCUMENTS

CRA

CONESTOGA-ROVERS & ASSOCIATES, INC.
 14496 Sheldon Road, Suite 200
 Plymouth, MI 48170 • (734) 453-5123

SHIPPED TO (Laboratory Name):

STL - North Canton

REFERENCE NUMBER:
17360-09

PROJECT NAME: SM Grand Rapids

CHAIN OF CUSTODY RECORD

SAMPLER'S SIGNATURE: *[Signature]* PRINTED NAME: David C Rivers

SEQ. No.	DATE	TIME	SAMPLE TYPE	NO. OF CONTAINERS	PARAMETERS	REMARKS
1	7/29/09	850	GU-17360-072909-DCA-183	2	TEL VO C, 29hr TAT	
2		855		2		
3		930		3		
4		1030		3		
5		120		3		
6		1330		6		
7		1445		3		MS/MSD
8		1600		3		

PARALLEL PARAMETERS: TEL VO C, 29hr TAT

TOTAL NUMBER OF CONTAINERS

25

RELINQUISHED BY: *[Signature]* DATE: 7-29-09 RECEIVED BY: DATE: TIME: 1930

RELINQUISHED BY: DATE: TIME: RECEIVED BY: DATE: TIME:

RELINQUISHED BY: DATE: TIME: RECEIVED BY: DATE: TIME:

METHOD OF SHIPMENT: FEDEX

AIR BILL No. 8393 5588 8842

White - Fully Executed Copy
 Yellow - Receiving Laboratory Copy

Pink - Skipper Copy
 Goldendrod - Sampler Copy

SAMPLE TEAM: David Rivers

RECEIVED FOR LABORATORY BY: DATE: 7-30-09 TIME: 9:15

27161

RSR280

Client:

57787

Lot #:

AAG300129

Case Number/SDG:

17360-09

Storage Location:

MS

**Severn Trent Laboratories, Inc.
Sample Control Record**

Laboratory Sample I.D.	Transferred By	Date	Entered	Removed	Reason	Date Returned
GL6LF	SANDERSA	7/30/04	Yes		Storage	
GL6LH	SANDERSA	7/30/04	Yes		Storage	
GL6LJ	SANDERSA	7/30/04	Yes		Storage	
GL6LL	SANDERSA	7/30/04	Yes		Storage	
GL6LR	SANDERSA	7/30/04	Yes		Storage	
GL6LV	SANDERSA	7/30/04	Yes		Storage	
GL6LX	SANDERSA	7/30/04	Yes		Storage	
GL6LI	SANDERSA	7/30/04	Yes		Storage	

STL Cooler Receipt Form/Narrative
North Canton Facility

Lot Number: PHG300129

Client: CRA Project: GM Grand Rapids Quote#: _____
 Cooler Received on: 7-30-04 Opened on: 7-30-04 by: Natalie J. Buhler
 (Signature)

Fedx Client Drop Off UPS DHL FAS Other: _____
 STL Cooler No# _____ Foam Box Client Cooler Other _____

1. Were custody seals on the outside of the cooler? Yes No Intact? Yes No NA
 If YES, Quantity _____
 Were the custody seals signed and dated? Yes No NA
 2. Shipper's packing slip attached to this form? Yes No NA
 3. Did custody papers accompany the samples? Yes No Relinquished by client? Yes No
 4. Did you sign the custody papers in the appropriate place? Yes No
 5. Packing material used: Bubble Wrap Foam None Other: _____
 6. Cooler temperature upon receipt 3.3 °C (see back of form for multiple coolers/temp)
 METHOD: Temp Vial Coolant & Sample Against Bottles IR ICE/H₂O Slurry
 COOLANT: Wet Ice Blue Ice Dry Ice Water None
 7. Did all bottles arrive in good condition (Unbroken)? Yes No
 8. Could all bottle labels and/or tags be reconciled with the COC? Yes No
 9. Were samples at the correct pH? (record below/on back) Yes No NA
 10. Were correct bottles used for the tests indicated? Yes No
 11. Were air bubbles >6 mm in any VOA vials? Yes No NA
 12. Sufficient quantity received to perform indicated analyses? Yes No
- Contacted PM _____ Date: _____ by: _____ via Voice Mail Verbal Other

Concerning: _____

1. CHAIN OF CUSTODY

The following discrepancies occurred:
COC = GW-11360-072904-DLR-183.

Labels = 183, 184, 185, 186, 187, 188, 190
 -will log 190 per COC per [unclear]

2. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.

3. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot #052804-HNO₃; Sulfuric Acid Lot # 011-304-H₂SO₄; Sodium Hydroxide Lot # -031804-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 112801-CH₃COO₂Zn/NaOH
 Sample(s) _____ were received with bubble > 6 mm in diameter (cc: PM)

4. Other (see below or back)

Client ID	pH	Date	Initials

GCMS VOLATILE DATA

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072904-DCR-183

GC/MS Volatiles

Lot-Sample #...: A4G300129-001 Work Order #...: GL6LF1AA Matrix.....: WG
 Date Sampled...: 07/29/04 08:50 Date Received...: 07/30/04
 Prep Date.....: 07/31/04 Analysis Date...: 07/31/04
 Prep Batch #...: 4213117
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	LIMIT	UNITS	MDL
Acetone	ND	25	ug/L	0.74
Benzene	0.26 J	1.0	ug/L	0.22
Bromodichloromethane	0.76 J	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	1.4	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.52 J	1.0	ug/L	0.12
Dibromochloromethane	0.76 J	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	0.61 J	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	0.68 J	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072904-DCR-183

GC/MS Volatiles

Lot-Sample #....: A4G300129-001 Work Order #....: GL6LF1AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	1.2 B	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	1.8 J	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	89	(73 - 122)
1,2-Dichloroethane-d4	85	(61 - 128)
Toluene-d8	87	(76 - 110)
4-Bromofluorobenzene	76	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072904-DCR-184

GC/MS Volatiles

Lot-Sample #...: A4G300129-002 Work Order #...: GL6LH1AA Matrix.....: WG
 Date Sampled...: 07/29/04 08:55 Date Received...: 07/30/04
 Prep Date.....: 07/31/04 Analysis Date...: 07/31/04
 Prep Batch #...: 4213117
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	ND	25	ug/L	0.74
Benzene	0.26 J	1.0	ug/L	0.22
Bromodichloromethane	0.84 J	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	1.3	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.52 J	1.0	ug/L	0.12
Dibromochloromethane	0.73 J	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	0.63 J	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	0.72 J	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072904-DCR-184

GC/MS Volatiles

Lot-Sample #...: A4G300129-002 Work Order #...: GL6LH1AA Matrix.....: WG

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	1.2 B	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	1.8 J	3.0	ug/L	0.44

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	90	(73 - 122)
1,2-Dichloroethane-d4	86	(61 - 128)
Toluene-d8	86	(76 - 110)
4-Bromofluorobenzene	76	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072904-DCR-185

GC/MS Volatiles

Lot-Sample #...: A4G300129-003 Work Order #...: GL6LJ1AA Matrix.....: WG
 Date Sampled...: 07/29/04 09:30 Date Received...: 07/30/04
 Prep Date.....: 08/01/04 Analysis Date...: 08/01/04
 Prep Batch #...: 4213117
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	ND	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	5.5	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	8.2	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	2.9	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	0.87 J	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072904-DCR-185

GC/MS Volatiles

Lot-Sample #...: A4G300129-003 Work Order #...: GL6LJ1AA Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	2.9 B	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	93	(73 - 122)
1,2-Dichloroethane-d4	88	(61 - 128)
Toluene-d8	86	(76 - 110)
4-Bromofluorobenzene	76	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072904-DCR-186

GC/MS Volatiles

Lot-Sample #...: A4G300129-004 Work Order #...: GL6LL1AA Matrix.....: WG
 Date Sampled...: 07/29/04 10:30 Date Received...: 07/30/04
 Prep Date.....: 07/31/04 Analysis Date...: 07/31/04
 Prep Batch #...: 4213117
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	LIMIT	UNITS	MDL
Acetone	ND	25	ug/L	0.74
Benzene	0.24 J	1.0	ug/L	0.22
Bromodichloromethane	1.7	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	2.5	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.47 J	1.0	ug/L	0.12
Dibromochloromethane	1.1	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	0.56 J	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	0.62 J	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072904-DCR-186

GC/MS Volatiles

Lot-Sample #...: A4G300129-004 Work Order #...: GL6LL1AA Matrix.....: WG

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	1.7 B	1.0	ug/L	0.17
1,2,4-Trichloro-benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	0.22 J	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	1.6 J	3.0	ug/L	0.44
	PERCENT	RECOVERY		
<u>SURROGATE</u>	<u>RECOVERY</u>	<u>LIMITS</u>		
Dibromofluoromethane	92	(73 - 122)		
1,2-Dichloroethane-d4	87	(61 - 128)		
Toluene-d8	89	(76 - 110)		
4-Bromofluorobenzene	76	(74 - 116)		

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072904-DCR-187

GC/MS Volatiles

Lot-Sample #...: A4G300129-005 Work Order #...: GL6LR1AA Matrix.....: WG
 Date Sampled...: 07/29/04 12:10 Date Received...: 07/30/04
 Prep Date.....: 07/31/04 Analysis Date...: 07/31/04
 Prep Batch #...: 4213117
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	ND	25	ug/L	0.74
Benzene	0.24 J	1.0	ug/L	0.22
Bromodichloromethane	3.7	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	6.0	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.46 J	1.0	ug/L	0.12
Dibromochloromethane	1.9	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	0.54 J	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	0.64 J	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072904-DCR-187

GC/MS Volatiles

Lot-Sample #...: A4G300129-005 Work Order #...: GL6LR1AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	3.5 B	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	1.6 J	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	92	(73 - 122)
1,2-Dichloroethane-d4	86	(61 - 128)
Toluene-d8	88	(76 - 110)
4-Bromofluorobenzene	78	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072904-DCR-188

GC/MS Volatiles

Lot-Sample #....: A4G300129-006 Work Order #....: GL6LV1AA Matrix.....: WG
 Date Sampled....: 07/29/04 13:30 Date Received...: 07/30/04
 Prep Date.....: 07/31/04 Analysis Date...: 07/31/04
 Prep Batch #....: 4213117
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	ND	25	ug/L	0.74
Benzene	0.41 J	1.0	ug/L	0.22
Bromodichloromethane	2.1	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	4.0	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.65 J	1.0	ug/L	0.12
Dibromochloromethane	1.2	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	0.60 J	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	0.76 J	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072904-DCR-188

GC/MS Volatiles

Lot-Sample #....: A4G300129-006 Work Order #....: GL6LV1AA Matrix.....: WG

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	2.7 B	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	1.7 J	3.0	ug/L	0.44

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	93	(73 - 122)
1,2-Dichloroethane-d4	90	(61 - 128)
Toluene-d8	88	(76 - 110)
4-Bromofluorobenzene	76	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072904-DCR-189

GC/MS Volatiles

Lot-Sample #....: A4G300129-007 Work Order #....: GL6LX1AA Matrix.....: WG
 Date Sampled....: 07/29/04 14:45 Date Received...: 07/30/04
 Prep Date.....: 07/31/04 Analysis Date...: 07/31/04
 Prep Batch #....: 4213117
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	1.0 J	25	ug/L	0.74
Benzene	0.35 J	1.0	ug/L	0.22
Bromodichloromethane	3.0	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	0.53 J	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	6.4	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.52 J	1.0	ug/L	0.12
Dibromochloromethane	1.7	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	0.59 J	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	0.71 J	1.0	ug/L	0.50
4-Methyl-2-pentanone	0.92 J	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072904-DCR-189

GC/MS Volatiles

Lot-Sample #...: A4G300129-007 Work Order #...: GL6LX1AA Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	4.5 B	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	1.7 J	3.0	ug/L	0.44

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	92	(73 - 122)
1,2-Dichloroethane-d4	88	(61 - 128)
Toluene-d8	90	(76 - 110)
4-Bromofluorobenzene	81	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072904-DCR-190

GC/MS Volatiles

Lot-Sample #....: A4G300129-008 Work Order #....: GL6L11AA Matrix.....: WG
 Date Sampled....: 07/29/04 16:00 Date Received...: 07/30/04
 Prep Date.....: 07/31/04 Analysis Date...: 07/31/04
 Prep Batch #....: 4213117
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	1.0 J	25	ug/L	0.74
Benzene	0.32 J	1.0	ug/L	0.22
Bromodichloromethane	3.1	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	0.56 J	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	6.0	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.47 J	1.0	ug/L	0.12
Dibromochloromethane	1.7	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	0.57 J	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	0.71 J	1.0	ug/L	0.50
4-Methyl-2-pentanone	0.90 J	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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SAMPLE SUMMARY

SAMPLE SUMMARY

A4G220188

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
GLK29	001	GW-17360-072104-BM-144	07/21/04	08:30
GLK3J	002	GW-17360-072104-BM-145	07/21/04	09:30
GLK3K	003	GW-17360-072104-BM-146	07/21/04	11:12
GLK3L	004	GW-17360-072104-BM-147	07/21/04	12:40
GLK3N	005	GW-17360-072104-BM-148	07/21/04	14:00
GLK3P	006	GW-17360-072104-BM-149	07/21/04	15:30
GLK3Q	007	W-17360-072104-BM-150	07/21/04	

NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.



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PROJECT NAME:

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PRINTED NAME:

BREKNOT MILLER

PARAMETERS

NOV 19

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72-HR TMT

CDM CONTACT

LATHIE SHAW

734-453-5123

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**Severn Trent Laboratories, Inc.
Sample Control Record**

RSR280
 Client: 57787
 Lot #: A4G220188
 Case Number/SDG: 17360-09
 Storage Location: MS

Laboratory Sample I.D.	Transferred By	Date	Entered	Removed	Reason	Date Returned
GLK29	EARLES	7/22/04	Yes		Storage	
GLK3J	EARLES	7/22/04	Yes		Storage	
GLK3K	EARLES	7/22/04	Yes		Storage	
GLK3L	EARLES	7/22/04	Yes		Storage	
GLK3N	EARLES	7/22/04	Yes		Storage	
GLK3P	EARLES	7/22/04	Yes		Storage	
GLK3Q	EARLES	7/22/04	Yes		Storage	

STL Cooler Receipt Form/Narrative

Lot Number: A46220188

North Canton Facility

Client: CLA Project: GML Grand Rapids Quote#: _____
 Cooler Received on: 7-22-04 Opened on: 7-22-04 by: J. Ruppel
 (Signature)

Fedx Client Drop Off UPS DHL FAS Other: _____

STL Cooler No# _____ Foam Box Client Cooler Other _____

1. Were custody seals on the outside of the cooler? Yes No Intact? Yes No NA
 If YES, Quantity _____
 Were the custody seals signed and dated? Yes No NA
 2. Shipper's packing slip attached to this form? Yes No NA
 3. Did custody papers accompany the samples? Yes No Relinquished by client? Yes No
 4. Did you sign the custody papers in the appropriate place? Yes No
 5. Packing material used: Bubble Wrap Foam None Other: _____
 6. Cooler temperature upon receipt 4.6 °C (see back of form for multiple coolers/temp)
- METHOD: Temp Vial Coolant & Sample Against Bottles IR ICE/H₂O Slurry
 COOLANT: Wet Ice Blue Ice Dry Ice Water None
7. Did all bottles arrive in good condition (Unbroken)? Yes No
 8. Could all bottle labels and/or tags be reconciled with the COC? Yes No
 9. Were samples at the correct pH? (record below/on back) Yes No NA
 10. Were correct bottles used for the tests indicated? Yes No
 11. Were air bubbles >6 mm in any VOA vials? Yes No NA
 12. Sufficient quantity received to perform indicated analyses? Yes No
- Contacted PM _____ Date: _____ by: _____ via Voice Mail Verbal Other
 Concerning: _____

1. CHAIN OF CUSTODY

The following discrepancies occurred:

2. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.

3. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot #122603-HNO₃; Sulfuric Acid Lot # 011-304-H₂SO₄; Sodium Hydroxide Lot # 111401-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 112801-CH₃COO₂ZN/NaOH
 Sample(s) _____ were received with bubble > 6 mm in diameter (cc: PM)

4. Other (see below or back)

Client ID	pH	Date	Initials

GCMS VOLATILE DATA

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072104-BM-144

GC/MS Volatiles

Lot-Sample #....: A4G220188-001 Work Order #....: GLK291AA Matrix.....: WG
 Date Sampled....: 07/21/04 08:30 Date Received...: 07/22/04
 Prep Date.....: 07/26/04 Analysis Date...: 07/26/04
 Prep Batch #....: 4207075
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	2.1 J	25	ug/L	0.74
Benzene	0.22 J	1.0	ug/L	0.22
Bromodichloromethane	0.36 J	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	0.28 J	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	0.85 J	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.23 J	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072104-BM-144

GC/MS Volatiles

Lot-Sample #...: A4G220188-001 Work Order #...: GLK291AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	1.1	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	6.5	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	0.52 J	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	95	(73 - 122)
1,2-Dichloroethane-d4	93	(61 - 128)
Toluene-d8	86	(76 - 110)
4-Bromofluorobenzene	76	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072104-BM-145

GC/MS Volatiles

Lot-Sample #....: A4G220188-002 Work Order #....: GLK3J1AA Matrix.....: WG
 Date Sampled....: 07/21/04 09:30 Date Received...: 07/22/04
 Prep Date.....: 07/26/04 Analysis Date...: 07/26/04
 Prep Batch #....: 4207075
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	1.3 J	25	ug/L	0.74
Benzene	0.25 J	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	0.58 J	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072104-BM-145

GC/MS Volatiles

Lot-Sample #....: A4G220188-002 Work Order #....: GLK3J1AA Matrix.....: WG

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethane	ND	1.0	ug/L	0.19
Toluene	0.64 J	1.0	ug/L	0.17
1,2,4-Trichloro-benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	18	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	0.76 J	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	98	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
Toluene-d8	91	(76 - 110)
4-Bromofluorobenzene	79	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072104-BM-146

GC/MS Volatiles

Lot-Sample #...: A4G220188-003 Work Order #...: GLK3K1AA Matrix.....: WG
 Date Sampled...: 07/21/04 11:12 Date Received...: 07/22/04
 Prep Date.....: 07/26/04 Analysis Date...: 07/26/04
 Prep Batch #...: 4207075
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	2.5 J	25	ug/L	0.74
Benzene	0.25 J	1.0	ug/L	0.22
Bromodichloromethane	3.5	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	0.52 J	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	8.7	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	1.4	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072104-BM-147

GC/MS Volatiles

Lot-Sample #...: A4G220188-004 Work Order #...: GLK3L1AA Matrix.....: WG
 Date Sampled...: 07/21/04 12:40 Date Received...: 07/22/04
 Prep Date.....: 07/26/04 Analysis Date...: 07/26/04
 Prep Batch #...: 4207075
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	1.7 J	25	ug/L	0.74
Benzene	0.33 J	1.0	ug/L	0.22
Bromodichloromethane	1.5	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	3.1	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.19 J	1.0	ug/L	0.12
Dibromochloromethane	0.49 J	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072104-BM-147

GC/MS Volatiles

Lot-Sample #....: A4G220188-004 Work Order #....: GLK3L1AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	2.1	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	0.23 J	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	0.30 J	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	99	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
Toluene-d8	88	(76 - 110)
4-Bromofluorobenzene	75	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072104-BM-148

GC/MS Volatiles

Lot-Sample #...: A4G220188-005 Work Order #...: GLK3N1AA Matrix.....: WG
 Date Sampled...: 07/21/04 14:00 Date Received...: 07/22/04
 Prep Date.....: 07/26/04 Analysis Date...: 07/26/04
 Prep Batch #...: 4207075
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	2.5 J	25	ug/L	0.74
Benzene	0.25 J	1.0	ug/L	0.22
Bromodichloromethane	1.4	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	4.1	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.17 J	1.0	ug/L	0.12
Dibromochloromethane	0.46 J	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072104-BM-148

GC/MS Volatiles

Lot-Sample #...: A4G220188-005 Work Order #...: GLK3N1AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	2.7	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	0.52 J	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	97	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
Toluene-d8	89	(76 - 110)
4-Bromofluorobenzene	77	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072104-BM-149

GC/MS Volatiles

Lot-Sample #...: A4G220188-006 Work Order #...: GLK3P1AA Matrix.....: WG
 Date Sampled...: 07/21/04 15:30 Date Received...: 07/22/04
 Prep Date.....: 07/26/04 Analysis Date...: 07/26/04
 Prep Batch #...: 4207075
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	3.1 J	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	0.58 J	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	2.7	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072104-BM-149

GC/MS Volatiles

Lot-Sample #....: A4G220188-006 Work Order #....: GLK3P1AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	2.0	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	0.39 J	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	0.58 J	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	97	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
Toluene-d8	89	(76 - 110)
4-Bromofluorobenzene	77	(74 - 116)

NOTE (S) :

J Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: W-17360-072104-BM-150

GC/MS Volatiles

Lot-Sample #...: A4G220188-007 Work Order #...: GLK3Q1AA Matrix.....: WQ
 Date Sampled...: 07/21/04 Date Received...: 07/22/04
 Prep Date.....: 07/26/04 Analysis Date...: 07/26/04
 Prep Batch #...: 4207075
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	2.8 J	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	0.51 J	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	0.68 J	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G220188
 MB Lot-Sample #: A4G250000-075
 Analysis Date...: 07/25/04
 Dilution Factor: 1

Work Order #...: GLTK81AA
 Prep Date.....: 07/25/04
 Prep Batch #...: 4207075
 Initial Wgt/Vol: 5 mL

Matrix.....: WATER
 Final Wgt/Vol...: 5 mL

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Acetone	ND	25	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	1.0	ug/L	SW846 8260B
2-Butanone	ND	25	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	1.0	ug/L	SW846 8260B
Cyclohexane	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromoethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
Dichlorodifluoromethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
2-Hexanone	ND	50	ug/L	SW846 8260B
Isopropylbenzene	ND	5.0	ug/L	SW846 8260B
Methyl acetate	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
Methylcyclohexane	ND	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	50	ug/L	SW846 8260B
Methyl tert-butyl ether	ND	5.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G220188

Work Order #...: GLTK81AA

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>
		<u>LIMIT</u>	<u>UNITS</u>	
1,2,4-Trichloro- benzene	ND	5.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	3.0	ug/L	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	97	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
Toluene-d8	89	(76 - 110)
4-Bromofluorobenzene	78	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: A4G220188 Work Order #...: GLTK81AC-LCS Matrix.....: WATER
 LCS Lot-Sample#: A4G250000-075 GLTK81AD-LCSD
 Prep Date.....: 07/25/04 Analysis Date...: 07/25/04
 Prep Batch #...: 4207075
 Dilution Factor: 1

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Benzene	10	9.2	ug/L	92		SW846 8260B
	10	9.4	ug/L	94	2.4	SW846 8260B
Chlorobenzene	10	9.1	ug/L	91		SW846 8260B
	10	9.3	ug/L	93	2.2	SW846 8260B
1,1-Dichloroethene	10	9.7	ug/L	97		SW846 8260B
	10	9.8	ug/L	98	1.1	SW846 8260B
Toluene	10	9.1	ug/L	91		SW846 8260B
	10	9.2	ug/L	92	0.67	SW846 8260B
Trichloroethene	10	9.3	ug/L	93		SW846 8260B
	10	9.4	ug/L	94	1.7	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	97	(73 - 122)
	93	(73 - 122)
1,2-Dichloroethane-d4	99	(61 - 128)
	100	(61 - 128)
Toluene-d8	92	(76 - 110)
	92	(76 - 110)
4-Bromofluorobenzene	83	(74 - 116)
	81	(74 - 116)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A4G220188 Work Order #...: GLTK81AC-LCS Matrix.....: WATER
 LCS Lot-Sample#: A4G250000-075 GLTK81AD-LCSD
 Prep Date.....: 07/25/04 Analysis Date..: 07/25/04
 Prep Batch #...: 4207075
 Dilution Factor: 1

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	92	(80 - 116)			SW846 8260B
	94	(80 - 116)	2.4	(0-20)	SW846 8260B
Chlorobenzene	91	(76 - 117)			SW846 8260B
	93	(76 - 117)	2.2	(0-20)	SW846 8260B
1,1-Dichloroethene	97	(63 - 130)			SW846 8260B
	98	(63 - 130)	1.1	(0-20)	SW846 8260B
Toluene	91	(74 - 119)			SW846 8260B
	92	(74 - 119)	0.67	(0-20)	SW846 8260B
Trichloroethene	93	(75 - 122)			SW846 8260B
	94	(75 - 122)	1.7	(0-20)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	97	(73 - 122)
	93	(73 - 122)
1,2-Dichloroethane-d4	99	(61 - 128)
	100	(61 - 128)
Toluene-d8	92	(76 - 110)
	92	(76 - 110)
4-Bromofluorobenzene	83	(74 - 116)
	81	(74 - 116)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: A4G220188 Work Order #...: GLKJN1AC-MS Matrix.....: WATER
 MS Lot-Sample #: A4G220119-003 GLKJN1AD-MSD
 Date Sampled...: 07/20/04 18:00 Date Received...: 07/22/04
 Prep Date.....: 07/25/04 Analysis Date...: 07/25/04
 Prep Batch #...: 4207075
 Dilution Factor: 3333.33 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

PARAMETER	SAMPLE	SPIKE	MEASRD	UNITS	PERCENT		
	AMOUNT	AMT	AMOUNT		RECVRY	RPD	METHOD
Benzene	ND	33000	32000	ug/L	95		SW846 8260B
	ND	33000	32000	ug/L	95	0.01	SW846 8260B
Chlorobenzene	ND	33000	31000	ug/L	93		SW846 8260B
	ND	33000	30000	ug/L	91	2.3	SW846 8260B
1,1-Dichloroethene	ND	33000	33000	ug/L	98		SW846 8260B
	ND	33000	33000	ug/L	99	0.87	SW846 8260B
Toluene	ND	33000	31000	ug/L	92		SW846 8260B
	ND	33000	30000	ug/L	91	1.8	SW846 8260B
Trichloroethene	99000	33000	140000	ug/L	108		SW846 8260B
	99000	33000	140000	ug/L	107	0.22	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	95	(73 - 122)
	97	(73 - 122)
1,2-Dichloroethane-d4	100	(61 - 128)
	99	(61 - 128)
Toluene-d8	93	(76 - 110)
	91	(76 - 110)
4-Bromofluorobenzene	85	(74 - 116)
	84	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A4G220188 Work Order #...: GLKJN1AC-MS Matrix.....: WATER
 MS Lot-Sample #: A4G220119-003 GLKJN1AD-MSD
 Date Sampled...: 07/20/04 18:00 Date Received...: 07/22/04
 Prep Date.....: 07/25/04 Analysis Date...: 07/25/04
 Prep Batch #...: 4207075
 Dilution Factor: 3333.33 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

PARAMETER	PERCENT	RECOVERY	RPD		METHOD
	RECOVERY	LIMITS	RPD	LIMITS	
Benzene	95	(78 - 118)			SW846 8260B
	95	(78 - 118)	0.01	(0-20)	SW846 8260B
Chlorobenzene	93	(76 - 117)			SW846 8260B
	91	(76 - 117)	2.3	(0-20)	SW846 8260B
1,1-Dichloroethene	98	(62 - 130)			SW846 8260B
	99	(62 - 130)	0.87	(0-20)	SW846 8260B
Toluene	92	(70 - 119)			SW846 8260B
	91	(70 - 119)	1.8	(0-20)	SW846 8260B
Trichloroethene	108	(62 - 130)			SW846 8260B
	107	(62 - 130)	0.22	(0-20)	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	95	(73 - 122)
	97	(73 - 122)
1,2-Dichloroethane-d4	100	(61 - 128)
	99	(61 - 128)
Toluene-d8	93	(76 - 110)
	91	(76 - 110)
4-Bromofluorobenzene	85	(74 - 116)
	84	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

END OF REPORT

REC'D CRA
AUG - 4 2004
CRA SDG G-18.

STL North Canton
4101 Shuffel Drive NW
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772
www.stl-inc.com

ANALYTICAL REPORT

PROJECT NO. 17360-09

GM-GRAND RAPIDS

Lot #: A4G230184

Paul Wiseman

Conestoga Rovers & Assoc., Inc
14496 Sheldon Rd Suite 200
Plymouth, MI 48170

ORIGINAL ANALYTICAL REPORT

Project#: 17360-09 Lab#: A4G230184

Name: GM-GRAND RAPIDS

Description

SEVERN TRENT LABORATORIES, INC.

Event: VAS Sampling

Samples: 6 waters DCR 151-156.

Analysis: TCL VOCs.

TAT: 48 Hour TAT.

Ken Keyser for Lab: STL-NC

Amy L. McCormick Checked Against Preliminary Data:
Project Manager Date: N/A Init.: N/A.

Date of Validation Memo: 10/21/07

Invoice Approval Date: _____

August 2, 2004 Comments: _____

CRA

CONESTOGA-ROVERS & ASSOCIATES, INC.

14496 Sheldon Road, Suite 200
Plymouth, MI 48170 • (734) 453-5123

CHAIN OF CUSTODY RECORD

SAMPLER'S SIGNATURE: [Signature] PRINTED NAME: David C. Rivers

SHIPPED TO (Laboratory Name): STC- North Canton

REFERENCE NUMBER: 17360-09

PROJECT NAME: GM Grand Rapids

SEQ. No.	DATE	TIME	CONTAINERS	SAMPLE TYPE	PARAMETERS	REMARKS
1	7/22/04	1000	3	H20	X	
2	↓	1050	3	↓	X	
3	↓	1055	3	↓	X	
4	↓	1145	3	↓	X	
5	↓	1305	3	↓	X	
6	↓	-	1	↓	X	
TOTAL NUMBER OF CONTAINERS <u>16</u>						

CRA contact
Paul Wiseman

RELINQUISHED BY: <u>[Signature]</u>	DATE: <u>7-22-04</u>	RECEIVED BY: _____	DATE: _____
	TIME: <u>1830</u>	1. _____	TIME: _____
RELINQUISHED BY: _____	DATE: _____	RECEIVED BY: _____	DATE: _____
	TIME: _____	2. _____	TIME: _____
RELINQUISHED BY: _____	DATE: _____	RECEIVED BY: _____	DATE: _____
	TIME: _____	1. _____	TIME: _____

METHOD OF SHIPMENT: FED EX AIR BILL No. 8393 5580 8986

White - Fully Executed Copy Pink - Shipper Copy
 Yellow - Receiving Laboratory Copy Goldentrod - Sampler Copy

SAMPLE TEAM: David C. Rivers

RECEIVED FOR LABORATORY BY: [Signature]

DATE: 7/23/04 TIME: 9:40

27179

CASE NARRATIVE

CASE NARRATIVE

A4G230184

The following report contains the analytical results for five water samples and one quality control sample submitted to STL North Canton by Conestoga-Rovers & Associates, Inc. from the GM-Grand Rapids Site, project number 17360-09. The samples were received July 23, 2004, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to the Chemistry Department on July 27, 2004. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 2.4°C.

CASE NARRATIVE (continued)

GC/MS VOLATILES

The sample(s) that contained concentrations of target analyte(s) at a reportable level in the associated Method Blank(s) were flagged with "B". All target analytes in the Method Blank must be below the reporting limit (RL) or the associated sample(s) must be ND with the exception of common laboratory contaminants.

The sample(s) that contain results between the MDL and the RL were flagged with "J". There is a possibility of false positive or mis-identification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation was performed only down to the standard reporting limit (SRL). The acceptance criteria for QC samples may not be met at these quantitation levels.

The matrix spike/matrix spike duplicate(s) for batch(es) 4209406 had recoveries outside acceptance limits. However, since the associated method blank(s) and laboratory control sample(s) were in control, no corrective action was necessary.

QUALITY CONTROL ELEMENTS OF SW-846 METHODS

STL North Canton conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data.

QC BATCH

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. STL North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples. These QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. The only exception is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed below.)

Volatile (GC or GC/MS)

Methylene chloride
Acetone
2-Butanone

Semivolatile (GC/MS)

Phthalate Esters

Metals

Copper
Iron
Zinc
Lead*

- *for analyses run on TJA Trace ICP, ICPMS or GFAA only*

QUALITY CONTROL ELEMENTS OF SW-846 METHODS (Continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the reparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable. The acceptance criteria do not apply to samples that are diluted for organics if the native sample amount is 4x the concentration of the spike.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprep and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be reprep and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide, PCB, and PAH methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria.



STL North Canton Certifications and Approvals:

Alabama (#41170), California (#01144CA), Connecticut (#PH-0590), Florida (#E87225), Illinois (#100439), Kansas (#E10336), Massachusetts (#M-OH048), Maryland (#272), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Ohio (#6090), OhioVAP (#CL0024), Rhode Island (#237), South Carolina (#92007001, #92007002, #92007003), Tennessee (#02903), Utah (#QUAN9), Virginia (#00011), West Virginia (#210), Wisconsin (#999518190), NAVY, ARMY, USDA Soil Permit, ACIL Seal of Excellence – Participating Lab Status Award (#82)

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STL

***EXECUTIVE
SUMMARY***

EXECUTIVE SUMMARY - Detection Highlights

A4G230184

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
GW-17360-072204-DCR-151 07/22/04 10:00 001				
Acetone	2.5 J,B	25	ug/L	SW846 8260B
Carbon disulfide	1.1 J	5.0	ug/L	SW846 8260B
Toluene	0.37 J	1.0	ug/L	SW846 8260B
GW-17360-072204-DCR-152 07/22/04 10:50 002				
Acetone	2.8 J,B	25	ug/L	SW846 8260B
Benzene	0.38 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	1.9	1.0	ug/L	SW846 8260B
Chloroform	13	1.0	ug/L	SW846 8260B
Cyclohexane	0.31 J	1.0	ug/L	SW846 8260B
Tetrachloroethene	0.35 J	1.0	ug/L	SW846 8260B
Toluene	0.85 J	1.0	ug/L	SW846 8260B
Trichloroethene	2.0	1.0	ug/L	SW846 8260B
GW-17360-072204-DCR-153 07/22/04 10:55 003				
Acetone	2.8 J,B	25	ug/L	SW846 8260B
Benzene	0.35 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	1.9	1.0	ug/L	SW846 8260B
Chloroform	13	1.0	ug/L	SW846 8260B
Cyclohexane	0.25 J	1.0	ug/L	SW846 8260B
Tetrachloroethene	0.39 J	1.0	ug/L	SW846 8260B
Toluene	0.75 J	1.0	ug/L	SW846 8260B
Trichloroethene	2.1	1.0	ug/L	SW846 8260B
GW-17360-072204-DCR-154 07/22/04 11:45 004				
Acetone	2.3 J,B	25	ug/L	SW846 8260B
Benzene	0.22 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	1.5	1.0	ug/L	SW846 8260B
Chloroform	3.9	1.0	ug/L	SW846 8260B
Cyclohexane	0.16 J	1.0	ug/L	SW846 8260B
Dibromochloromethane	0.74 J	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	0.56 J	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	1.4	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	0.24 J	1.0	ug/L	SW846 8260B
Tetrachloroethene	0.58 J	1.0	ug/L	SW846 8260B
Toluene	0.53 J	1.0	ug/L	SW846 8260B
Trichloroethene	0.91 J	1.0	ug/L	SW846 8260B

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

A4G230184

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
GW-17360-072204-DCR-155 07/22/04 13:05 005				
Acetone	2.3 J,B	25	ug/L	SW846 8260B
Benzene	0.22 J	1.0	ug/L	SW846 8260B
Bromodichloromethane	6.1	1.0	ug/L	SW846 8260B
Chloroform	13	1.0	ug/L	SW846 8260B
Dibromochloromethane	2.1	1.0	ug/L	SW846 8260B
Toluene	2.3	1.0	ug/L	SW846 8260B
GW-17360-072204-DCR-156 07/22/04 006				
Acetone	6.2 J,B	25	ug/L	SW846 8260B
2-Butanone	0.81 J	25	ug/L	SW846 8260B
Methylene chloride	3.1 J	5.0	ug/L	SW846 8260B



STL

METHOD SUMMARY

ANALYTICAL METHODS SUMMARY

A4G230184

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Volatile Organics by GC/MS	SW846 8260B

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.



STL

SAMPLE SUMMARY

SAMPLE SUMMARY

A4G230184

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>SAMPLED DATE</u>	<u>SAMP TIME</u>
G1N1WJ	001	GW-17360-072204-DCR-151	07/22/04	10:00
G1N1WK	002	GW-17360-072204-DCR-152	07/22/04	10:50
G1N1WL	003	GW-17360-072204-DCR-153	07/22/04	10:55
G1N1WN	004	GW-17360-072204-DCR-154	07/22/04	11:45
G1N1WP	005	GW-17360-072204-DCR-155	07/22/04	13:05
G1N1WQ	006	GW-17360-072204-DCR-156	07/22/04	

NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.



STL

***SHIPPING
AND
RECEIVING DOCUMENTS***

CRA

CONESTOGA-ROVERS & ASSOCIATES, INC.
 14496 Sheldon Road, Suite 200
 Plymouth, MI 48170 • (734) 453-5123

SHIPPED TO (Laboratory Name): **STL - North Canton**

CHAIN OF CUSTODY RECORD

REFERENCE NUMBER:
17360-09

PROJECT NAME: **GM Grand Rapids**

SAMPLERS SIGNATURE: *[Signature]* PRINTED NAME: **David C. Rivers**

SEQ. No.	DATE	TIME	SAMPLE TYPE	OF 2 CONTAINERS	PARAMETERS		REMARKS
					TEL	TAT	
1	7/23/09	1000	GM-17360-072209-DCR-151	3	X	X	
2		1050		3	X	X	
3		1055		3	X	X	
4		1145		3	X	X	
5		1305		3	X	X	
6				1	X	X	

TOTAL NUMBER OF CONTAINERS: **16**

CRA contact Paul Wiseman

RELINQUISHED BY:	DATE: 7-22-09	RECEIVED BY:	DATE:
RELINQUISHED BY:	TIME: 1830	RECEIVED BY:	TIME:
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:
RELINQUISHED BY:	TIME:	RECEIVED BY:	TIME:
RELINQUISHED BY:	DATE:	RECEIVED BY:	DATE:
RELINQUISHED BY:	TIME:	RECEIVED BY:	TIME:

METHOD OF SHIPMENT: **FED EX** AIR BILL NO. **8393 5580 8886**

White - Fully Executed Copy	Pink - Shipper Copy	SAMPLE TEAM:	RECEIVED FOR LABORATORY BY:
Yellow - Receiving Laboratory Copy	Goldendred - Sampler Copy	<i>David C. Rivers</i>	<i>[Signature]</i>
27179			DATE: 7/23/09 TIME: 9:40

**Severn Trent Laboratories, Inc.
Sample Control Record**

RSR280
 Client: 57787
 Lot #: A4G30184
 Case Number/SDG: 17360-09
 Storage Location: MS

Laboratory Sample I.D.	Transferred By	Date	Entered	Removed	Reason	Date Returned
G1NWJ	SANDERSA	7/23/04	Yes		Storage	
G1NWK	SANDERSA	7/23/04	Yes		Storage	
G1NWL	SANDERSA	7/23/04	Yes		Storage	
G1NWN	SANDERSA	7/23/04	Yes		Storage	
G1NWP	SANDERSA	7/23/04	Yes		Storage	
G1NWQ	SANDERSA	7/23/04	Yes		Storage	

STL Cooler Receipt Form/Narrative
North Canton Facility

Lot Number: ATG030184

Client: CPK - Mich
 Cooler Received on: 7-23-04

Project: GM - Grand Lipids
 Opened on: 7-23-04

Quote#: _____
 by: [Signature]
 (Signature)

Fedx Client Drop Off UPS DHL FAS Other: _____
 STL Cooler No# _____ Foam Box Client Cooler Other _____

1. Were custody seals on the outside of the cooler? Yes No Intact? Yes No NA
 If YES, Quantity _____
 Were the custody seals signed and dated? Yes No NA
 2. Shipper's packing slip attached to this form? Yes No NA
 3. Did custody papers accompany the samples? Yes No Relinquished by client? Yes No
 4. Did you sign the custody papers in the appropriate place? Yes No
 5. Packing material used: Bubble Wrap Foam None Other: _____
 6. Cooler temperature upon receipt 2.4 °C (see back of form for multiple coolers/temp)
- METHOD: Temp Vial Coolant & Sample Against Bottles IR ICE/H₂O Slurry
 COOLANT: Wet Ice Blue Ice Dry Ice Water None
7. Did all bottles arrive in good condition (Unbroken)? Yes No
 8. Could all bottle labels and/or tags be reconciled with the COC? Yes No
 9. Were samples at the correct pH? (record below/on back) Yes No NA
 10. Were correct bottles used for the tests indicated? Yes No
 11. Were air bubbles >6 mm in any VOA vials? Yes No NA
 12. Sufficient quantity received to perform indicated analyses? Yes No
- Contacted PM _____ Date: _____ by: _____ via Voice Mail Verbal Other

Concerning:

1. CHAIN OF CUSTODY

The following discrepancies occurred:

2. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.

3. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in sample receiving to meet recommended pH level(s). Nitric Acid Lot #052804-HNO₃; Sulfuric Acid Lot # 011-504-H₂SO₄; Sodium Hydroxide Lot # -031804-NaOH; Hydrochloric Acid Lot # 100902-HCl; Sodium Hydroxide and Zinc Acetate Lot # 112801-CH₃COO₂ZN/NaOH
 Sample(s) _____ were received with bubble > 6 mm in diameter (cc: PM)

4. Other (see below or back)

Client ID	pH	Date	Initials

GCMS VOLATILE DATA

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072204-DCR-151

GC/MS Volatiles

Lot-Sample #...: A4G230184-001 Work Order #...: GLNWJ1AA Matrix.....: WG
 Date Sampled...: 07/22/04 10:00 Date Received...: 07/23/04
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #...: 4209406
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	2.5 J,B	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	1.1 J	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

(Continued on next page)

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072204-DCR-151

GC/MS Volatiles

Lot-Sample #...: A4G230184-001 Work Order #...: GLNWXJ1AA Matrix.....: WG

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	0.37 J	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	97	(73 - 122)
1,2-Dichloroethane-d4	98	(61 - 128)
Toluene-d8	89	(76 - 110)
4-Bromofluorobenzene	74	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072204-DCR-152

GC/MS Volatiles

Lot-Sample #....: A4G230184-002 Work Order #....: GLNWK1AA Matrix.....: WG
 Date Sampled....: 07/22/04 10:50 Date Received...: 07/23/04
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #....: 4209406
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	2.8 J,B	25	ug/L	0.74
Benzene	0.38 J	1.0	ug/L	0.22
Bromodichloromethane	1.9	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	13	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.31 J	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072204-DCR-152

GC/MS Volatiles

Lot-Sample #...: A4G230184-002 Work Order #...: GLNWK1AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	0.35 J	1.0	ug/L	0.19
Toluene	0.85 J	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	2.0	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	97	(73 - 122)
1,2-Dichloroethane-d4	96	(61 - 128)
Toluene-d8	90	(76 - 110)
4-Bromofluorobenzene	75	(74 - 116)

NOTE(S):

- J Estimated result. Result is less than RL.
- B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072204-DCR-153

GC/MS Volatiles

Lot-Sample #....: A4G230184-003 Work Order #....: GLNWL1AA Matrix.....: WG
 Date Sampled...: 07/22/04 10:55 Date Received...: 07/23/04
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #....: 4209406
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Acetone	2.8 J,B	25	ug/L	0.74
Benzene	0.35 J	1.0	ug/L	0.22
Bromodichloromethane	1.9	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	13	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.25 J	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072204-DCR-153

GC/MS Volatiles

Lot-Sample #....: A4G230184-003 Work Order #....: GLNWL1AA Matrix.....: WG

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	0.39 J	1.0	ug/L	0.19
Toluene	0.75 J	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	2.1	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	97	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
Toluene-d8	88	(76 - 110)
4-Bromofluorobenzene	75	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072204-DCR-154

GC/MS Volatiles

Lot-Sample #...: A4G230184-004 Work Order #...: GLNWN1AA Matrix.....: WG
 Date Sampled...: 07/22/04 11:45 Date Received...: 07/23/04
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #...: 4209406
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	2.3 J,B	25	ug/L	0.74
Benzene	0.22 J	1.0	ug/L	0.22
Bromodichloromethane	1.5	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	3.9	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	0.16 J	1.0	ug/L	0.12
Dibromochloromethane	0.74 J	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	0.56 J	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	1.4	1.0	ug/L	0.21
trans-1,2-Dichloroethene	0.24 J	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072204-DCR-154

GC/MS Volatiles

Lot-Sample #...: A4G230184-004 Work Order #...: GLNWN1AA Matrix.....: WG

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	0.58 J	1.0	ug/L	0.19
Toluene	0.53 J	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	0.91 J	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	98	(73 - 122)
1,2-Dichloroethane-d4	99	(61 - 128)
Toluene-d8	88	(76 - 110)
4-Bromofluorobenzene	75	(74 - 116)

NOTE(S):

- J Estimated result. Result is less than RL.
- B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072204-DCR-155

GC/MS Volatiles

Lot-Sample #...: A4G230184-005 Work Order #...: GLNWP1AA Matrix.....: WG
 Date Sampled...: 07/22/04 13:05 Date Received...: 07/23/04
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #...: 4209406
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	2.3 J,B	25	ug/L	0.74
Benzene	0.22 J	1.0	ug/L	0.22
Bromodichloromethane	6.1	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	ND	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	13	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	2.1	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	ND	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072204-DCR-155

GC/MS Volatiles

Lot-Sample #...: A4G230184-005 Work Order #...: GLNWP1AA Matrix.....: WG

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	2.3	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	101	(73 - 122)
1,2-Dichloroethane-d4	100	(61 - 128)
Toluene-d8	88	(76 - 110)
4-Bromofluorobenzene	74	(74 - 116)

NOTE(S):

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072204-DCR-156

GC/MS Volatiles

Lot-Sample #....: A4G230184-006 Work Order #....: GLNWQ1AA Matrix.....: WQ
 Date Sampled....: 07/22/04 Date Received...: 07/23/04
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #....: 4209406
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	6.2 J,B	25	ug/L	0.74
Benzene	ND	1.0	ug/L	0.22
Bromodichloromethane	ND	1.0	ug/L	0.14
Bromoform	ND	1.0	ug/L	0.17
Bromomethane	ND	1.0	ug/L	0.36
2-Butanone	0.81 J	25	ug/L	0.39
Carbon disulfide	ND	5.0	ug/L	0.28
Carbon tetrachloride	ND	1.0	ug/L	0.19
Chlorobenzene	ND	1.0	ug/L	0.20
Chloroethane	ND	1.0	ug/L	0.24
Chloroform	ND	1.0	ug/L	0.16
Chloromethane	ND	1.0	ug/L	0.14
Cyclohexane	ND	1.0	ug/L	0.12
Dibromochloromethane	ND	1.0	ug/L	0.19
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.28
1,2-Dibromoethane	ND	1.0	ug/L	0.24
1,2-Dichlorobenzene	ND	1.0	ug/L	0.20
1,3-Dichlorobenzene	ND	1.0	ug/L	0.18
1,4-Dichlorobenzene	ND	1.0	ug/L	0.22
Dichlorodifluoromethane	ND	1.0	ug/L	0.25
1,1-Dichloroethane	ND	1.0	ug/L	0.21
1,2-Dichloroethane	ND	1.0	ug/L	0.16
1,1-Dichloroethene	ND	1.0	ug/L	0.18
cis-1,2-Dichloroethene	ND	1.0	ug/L	0.21
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.16
1,2-Dichloropropane	ND	1.0	ug/L	0.15
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.12
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.17
Ethylbenzene	ND	1.0	ug/L	0.19
2-Hexanone	ND	50	ug/L	0.35
Isopropylbenzene	ND	5.0	ug/L	0.15
Methyl acetate	ND	10	ug/L	0.52
Methylene chloride	3.1 J	5.0	ug/L	0.19
Methylcyclohexane	ND	1.0	ug/L	0.50
4-Methyl-2-pentanone	ND	50	ug/L	0.32
Methyl tert-butyl ether	ND	5.0	ug/L	0.18
Styrene	ND	1.0	ug/L	0.13

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CONESTOGA-ROVERS & ASSOC., INC.

Client Sample ID: GW-17360-072204-DCR-156

GC/MS Volatiles

Lot-Sample #...: A4G230184-006 Work Order #...: GLNWQ1AA Matrix.....: WQ

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.22
Tetrachloroethene	ND	1.0	ug/L	0.19
Toluene	ND	1.0	ug/L	0.17
1,2,4-Trichloro- benzene	ND	5.0	ug/L	0.19
1,1,1-Trichloroethane	ND	1.0	ug/L	0.21
1,1,2-Trichloroethane	ND	1.0	ug/L	0.22
Trichloroethene	ND	1.0	ug/L	0.28
Trichlorofluoromethane	ND	1.0	ug/L	0.16
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	0.26
Vinyl chloride	ND	1.0	ug/L	0.21
Xylenes (total)	ND	3.0	ug/L	0.44

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	99	(73 - 122)
1,2-Dichloroethane-d4	99	(61 - 128)
Toluene-d8	89	(76 - 110)
4-Bromofluorobenzene	75	(74 - 116)

NOTE (S) :

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G230184
 MB Lot-Sample #: A4G270000-406
 Analysis Date...: 07/27/04
 Dilution Factor: 1

Work Order #...: GLXV81AA
 Prep Date.....: 07/27/04
 Prep Batch #...: 4209406
 Initial Wgt/Vol: 5 mL

Matrix.....: WATER
 Final Wgt/Vol...: 5 mL

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	METHOD
Acetone	1.1 J	25	ug/L	SW846 8260B
Benzene	ND	1.0	ug/L	SW846 8260B
Bromodichloromethane	ND	1.0	ug/L	SW846 8260B
Bromoform	ND	1.0	ug/L	SW846 8260B
Bromomethane	ND	1.0	ug/L	SW846 8260B
2-Butanone	ND	25	ug/L	SW846 8260B
Carbon disulfide	ND	5.0	ug/L	SW846 8260B
Carbon tetrachloride	ND	1.0	ug/L	SW846 8260B
Chlorobenzene	ND	1.0	ug/L	SW846 8260B
Chloroethane	ND	1.0	ug/L	SW846 8260B
Chloroform	ND	1.0	ug/L	SW846 8260B
Chloromethane	ND	1.0	ug/L	SW846 8260B
Cyclohexane	ND	1.0	ug/L	SW846 8260B
Dibromochloromethane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	SW846 8260B
1,2-Dibromoethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,3-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
1,4-Dichlorobenzene	ND	1.0	ug/L	SW846 8260B
Dichlorodifluoromethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
1,1-Dichloroethene	ND	1.0	ug/L	SW846 8260B
cis-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
trans-1,2-Dichloroethene	ND	1.0	ug/L	SW846 8260B
1,2-Dichloropropane	ND	1.0	ug/L	SW846 8260B
cis-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
trans-1,3-Dichloropropene	ND	1.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
2-Hexanone	ND	50	ug/L	SW846 8260B
Isopropylbenzene	ND	5.0	ug/L	SW846 8260B
Methyl acetate	ND	10	ug/L	SW846 8260B
Methylene chloride	ND	5.0	ug/L	SW846 8260B
Methylcyclohexane	ND	1.0	ug/L	SW846 8260B
4-Methyl-2-pentanone	ND	50	ug/L	SW846 8260B
Methyl tert-butyl ether	ND	5.0	ug/L	SW846 8260B
Styrene	ND	1.0	ug/L	SW846 8260B
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	SW846 8260B
Tetrachloroethene	ND	1.0	ug/L	SW846 8260B
Toluene	ND	1.0	ug/L	SW846 8260B

(Continued on next page)

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: A4G230184

Work Order #...: GLXV81AA

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>		<u>METHOD</u>
		<u>LIMIT</u>	<u>UNITS</u>	
1,2,4-Trichloro- benzene	ND	5.0	ug/L	SW846 8260B
1,1,1-Trichloroethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloroethane	ND	1.0	ug/L	SW846 8260B
Trichloroethene	ND	1.0	ug/L	SW846 8260B
Trichlorofluoromethane	ND	1.0	ug/L	SW846 8260B
1,1,2-Trichloro- 1,2,2-trifluoroethane	ND	1.0	ug/L	SW846 8260B
Vinyl chloride	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	3.0	ug/L	SW846 8260B
		<u>PERCENT</u>	<u>RECOVERY</u>	
<u>SURROGATE</u>	<u>RECOVERY</u>	<u>LIMITS</u>		
Dibromofluoromethane	98	(73 - 122)		
1,2-Dichloroethane-d4	97	(61 - 128)		
Toluene-d8	89	(76 - 110)		
4-Bromofluorobenzene	76	(74 - 116)		

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: A4G230184 Work Order #...: GLXV81AC-LCS Matrix.....: WATER
 LCS Lot-Sample#: A4G270000-406 GLXV81AD-LCSD
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #...: 4209406
 Dilution Factor: 1 Final Wgt/Vol...: 5 mL
 Initial Wgt/Vol: 5 mL

<u>PARAMETER</u>	<u>SPIKE</u> <u>AMOUNT</u>	<u>MEASURED</u> <u>AMOUNT</u>	<u>UNITS</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RPD</u>	<u>METHOD</u>
Benzene	10	9.3	ug/L	93		SW846 8260B
	10	9.7	ug/L	97	4.5	SW846 8260B
Chlorobenzene	10	9.0	ug/L	90		SW846 8260B
	10	9.4	ug/L	94	4.5	SW846 8260B
1,1-Dichloroethene	10	9.5	ug/L	95		SW846 8260B
	10	10	ug/L	104	9.0	SW846 8260B
Toluene	10	8.8	ug/L	88		SW846 8260B
	10	9.3	ug/L	93	5.3	SW846 8260B
Trichloroethene	10	9.0	ug/L	90		SW846 8260B
	10	9.7	ug/L	97	7.0	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
Dibromofluoromethane	95	(73 - 122)
	96	(73 - 122)
1,2-Dichloroethane-d4	100	(61 - 128)
	103	(61 - 128)
Toluene-d8	91	(76 - 110)
	92	(76 - 110)
4-Bromofluorobenzene	83	(74 - 116)
	83	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.
 Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A4G230184 Work Order #...: GLXV81AC-LCS Matrix.....: WATER
 LCS Lot-Sample#: A4G270000-406 GLXV81AD-LCSD
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #...: 4209406
 Dilution Factor: 1 Final Wgt/Vol...: 5 mL
 Initial Wgt/Vol: 5 mL

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>RPD</u>	<u>RPD LIMITS</u>	<u>METHOD</u>
Benzene	93	(80 - 116)			SW846 8260B
	97	(80 - 116)	4.5	(0-20)	SW846 8260B
Chlorobenzene	90	(76 - 117)			SW846 8260B
	94	(76 - 117)	4.5	(0-20)	SW846 8260B
1,1-Dichloroethene	95	(63 - 130)			SW846 8260B
	104	(63 - 130)	9.0	(0-20)	SW846 8260B
Toluene	88	(74 - 119)			SW846 8260B
	93	(74 - 119)	5.3	(0-20)	SW846 8260B
Trichloroethene	90	(75 - 122)			SW846 8260B
	97	(75 - 122)	7.0	(0-20)	SW846 8260B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Dibromofluoromethane	95	(73 - 122)
	96	(73 - 122)
1,2-Dichloroethane-d4	100	(61 - 128)
	103	(61 - 128)
Toluene-d8	91	(76 - 110)
	92	(76 - 110)
4-Bromofluorobenzene	83	(74 - 116)
	83	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #....: A4G230184 Work Order #....: GLL2A1AC-MS Matrix.....: WATER
 MS Lot-Sample #: A4G220306-011 GLL2A1AD-MSD
 Date Sampled....: 07/19/04 19:21 Date Received...: 07/21/04
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #....: 4209406
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

PARAMETER	SAMPLE	SPIKE	MEASRD	UNITS	PERCNT		METHOD
	AMOUNT	AMT	AMOUNT		RECVRY	RPD	
Benzene	ND	10	6.8	ug/L	68 a		SW846 8260B
	ND	10	7.9	ug/L	79	15	SW846 8260B
Chlorobenzene	ND	10	6.6	ug/L	66 a		SW846 8260B
	ND	10	7.5	ug/L	75 a	12	SW846 8260B
1,1-Dichloroethene	ND	10	7.1	ug/L	71		SW846 8260B
	ND	10	8.6	ug/L	86	19	SW846 8260B
Toluene	ND	10	6.5	ug/L	65 a		SW846 8260B
	ND	10	7.4	ug/L	74	14	SW846 8260B
Trichloroethene	ND	10	6.6	ug/L	66		SW846 8260B
	ND	10	7.7	ug/L	77	15	SW846 8260B

SURROGATE	PERCENT	RECOVERY
	RECOVERY	LIMITS
Dibromofluoromethane	96	(73 - 122)
	98	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
	101	(61 - 128)
Toluene-d8	90	(76 - 110)
	91	(76 - 110)
4-Bromofluorobenzene	83	(74 - 116)
	82	(74 - 116)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: A4G230184 Work Order #...: GLL2A1AC-MS Matrix.....: WATER
 MS Lot-Sample #: A4G220306-011 GLL2A1AD-MSD
 Date Sampled...: 07/19/04 19:21 Date Received...: 07/21/04
 Prep Date.....: 07/27/04 Analysis Date...: 07/27/04
 Prep Batch #...: 4209406
 Dilution Factor: 1 Initial Wgt/Vol: 5 mL Final Wgt/Vol...: 5 mL

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	68 a	(78 - 118)			SW846 8260B
	79	(78 - 118)	15	(0-20)	SW846 8260B
Chlorobenzene	66 a	(76 - 117)			SW846 8260B
	75 a	(76 - 117)	12	(0-20)	SW846 8260B
1,1-Dichloroethene	71	(62 - 130)			SW846 8260B
	86	(62 - 130)	19	(0-20)	SW846 8260B
Toluene	65 a	(70 - 119)			SW846 8260B
	74	(70 - 119)	14	(0-20)	SW846 8260B
Trichloroethene	66	(62 - 130)			SW846 8260B
	77	(62 - 130)	15	(0-20)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	96	(73 - 122)
	98	(73 - 122)
1,2-Dichloroethane-d4	97	(61 - 128)
	101	(61 - 128)
Toluene-d8	90	(76 - 110)
	91	(76 - 110)
4-Bromofluorobenzene	83	(74 - 116)
	82	(74 - 116)

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

a Spiked analyte recovery is outside stated control limits.