ANALYTICAL REPORT

Lab Number:	L2047079
Client:	GHD Services, Inc. 2055 Niagara Falls Boulevard Niagara Falls, NY 14304
ATTN:	Kathleen Willy
Phone:	(716) 297-6150
Project Name:	SAINT GOBAIN GW SAMPLING
Project Number:	11212053-03
Report Date:	11/04/20

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-03

Lab Number: L2047079
Report Date: 11/04/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2047079-01	WG-11212053-102720-DT-01	WATER	WALMORE RD NIAGARA FALLS	10/27/20 15:15	10/28/20
L2047079-02	WG-11212053-102720-DT-02	WATER	WALMORE RD NIAGARA FALLS	10/27/20 16:10	10/28/20
L2047079-03	WG-11212053-102720-DT-03	WATER	WALMORE RD NIAGARA FALLS	10/27/20 16:10	10/28/20
L2047079-04	WG-11212053-102720-DT-04	WATER	WALMORE RD NIAGARA FALLS	10/27/20 16:35	10/28/20

Project Name:	SAINT GOBAIN GW SAMPLING	**Lab Number:**	L2047079
Project Number:	11212053-03	**Report Date:**	11/04/20

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	SAINT GOBAIN GW SAMPLING	**Lab Number:**	L2047079
Project Number:	11212053-03	**Report Date:**	11/04/20

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 11/04/20

ORGANICS

SEMIVOLATILES

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-03
Lab Number: L2047079
Report Date: 11/04/20

SAMPLE RESULTS

Lab ID: L2047079-01
Client ID: WG-11212053-102720-DT-01
Sample Location: WALMORE RD NIAGARA FALLS

Date Collected: 10/27/20 15:15
Date Received: 10/28/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 11/02/20 12:14
Analyst: EK

Extraction Method: EPA 3510C
Extraction Date: 11/01/20 19:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.35	1
2-Chlorophenol	ND		ug/l	2.0	0.48	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.41	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.8	1
2-Nitrophenol	ND		ug/l	10	0.85	1
4-Nitrophenol	ND		ug/l	10	0.67	1
2,4-Dinitrophenol	ND		ug/l	20	6.6	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8	1
Phenol	1.4	J	ug/l	5.0	0.57	1
2-Methylphenol	ND		ug/l	5.0	0.49	1
3-Methylphenol/4-Methylphenol	0.82	J	ug/l	5.0	0.48	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	58		21-120
Phenol-d6	49		10-120
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	68		15-120
2,4,6-Tribromophenol	54		10-120
4-Terphenyl-d14	78		41-149

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-03
Lab Number: L2047079
Report Date: 11/04/20

SAMPLE RESULTS

Lab ID: L2047079-01
Client ID: WG-11212053-102720-DT-01
Sample Location: WALMORE RD NIAGARA FALLS

Date Collected: 10/27/20 15:15
Date Received: 10/28/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 11/02/20 13:27
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 11/01/20 19:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Pentachlorophenol	ND		ug/l	0.80	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	59		21-120
Phenol-d6	52		10-120
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	69		15-120
2,4,6-Tribromophenol	64		10-120
4-Terphenyl-d14	72		41-149

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-03
Lab Number: L2047079
Report Date: 11/04/20

SAMPLE RESULTS

Lab ID: L2047079-02
Client ID: WG-11212053-102720-DT-02
Sample Location: WALMORE RD NIAGARA FALLS

Date Collected: 10/27/20 16:10
Date Received: 10/28/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 11/02/20 11:04
Analyst: EK

Extraction Method: EPA 3510C
Extraction Date: 11/01/20 19:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.35	1
2-Chlorophenol	ND		ug/l	2.0	0.48	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.41	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.8	1
2-Nitrophenol	ND		ug/l	10	0.85	1
4-Nitrophenol	ND		ug/l	10	0.67	1
2,4-Dinitrophenol	ND		ug/l	20	6.6	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8	1
Phenol	ND		ug/l	5.0	0.57	1
2-Methylphenol	ND		ug/l	5.0	0.49	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.48	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	58		21-120
Phenol-d6	46		10-120
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	65		15-120
2,4,6-Tribromophenol	51		10-120
4-Terphenyl-d14	67		41-149

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-03
Lab Number: L2047079
Report Date: 11/04/20

SAMPLE RESULTS

Lab ID: L2047079-02
Client ID: WG-11212053-102720-DT-02
Sample Location: WALMORE RD NIAGARA FALLS

Date Collected: 10/27/20 16:10
Date Received: 10/28/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 11/02/20 13:48
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 11/01/20 19:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Pentachlorophenol	ND		ug/l	0.80	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	59		21-120
Phenol-d6	51		10-120
Nitrobenzene-d5	95		23-120
2-Fluorobiphenyl	67		15-120
2,4,6-Tribromophenol	63		10-120
4-Terphenyl-d14	67		41-149

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-03
Lab Number: L2047079
Report Date: 11/04/20

SAMPLE RESULTS

Lab ID: L2047079-03
Client ID: WG-11212053-102720-DT-03
Sample Location: WALMORE RD NIAGARA FALLS

Date Collected: 10/27/20 16:10
Date Received: 10/28/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 11/02/20 13:00
Analyst: EK

Extraction Method: EPA 3510C
Extraction Date: 11/01/20 19:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.35	1
2-Chlorophenol	ND		ug/l	2.0	0.48	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.41	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.8	1
2-Nitrophenol	ND		ug/l	10	0.85	1
4-Nitrophenol	ND		ug/l	10	0.67	1
2,4-Dinitrophenol	ND		ug/l	20	6.6	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8	1
Phenol	ND		ug/l	5.0	0.57	1
2-Methylphenol	ND		ug/l	5.0	0.49	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.48	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	71		21-120
Phenol-d6	57		10-120
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	84		15-120
2,4,6-Tribromophenol	76		10-120
4-Terphenyl-d14	89		41-149

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-03
Lab Number: L2047079
Report Date: 11/04/20

SAMPLE RESULTS

Lab ID: L2047079-03
Client ID: WG-11212053-102720-DT-03
Sample Location: WALMORE RD NIAGARA FALLS

Date Collected: 10/27/20 16:10
Date Received: 10/28/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 11/02/20 14:08
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 11/01/20 19:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Pentachlorophenol	ND		ug/l	0.80	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	69		21-120
Phenol-d6	57		10-120
Nitrobenzene-d5	111		23-120
2-Fluorobiphenyl	80		15-120
2,4,6-Tribromophenol	89		10-120
4-Terphenyl-d14	83		41-149

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-03
Lab Number: L2047079
Report Date: 11/04/20

SAMPLE RESULTS

Lab ID: L2047079-04
Client ID: WG-11212053-102720-DT-04
Sample Location: WALMORE RD NIAGARA FALLS

Date Collected: 10/27/20 16:35
Date Received: 10/28/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 11/02/20 13:23
Analyst: EK

Extraction Method: EPA 3510C
Extraction Date: 11/01/20 19:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.35	1
2-Chlorophenol	ND		ug/l	2.0	0.48	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.41	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.8	1
2-Nitrophenol	ND		ug/l	10	0.85	1
4-Nitrophenol	ND		ug/l	10	0.67	1
2,4-Dinitrophenol	ND		ug/l	20	6.6	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8	1
Phenol	ND		ug/l	5.0	0.57	1
2-Methylphenol	ND		ug/l	5.0	0.49	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.48	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	43		21-120
Phenol-d6	40		10-120
Nitrobenzene-d5	67		23-120
2-Fluorobiphenyl	62		15-120
2,4,6-Tribromophenol	38		10-120
4-Terphenyl-d14	70		41-149

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-03
Lab Number: L2047079
Report Date: 11/04/20

SAMPLE RESULTS

Lab ID: L2047079-04
Client ID: WG-11212053-102720-DT-04
Sample Location: WALMORE RD NIAGARA FALLS

Date Collected: 10/27/20 16:35
Date Received: 10/28/20
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 11/02/20 14:29
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 11/01/20 19:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Pentachlorophenol	ND		ug/l	0.80	0.01	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	41		21-120
Phenol-d6	40		10-120
Nitrobenzene-d5	84		23-120
2-Fluorobiphenyl	61		15-120
2,4,6-Tribromophenol	44		10-120
4-Terphenyl-d14	64		41-149

Project Name: SAINT GOBAIN GW SAMPLING **Lab Number:** L2047079

Project Number: 11212053-03 **Report Date:** 11/04/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 11/02/20 08:22
Analyst: EK

Extraction Method: EPA 3510C
Extraction Date: 11/01/20 19:29

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1429080-1					
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61
p-Chloro-m-cresol	ND		ug/l	2.0	0.35
2-Chlorophenol	ND		ug/l	2.0	0.48
2,4-Dichlorophenol	ND		ug/l	5.0	0.41
2,4-Dimethylphenol	ND		ug/l	5.0	1.8
2-Nitrophenol	ND		ug/l	10	0.85
4-Nitrophenol	ND		ug/l	10	0.67
2,4-Dinitrophenol	ND		ug/l	20	6.6
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8
Phenol	ND		ug/l	5.0	0.57
2-Methylphenol	ND		ug/l	5.0	0.49
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.48
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	52		21-120
Phenol-d6	44		10-120
Nitrobenzene-d5	66		23-120
2-Fluorobiphenyl	64		15-120
2,4,6-Tribromophenol	45		10-120
4-Terphenyl-d14	74		41-149

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-03
Lab Number: L2047079
Report Date: 11/04/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 11/02/20 10:43
Analyst: JJW

Extraction Method: EPA 3510C
Extraction Date: 11/01/20 19:29

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-04 Batch: WG1429081-1					
Pentachlorophenol	ND		ug/l	0.80	0.01

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	47		21-120
Phenol-d6	42		10-120
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	58		15-120
2,4,6-Tribromophenol	48		10-120
4-Terphenyl-d14	70		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: SAINT GOBAIN GW SAMPLING

Project Number: 11212053-03

Lab Number: L2047079

Report Date: 11/04/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1429080-2 WG1429080-3								
2,4,6-Trichlorophenol	67		80		30-130	18		30
p-Chloro-m-cresol	72		83		23-97	14		30
2-Chlorophenol	72		81		27-123	12		30
2,4-Dichlorophenol	74		84		30-130	13		30
2,4-Dimethylphenol	67		73		30-130	9		30
2-Nitrophenol	71		80		30-130	12		30
4-Nitrophenol	60		69		10-80	14		30
2,4-Dinitrophenol	72		84		20-130	15		30
4,6-Dinitro-o-cresol	71		82		20-164	14		30
Phenol	53		60		12-110	12		30
2-Methylphenol	72		79		30-130	9		30
3-Methylphenol/4-Methylphenol	72		81		30-130	12		30
2,4,5-Trichlorophenol	70		81		30-130	15		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	65		72		21-120
Phenol-d6	56		64		10-120
Nitrobenzene-d5	76		86		23-120
2-Fluorobiphenyl	70		80		15-120
2,4,6-Tribromophenol	99		111		10-120
4-Terphenyl-d14	75		83		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: SAINT GOBAIN GW SAMPLING

Project Number: 11212053-03

Lab Number: L2047079

Report Date: 11/04/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-04 Batch: WG1429081-2 WG1429081-3								
Pentachlorophenol	133		137		40-140	3		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	75		72		21-120
Phenol-d6	65		63		10-120
Nitrobenzene-d5	120		115		23-120
2-Fluorobiphenyl	93		85		15-120
2,4,6-Tribromophenol	89		91		10-120
4-Terphenyl-d14	87		83		41-149

Matrix Spike Analysis

Batch Quality Control

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-03
Lab Number: L2047079
Report Date: 11/04/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG1429080-4 WG1429080-5 QC Sample: L2047079-02 Client ID: WG-11212053-102720-DT-02												
2,4,6-Trichlorophenol	ND	18.2	11	61		12	66		30-130	9		30
p-Chloro-m-cresol	ND	18.2	12	66		12	66		23-97	0		30
2-Chlorophenol	ND	18.2	12	66		12	66		27-123	0		30
2,4-Dichlorophenol	ND	18.2	12	66		12	66		30-130	0		30
2,4-Dimethylphenol	ND	18.2	12	66		11	61		30-130	9		30
2-Nitrophenol	ND	18.2	12	66		12	66		30-130	0		30
4-Nitrophenol	ND	18.2	10	55		11	61		10-80	10		30
2,4-Dinitrophenol	ND	18.2	14.J	77		14.J	77		20-130	0		30
4,6-Dinitro-o-cresol	ND	18.2	12	66		12	66		20-164	0		30
Phenol	ND	18.2	9.3	51		9.4	52		12-110	1		30
2-Methylphenol	ND	18.2	12	66		12	66		30-130	0		30
3-Methylphenol/4-Methylphenol	ND	18.2	12	66		12	66		30-130	0		30
2,4,5-Trichlorophenol	ND	18.2	11	61		12	66		30-130	9		30

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2,4,6-Tribromophenol	86		92		10-120
2-Fluorobiphenyl	63		65		15-120
2-Fluorophenol	63		63		21-120
4-Terphenyl-d14	68		69		41-149
Nitrobenzene-d5	71		70		23-120
Phenol-d6	55		55		10-120

Matrix Spike Analysis

Batch Quality Control

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-03
Lab Number: L2047079
Report Date: 11/04/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG1429081-4 WG1429081-5 QC Sample: L2047079-02 Client ID: WG-11212053-102720-DT-02												
Pentachlorophenol	ND	18.2	16	88		17	94		40-140	6		40

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2,4,6-Tribromophenol	100		109		10-120
2-Fluorobiphenyl	66		70		15-120
2-Fluorophenol	64		67		21-120
4-Terphenyl-d14	68		73		41-149
Nitrobenzene-d5	97		102		23-120
Phenol-d6	60		63		10-120

Project Name: SAINT GOBAIN GW SAMPLING
Project Number: 11212053-03

Lab Number: L2047079
Report Date: 11/04/20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2047079-01A	Amber 250ml unpreserved	A	7	7	5.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2047079-01B	Amber 250ml unpreserved	A	7	7	5.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2047079-02A	Amber 250ml unpreserved	A	7	7	5.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2047079-02A1	Amber 250ml unpreserved	A	7	7	5.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2047079-02A2	Amber 250ml unpreserved	A	7	7	5.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2047079-02B	Amber 250ml unpreserved	A	7	7	5.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2047079-02B1	Amber 250ml unpreserved	A	7	7	5.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2047079-02B2	Amber 250ml unpreserved	A	7	7	5.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2047079-03A	Amber 250ml unpreserved	A	7	7	5.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2047079-03B	Amber 250ml unpreserved	A	7	7	5.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2047079-04A	Amber 250ml unpreserved	A	7	7	5.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L2047079-04B	Amber 250ml unpreserved	A	7	7	5.1	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)

*Values in parentheses indicate holding time in days

Project Name:	SAINT GOBAIN GW SAMPLING	**Lab Number:**	L2047079
Project Number:	11212053-03	**Report Date:**	11/04/20

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	SAINT GOBAIN GW SAMPLING	**Lab Number:**	L2047079
Project Number:	11212053-03	**Report Date:**	11/04/20

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: DU Report with 'J' Qualifiers

Project Name:	SAINT GOBAIN GW SAMPLING	**Lab Number:**	L2047079
Project Number:	11212053-03	**Report Date:**	11/04/20

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers

Project Name:	SAINT GOBAIN GW SAMPLING	**Lab Number:**	L2047079
Project Number:	11212053-03	**Report Date:**	11/04/20

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
EPA TO-12 Non-methane organics
EPA 3C Fixed gases
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY RECORD

L2047079

COC NO.: 58967

Address: 2055 Niagara Falls Blvd NF NY 14304 PAGE 1 OF 1

Phone: 716-297-6150 Fax:

Project No/ Phase/Task Code: 11212053-03	Laboratory Name: Alpha	Lab Location: Westborough, MA	SSOW ID:
Project Name: Saint Gobain GW Sampling	Lab Contact:		Cooler No:
Project Location: Walmore Rd Niagara Falls			Carrier: Lab Courier
GHD Chemistry Contact: Kathy Willy			Airbill No:
Sampler(s): D. Tyran			Total # of Containers: 14

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Sample Type: Matrix Code (see back of COC)	Grab (G) or Comp (C)	Filtered (Y/N)	Analysis Requested (See Back of COC for Definitions): NYTCL-8270												Total Containers/sample	MS/MSD Request	Comments/ Special Instructions:
	PRESERVATION - (SEE BACK OF COC FOR ABBREVIATIONS)																				
1	WG-11212053-102720-DT-01	10-27-20	1515	WG	G	N	X												2	X	DUP
2	WG-11212053-102720-DT-02	10-27-20	1610	WG	G	N	X												8	X	MS/MSD
3	WG-11212053-102720-DT-03	10-27-20	1610	WG	G	N	X												2		
4	WG-11212053-102720-DT-04	10-27-20	1635	WG	G	N	X												2		DUP
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

TAT Required in business days (use separate COCs for different TATs):

☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☒ 2 Week ☐ Other:

Notes/ Special Requirements:

	Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	D. Tyran	GHD	10/27/20	1719		VAL	10/28/20	1230
2.		VAL	10/28/20	1350			10/29/20	0170
3.								

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

GHD Form: COC-10B (20110804)