



General Motors LLC
CET Tonawanda Site
2995 River Road
Buffalo, NY 14207-1099

May 22, 2014

J.R. Smythe
Division of Water
NYS Dept. of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203-2999

Re: GM Powertrain Tonawanda Engine Plant
SPDES Permit NY0000574
2nd Quarter 2014 Monitoring Well Results

Dear Mr. Smythe:

Attached please find the analytical results from the testing of monitoring wells for the 2nd Quarter 2014.

Please call Miguel A. Antonetti, PhD at 716-867-2129, if you have any questions.

"I certify under the penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations."

Sincerely,

Steven C. Finch
Plant Manager

Attachment

CC:
Andrea Skalski- NYSDEC, Buffalo
Brian Baker- NYSDEC, Albany

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May 01, 2014

GM - Tonawanda Engine Plant
Attn: Mr. Casey Essary
2995 River Road
Buffalo, NY 14207-1099

Project: Program 2 - Quarterly SPDES Wells

Dear Mr. Casey Essary,

Enclosed is a copy of the laboratory report for the following work order(s) received by TriMatrix Laboratories:

Work Order	Received	Description
1404256	04/16/2014	Laboratory Services
1404321	04/18/2014	Laboratory Services

This report relates only to the sample(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) and/or one of the following certification programs:

ACLASS DoD-ELAP/ISO17025 (#ADE-1542); Arkansas DEP (#88-0730/13-049-0); Florida DEP (#E87622-24); Georgia EPD (#E87622-24); Illinois DEP (#200026/003329); Kansas DPH (#E-10302); Kentucky DEP (#0021); Louisiana DEP (#103068); Michigan DPH (#0034); Minnesota DPH (#491715); New York ELAP (#11776/48855); North Carolina DNRE (#659); Texas CEQ (#T104704495-14-4); Virginia DCLS (#460153/2592); Wisconsin DNR (#999472650); USDA Soil Import Permit (#P330-12-00236).

Any qualification or narration of results, including sample acceptance requirements and test exceptions to the above referenced programs, is presented in the Statement of Data Qualifications and Project Technical Narrative sections of this report. Estimates of analytical uncertainties and certification documents for the test results contained within this report are available upon request.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Jennifer L. Rice
Project Chemist



PROJECT TECHNICAL NARRATIVE(s)

Semivolatile Organic Compounds by EPA Method 8270C

Narrative: The RL for this analysis was elevated due to insufficient sample volume or weight received.

Analysis: USEPA-8270C

1403460-MS1

1403460-MSD1

1404321-01 MW-1

1404321-02 MW-2

1404321-03 MW-3

1404321-04 MW-4



PROJECT TECHNICAL NARRATIVE(s)

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Narrative: The MS and/or MSD recovery was outside the laboratory or method control limit. The non-spiked sample concentration for this analyte was greater than or equal to 4 times the spiked amount and cannot be used to evaluate matrix quality control.

Analysis: SM 4500-Cl E-2011

Sample/Analyte: 1404256-01 Monitoring Well #1

Chloride



STATEMENT OF DATA QUALIFICATIONS

All analyses have been validated and comply with our Quality Control Program.
No Qualification is required.



ANALYTICAL REPORT

Client: **GM - Tonawanda Engine Plant**
Project: Program 2 - Quarterly SPDES Wells
Client Sample ID: **Monitoring Well #1**
Lab Sample ID: **1404256-01**
Matrix: Ground Water
Unit: ug/L
Dilution Factor: 1
QC Batch: 1403481

Work Order: **1404256**
Description: Laboratory Services
Sampled: 4/15/14 12:05
Sampled By: P. Hagerty
Received: 4/16/14 8:30
Prepared: 4/18/14 9:00 By: BAG
Analyzed: 4/18/14 16:53 By: BAG
Analytical Batch: 4D21009

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
71-43-2	Benzene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0

Surrogates:

Dibromofluoromethane

% Recovery

95

Control Limits

85-118

1,2-Dichloroethane-d4

103

87-122

Toluene-d8

94

85-113

4-Bromofluorobenzene

100

82-110

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ANALYTICAL REPORT

Client:	GM - Tonawanda Engine Plant	Work Order:	1404256
Project:	Program 2 - Quarterly SPDES Wells	Description:	Laboratory Services
Client Sample ID:	Monitoring Well #1	Sampled:	4/15/14 12:05
Lab Sample ID:	1404256-01	Sampled By:	P. Hagerty
Matrix:	Ground Water	Received:	4/16/14 8:30

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Chromium	0.12	0.050	mg/L	1	USEPA-6010C	04/21/14 13:13	CKD	1403292
Iron	1.5	0.020	mg/L	1	USEPA-6010C	04/21/14 14:36	CKD	1403292



ANALYTICAL REPORT

Client: **GM - Tonawanda Engine Plant**
Project: Program 2 - Quarterly SPDES Wells
Client Sample ID: **Monitoring Well #1**
Lab Sample ID: **1404256-01**
Matrix: Ground Water

Work Order: **1404256**
Description: Laboratory Services
Sampled: 4/15/14 12:05
Sampled By: P. Hagerly
Received: 4/16/14 8:30

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Chloride	3000	50	mg/L	50	SM 4500-Cl E-2011	04/24/14 09:30	LMA	1403607
Conductivity @ 25° C	9325	5	umhos/cm	1	SM 2510 B-2011	04/18/14 14:10	HLB	1403413
Residue, Dissolved @ 180° C	6290	100	mg/L	1	SM 2540 C-2011	04/17/14 15:30	WAH	1403384
Sulfate	85	25	mg/L	5	ASTM D516-90 (07)	04/23/14 10:56	LMA	1403585
Turbidity	24	1.0	NTU	1	SM 2130 B-2011	04/16/14 12:52	CAC	1403302

ANALYTICAL REPORT

Client:	GM - Tonawanda Engine Plant	Work Order:	1404256
Project:	Program 2 - Quarterly SPDES Wells	Description:	Laboratory Services
Client Sample ID:	Monitoring Well #2	Sampled:	4/15/14 11:40
Lab Sample ID:	1404256-02	Sampled By:	P. Hagerty
Matrix:	Ground Water	Received:	4/16/14 8:30
Unit:	ug/L	Prepared:	4/18/14 9:00 By: BAG
Dilution Factor:	1	Analyzed:	4/18/14 17:21 By: BAG
QC Batch:	1403481	Analytical Batch:	4D21009

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
71-43-2	Benzene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
Surrogates:			
		% Recovery	Control Limits
	<i>Dibromofluoromethane</i>	96	85-118
	<i>1,2-Dichloroethane-d4</i>	103	87-122
	<i>Toluene-d8</i>	93	85-113
	<i>4-Bromofluorobenzene</i>	99	82-110



ANALYTICAL REPORT

Client: **GM - Tonawanda Engine Plant**
Project: Program 2 - Quarterly SPDES Wells
Client Sample ID: **Monitoring Well #2**
Lab Sample ID: **1404256-02**
Matrix: Ground Water

Work Order: **1404256**
Description: Laboratory Services
Sampled: 4/15/14 11:40
Sampled By: P. Hagerty
Received: 4/16/14 8:30

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Chromium	<0.050	0.050	mg/L	1	USEPA-6010C	04/21/14 13:30	CKD	1403292
Iron	4.3	0.020	mg/L	1	USEPA-6010C	04/21/14 14:56	CKD	1403292

ANALYTICAL REPORT

Client: **GM - Tonawanda Engine Plant**
 Project: Program 2 - Quarterly SPDES Wells
 Client Sample ID: **Monitoring Well #2**
 Lab Sample ID: **1404256-02**
 Matrix: Ground Water

Work Order: **1404256**
 Description: Laboratory Services
 Sampled: 4/15/14 11:40
 Sampled By: P. Hagerty
 Received: 4/16/14 8:30

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Chloride	1100	25	mg/L	25	SM 4500-Cl E-2011	04/24/14 09:03	LMA	1403607
Conductivity @ 25° C	5460	5	umhos/cm	1	SM 2510 B-2011	04/18/14 14:10	HLB	1403413
Residue, Dissolved @ 180° C	3650	50.0	mg/L	1	SM 2540 C-2011	04/17/14 15:30	WAH	1403384
Sulfate	1200	250	mg/L	50	ASTM D516-90 (07)	04/23/14 10:25	LMA	1403585
Turbidity	49	1.0	NTU	1	SM 2130 B-2011	04/16/14 12:52	CAC	1403302



ANALYTICAL REPORT

Client:	GM - Tonawanda Engine Plant	Work Order:	1404256
Project:	Program 2 - Quarterly SPDES Wells	Description:	Laboratory Services
Client Sample ID:	Monitoring Well #3	Sampled:	4/15/14 11:25
Lab Sample ID:	1404256-03	Sampled By:	P. Hagerty
Matrix:	Ground Water	Received:	4/16/14 8:30
Unit:	ug/L	Prepared:	4/18/14 9:00 By: BAG
Dilution Factor:	1	Analyzed:	4/18/14 17:48 By: BAG
QC Batch:	1403481	Analytical Batch:	4D21009

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
71-43-2	Benzene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0

Surrogates:

% Recovery

Control Limits

Dibromofluoromethane

96

85-118

1,2-Dichloroethane-d4

104

87-122

Toluene-d8

94

85-113

4-Bromofluorobenzene

100

82-110



ANALYTICAL REPORT

Client: **GM - Tonawanda Engine Plant**
Project: Program 2 - Quarterly SPDES Wells
Client Sample ID: **Monitoring Well #3**
Lab Sample ID: **1404256-03**
Matrix: Ground Water

Work Order: **1404256**
Description: Laboratory Services
Sampled: 4/15/14 11:25
Sampled By: P. Hagerty
Received: 4/16/14 8:30

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Chromium	<0.050	0.050	mg/L	1	USEPA-6010C	04/21/14 13:34	CKD	1403292
Iron	1.6	0.020	mg/L	1	USEPA-6010C	04/21/14 15:00	CKD	1403292



ANALYTICAL REPORT

Client: **GM - Tonawanda Engine Plant**
Project: Program 2 - Quarterly SPDES Wells
Client Sample ID: **Monitoring Well #3**
Lab Sample ID: **1404256-03**
Matrix: Ground Water

Work Order: **1404256**
Description: Laboratory Services
Sampled: 4/15/14 11:25
Sampled By: P. Hagerty
Received: 4/16/14 8:30

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Chloride	360	5.0	mg/L	5	SM 4500-Cl E-2011	04/24/14 09:03	LMA	1403607
Residue, Dissolved @ 180° C	2380	50.0	mg/L	1	SM 2540 C-2011	04/17/14 15:30	WAH	1403384
Conductivity @ 25° C	3262	5	umhos/cm	1	SM 2510 B-2011	04/18/14 14:10	HLB	1403413
Sulfate	790	120	mg/L	25	ASTM D516-90 (07)	04/23/14 10:25	LMA	1403585
Turbidity	95	1.0	NTU	1	SM 2130 B-2011	04/16/14 12:52	CAC	1403302



ANALYTICAL REPORT

Client:	GM - Tonawanda Engine Plant	Work Order:	1404256
Project:	Program 2 - Quarterly SPDES Wells	Description:	Laboratory Services
Client Sample ID:	Monitoring Well #4	Sampled:	4/15/14 11:15
Lab Sample ID:	1404256-04	Sampled By:	P. Hagerty
Matrix:	Ground Water	Received:	4/16/14 8:30
Unit:	ug/L	Prepared:	4/18/14 9:00 By: BAG
Dilution Factor:	1	Analyzed:	4/18/14 18:15 By: BAG
QC Batch:	1403481	Analytical Batch:	4D21009

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
71-43-2	Benzene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0

Surrogates:

Dibromofluoromethane

% Recovery

97

Control Limits

85-118

1,2-Dichloroethane-d4

104

87-122

Toluene-d8

95

85-113

4-Bromofluorobenzene

100

82-110



ANALYTICAL REPORT

Client: **GM - Tonawanda Engine Plant**
Project: Program 2 - Quarterly SPDES Wells
Client Sample ID: **Monitoring Well #4**
Lab Sample ID: **1404256-04**
Matrix: Ground Water

Work Order: **1404256**
Description: Laboratory Services
Sampled: 4/15/14 11:15
Sampled By: P. Hagerty
Received: 4/16/14 8:30

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Chromium	0.11	0.050	mg/L	1	USEPA-6010C	04/21/14 13:37	CKD	1403292
Iron	3.8	0.020	mg/L	1	USEPA-6010C	04/21/14 15:03	CKD	1403292



ANALYTICAL REPORT

Client: **GM - Tonawanda Engine Plant**
Project: Program 2 - Quarterly SPDES Wells
Client Sample ID: **Monitoring Well #4**
Lab Sample ID: **1404256-04**
Matrix: Ground Water

Work Order: **1404256**
Description: Laboratory Services
Sampled: 4/15/14 11:15
Sampled By: P. Hagerty
Received: 4/16/14 8:30

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Chloride	770	25	mg/L	25	SM 4500-Cl E-2011	04/24/14 09:03	LMA	1403607
Residue, Dissolved @ 180° C	2280	50.0	mg/L	1	SM 2540 C-2011	04/17/14 15:30	WAH	1403384
Conductivity @ 25° C	3804	5	umhos/cm	1	SM 2510 B-2011	04/18/14 14:10	HLB	1403413
Sulfate	450	120	mg/L	25	ASTM D516-90 (07)	04/23/14 10:29	LMA	1403585
Turbidity	37	1.0	NTU	1	SM 2130 B-2011	04/16/14 12:52	CAC	1403302

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ANALYTICAL REPORT

Client:	GM - Tonawanda Engine Plant	Work Order:	1404321
Project:	Program 2 - Quarterly SPDES Wells	Description:	Laboratory Services
Client Sample ID:	MW-1	Sampled:	4/17/14 12:05
Lab Sample ID:	1404321-01	Sampled By:	P. Hagerty
Matrix:	Ground Water	Received:	4/18/14 8:30
Unit:	ug/L	Prepared:	4/21/14 7:21 By: JTS
Dilution Factor:	1	Analyzed:	4/24/14 20:40 By: DWJ
QC Batch:	1403460	Analytical Batch:	4D25031

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL
85-68-7	Butyl Benzyl Phthalate	<11	11
84-74-2	Di-n-butyl Phthalate	<11	11
117-81-7	Bis(2-ethylhexyl) Phthalate	<11	11
108-95-2	Phenol	<11	11
129-00-0	Pyrene	<11	11
Surrogates:			
	% Recovery	Control Limits	
2-Fluorophenol	47	20-70	
Phenol-d6	34	18-45	
Nitrobenzene-d5	75	31-123	
2-Fluorobiphenyl	75	25-113	
2,4,6-Tribromophenol	74	30-121	
o-Terphenyl	85	42-125	



ANALYTICAL REPORT

Client:	GM - Tonawanda Engine Plant	Work Order:	1404321
Project:	Program 2 - Quarterly SPDES Wells	Description:	Laboratory Services
Client Sample ID:	MW-2	Sampled:	4/17/14 11:40
Lab Sample ID:	1404321-02	Sampled By:	P. Hagerty
Matrix:	Ground Water	Received:	4/18/14 8:30
Unit:	ug/L	Prepared:	4/21/14 7:21 By: JTS
Dilution Factor:	1	Analyzed:	4/24/14 22:25 By: DWJ
QC Batch:	1403460	Analytical Batch:	4D25031

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL
85-68-7	Butyl Benzyl Phthalate	<11	11
84-74-2	Di-n-butyl Phthalate	<11	11
117-81-7	Bis(2-ethylhexyl) Phthalate	<11	11
108-95-2	Phenol	<11	11
129-00-0	Pyrene	<11	11
Surrogates:			
	% Recovery	Control Limits	
2-Fluorophenol	55	20-70	
Phenol-d6	32	18-45	
Nitrobenzene-d5	72	31-123	
2-Fluorobiphenyl	75	25-113	
2,4,6-Tribromophenol	69	30-121	
o-Terphenyl	84	42-125	



ANALYTICAL REPORT

Client:	GM - Tonawanda Engine Plant	Work Order:	1404321
Project:	Program 2 - Quarterly SPDES Wells	Description:	Laboratory Services
Client Sample ID:	MW-3	Sampled:	4/17/14 11:25
Lab Sample ID:	1404321-03	Sampled By:	P. Hagerty
Matrix:	Ground Water	Received:	4/18/14 8:30
Unit:	ug/L	Prepared:	4/21/14 7:21 By: JTS
Dilution Factor:	1	Analyzed:	4/24/14 23:00 By: DWJ
QC Batch:	1403460	Analytical Batch:	4D25031

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL
85-68-7	Butyl Benzyl Phthalate	<11	11
84-74-2	Di-n-butyl Phthalate	<11	11
117-81-7	Bis(2-ethylhexyl) Phthalate	<11	11
108-95-2	Phenol	<11	11
129-00-0	Pyrene	<11	11
Surrogates:			
	% Recovery	Control Limits	
2-Fluorophenol	35	20-70	
Phenol-d6	23	18-45	
Nitrobenzene-d5	73	31-123	
2-Fluorobiphenyl	75	25-113	
2,4,6-Tribromophenol	38	30-121	
o-Terphenyl	86	42-125	



ANALYTICAL REPORT

Client:	GM - Tonawanda Engine Plant	Work Order:	1404321
Project:	Program 2 - Quarterly SPDES Wells	Description:	Laboratory Services
Client Sample ID:	MW-4	Sampled:	4/17/14 11:15
Lab Sample ID:	1404321-04	Sampled By:	P. Hagerty
Matrix:	Ground Water	Received:	4/18/14 8:30
Unit:	ug/L	Prepared:	4/21/14 7:21 By: JTS
Dilution Factor:	1	Analyzed:	4/24/14 23:35 By: DWJ
QC Batch:	1403460	Analytical Batch:	4D25031

Semivolatile Organic Compounds by EPA Method 8270C

CAS Number	Analyte	Analytical Result	RL
85-68-7	Butyl Benzyl Phthalate	<11	11
84-74-2	Di-n-butyl Phthalate	<11	11
117-81-7	Bis(2-ethylhexyl) Phthalate	<11	11
108-95-2	Phenol	<11	11
129-00-0	Pyrene	<11	11
Surrogates:			
	% Recovery	Control Limits	
2-Fluorophenol	44	20-70	
Phenol-d6	27	18-45	
Nitrobenzene-d5	72	31-123	
2-Fluorobiphenyl	77	25-113	
2,4,6-Tribromophenol	51	30-121	
o-Terphenyl	85	42-125	



QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
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QC Batch: 1403481 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank

Analyzed: 04/18/2014 By: BAG

Unit: ug/L

Analytical Batch: 4D21009

Benzene			<1.0				1.0	
Toluene			<1.0				1.0	

Surrogates:

Dibromofluoromethane	98	85-118
1,2-Dichloroethane-d4	104	87-122
Toluene-d8	95	85-113
4-Bromofluorobenzene	98	82-110

Laboratory Control Sample

Analyzed: 04/18/2014 By: BAG

Unit: ug/L

Analytical Batch: 4D21009

Benzene	40.0	39.1	98	84-119	--	1.0
Toluene	40.0	38.4	96	85-118	--	1.0

Surrogates:

Dibromofluoromethane	96	85-118
1,2-Dichloroethane-d4	99	87-122
Toluene-d8	95	85-113
4-Bromofluorobenzene	99	82-110

Matrix Spike 1404256-01 Monitoring Well #1

Analyzed: 04/18/2014 By: BAG

Unit: ug/L

Analytical Batch: 4D21009

Benzene	<1.0	40.0	40.7	102	80-129	--	1.0
Toluene	<1.0	40.0	40.5	101	79-129	--	1.0

Surrogates:

Dibromofluoromethane	97	85-118
1,2-Dichloroethane-d4	101	87-122
Toluene-d8	96	85-113
4-Bromofluorobenzene	100	82-110

Continued on next page

QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
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QC Batch: 1403481 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Matrix Spike Duplicate 1404256-01 Monitoring Well #1

Analyzed: 04/18/2014 By: BAG

Unit: ug/L

Analytical Batch: 4D21009

Benzene	<1.0	40.0	40.6	102	80-129	0.1	9	1.0
Toluene	<1.0	40.0	40.2	100	79-129	0.7	9	1.0

Surrogates:

<i>Dibromofluoromethane</i>				97	85-118
<i>1,2-Dichloroethane-d4</i>				102	87-122
<i>Toluene-d8</i>				96	85-113
<i>4-Bromofluorobenzene</i>				99	82-110

QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
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QC Batch: 1403460 3510C Liquid-Liquid Extraction/USEPA-8270C

Method Blank

Analyzed: 04/24/2014 By: DWJ

Unit: ug/L

Analytical Batch: 4D25031

Butyl Benzyl Phthalate			<10					10
Di-n-butyl Phthalate			<10					10
Bis(2-ethylhexyl) Phthalate			<10					10
Phenol			<10					10
Pyrene			<10					10

Surrogates:

2-Fluorophenol	55	20-70
Phenol-d6	31	18-45
Nitrobenzene-d5	76	31-123
2-Fluorobiphenyl	82	25-113
2,4,6-Tribromophenol	70	30-121
o-Terphenyl	88	42-125

Laboratory Control Sample

Analyzed: 04/24/2014 By: DWJ

Unit: ug/L

Analytical Batch: 4D25031

Butyl Benzyl Phthalate	100	84.5	84	58-141	--	10
Di-n-butyl Phthalate	100	78.1	78	58-145	--	10
Bis(2-ethylhexyl) Phthalate	100	84.4	84	60-136	--	10
Phenol	100	29.9	30	22-60	--	10
Pyrene	100	85.9	86	60-134	--	10

Matrix Spike 1404321-01 MW-1

Analyzed: 04/24/2014 By: DWJ

Unit: ug/L

Analytical Batch: 4D25031

Butyl Benzyl Phthalate	<11	112	96.2	86	44-149	--	11
Di-n-butyl Phthalate	<11	112	86.6	77	51-145	--	11
Bis(2-ethylhexyl) Phthalate	<11	112	95.1	85	50-144	--	11
Phenol	<11	112	31.7	28	22-52	--	11
Pyrene	<11	112	94.7	84	55-134	--	11

Matrix Spike Duplicate 1404321-01 MW-1

Analyzed: 04/24/2014 By: DWJ

Unit: ug/L

Analytical Batch: 4D25031

Butyl Benzyl Phthalate	<12	116	99.5	86	44-149	3	15	12
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Continued on next page



QUALITY CONTROL REPORT

Semivolatile Organic Compounds by EPA Method 8270C (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
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QC Batch: 1403460 (Continued) 3510C Liquid-Liquid Extraction/USEPA-8270C

Matrix Spike Duplicate (Continued) 1404321-01 MW-1

Analyzed: 04/24/2014 By: DWJ

Unit: ug/L

Analytical Batch: 4D25031

Di-n-butyl Phthalate	<12	116	87.7	75	51-145	1	16	12
Bis(2-ethylhexyl) Phthalate	<12	116	97.8	84	50-144	3	16	12
Phenol	<12	116	37.2	32	22-52	16	19	12
Pyrene	<12	116	98.7	85	55-134	4	16	12



QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
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Analyte: Chromium/USEPA-6010C

QC Batch: 1403292 (3010A Digestion)

Analyzed: 04/21/2014 By: CKD

Method Blank			<0.050	mg/L					0.050
Laboratory Control Sample		0.400	0.401	mg/L	100	80-120			0.050
1404256-01 [Monitoring Well #1]									
Matrix Spike	0.121	0.400	0.484	mg/L	91	75-125			0.050
Matrix Spike Duplicate	0.121	0.400	0.496	mg/L	94	75-125	2	20	0.050

Analyte: Iron/USEPA-6010C

QC Batch: 1403292 (3010A Digestion)

Analyzed: 04/21/2014 By: CKD

Method Blank			<0.020	mg/L					0.020
Laboratory Control Sample		0.400	0.417	mg/L	104	80-120			0.020
1404256-01 [Monitoring Well #1]									
Matrix Spike	1.48	0.400	1.80	mg/L	80	75-125			0.020
Matrix Spike Duplicate	1.48	0.400	1.93	mg/L	111	75-125	7	20	0.020



QUALITY CONTROL REPORT

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
---------	--------------	------------	--------	------	--------------	----------------	-----	------------	----

Analyte: Chloride/SM 4500-Cl E-2011

QC Batch: 1403607 (General Inorganic Prep)						Analyzed: 04/24/2014	By: LMA		
Method Blank			<1.0	mg/L					1.0
Laboratory Control Sample		50.0	50.3	mg/L	101	90-106			1.0
1404256-01 [Monitoring Well #1]									
Matrix Spike	3000	50.0	3210	mg/L	413	72-123			50
Matrix Spike Duplicate	3000	50.0	3040	mg/L	87	72-123	5	20	50

Analyte: Conductivity @ 25° C/SM 2510 B-2011

QC Batch: 1403413 (Method Specific Preparation)						Analyzed: 04/18/2014	By: HLB		
Method Blank			<5	umhos/cm					5
Laboratory Control Sample		12900	12680	umhos/cm	98	90-110			
Laboratory Control Sample		1410	1392	umhos/cm	99	90-110			
1404256-01 [Monitoring Well #1]									
Duplicate	9325		9203	umhos/cm			1	5	5

Analyte: Residue, Dissolved @ 180° C/SM 2540 C-2011

QC Batch: 1403384 (General Inorganic Prep)						Analyzed: 04/17/2014	By: WAH		
Method Blank			<50.0	mg/L					50.0
Laboratory Control Sample		200	220	mg/L	110	85-115			50.0
1404256-01 [Monitoring Well #1]									
Duplicate	6290		6540	mg/L			4	5	100

Analyte: Sulfate/ASTM D516-90 (07)

QC Batch: 1403585 (General Inorganic Prep)						Analyzed: 04/23/2014	By: LMA		
Method Blank			<5.0	mg/L					5.0
Laboratory Control Sample		20.0	20.2	mg/L	101	88-112			5.0
1404256-01 [Monitoring Well #1]									
Matrix Spike	85.4	20.0	105	mg/L	100	61-156			25
Matrix Spike Duplicate	85.4	20.0	106	mg/L	103	61-156	0.5	20	25

Analyte: Turbidity/SM 2130 B-2011

QC Batch: 1403302 (Method Specific Preparation)						Analyzed: 04/16/2014	By: CAC		
Method Blank			<1.0	NTU					1.0

Continued on next page



QUALITY CONTROL REPORT

Physical/Chemical Parameters by EPA/APHA/ASTM Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
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Analyte: Turbidity/SM 2130 B-2011 (Continued)

QC Batch: 1403302 (Continued) (Method Specific Preparation)

Analyzed: 04/16/2014 By: CAC

Laboratory Control Sample		20.0	20.2	NTU	101	95-105			1.0
1404256-01 [Monitoring Well #1]									
Duplicate	24.5		24.2	NTU			1	20	1.0

SAMPLE RECEIVING / LOG-IN CHECKLIST



TRIMATRIX
LABORATORIES

Client: Em. Tonawanda
Rec'd Record Page/Line #: 9.4

Work Order # 1404256
New / Add To / Project Chemist / Sample #s

Recorded by (Initials/date): WC 4-16-14

☒ Cooler ☐ Box ☐ Other _____ Qty Received: 1

☒ R Gun (#202) ☐ Digital Thermometer (#54) ☐ See Additional Cooler Information Form

Thermometer Used: ☐ Other (# _____)

Cooler #	Time	Cooler #	Time	Cooler #	Time	Cooler #	Time
<u>Trm 3241</u>	<u>0905</u>						
Custody Seals:							
☒ None		☐ None		☐ None		☐ None	
☐ Present / Intact		☐ Present / Intact		☐ Present / Intact		☐ Present / Intact	
☐ Present / Not Intact		☐ Present / Not Intact		☐ Present / Not Intact		☐ Present / Not Intact	
Coolant Location:							
☒ Dispersed / Top / Middle / Bottom		☐ Dispersed / Top / Middle / Bottom		☐ Dispersed / Top / Middle / Bottom		☐ Dispersed / Top / Middle / Bottom	
Coolant/Temperature Taken Via:							
☒ Loose Ice / Avg 2-3 containers		☐ Loose Ice / Avg 2-3 containers		☐ Loose Ice / Avg 2-3 containers		☐ Loose Ice / Avg 2-3 containers	
☐ Bagged Ice / Avg 2-3 containers		☐ Bagged Ice / Avg 2-3 containers		☐ Bagged Ice / Avg 2-3 containers		☐ Bagged Ice / Avg 2-3 containers	
☐ Blue Ice / Avg 2-3 containers		☐ Blue Ice / Avg 2-3 containers		☐ Blue Ice / Avg 2-3 containers		☐ Blue Ice / Avg 2-3 containers	
☐ None / Avg 2-3 containers		☐ None / Avg 2-3 containers		☐ None / Avg 2-3 containers		☐ None / Avg 2-3 containers	
Alternate Temperature Taken Via:							
☐ Temperature Blank (TB)		☐ Temperature Blank (TB)		☐ Temperature Blank (TB)		☐ Temperature Blank (TB)	
☐ 1 Container		☐ 1 Container		☐ 1 Container		☐ 1 Container	
Recorded °C	Correction Factor °C	Actual °C	Recorded °C	Correction Factor °C	Actual °C	Recorded °C	Correction Factor °C
Temp Blank:							
TB location: Representative / Not Representative							
1	3.2	3.2	1			1	
2	4.3	4.3	2			2	
3	2.9	2.9	3			3	
Average °C		<u>35</u>	Average °C			Average °C	
☐ Cooler ID on COC?			☐ Cooler ID on COC?			☐ Cooler ID on COC?	
☐ VOC Trip Blank received?			☐ VOC Trip Blank received?			☐ VOC Trip Blank received?	

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received Yes ☒ No ☒ Chain of Custody record(s)? If No, Initiated By _____ ☒ Received for Lab Signed/Date/Time? _____ ☒ Shipping document? _____ ☒ Other _____ COC Information ☒ Trimatrix COC ☐ Other _____ COC ID Numbers <u>140235243</u> Check COC for Accuracy Yes ☒ No ☐ Analysis Requested? ☒ Sample ID matches COC? ☒ Sample Date and Time matches COC? ☒ Container type completed on COC? ☒ All container types indicated are received? Sample Condition Summary N/A ☒ Yes ☐ No ☐ ☒ Broken containers/lids? ☒ Missing or incomplete labels? ☒ Illegible information on labels? ☒ Low volume received? ☒ Inappropriate or non-Trimatrix containers received? ☒ VOC vials / TOX containers have headspace? ☒ Extra sample locations / containers not listed on COC?	Check Sample Preservation N/A ☒ Yes ☐ No ☐ ☒ Average sample temperature ≤ 5° C? ☒ Was thermal preservation required? If "No", Project Chemist Approval Initials _____ If "Yes" Completed Non-Con Cooler - Cont Inventory Form? Completed Sample Preservation Verification Form? ☒ Samples chemically preserved correctly? If "No", added orange tag? ☐ Received pre-preserved VOC soils? ☐ MeOH ☐ Na₂SO₄ Check for Short Hold-Time Prep/Analyses ☐ Bacteriological ☐ Air Bags ☐ EnCores / Methanol Pre-Preserved ☐ Formaldehyde/Alddehyde ☒ Green-tagged containers ☐ Yellow/White-tagged 1L ampers (SV Prep-Lab) Notes ☐ Trip Blank received ☒ Trip Blank not listed on COC Cooler Received (Date/Time) <u>4-16-14 0830</u> Paperwork Delivered (Date/Time) <u>4-16-14 0910</u> ☒ 1 Hour Goal Met? Yes / No ☒
---	---

Client: <u>Em Tonawanda</u> Receipt Log #: <u>9.4</u> Completed By (initials/date): <u>WC 4/16/14</u>	Work Order #: <u>1404256</u> Project Chemist: _____
---	--

COC ID # <u>140235243</u>				Adjusted by _____ Date: _____		DO NOT ADJUST pH FOR THESE CONTAINER TYPES			
Container Type	5 / 23	4	13		3	6	15		
Tag Color	Lt Blue	Blue	Brown		Green	Red	Red Stripe		
Preservative	NaOH	H ₂ SO ₄	H ₂ SO ₄		None	HNO ₃	HNO ₃		
Expected pH	>12	<2	<2		6-8	<2	<2		
COC Line #1					✓	✓			
COC Line #2					✓	✓			
COC Line #3					✓	✓			
COC Line #4					✓	✓			
COC Line #5									
COC Line #6									
COC Line #7									
COC Line #8									
COC Line #9									
COC Line #10									
Comments									

Ph Strip Lot #
☒ <u>HC389101</u>
☐ _____

Aqueous Samples: For each sample and container type, check the box if pH is acceptable. If pH is not acceptable for any sample container, record pH in box, and note on Sample Receiving Checklist and on Sample Receiving Non-Conformance Form. If approved by Project Chemist, add acid or base to the sample to achieve the correct pH. Add up to, but do not exceed 2x the volume initially added at container prep (see table below for initial volumes used). Add orange pH tag to sample container and record information requested. Record adjusted pH on this form. Do not adjust pH for container types 3, 6, and 15.

COC ID # _____				Adjusted by _____ Date: _____		DO NOT ADJUST pH FOR THESE CONTAINER TYPES			
Container Type	5 / 23	4	13		3	6	15		
Tag Color	Lt Blue	Blue	Brown		Green	Red	Red Stripe		
Preservative	NaOH	H ₂ SO ₄	H ₂ SO ₄		None	HNO ₃	HNO ₃		
Expected pH	>12	<2	<2		6-8	<2	<2		
COC Line #1									
COC Line #2									
COC Line #3									
COC Line #4									
COC Line #5									
COC Line #6									
COC Line #7									
COC Line #8									
COC Line #9									
COC Line #10									
Comments									

Container Size (mL)	Original Vol. of Preservative (mL)
Container Type 5 NaOH	
500	2.5
1000	5.0
Container Type 4 H₂SO₄	
125	0.5
250	1.0
500	2.0
1000	4.0
Container Type 13 H₂SO₄	
500	2.5

For Lab Use Only

5560 Corporate Exchange Court SE, Grand Rapids, MI 49512
Phone (616) 975-4500 Fax (616) 942-7463 www.trimatrixlabs.com

Analyses Requested

Pg. 1 of 1

[illegible]

SAMPLE RECEIVING / LOG-IN CHECKLIST



TRIMATRIX
LABORATORIES

Client Jim Tonawanda
Receipt Record Page/Line #

Work Order # 1404321
New / Add To Project Chemist Sample #s

Recorded by (Initials/date) <u>LK 4/18/14</u>	☒ Cooler ☐ Box ☐ Other _____	Qty Received <u>2</u>	☒ IR Gun (#202) ☐ Thermometer Used ☐ Digital Thermometer (#54) ☐ Other (# _____)	☐ See Additional Cooler Information Form
--	--	--------------------------	--	---

Cooler #	Time	Cooler #	Time	Cooler #	Time	Cooler #	Time
<u>TM3030</u>	<u>1011</u>	<u>TM3082</u>	<u>1019</u>				
Custody Seals:		Custody Seals:		Custody Seals:		Custody Seals:	
☒ None ☐ Present / Intact ☐ Present / Not Intact		☒ None ☐ Present / Intact ☐ Present / Not Intact		☐ None ☐ Present / Intact ☐ Present / Not Intact		☐ None ☐ Present / Intact ☐ Present / Not Intact	
Coolant Location:		Coolant Location:		Coolant Location:		Coolant Location:	
<u>Dispersed</u> / Top / Middle / Bottom		<u>Dispersed</u> / Top / Middle / Bottom		Dispersed / Top / Middle / Bottom		Dispersed / Top / Middle / Bottom	
Coolant Temperature Taken Via:		Coolant Temperature Taken Via:		Coolant Temperature Taken Via:		Coolant Temperature Taken Via:	
☒ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers		☒ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers		☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers		☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	
Alternate Temperature Taken Via:		Alternate Temperature Taken Via:		Alternate Temperature Taken Via:		Alternate Temperature Taken Via:	
☐ Temperature Blank (TB) ☐ 1 Container		☐ Temperature Blank (TB) ☐ 1 Container		☐ Temperature Blank (TB) ☐ 1 Container		☐ Temperature Blank (TB) ☐ 1 Container	
Recorded °C	Correction Factor °C	Actual °C	Recorded °C	Correction Factor °C	Actual °C	Recorded °C	Correction Factor °C
Temp Blank		Temp Blank		Temp Blank		Temp Blank	
TB location Representative / Not Representative		TB location Representative / Not Representative		TB location Representative / Not Representative		TB location Representative / Not Representative	
1	8.6	-	8.6	1			
2	8.6	-	8.6	2			
3	7.4	-	7.4	3			
Average °C		Average °C		Average °C		Average °C	
<u>8.2</u>		<u>7.0</u>					
☐ Cooler ID on COC? ☐ VOC Trip Blank received?		☐ Cooler ID on COC? ☐ VOC Trip Blank received?		☐ Cooler ID on COC? ☐ VOC Trip Blank received?		☐ Cooler ID on COC? ☐ VOC Trip Blank received?	

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received Yes ☒ No ☒ Chain of Custody record(s)? If No, Initiated By _____ Received for Lab Signed/Date/Time? _____ ☐ Shipping document? ☒ Other _____ COC Information ☒ Trimatrix COC ☐ Other _____ COC ID Numbers _____ Check COC for Accuracy Yes ☒ No ☐ Analysis Requested? ☒ Sample ID matches COC? ☒ Sample Date and Time matches COC? ☒ Container type completed on COC? ☒ All container types indicated are received? Sample Condition Summary <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>N/A</th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr> <td>☒</td> <td>☒</td> <td>☐ Broken containers/lids?</td> </tr> <tr> <td>☒</td> <td>☒</td> <td>☐ Missing or incomplete labels?</td> </tr> <tr> <td>☒</td> <td>☒</td> <td>☐ Illegible information on labels?</td> </tr> <tr> <td>☒</td> <td>☒</td> <td>☐ Low volume received?</td> </tr> <tr> <td>☒</td> <td>☒</td> <td>☐ Inappropriate or non-Trimatrix containers received?</td> </tr> <tr> <td>☒</td> <td>☒</td> <td>☐ VOC vials / TOX containers have headspace?</td> </tr> <tr> <td>☒</td> <td>☒</td> <td>☐ Extra sample locations / containers not listed on COC?</td> </tr> </tbody> </table>	N/A	Yes	No	☒	☒	☐ Broken containers/lids?	☒	☒	☐ Missing or incomplete labels?	☒	☒	☐ Illegible information on labels?	☒	☒	☐ Low volume received?	☒	☒	☐ Inappropriate or non-Trimatrix containers received?	☒	☒	☐ VOC vials / TOX containers have headspace?	☒	☒	☐ Extra sample locations / containers not listed on COC?	Check Sample Preservation N/A ☒ Yes ☐ No ☒ Average sample temperature ≤ 0° C? ☒ Was thermal preservation required? If "No", Project Chemist Approval Initials: _____ If "Yes" Completed Non Con Cooler - Cont Inventory Form? Completed Sample Preservation Verification Form? ☒ Samples chemically preserved correctly? If "No", added orange tag? ☒ Received pre-preserved VOC soils? ☐ MeOH ☐ Na₂SO₄ Check for Short Hold-Time Prep/Analyses ☐ Bacteriological ☐ Air Bags ☐ EnCores / Methanol Pre-Preserved ☐ Formaldehyde/Aldehyde ☐ Green-tagged containers ☐ Yellow/White-tagged 1L Ambers (SV Prep-Lab) AFTER HOURS ONLY: COPIES OF COC TO LAB AREA(S) ☒ NONE RECEIVED ☐ RECEIVED, COCs TO LAB(S) Notes ☐ Trip Blank received ☐ Trip Blank not listed on COC <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Cooler Received (Date/Time)</td> <td>Paperwork Delivered (Date/Time)</td> <td>≤ 1 Hour Goal Met?</td> </tr> <tr> <td><u>4/18/14 0830</u></td> <td><u>4/18/14 1019</u></td> <td>Yes ☐ No ☒</td> </tr> </table>	Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤ 1 Hour Goal Met?	<u>4/18/14 0830</u>	<u>4/18/14 1019</u>	Yes ☐ No ☒
N/A	Yes	No																													
☒	☒	☐ Broken containers/lids?																													
☒	☒	☐ Missing or incomplete labels?																													
☒	☒	☐ Illegible information on labels?																													
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☒	☒	☐ Extra sample locations / containers not listed on COC?																													
Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤ 1 Hour Goal Met?																													
<u>4/18/14 0830</u>	<u>4/18/14 1019</u>	Yes ☐ No ☒																													



May 01, 2014

GM - Tonawanda Engine Plant
Attn: Mr. Casey Essary
2995 River Road
Buffalo, NY 14207-1099

Project: Program 2 - Quarterly SPDES Wells

Dear Mr. Casey Essary,

Enclosed is a copy of the laboratory report for the following work order(s) received by TriMatrix Laboratories:

Work Order	Received	Description
1404321	04/18/2014	Laboratory Services

This report relates only to the sample(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) and/or one of the following certification programs:

ACLASS DoD-ELAP/ISO17025 (#ADE-1542); Arkansas DEP (#88-0730/13-049-0); Florida DEP (#E87622-24); Georgia EPD (#E87622-24); Illinois DEP (#200026/003329); Kansas DPH (#E-10302); Kentucky DEP (#0021); Louisiana DEP (#103068); Michigan DPH (#0034); Minnesota DPH (#491715); New York ELAP (#11776/48855); North Carolina DNRE (#659); Texas CEQ (#T104704495-14-4); Virginia DCLS (#460153/2592); Wisconsin DNR (#999472650); USDA Soil Import Permit (#P330-12-00236).

Any qualification or narration of results, including sample acceptance requirements and test exceptions to the above referenced programs, is presented in the Statement of Data Qualifications and Project Technical Narrative sections of this report. Estimates of analytical uncertainties and certification documents for the test results contained within this report are available upon request.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Jennifer L. Rice
Project Chemist



PROJECT TECHNICAL NARRATIVE(s)

Polychlorinated Biphenyls (PCBs) by EPA Method 608

Narrative: The RL for this analysis was elevated due to insufficient sample volume or weight received.

Analysis: USEPA-608

Sample/Analyte: 1404321-01 MW-1
1404321-02 MW-2
1404321-03 MW-3
1404321-04 MW-4



STATEMENT OF DATA QUALIFICATIONS

All analyses have been validated and comply with our Quality Control Program.
No Qualification is required.



ANALYTICAL REPORT

Client:	GM - Tonawanda Engine Plant	Work Order:	1404321
Project:	Program 2 - Quarterly SPDES Wells	Description:	Laboratory Services
Client Sample ID:	MW-1	Sampled:	4/17/14 12:05
Lab Sample ID:	1404321-01	Sampled By:	P. Hagerty
Matrix:	Ground Water	Received:	4/18/14 8:30
Unit:	ug/L	Prepared:	4/21/14 7:25 By: ALK
Dilution Factor:	1	Analyzed:	4/21/14 22:07 By: MSZ
QC Batch:	1403462	Analytical Batch:	4D22025

Polychlorinated Biphenyls (PCBs) by EPA Method 608

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.11U	0.11	0.033
11104-28-2	PCB-1221	0.11U	0.11	0.046
11141-16-5	PCB-1232	0.11U	0.11	0.038
53469-21-9	PCB-1242	0.11U	0.11	0.035
12672-29-6	PCB-1248	0.11U	0.11	0.033
11097-69-1	PCB-1254	0.11U	0.11	0.018
11096-82-5	PCB-1260	0.11U	0.11	0.026
Surrogates:		% Recovery	Control Limits	
Decachlorobiphenyl		91	30-138	
Tetrachloro-m-xylene		73	29-117	



ANALYTICAL REPORT

Client: **GM - Tonawanda Engine Plant**
Project: Program 2 - Quarterly SPDES Wells
Client Sample ID: **MW-2**
Lab Sample ID: **1404321-02**
Matrix: Ground Water
Unit: ug/L
Dilution Factor: 1
QC Batch: 1403462

Work Order: **1404321**
Description: Laboratory Services
Sampled: 4/17/14 11:40
Sampled By: P. Hagerty
Received: 4/18/14 8:30
Prepared: 4/21/14 7:25 By: ALK
Analyzed: 4/24/14 13:52 By: MSZ
Analytical Batch: 4D25009

Polychlorinated Biphenyls (PCBs) by EPA Method 608

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.11U	0.11	0.034
11104-28-2	PCB-1221	0.11U	0.11	0.047
11141-16-5	PCB-1232	0.11U	0.11	0.039
53469-21-9	PCB-1242	0.11U	0.11	0.035
12672-29-6	PCB-1248	0.11U	0.11	0.033
11097-69-1	PCB-1254	0.11U	0.11	0.019
11096-82-5	PCB-1260	0.11U	0.11	0.026

Surrogates:

Decachlorobiphenyl
Tetrachloro-m-xylene

% Recovery

90
60

Control Limits

30-138
29-117

RECEIVED
NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION

MAY 13 2014

UNREL



ANALYTICAL REPORT

Client: **GM - Tonawanda Engine Plant**
Project: Program 2 - Quarterly SPDES Wells
Client Sample ID: **MW-3**
Lab Sample ID: **1404321-03**
Matrix: Ground Water
Unit: ug/L
Dilution Factor: 1
QC Batch: 1403462

Work Order: **1404321**
Description: Laboratory Services
Sampled: 4/17/14 11:25
Sampled By: P. Hagerty
Received: 4/18/14 8:30
Prepared: 4/21/14 7:25 By: ALK
Analyzed: 4/21/14 23:02 By: MSZ
Analytical Batch: 4D22025

Polychlorinated Biphenyls (PCBs) by EPA Method 608

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.10U	0.10	0.030
11104-28-2	PCB-1221	0.10U	0.10	0.042
11141-16-5	PCB-1232	0.10U	0.10	0.034
53469-21-9	PCB-1242	0.10U	0.10	0.032
12672-29-6	PCB-1248	0.10U	0.10	0.030
11097-69-1	PCB-1254	0.10U	0.10	0.017
11096-82-5	PCB-1260	0.10U	0.10	0.023

Surrogates:

Decachlorobiphenyl
Tetrachloro-m-xylene

% Recovery

94
71

Control Limits

30-138
29-117



ANALYTICAL REPORT

Client:	GM - Tonawanda Engine Plant	Work Order:	1404321
Project:	Program 2 - Quarterly SPDES Wells	Description:	Laboratory Services
Client Sample ID:	MW-4	Sampled:	4/17/14 11:15
Lab Sample ID:	1404321-04	Sampled By:	P. Hagerty
Matrix:	Ground Water	Received:	4/18/14 8:30
Unit:	ug/L	Prepared:	4/21/14 7:25 By: ALK
Dilution Factor:	1	Analyzed:	4/21/14 23:29 By: MSZ
QC Batch:	1403462	Analytical Batch:	4D22025

Polychlorinated Biphenyls (PCBs) by EPA Method 608

CAS Number	Analyte	Analytical Result	RL	MDL
12674-11-2	PCB-1016	0.11U	0.11	0.032
11104-28-2	PCB-1221	0.11U	0.11	0.045
11141-16-5	PCB-1232	0.11U	0.11	0.038
53469-21-9	PCB-1242	0.11U	0.11	0.034
12672-29-6	PCB-1248	0.11U	0.11	0.032
11097-69-1	PCB-1254	0.11U	0.11	0.018
11096-82-5	PCB-1260	0.11U	0.11	0.025

Surrogates:	% Recovery	Control Limits
Decachlorobiphenyl	97	30-138
Tetrachloro-m-xylene	79	29-117



QUALITY CONTROL REPORT

Polychlorinated Biphenyls (PCBs) by EPA Method 608

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL	MDL
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QC Batch: 1403462 608 Liquid/Liquid Extraction/USEPA-608

Method Blank

Analyzed: 04/21/2014 By: MSZ

Unit: ug/L

Analytical Batch: 4D22025

PCB-1016			0.10 U			--		0.10	0.030
PCB-1221			0.10 U					0.10	0.042
PCB-1232			0.10 U					0.10	0.034
PCB-1242			0.10 U					0.10	0.032
PCB-1248			0.10 U					0.10	0.030
PCB-1254			0.10 U					0.10	0.017
PCB-1260			0.10 U					0.10	0.023

Surrogates:

Decachlorobiphenyl	86	30-138
Tetrachloro-m-xylene	79	29-117

Laboratory Control Sample

Analyzed: 04/21/2014 By: MSZ

Unit: ug/L

Analytical Batch: 4D22025

PCB-1016	0.600	0.457	76	71-104	--			0.10	0.030
PCB-1260	0.600	0.529	88	65-125	--			0.10	0.023

Surrogates:

Decachlorobiphenyl	89	30-138
Tetrachloro-m-xylene	61	29-117

Matrix Spike 1404321-01 MW-1

Analyzed: 04/22/2014 By: MSZ

Unit: ug/L

Analytical Batch: 4D22025

PCB-1016	0.10 U	0.632	0.547	87	55-117	--		0.10	0.030
PCB-1260	0.10 U	0.632	0.575	91	46-132	--		0.10	0.023

Surrogates:

Decachlorobiphenyl	90	30-138
Tetrachloro-m-xylene	74	29-117

Matrix Spike Duplicate 1404321-01 MW-1

Analyzed: 04/22/2014 By: MSZ

Unit: ug/L

Analytical Batch: 4D22025

PCB-1016	0.13 U	0.759	0.662	87	55-117	19	20	0.13	0.038
PCB-1260	0.13 U	0.759	0.664	87	46-132	14	20	0.13	0.030

Surrogates:

Decachlorobiphenyl	89	30-138
Tetrachloro-m-xylene	79	29-117



COC No. 140235243

Pg. 1 of 1

For Lab Use Only

5560 Corporate Exchange Court SE, Grand Rapids, MI 49512
Phone (616) 975-4500 Fax (616) 942-7463 www.trimatrixlabs.com

Analyses Requested

[illegible]

SAMPLE RECEIVING / LOG-IN CHECKLIST



Client <i>Sm Tonawanda</i>	New / Add To Project Chemist	Work Order # <i>1404321</i>
Receipt Record Page/Line #	Sample #s	

Recorded by (Initials/Date) <i>LK 4/18/14</i>	☒ Cooler ☐ Box ☐ Other	Qty Received <i>2</i>	☒ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#)	Thermometer Used ☐ See Additional Cooler Information Form
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Cooler #	Time	Cooler #	Time	Cooler #	Time	Cooler #	Time
<i>TM3030</i>	<i>1011</i>	<i>TM3082</i>	<i>1019</i>				
Custody Seals:		Custody Seals:		Custody Seals:		Custody Seals:	
☒ None ☐ Present / Intact ☐ Present / Not Intact		☒ None ☐ Present / Intact ☐ Present / Not Intact		☐ None ☐ Present / Intact ☐ Present / Not Intact		☐ None ☐ Present / Intact ☐ Present / Not Intact	
Coolant Location:		Coolant Location:		Coolant Location:		Coolant Location:	
<i>Dispersed</i> / Top / Middle / Bottom		<i>Dispersed</i> / Top / Middle / Bottom		Dispersed / Top / Middle / Bottom		Dispersed / Top / Middle / Bottom	
Coolant Temperature Taken Via:		Coolant Temperature Taken Via:		Coolant Temperature Taken Via:		Coolant Temperature Taken Via:	
☒ Loose ice / Avg 2-3 containers ☐ Bagged ice / Avg 2-3 containers ☐ Blue ice / Avg 2-3 containers ☐ None / Avg 2-3 containers		☒ Loose ice / Avg 2-3 containers ☐ Bagged ice / Avg 2-3 containers ☐ Blue ice / Avg 2-3 containers ☐ None / Avg 2-3 containers		☐ Loose ice / Avg 2-3 containers ☐ Bagged ice / Avg 2-3 containers ☐ Blue ice / Avg 2-3 containers ☐ None / Avg 2-3 containers		☐ Loose ice / Avg 2-3 containers ☐ Bagged ice / Avg 2-3 containers ☐ Blue ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	
Alternate Temperature Taken Via:		Alternate Temperature Taken Via:		Alternate Temperature Taken Via:		Alternate Temperature Taken Via:	
☐ Temperature Blank (TB) ☐ 1 Container		☐ Temperature Blank (TB) ☐ 1 Container		☐ Temperature Blank (TB) ☐ 1 Container		☐ Temperature Blank (TB) ☐ 1 Container	
Recorded °C	Correction Factor °C	Actual °C	Recorded °C	Correction Factor °C	Actual °C	Recorded °C	Correction Factor °C
Temp Blank		Temp Blank		Temp Blank		Temp Blank	
TB location: Representative / Not Representative		TB location: Representative / Not Representative		TB location: Representative / Not Representative		TB location: Representative / Not Representative	
1	<i>8.6</i>		1	<i>6.6</i>		1	
2	<i>8.6</i>		2	<i>6.7</i>		2	
3	<i>7.4</i>		3	<i>7.6</i>		3	
Average °C		Average °C		Average °C		Average °C	
<i>8.2</i>		<i>7.0</i>					
☐ Cooler ID on COC? ☐ VOC Trip Blank received?		☐ Cooler ID on COC? ☐ VOC Trip Blank received?		☐ Cooler ID on COC? ☐ VOC Trip Blank received?		☐ Cooler ID on COC? ☐ VOC Trip Blank received?	

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received Yes ☒ No ☐ Chain of Custody record(s)? If No, initiated By _____ Received for Lab Signed/Date/Time? ☐ Shipping document? ☒ Other _____ COC Information ☒ TriMatrix COC ☐ Other _____ COC ID Numbers _____ Check COC for Accuracy Yes ☒ No ☐ Analysis Requested? ☒ Sample ID matches COC? ☒ Sample Date and Time matches COC? ☒ Container type completed on COC? ☒ All container types indicated are received?	Check Sample Preservation N/A ☒ Yes ☐ No ☒ Average sample temperature ≤6° C? ☒ Was thermal preservation required? If "No", Project Chemist Approval Initials: _____ If "Yes" Completed Non Con Cooler - Cont Inventory Form? ☒ Completed Sample Preservation Verification Form? ☒ Samples chemically preserved correctly? If "No", added orange tag? ☒ Received pre-preserved VOC soils? ☐ MeOH ☐ Na ₂ SO ₄
Sample Condition Summary N/A ☒ Yes ☐ No ☐ Broken containers/lids? ☒ Missing or incomplete labels? ☒ Illegible information on labels? ☒ Low volume received? ☒ Inappropriate or non-TriMatrix containers received? ☐ VOC vials / TOX containers have headspace? ☒ Extra sample locations / containers not listed on COC?	Check for Short Hold-Time Prep/Analyses ☐ Bacteriological ☐ Air Bags ☐ EnCores / Methanol Pre-Preserved ☐ Formaldehyde/Aldehyde ☐ Green-tagged containers ☐ Yellow/White-tagged 1L ambers (SV Prep-Lab) AFTER HOURS ONLY: COPIES OF COC TO LAB AREA(S) ☒ NONE RECEIVED ☐ RECEIVED, COCs TO LAB(S)
Notes ☐ Trip Blank received Cooler Received (Date/Time) <i>4/18/14 0830</i> ☐ Trip Blank not listed on COC Paperwork Delivered (Date/Time) <i>4/18/14 1019</i> ☐ 1 Hour Goal Met? Yes ☒ No ☐	