

**DES Waste Management Division
29 Hazen Drive; PO Box 95
Concord, NH 03302-0095**

**September 2018 Unvalidated Wet-Weather and
Source Investigation Sampling Event Data
Submittal
Saint-Gobain Performance Plastics
701 Daniel Webster Highway
Merrimack, New Hampshire 03054
NHDES Site No.: 199712055
Project Number: 36430**

Prepared For:
Saint-Gobain Performance Plastics Corp.
14 McCaffrey Street
Hoosick Falls, New York 12090
Phone Number (518) 686-6268
RP Contact Name: Chris Angier
RP Contact Email:
Christopher.Angier@saint-gobain.com

Prepared By:
Golder Associates Inc.
670 North Commercial Street
Manchester, New Hampshire 03101
Phone Number: (603) 688-0880
Contact Name: Ross Bennett
Contact Email: rbennett@golder.com

Date of Report: October 30, 2018



October 30, 2018

Project No. 166-8623

Mr. Jeffrey Marts
New Hampshire Department of Environmental Services
Waste Management Division
P.O. Box 95, 29 Hazen Drive
Concord, New Hampshire 03302-0095

**RE: SEPTEMBER 2018 UNVALIDATED WET-WEATHER AND SOURCE INVESTIGATION SAMPLING
EVENT DATA SUBMITTAL
SAINT-GOBAIN PERFORMANCE PLASTICS
701 DANIEL WEBSTER HIGHWAY, MERRIMACK, NEW HAMPSHIRE
NHDES SITE NO. 199712055**

Dear Mr. Marts:

Golder Associates Inc. (Golder) is providing this Data Submittal to the New Hampshire Department of Environmental Services (NHDES) on behalf of Saint-Gobain Performance Plastics (SGPP) for the SGPP facility located at 701 Daniel Webster Highway, Merrimack, New Hampshire (Site). This letter transmits the September 2018 wet-weather stormwater and surface water sampling results.

Golder performed the sampling event in general accordance with the Work Plan for 2018 Stormwater and Surface Water Investigation prepared by Golder Associates (2018 StW-SW WP; Golder, 2018a). The 2018 Work Plan was prepared in response to the March 14, 2018 NHDES letter (NHDES, 2018a) that provided written comments on the Stormwater and Surface Water Investigation Summary Report (StW-SW ISR; Golder, 2018b). NHDES approved the 2018 StW-SW WP in an April 13, 2018 letter (NHDES, 2018b), which included additional comments on the scope of the sampling activities. Together the 2018 StW-SW WP and the April 13, 2018 NHDES letter represent Golder's understanding of the stormwater and surface water sampling requirements for the SGPP facility for 2018.

On September 10, 2018, Golder collected 14 "first flush" samples and six "late storm" samples. On September 25, 2018 Golder collected surface water samples from Drainage-001 and Drainage-002, that did not have flow during the September 10, 2018 sampling event. Golder also resampled MH-5 and Mh-23 on September 25, 2018 for comparison to the September 10, 2018 results. Golder did not observe flow at drain inlet DI-17 or catch basin CB-24 during either of the two September 2018 sampling events, therefore, these locations were not sampled in September 2018.

Golder submitted the stormwater conveyance system and surface water samples under chain-of-custody procedures to Eurofins Lancaster Laboratories Environmental, Inc. of Lancaster, Pennsylvania (ELLE) and Alpha Analytical of Westborough, Massachusetts analysis of the parameters listed on Table 1. Laboratory analytical reports are included as Attachment A. Analytical results for the September 2018 sampling event are summarized in Table 1. Field parameters are summarized in Attachment B. Data from September 10, 2018 from the on-property rain gauge and stormwater flow meter are summarized in Attachment C. Figures illustrating sample locations are included as Attachment D. Analytical data provided as part of this data submittal have not yet been validated. Validated data will be submitted to NHDES within 45 days of receipt of analytical data in all formats necessary for the validation process from ELLE, which have not been provided to Golder as of October 30, 2018.

Should you have any questions regarding this Data Submittal, please call Mr. Ross Bennett at (603) 668-0880.

Sincerely,

Golder Associates Inc.



Alistair Macdonald, P.G., LSP
Senior Program Leader and Principal



Ross Bennett, P.E.
Senior Engineer

Encl:

Table 1 – Preliminary Wet-Weather and Source Evaluation Sampling Analytical Data – September 2018
Attachment A – Laboratory Analytical Reports
Attachment B – Field Parameters for Wet-Weather Sampling Event – September 2018
Attachment C – Precipitation and Stormwater Flow Meter Data Summary
Attachment D – Sample Location Figures

References:

Golder, 2018a. Work Plan for 2018 Stormwater and Surface Water Investigation: Saint-Gobain Performance Plastics, Merrimack, New Hampshire. January 30, 2018.

Golder, 2018b. Stormwater and Surface Water Investigation Summary Report: Saint-Gobain Performance Plastics, Merrimack, New Hampshire. January 30, 2018.

NHDES, 2018a. Letter Re: Stormwater and Surface Water Investigation Summary Report. March 14, 2018.

NHDES, 2018b. Letter Re: Work Plan for 2018 Stormwater and Surface Water Investigation. April 13, 2018.

LWL/RWB/drb

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TABLES

TABLE 1: Unvalidated Q3 Wet Weather Flow and Source Investigation Analytical Results - September 2018
Saint-Gobain Performance Plastics
Merrimack, New Hampshire

Sample Timeline				First Flush Samples - 9/10/18														Late-Storm Samples - 9/10/18						Drainage Ditch Sampling Results - 9/25/18				
Sample ID				SGPP-Outfall-001	SW-MERR-201W-NS	SW-MERR-201W-NS	SW-MERR-201W-IC	SW-MERR-202W-NS	SW-MERR-202W-IC	SGPP-MH-23	SGPP-MH-5	SGPP-RD-MB-NW	SGPP-RD-MB-NE	SGPP-RD-MB-SW	SGPP-RD-MB-SE	SGPP-RD-MNB	SGPP-DI-34	SGPP-MH-23	SGPP-MH-23	SGPP-Outfall-001	SGPP-Outfall-001	SGPP-MH-5	SGPP-MH-5	SGPP-Drainage-001	SGPP-Drainage-002	SGPP-MH-23	SGPP-MH-5	
ELLE Lab ID				9798654	9798655	9798656	9798657	9798658	9798659	9798663	9798664	9798667	9798668	9798669	9798670	9798671	9798672	9798652	9798653	9798660	9798676	9798665	9798666	9823639	9823640	9823641	9823642	
Alpha Lab ID				L1835977-12	L1835977-13	L1835977-14	L1835977-15	L1835977-16	L1835977-17	L1835977-11	L1835977-02	L1835977-04	L1835977-05	L1835977-06	L1835977-07	L1835977-08	L1835977-09	L1835977-01	NA	L1835977-18	L1835977-19	L1835977-03	NA	NA	NA	NA	NA	
Sample Date				9/10/2018	9/10/2018	9/10/2018	9/10/2018	9/10/2018	9/10/2018	9/10/2018	9/10/2018	9/10/2018	9/10/2018	9/10/2018	9/10/2018	9/10/2018	9/10/2018	9/10/2018	9/10/2018	9/10/2018	9/10/2018	9/10/2018	9/10/2018	9/10/2018	9/25/2018	9/25/2018	9/25/2018	9/25/2018
N= Normal; FD= Field Duplicate				N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	
Analysis Type				Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Dissolved	Total	Total	Total	Dissolved	Total	Total	Total	Total
Analyte Name	Cas Number	Units	Validated (Y/N)	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	
PFAS Analyte List																												
6,2-Fluorotelomersulfonic acid	27619-97-2	ng/l	N	26	1.6 J	15	0.87 U	0.86 U	0.94 J	97	12,000	14,000	89,000	490	610	9,200	260	250	240	8,100	8,800	2,700 E	14,000	0.99 U	1.6 J	120	700	
HFPDAA	13252-13-6	ng/l	N	1.7	0.43 U	0.43 U	0.44 U	0.42 U	0.43 U	4.6 J	110	150	92	36	10	23	24	6.9	4.7	57	41	67	77	0.49 U	0.49 U	5.1	1.7 J	
NEIFOSAA	2991-50-6	ng/l	N	5.7	1.0 J	15	0.87 U	0.86 U	0.86 U	20	47	16	70	4.9 U	12.3	4.9 U	51	23 J	15	29	20	35	24	0.99 U	0.98 U	14	9.2	
NEIPFOSAE	1691-99-2	ng/l	N	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.9 U	10 U	6.6 J	56	6.3 J	5.9 U	5.9 J	12 J	10 U	2.0 U	12	6.0 U	26	21	1.2 U	1.2 U	1.2 U	5.1	
NMeFOSAA	2355-31-9	ng/l	N	0.86 U	0.85 U	0.85 U	0.87 U	0.86 U	0.86 U	4.9 U	8.7 U	5.0 U	4.9 U	4.9 U	4.9 U	4.9 U	5.0 U	8.5 U	3.9 J	0.86 U	5.0 U	0.88 U	1.7 U	0.99 U	0.98 U	0.98 U	0.98 U	
Perfluoro-Octanesulfonic acid	1763-23-1	ng/l	N	53 B	2.2	35	2	1.8	2	460 B	2,200	900	6,300	320	930	2,200	790	750 B	1,100	1,600 B	1,800	1,900 E	4,200	3.5	8.7	180	280	
Perfluorobutanesulfonic acid	375-73-5	ng/l	N	5.8	1.7	2.2	1.5	1.5	1.7	6.2	50	30	540	1.5 U	22	29	6.5	8.6	7.6	51	52	23	41	0.95 J	0.29 U	2.6	2.1	
Perfluorobutanoic acid	375-22-4	ng/l	N	140	2.0 J	31	1.9 J	1.9 J	1.9 J	250	1,300	5,900	10,000	1,300	1,100	1,700	120	360	370	1,400	1,800	1,200 E	2,300	12	4.3 J	160	90	
Perfluorodecanoic acid	335-76-2	ng/l	N	3.4	0.77 U	6.6	0.78 U	0.77 U	0.78 U	55	320	480	390	81	65	290	130	62	49	180	180	220	350	1.1 J	2	28	38	
Perfluorododecanoic acid	307-55-1	ng/l	N	2.4	0.43 U	9.2	0.43 U	0.43 U	0.43 U	23	97	180	150	28	17	43	75	30	16	57	42	90	110	0.61 J	1.3 J	11	14	
Perfluoroheptanesulfonic acid	375-92-8	ng/l	N	1.3 J	0.34 U	0.38 J	0.35 U	0.34 U	0.34 U	5.0 J	33	14	90	4.3 J	15	44	5.2 J	9.7 J	7.6	16	25	21	35	0.39 U	0.39 U	2.4	2.6	
Perfluoroheptanoic acid	375-85-9	ng/l	N	420	2.4	54	2	1.4	1.6	470	3,200	7,800	28,000	2,100	1,600	11,000	200	730	1,100	3,100	3,700	2,800 E	5,300	30	19	350	660	
Perfluorohexadecanoic acid	67905-19-5	ng/l	N	1.1	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	1.5 U	7.5 J	15	10	1.5 U	1.7 J	1.6 J	1.5 U	2.6 U	1.4 J	4.8	2.0 J	11	3.1	0.30 U	0.29 U	0.34 J	0.37 J	
Perfluorohexanesulfonic acid	355-46-4	ng/l	N	16 B	1.2 J	3.1	1.1 J	1.0 J	1.1 J	15 B	140	86	1,000	14	56	130	17	26 B	23	130 B	140	80	150	0.98 J	0.39 U	8.5	10	
Perfluorohexanoic acid	307-24-4	ng/l	N	740	4.1	98	3.2	2.9	3.2	710	7,300	23,000	39,000	3,900	3,400	6,600	430	1,300	1,900	5,600	6,500	4,900 E	13,000	38	11	660	390	
Perfluorononanoic acid	375-95-1	ng/l	N	16	0.63 J	5.3	0.47 J	0.44 J	0.49 J	75	230	470	570	87	72	220	54	65	58	170	190	190	350	0.97 J	1.0 J	33	20	
Perfluorooctanesulfonamide	754-91-6	ng/l	N	1.1 J	0.68 J	3.8	0.43 U	0.43 U	0.43 U	7.6 J	23 J	7.0 J	63	3.2 J	5.9 J	20	61	4.3 U	6.4	17	18	31	59	0.49 U	0.61 J	5.3	8.2	
Perfluorooctanoic acid	335-67-1	ng/l	N	2,500 B	7.1 B	350 B	7.1 B	4.5 B	4.5 B	1,400 B	11,000 B	11,000 B	52,000 B	1,400 B	1,400 B	4,300 B	880 B	1,000 B	3,000 B	7,900 B	9,400 B	7,500 EB	20,000 B	110	14	870	1,700	
Perfluoropentanesulfonic acid	2706-91-4	ng/l	N	4.5	0.34 U	0.95 J	0.35 U	0.34 U	0.34 U	3.8 J	38	17	310	2.0 U	16	24	3.7 J	6.2 J	6.1	32	40	19	29	0.39 U	0.39 U	1.8 J	2.2	
Perfluoropentanoic acid	2706-90-3	ng/l	N	490	3.0 J	100	2.8 J	2.6 J	2.8 J	500	2,200	9,700	17,000	1,900	2,100	2,400	200	650	1,200	2,800	3,000	2,200 E	4,000	20	5.9	300	190	
Perfluorotetradecanoic acid	376-06-7	ng/l	N	3.5	0.26 U	2.3	0.26 U	0.26 U	0.26 U	6.7	29	66	44	5.7	5.4	6.5	11	11	4	20	7.1	34	21	0.30 U	0.29 U	2	2.3	
Perfluoridecanoic acid	72629-94-8	ng/l	N	2.4	0.34 U	3.1	0.35 U	0.34 U	0.34 U	8.7	40	80	61	9.4	6.7	14	20	13	6.5	27	12	51	45	0.39 U	0.39 U	4.7	5.1	
Perfluoroundecanoic acid	2058-94-8	ng/l	N	1.2 J	0.34 U	3.7	0.35 U	0.34 U	0.34 U	33	100	190	170	35	24	83	60	32	20	58	51	85	130	0.53 J	1.4 J	13	16	
Principal Ions/ Wet Chemistry																												
Ammonia Nitrogen	7664-41-7	mg/l	N	0.075 U	0.11	0.094	0.105	0.079	0.128	0.288	1.06	1.64	2.05	0.636	0.621	2.24	0.301	0.236	NA	0.632	0.637	1.13	NA	0.16	0.2	NA	NA	
Bicarbonate Alkalinity	None	mg/l as CaCO ₃	N	29.7	14.8	15.2	13.4	16.9	16.5	10.2	17.8	9.2	7.3	8	3.7	3	7.3	26.1	NA	17	16.5	10.7	NA	5.5	6.1	NA	NA	
Calcium	7440-70-2	mg/l	N	28.6	5.65	6.56	5.62	5.63	5.67	5.69	9.29	11.3	10.1	17	5.32	2.73	3.36	8.08	NA	13	12	4.42	NA	3.45	0.263 J	NA	NA	
Chloride	16887-00-6	mg/l	N	332	37.4	58.7	37.1	38.4	38.8	10.3	42.4	15.6	15.4	19.2	13.7	28.5	8.6	10.8	NA	91.5	85	14.1	NA	52.7	1.4 J	NA	NA	
Iron	7439-89-6	mg/l	N	0.166	0.408	0.366	0.388	0.373	0.373	0.209	0.594	0.617	0.537	0.436	0.577	0.575	1.41	0.261	NA	0.436	0.39	0.282	NA	0.59	0.192 J	NA	NA	
Magnesium	7439-95-4	mg/l	N	5.88	1.16	1.34	1.12	1.14	1.14	2.01	1.28	6.9	6.53	9.4	3.15	1.52	0.866	2.02	NA	2.94	2.77	2.12	NA	0.626	0.166	NA	NA	
Manganese	7439-96-5	mg/l	N	0.01 U	0.03	0.026	0.029	0.03	0.028	0.063	0.053	0.125	0.106	0.118	0.091	0.063	0.107	0.071	NA	0.036	0.036	0.046	NA	0.0193 J	0.0067 J	NA	NA	
Nitrate Nitrogen	14797-55-8	mg/l	N	1.04	0.348	0.381	0.334	0.367	0.366	0.56	0.787	1.16	1.11	1.48	0.623	1.61	0.13	0.835	NA	0.994	0.96	0.501	NA	0.49 J	0.25 U	NA	NA	
Nitrite Nitrogen	14797-65-0	mg/l	N	0.05 U	0.075	0.057	0.068	0.089	0.094	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NA	0.05 U	0.05 U	0.05 U	NA	0.25 U	0.25 U	NA	NA	
Potassium	7440-09-7	mg/l	N	4.28	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	3.09	2.5 U	2.5 U	NA	2.5 U	2.5 U	2.5 U	NA	1.89	2	NA	NA	
Sodium	7440-23-5	mg/l	N	155	22.2	27	21.8	22.4	22.7	5.29	21.4	6.5	6.69	7.19	5.05	12.6	6.08	8.19	NA	48.7	44.5	6.96	NA	25.8	2.47	NA	NA	
Sulfate	14808-79-8	mg/l	N	15.7	5.17	5.88	5.18	5.39	5.41	7.58	5.66	21.6	20.3	33	11.8	6.43	3.85	8.54	NA	10.3	10	6.96	NA	4.7 J	1.5 U	NA	NA	
Sulfite	14265-45-3	mg/l	N	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5	0.8	0.5 U	0.58	0.5 U	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	NA	1.5 U	1.5 U	NA	NA	
Total Alkalinity to pH 4.5	None	mg/l as CaCO ₃	N	29.7	14.8	15.2	13.4	16.9	16.5	10.2	17.8	9.2	7.3	8	3.7	3	7.3	26.1	NA	17	16.5	10.7	NA	5.5	6.1	NA	NA	
Total Suspended Solids	None	mg/l	N	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5.6	5 U	5 U	36	5 U	26	14	5 U	NA	5 U	5 U	5 U	NA	9.4	4.18	NA	NA	

Notes:

- Golder collected groundwater samples from site monitoring wells on the dates indicated. Samples were submitted to Eurofins Lancaster Laboratories Environmental (ELLE) of Lancaster, Pennsylvania for analysis by EPA Method 537 of the per- and polyfluoro-alkyl substances (PFAS) listed. Data presented in the table are unvalidated.
- Golder collected groundwater

ATTACHMENT A



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Golder Associates
670 North Commercial Street
Suite 103
Manchester NH 03101

Report Date: October 23, 2018 15:17

Project: SGPP-Merrimack NH

Account #: 10253
Group Number: 1986297
SDG: GOA29
PO Number: PROJECT: 166-8623
State of Sample Origin: NH

Electronic Copy To	Golder Associates
Electronic Copy To	Environmental Standards
Electronic Copy To	Environmental Standards
Electronic Copy To	Golder Associates
Electronic Copy To	Golder Associates
Electronic Copy To	Golder Associates
Electronic Copy To	Golder Associates

Attn: Jim Peace
Attn: Meg Michell
Attn: SaintGobain
Attn: Ross Bennett
Attn: Scott Drew
Attn: Jen Fisher
Attn: McKenzie Sheldon

Respectfully Submitted,



Kay Hower

(717) 556-7364

To view our laboratory's current scopes of accreditation please go to <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/> . Historical copies may be requested through your project manager.



SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
SGPP-MH-23 Grab Surface Water	09/10/2018 19:12	9798652
SGPP-MH-23 Dissolved Grab Surface Water	09/10/2018 19:12	9798653
SGPP-Outfall-001 Grab Surface Water	09/10/2018 17:05	9798654
SW-MERR-101W-NS Grab Surface Water	09/10/2018 18:05	9798655
SW-MERR-201W-NS Grab Surface Water	09/10/2018 17:15	9798656
SW-MERR-201W-IC Grab Surface Water	09/10/2018 17:30	9798657
SW-MERR-202W-NS Grab Surface Water	09/10/2018 18:40	9798658
SW-MERR-202W-IC Grab Surface Water	09/10/2018 18:50	9798659
SGPP-Outfall-001 Grab Surface Water	09/10/2018 19:15	9798660
SGPP-Outfall-001 MS Grab Surface Water	09/10/2018 19:15	9798661
SGPP-Outfall-001 MSD Grab Surface Water	09/10/2018 19:15	9798662
SGPP-MH-23 Grab Surface Water	09/10/2018 18:05	9798663
SGPP-MH-5 Grab Surface Water	09/10/2018 16:40	9798664
SGPP-MH-5 Grab Surface Water	09/10/2018 19:20	9798665
SGPP-MH-5 Dissolved Grab Surface Water	09/10/2018 19:20	9798666
SGPP-RD-MB-NW Grab Surface Water	09/10/2018 17:37	9798667
SGPP-RD-MB-NE Grab Surface Water	09/10/2018 17:42	9798668
SGPP-RD-MB-SW Grab Surface Water	09/10/2018 17:25	9798669
SGPP-RD-MB-SE Grab Surface Water	09/10/2018 17:58	9798670
SGPP-RD-NMB Grab Surface Water	09/10/2018 15:18	9798671
SGPP-DI-34 Grab Surface Water	09/10/2018 18:20	9798672
EB-1 Grab Water	09/10/2018 21:10	9798673
FB-1 Grab Water	09/10/2018 21:00	9798674
TB-1 Water	09/10/2018 21:20	9798675
DUP-1 Grab Surface Water	09/10/2018 19:15	9798676

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: SGPP-Merrimack NH
ELLE Group #: 1986297

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below.

Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:**EPA 537 Version 1.1 Modified, LC/MS/MS Miscellaneous****Sample #s: 9798664**

Reporting limits were raised due to interference from the sample matrix.

Sample #s: 9798652

Reporting limits were raised due to interference from the sample matrix.

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. Since the target analytes detected in the sample are > 10 times the blank concentration, the data is reported.

Sample #s: 9798654

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. Since the target analytes detected in the sample are > 10 times the blank concentration, the data is reported.

Sample #s: 9798663

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. Since the target analytes detected in the sample are > 10 times the blank concentration, the data is reported.

Reporting limits were raised due to interference from the sample matrix.

Sample #s: 9798661

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. Since the target analytes detected in the sample are > 10 times the blank concentration, the data is reported.

The recovery for the sample injection standard peak areas and several labeled compounds used as extraction standards is outside of QC acceptance limits. The recovery for the sample injection standard peak

areas and several labeled compounds used as extraction standards is also outside of QC acceptance limits in the background and matrix spike duplicate sample, indicating a matrix effect.

Sample #s: 9798662

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. Since the target analytes detected in the sample are > 10 times the blank concentration, the data is reported.

The recovery for the sample injection standard peak areas and several labeled compounds used as extraction standards is outside of QC acceptance limits. The recovery for the sample injection standard peak areas and several labeled compounds used as extraction standards is also outside of QC acceptance limits in the background and matrix spike sample, indicating a matrix effect.

Sample #s: 9798660

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. Since the target analytes detected in the sample are > 10 times the blank concentration, the data is reported.

The recovery for the sample injection standard peak areas and several labeled compounds used as extraction standards is outside of QC acceptance limits. The recovery for the sample injection standard peak areas and several labeled compounds used as extraction standards is also outside of QC acceptance limits in the matrix spike samples, indicating a matrix effect.

Sample #s: 9798653, 9798666, 9798667, 9798668, 9798669, 9798670

The recovery for labeled compound used as extraction standards is outside of QC acceptance limits as noted on the QC Summary due to the matrix of the sample.

Sample #s: 9798665

The recovery for several labeled compounds used as extraction standards is outside of QC acceptance limits as noted on the QC Summary.

Several native PFAS compounds are above the range of the calibration and should be considered estimated. Several of the results that reported above the calibration range and E flagged are reported to facilitate the comparability of results between the unfiltered and dissolved samples.

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary.

Batch #: 18257010 (Sample number(s): 9798652, 9798654, 9798660-9798663 UNSPK: 9798660)

The recovery(ies) for the following analyte(s) in the MS and/or MSD exceeded the acceptance window indicating a positive bias: Perfluorononanoic acid, Perfluorodecanoic acid, Perfluoroundecanoic acid, Perfluorododecanoic acid, Perfluoro-Octanesulfonic acid, Perfluorobutanoic acid, Perfluoropentanesulfonic acid, Perfluorohexanesulfonic acid

The recovery(ies) for the following analyte(s) in the MS and/or MSD were below the acceptance window: Perfluorooctanoic acid, Perfluorohexanoic acid, Perfluoroheptanoic acid, Perfluorobutanesulfonic acid, Perfluoropentanoic acid, NEtFOSAA, 6:2-Fluorotelomersulfonic acid, Perfluorohexadecanoic acid, NEtPFOSAE, Perfluorononanoic acid, Perfluoroundecanoic acid, Perfluorododecanoic acid, Perfluoropentanesulfonic acid

The relative percent difference(s) for the following analyte(s) in the MS/MSD were outside acceptance windows: Perfluorohexadecanoic acid

The recovery(ies) for one or more surrogates exceeded the acceptance window indicating a positive bias for sample(s) 9798660, 9798661, 9798662, MS, MSD

Batch #: 18257011 (Sample number(s): 9798667-9798672, 9798674-9798676)

The recovery(ies) for one or more surrogates exceeded the acceptance window indicating a positive bias for sample(s) 9798667, 9798668, 9798669, 9798670

Batch #: 18262012 (Sample number(s): 9798653, 9798655-9798659, 9798664-9798666, 9798673)

The recovery(ies) for one or more surrogates exceeded the acceptance window indicating a positive bias for sample(s) 9798653, 9798666

The recovery(ies) for one or more surrogates were below the acceptance window for sample(s) 9798665

SW-846 8321B, LC/MS/MS Miscellaneous

Sample #s: 9798653, 9798663, 9798667, 9798670, 9798672, 9798676

Reporting limits were raised due to interference from the sample matrix.

Sample #s: 9798671

Reporting limits were raised due to interference from the sample matrix.

The stated QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

Sample #s: 9798661

The recovery for the sample internal standard(s) is outside the QC acceptance limits. The recovery for the internal standard(s) is also outside the QC acceptance limits in the associated background and matrix spike duplicate sample, indicating a matrix effect.

Sample #s: 9798662

The recovery for the sample internal standard(s) is outside the QC acceptance limits. The recovery for the internal standard(s) is also outside the QC acceptance limits in the associated background and matrix spike sample, indicating a matrix effect.

Sample #s: 9798660

The recovery for the sample internal standard(s) is outside the QC acceptance limits. The recovery for the internal standard(s) is also outside the QC acceptance limits in the associated matrix spike(s), indicating a matrix effect.

Sample #s: 9798665

The sample injection internal standard peak areas were outside of the QC limits for both the initial injection and the re-injection. The values here are from the initial injection of the sample.

Sample #s: 9798666, 9798668

The sample injection internal standard peak areas were outside of the QC limits for both the initial injection and the re-injection. The values here are from the initial injection of the sample.

Reporting limits were raised due to interference from the sample matrix.

Sample #s: 9798652

The stated QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

Sample #s: 9798669

The stated QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

Reporting limits were raised due to interference from the sample matrix.

Sample #s: 9798664

The stated QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

The sample injection internal standard peak areas were outside of the QC limits for both the initial injection and the re-injection. The values here are from the initial injection of the sample.

Batch #: 18257013 (Sample number(s): 9798652, 9798654-9798663 UNSPK: 9798660)

The recovery(ies) for the following analyte(s) in the MS and/or MSD exceeded the acceptance window indicating a positive bias: HFPODA

The recovery(ies) for the following analyte(s) in the MS and/or MSD were below the acceptance window: HFPODA

The recovery(ies) for one or more surrogates were below the acceptance window for sample(s) 9798652

Batch #: 18257014 (Sample number(s): 9798667-9798676)

The recovery(ies) for one or more surrogates exceeded the acceptance window indicating a positive bias for sample(s) 9798671

The recovery(ies) for one or more surrogates were below the acceptance window for sample(s) 9798669

Batch #: 18262013 (Sample number(s): 9798653, 9798664-9798666)

The recovery(ies) for one or more surrogates exceeded the acceptance window indicating a positive bias for sample(s) 9798664

Analysis Report

Sample Description: SGPP-MH-23 Grab Surface Water
Saint Gobain, Merrimack**Golder Associates**
ELLE Sample #: WW 9798652
ELLE Group #: 1986297
Matrix: Surface Water**Project Name:** SGPP-Merrimack NH**Submittal Date/Time:** 09/12/2018 10:20**Collection Date/Time:** 09/10/2018 19:12**SDG#:** GOA29-01

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified			ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	250	8.5	17	10
14473	NEtFOSAA	2991-50-6	23 J	8.5	26	10
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	10 U	10	26	10
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	8.5 U	8.5	26	10
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	8.6	2.6	8.5	10
14473	Perfluorobutanoic acid	375-22-4	360	17	51	10
14473	Perfluorodecanoic acid	335-76-2	62	7.7	17	10
14473	Perfluorododecanoic acid	307-55-1	30	4.3	17	10
14473	Perfluoroheptanesulfonic acid	375-92-8	9.7 J	3.4	17	10
14473	Perfluoroheptanoic acid	375-85-9	730	3.4	8.5	10
14473	Perfluorohexadecanoic acid	67905-19-5	2.6 U	2.6	8.5	10
14473	Perfluorohexanesulfonic acid	355-46-4	26 B	3.4	17	10
14473	Perfluorohexanoic acid	307-24-4	1,300	3.4	17	10
14473	Perfluorononanoic acid	375-95-1	65	3.4	17	10
14473	Perfluorooctanesulfonamide	754-91-6	4.3 U	4.3	26	10
14473	Perfluoro-Octanesulfonic acid	1763-23-1	750 B	3.4	17	10
14473	Perfluorooctanoic acid	335-67-1	1,000 B	2.6	8.5	10
14473	Perfluoropentanesulfonic acid	2706-91-4	6.2 J	3.4	17	10
14473	Perfluoropentanoic acid	2706-90-3	650	17	51	10
14473	Perfluorotetradecanoic acid	376-06-7	11	2.6	8.5	10
14473	Perfluorotridecanoic acid	72629-94-8	13	3.4	8.5	10
14473	Perfluoroundecanoic acid	2058-94-8	32	3.4	17	10

Reporting limits were raised due to interference from the sample matrix.

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. Since the target analytes detected in the sample are > 10 times the blank concentration, the data is reported.

LC/MS/MS Miscellaneous		SW-846 8321B	ng/l	ng/l	ng/l	
14654	HFPODA	13252-13-6	6.9	0.44	1.8	1
HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid						
The stated QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.						

Wet Chemistry SM 2540 D-2011			mg/l	mg/l	mg/l	
13858	Total Suspended Solids	n.a.	7.16	1.00	3.00	1

* = This limit was used in the evaluation of the final result

Sample Description: SGPP-MH-23 Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798652
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 19:12
SDG#: GOA29-01

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257010	09/19/2018 03:38	Isaac Phillips-Cary	10
14654	HFPODA	SW-846 8321B	1	18257013	09/19/2018 19:24	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18257010	09/14/2018 09:35	Courtney J Fatta	1
14659	PFECA Water Prep	SW-846 8321B	1	18257013	09/14/2018 09:40	Danielle D McCully	1
13858	Total Suspended Solids	SM 2540 D-2011	1	18256385801A	09/13/2018 10:22	Angelica Cintron	1

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-MH-23 Dissolved Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798653
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 19:12
SDG#: GOA29-02

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified			ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	240	1.7	3.3	1
14473	NEtFOSAA	2991-50-6	15	1.7	5.0	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	2.0 U	2.0	5.0	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	3.9 J	1.7	5.0	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	7.6	0.50	1.7	1
14473	Perfluorobutanoic acid	375-22-4	370	3.3	10	1
14473	Perfluorodecanoic acid	335-76-2	49	1.5	3.3	1
14473	Perfluorododecanoic acid	307-55-1	16	0.83	3.3	1
14473	Perfluoroheptanesulfonic acid	375-92-8	7.6	0.66	3.3	1
14473	Perfluoroheptanoic acid	375-85-9	1,100	6.6	17	10
14473	Perfluorohexadecanoic acid	67905-19-5	1.4 J	0.50	1.7	1
14473	Perfluorohexanesulfonic acid	355-46-4	23	0.66	3.3	1
14473	Perfluorohexanoic acid	307-24-4	1,900	6.6	33	10
14473	Perfluorononanoic acid	375-95-1	58	0.66	3.3	1
14473	Perfluorooctanesulfonamide	754-91-6	6.4	0.83	5.0	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	1,100	6.6	33	10
14473	Perfluorooctanoic acid	335-67-1	3,000 B	5.0	17	10
14473	Perfluoropentanesulfonic acid	2706-91-4	6.1	0.66	3.3	1
14473	Perfluoropentanoic acid	2706-90-3	1,200	33	100	10
14473	Perfluorotetradecanoic acid	376-06-7	4.0	0.50	1.7	1
14473	Perfluorotridecanoic acid	72629-94-8	6.5	0.66	1.7	1
14473	Perfluoroundecanoic acid	2058-94-8	20	0.66	3.3	1
The recovery for labeled compound used as extraction standards is outside of QC acceptance limits as noted on the QC Summary due to the matrix of the sample.						

LC/MS/MS Miscellaneous		SW-846 8321B	ng/l	ng/l	ng/l	
14654	HFPODA	13252-13-6	4.7	0.83	3.3	1
HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid						
Reporting limits were raised due to interference from the sample matrix.						

Sample Comments

This sample was lab centrifuged for dissolved PFAS and GenX.

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-MH-23 Dissolved Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798653
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 19:12
SDG#: GOA29-02

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18262012	09/21/2018 10:04	Jason W Knight	1
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18262012	09/26/2018 09:09	Jason W Knight	10
14654	HFPODA	SW-846 8321B	1	18262013	09/21/2018 13:39	Marissa C Drexinger	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18262012	09/19/2018 15:25	Danielle D McCully	1
14659	PFESA Water Prep	SW-846 8321B	1	18262013	09/19/2018 15:40	Danielle D McCully	1

*=This limit was used in the evaluation of the final result

Analysis Report

Sample Description: SGPP-Outfall-001 Grab Surface Water
Saint Gobain, Merrimack**Golder Associates**
ELLE Sample #: WW 9798654
ELLE Group #: 1986297
Matrix: Surface Water**Project Name:** SGPP-Merrimack NH**Submittal Date/Time:** 09/12/2018 10:20**Collection Date/Time:** 09/10/2018 17:05**SDG#:** GOA29-03

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified						
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	26	0.86	1.7	1
14473	NEtFOSAA	2991-50-6	5.7	0.86	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	1.0 U	1.0	2.6	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	0.86 U	0.86	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	5.8	0.26	0.86	1
14473	Perfluorobutanoic acid	375-22-4	140	1.7	5.2	1
14473	Perfluorodecanoic acid	335-76-2	3.4	0.77	1.7	1
14473	Perfluorododecanoic acid	307-55-1	2.4	0.43	1.7	1
14473	Perfluoroheptanesulfonic acid	375-92-8	1.3 J	0.34	1.7	1
14473	Perfluoroheptanoic acid	375-85-9	420	3.4	8.6	10
14473	Perfluorohexadecanoic acid	67905-19-5	1.1	0.26	0.86	1
14473	Perfluorohexanesulfonic acid	355-46-4	16 B	0.34	1.7	1
14473	Perfluorohexanoic acid	307-24-4	740	3.4	17	10
14473	Perfluorononanoic acid	375-95-1	16	0.34	1.7	1
14473	Perfluorooctanesulfonamide	754-91-6	1.1 J	0.43	2.6	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	53 B	0.34	1.7	1
14473	Perfluorooctanoic acid	335-67-1	2,500 B	2.6	8.6	10
14473	Perfluoropentanesulfonic acid	2706-91-4	4.5	0.34	1.7	1
14473	Perfluoropentanoic acid	2706-90-3	490	17	52	10
14473	Perfluorotetradecanoic acid	376-06-7	3.5	0.26	0.86	1
14473	Perfluorotridecanoic acid	72629-94-8	2.4	0.34	0.86	1
14473	Perfluoroundecanoic acid	2058-94-8	1.2 J	0.34	1.7	1

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. Since the target analytes detected in the sample are > 10 times the blank concentration, the data is reported.

LC/MS/MS Miscellaneous SW-846 8321B						
14654	HFPODA	13252-13-6	1.7	0.43	1.7	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid					

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257010	09/16/2018 15:02	Isaac Phillips-Cary	1

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-Outfall-001 Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798654
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20

Collection Date/Time: 09/10/2018 17:05

SDG#: GOA29-03

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257010	09/19/2018 03:47	Isaac Phillips-Cary	10
14654	HFPODA	SW-846 8321B	1	18257013	09/19/2018 19:33	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18257010	09/14/2018 09:35	Courtney J Fatta	1
14659	PFECA Water Prep	SW-846 8321B	1	18257013	09/14/2018 09:40	Danielle D McCully	1

*=This limit was used in the evaluation of the final result

Sample Description: SW-MERR-101W-NS Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798655
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 18:05
SDG#: GOA29-04

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified			ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	1.6 J	0.85	1.7	1
14473	NEtFOSAA	2991-50-6	1.0 J	0.85	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	1.0 U	1.0	2.6	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	0.85 U	0.85	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	1.7	0.26	0.85	1
14473	Perfluorobutanoic acid	375-22-4	2.0 J	1.7	5.1	1
14473	Perfluorodecanoic acid	335-76-2	0.77 U	0.77	1.7	1
14473	Perfluorododecanoic acid	307-55-1	0.43 U	0.43	1.7	1
14473	Perfluoroheptanesulfonic acid	375-92-8	0.34 U	0.34	1.7	1
14473	Perfluoroheptanoic acid	375-85-9	2.4	0.34	0.85	1
14473	Perfluorohexadecanoic acid	67905-19-5	0.26 U	0.26	0.85	1
14473	Perfluorohexanesulfonic acid	355-46-4	1.2 J	0.34	1.7	1
14473	Perfluorohexanoic acid	307-24-4	4.1	0.34	1.7	1
14473	Perfluorononanoic acid	375-95-1	0.63 J	0.34	1.7	1
14473	Perfluorooctanesulfonamide	754-91-6	0.68 J	0.43	2.6	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	2.2	0.34	1.7	1
14473	Perfluorooctanoic acid	335-67-1	7.1 B	0.26	0.85	1
14473	Perfluoropentanesulfonic acid	2706-91-4	0.34 U	0.34	1.7	1
14473	Perfluoropentanoic acid	2706-90-3	3.0 J	1.7	5.1	1
14473	Perfluorotetradecanoic acid	376-06-7	0.26 U	0.26	0.85	1
14473	Perfluorotridecanoic acid	72629-94-8	0.34 U	0.34	0.85	1
14473	Perfluoroundecanoic acid	2058-94-8	0.34 U	0.34	1.7	1
LC/MS/MS Miscellaneous SW-846 8321B			ng/l	ng/l	ng/l	
14654	HFPODA	13252-13-6	0.43 U	0.43	1.7	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid					

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18262012	09/21/2018 10:13	Jason W Knight	1
14654	HFPODA	SW-846 8321B	1	18257013	09/19/2018 19:42	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	2	18262012	09/19/2018 15:25	Danielle D McCully	1
14659	PFECA Water Prep	SW-846 8321B	1	18257013	09/14/2018 09:40	Danielle D McCully	1

*=This limit was used in the evaluation of the final result

Analysis Report

Sample Description: SW-MERR-201W-NS Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798656
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 17:15
SDG#: GOA29-05

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified						
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	15	0.85	1.7	1
14473	NEtFOSAA	2991-50-6	15	0.85	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	1.0 U	1.0	2.6	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	0.85 U	0.85	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	2.2	0.26	0.85	1
14473	Perfluorobutanoic acid	375-22-4	31	1.7	5.1	1
14473	Perfluorodecanoic acid	335-76-2	6.6	0.77	1.7	1
14473	Perfluorododecanoic acid	307-55-1	9.2	0.43	1.7	1
14473	Perfluoroheptanesulfonic acid	375-92-8	0.38 J	0.34	1.7	1
14473	Perfluoroheptanoic acid	375-85-9	54	0.34	0.85	1
14473	Perfluorohexadecanoic acid	67905-19-5	0.26 U	0.26	0.85	1
14473	Perfluorohexanesulfonic acid	355-46-4	3.1	0.34	1.7	1
14473	Perfluorohexanoic acid	307-24-4	98	0.34	1.7	1
14473	Perfluorononanoic acid	375-95-1	5.3	0.34	1.7	1
14473	Perfluorooctanesulfonamide	754-91-6	3.8	0.43	2.6	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	35	0.34	1.7	1
14473	Perfluorooctanoic acid	335-67-1	350 B	2.6	8.5	10
14473	Perfluoropentanesulfonic acid	2706-91-4	0.95 J	0.34	1.7	1
14473	Perfluoropentanoic acid	2706-90-3	100	1.7	5.1	1
14473	Perfluorotetradecanoic acid	376-06-7	2.3	0.26	0.85	1
14473	Perfluorotridecanoic acid	72629-94-8	3.1	0.34	0.85	1
14473	Perfluoroundecanoic acid	2058-94-8	3.7	0.34	1.7	1
LC/MS/MS Miscellaneous SW-846 8321B						
14654	HFPODA	13252-13-6	0.43 U	0.43	1.7	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid					

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18262012	09/21/2018 10:22	Jason W Knight	1
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18262012	09/26/2018 09:18	Jason W Knight	10
14654	HFPODA	SW-846 8321B	1	18257013	09/19/2018 19:51	Isaac Phillips-Cary	1

*=This limit was used in the evaluation of the final result

Sample Description: SW-MERR-201W-NS Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798656
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20

Collection Date/Time: 09/10/2018 17:15

SDG#: GOA29-05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	2	18262012	09/19/2018 15:25	Danielle D McCully	1
14659	PFECA Water Prep	SW-846 8321B	1	18257013	09/14/2018 09:40	Danielle D McCully	1

*=This limit was used in the evaluation of the final result

Sample Description: SW-MERR-201W-IC Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798657
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 17:30
SDG#: GOA29-06

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified			ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	0.87 U	0.87	1.7	1
14473	NEtFOSAA	2991-50-6	0.87 U	0.87	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	1.0 U	1.0	2.6	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	0.87 U	0.87	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	1.5	0.26	0.87	1
14473	Perfluorobutanoic acid	375-22-4	1.9 J	1.7	5.2	1
14473	Perfluorodecanoic acid	335-76-2	0.78 U	0.78	1.7	1
14473	Perfluorododecanoic acid	307-55-1	0.43 U	0.43	1.7	1
14473	Perfluoroheptanesulfonic acid	375-92-8	0.35 U	0.35	1.7	1
14473	Perfluoroheptanoic acid	375-85-9	2.0	0.35	0.87	1
14473	Perfluorohexadecanoic acid	67905-19-5	0.26 U	0.26	0.87	1
14473	Perfluorohexanesulfonic acid	355-46-4	1.1 J	0.35	1.7	1
14473	Perfluorohexanoic acid	307-24-4	3.2	0.35	1.7	1
14473	Perfluorononanoic acid	375-95-1	0.47 J	0.35	1.7	1
14473	Perfluorooctanesulfonamide	754-91-6	0.43 U	0.43	2.6	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	2.0	0.35	1.7	1
14473	Perfluorooctanoic acid	335-67-1	7.1 B	0.26	0.87	1
14473	Perfluoropentanesulfonic acid	2706-91-4	0.35 U	0.35	1.7	1
14473	Perfluoropentanoic acid	2706-90-3	2.8 J	1.7	5.2	1
14473	Perfluorotetradecanoic acid	376-06-7	0.26 U	0.26	0.87	1
14473	Perfluorotridecanoic acid	72629-94-8	0.35 U	0.35	0.87	1
14473	Perfluoroundecanoic acid	2058-94-8	0.35 U	0.35	1.7	1
LC/MS/MS Miscellaneous SW-846 8321B			ng/l	ng/l	ng/l	
14654	HFPODA	13252-13-6	0.44 U	0.44	1.8	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid					

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18262012	09/21/2018 10:31	Jason W Knight	1
14654	HFPODA	SW-846 8321B	1	18257013	09/19/2018 20:00	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	2	18262012	09/19/2018 15:25	Danielle D McCully	1
14659	PFECA Water Prep	SW-846 8321B	1	18257013	09/14/2018 09:40	Danielle D McCully	1

*=This limit was used in the evaluation of the final result

Sample Description: SW-MERR-202W-NS Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798658
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 18:40
SDG#: GOA29-07

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified						
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	0.86 U	0.86	1.7	1
14473	NEtFOSAA	2991-50-6	0.86 U	0.86	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	1.0 U	1.0	2.6	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	0.86 U	0.86	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	1.5	0.26	0.86	1
14473	Perfluorobutanoic acid	375-22-4	1.9 J	1.7	5.1	1
14473	Perfluorodecanoic acid	335-76-2	0.77 U	0.77	1.7	1
14473	Perfluorododecanoic acid	307-55-1	0.43 U	0.43	1.7	1
14473	Perfluoroheptanesulfonic acid	375-92-8	0.34 U	0.34	1.7	1
14473	Perfluoroheptanoic acid	375-85-9	1.4	0.34	0.86	1
14473	Perfluorohexadecanoic acid	67905-19-5	0.26 U	0.26	0.86	1
14473	Perfluorohexanesulfonic acid	355-46-4	1.0 J	0.34	1.7	1
14473	Perfluorohexanoic acid	307-24-4	2.9	0.34	1.7	1
14473	Perfluorononanoic acid	375-95-1	0.44 J	0.34	1.7	1
14473	Perfluorooctanesulfonamide	754-91-6	0.43 U	0.43	2.6	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	1.8	0.34	1.7	1
14473	Perfluorooctanoic acid	335-67-1	4.5 B	0.26	0.86	1
14473	Perfluoropentanesulfonic acid	2706-91-4	0.34 U	0.34	1.7	1
14473	Perfluoropentanoic acid	2706-90-3	2.6 J	1.7	5.1	1
14473	Perfluorotetradecanoic acid	376-06-7	0.26 U	0.26	0.86	1
14473	Perfluorotridecanoic acid	72629-94-8	0.34 U	0.34	0.86	1
14473	Perfluoroundecanoic acid	2058-94-8	0.34 U	0.34	1.7	1
LC/MS/MS Miscellaneous SW-846 8321B						
14654	HFPODA	13252-13-6	0.42 U	0.42	1.7	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid					

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18262012	09/21/2018 10:40	Jason W Knight	1
14654	HFPODA	SW-846 8321B	1	18257013	09/19/2018 20:09	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	2	18262012	09/19/2018 15:25	Danielle D McCully	1
14659	PFECA Water Prep	SW-846 8321B	1	18257013	09/14/2018 09:40	Danielle D McCully	1

*=This limit was used in the evaluation of the final result

Sample Description: SW-MERR-202W-IC Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798659
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 18:50
SDG#: GOA29-08

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified			ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	0.94 J	0.86	1.7	1
14473	NEtFOSAA	2991-50-6	0.86 U	0.86	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	1.0 U	1.0	2.6	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	0.86 U	0.86	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	1.7	0.26	0.86	1
14473	Perfluorobutanoic acid	375-22-4	1.9 J	1.7	5.2	1
14473	Perfluorodecanoic acid	335-76-2	0.78 U	0.78	1.7	1
14473	Perfluorododecanoic acid	307-55-1	0.43 U	0.43	1.7	1
14473	Perfluoroheptanesulfonic acid	375-92-8	0.34 U	0.34	1.7	1
14473	Perfluoroheptanoic acid	375-85-9	1.6	0.34	0.86	1
14473	Perfluorohexadecanoic acid	67905-19-5	0.26 U	0.26	0.86	1
14473	Perfluorohexanesulfonic acid	355-46-4	1.1 J	0.34	1.7	1
14473	Perfluorohexanoic acid	307-24-4	3.2	0.34	1.7	1
14473	Perfluorononanoic acid	375-95-1	0.49 J	0.34	1.7	1
14473	Perfluorooctanesulfonamide	754-91-6	0.43 U	0.43	2.6	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	2.0	0.34	1.7	1
14473	Perfluorooctanoic acid	335-67-1	4.5 B	0.26	0.86	1
14473	Perfluoropentanesulfonic acid	2706-91-4	0.34 U	0.34	1.7	1
14473	Perfluoropentanoic acid	2706-90-3	2.8 J	1.7	5.2	1
14473	Perfluorotetradecanoic acid	376-06-7	0.26 U	0.26	0.86	1
14473	Perfluorotridecanoic acid	72629-94-8	0.34 U	0.34	0.86	1
14473	Perfluoroundecanoic acid	2058-94-8	0.34 U	0.34	1.7	1
LC/MS/MS Miscellaneous SW-846 8321B			ng/l	ng/l	ng/l	
14654	HFPODA	13252-13-6	0.43 U	0.43	1.7	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid					

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18262012	09/21/2018 10:58	Jason W Knight	1
14654	HFPODA	SW-846 8321B	1	18257013	09/19/2018 20:18	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	2	18262012	09/19/2018 15:25	Danielle D McCully	1
14659	PFECA Water Prep	SW-846 8321B	1	18257013	09/14/2018 09:40	Danielle D McCully	1

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-Outfall-001 Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798660
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 19:15
SDG#: GOA29-09BKG

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified						
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	8,100	86	170	100
14473	NEtFOSAA	2991-50-6	29	0.86	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	12	1.0	2.6	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	0.86 U	0.86	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	51	0.26	0.86	1
14473	Perfluorobutanoic acid	375-22-4	1,400	17	52	10
14473	Perfluorodecanoic acid	335-76-2	180	0.77	1.7	1
14473	Perfluorododecanoic acid	307-55-1	57	0.43	1.7	1
14473	Perfluoroheptanesulfonic acid	375-92-8	16	0.34	1.7	1
14473	Perfluoroheptanoic acid	375-85-9	3,100	34	86	100
14473	Perfluorohexadecanoic acid	67905-19-5	4.8	0.26	0.86	1
14473	Perfluorohexanesulfonic acid	355-46-4	130 B	0.34	1.7	1
14473	Perfluorohexanoic acid	307-24-4	5,600	34	170	100
14473	Perfluorononanoic acid	375-95-1	170	0.34	1.7	1
14473	Perfluorooctanesulfonamide	754-91-6	17	0.43	2.6	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	1,600 B	3.4	17	10
14473	Perfluorooctanoic acid	335-67-1	7,900 B	26	86	100
14473	Perfluoropentanesulfonic acid	2706-91-4	32	0.34	1.7	1
14473	Perfluoropentanoic acid	2706-90-3	2,800	17	52	10
14473	Perfluorotetradecanoic acid	376-06-7	20	0.26	0.86	1
14473	Perfluorotridecanoic acid	72629-94-8	27	0.34	0.86	1
14473	Perfluoroundecanoic acid	2058-94-8	58	0.34	1.7	1

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. Since the target analytes detected in the sample are > 10 times the blank concentration, the data is reported.

The recovery for the sample injection standard peak areas and several labeled compounds used as extraction standards is outside of QC acceptance limits. The recovery for the sample injection standard peak areas and several labeled compounds used as extraction standards is also outside of QC acceptance limits in the matrix spike samples, indicating a matrix effect.

LC/MS/MS Miscellaneous SW-846 8321B						
14654	HFPODA	13252-13-6	57	0.44	1.8	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid					

The recovery for the sample internal standard(s) is outside the QC acceptance limits. The recovery for the internal standard(s)

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-Outfall-001 Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798660
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 19:15
SDG#: GOA29-09BKG

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
	is also outside the QC acceptance limits in the associated matrix spike(s), indicating a matrix effect.					

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257010	09/16/2018 15:56	Isaac Phillips-Cary	1
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257010	09/19/2018 03:56	Isaac Phillips-Cary	10
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257010	09/19/2018 04:05	Isaac Phillips-Cary	100
14654	HFPODA	SW-846 8321B	1	18257013	09/19/2018 20:27	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18257010	09/14/2018 09:35	Courtney J Fatta	1
14659	PFECA Water Prep	SW-846 8321B	1	18257013	09/14/2018 09:40	Danielle D McCully	1

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-Outfall-001 MS Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798661
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 19:15
SDG#: GOA29-09MS

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified			ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	3,000 E	0.86	1.7	1
14473	NEtFOSAA	2991-50-6	31	0.86	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	13	1.0	2.6	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	5.8	0.86	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	49	0.26	0.86	1
14473	Perfluorobutanoic acid	375-22-4	1,600 E	1.7	5.1	1
14473	Perfluorodecanoic acid	335-76-2	190	0.77	1.7	1
14473	Perfluorododecanoic acid	307-55-1	59	0.43	1.7	1
14473	Perfluoroheptanesulfonic acid	375-92-8	20	0.34	1.7	1
14473	Perfluoroheptanoic acid	375-85-9	2,600 E	0.34	0.86	1
14473	Perfluorohexadecanoic acid	67905-19-5	8.2	0.26	0.86	1
14473	Perfluorohexanesulfonic acid	355-46-4	140 B	0.34	1.7	1
14473	Perfluorohexanoic acid	307-24-4	3,200 E	0.34	1.7	1
14473	Perfluorononanoic acid	375-95-1	170	0.34	1.7	1
14473	Perfluorooctanesulfonamide	754-91-6	21	0.43	2.6	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	1,800 EB	0.34	1.7	1
14473	Perfluorooctanoic acid	335-67-1	5,500 EB	0.26	0.86	1
14473	Perfluoropentanesulfonic acid	2706-91-4	33	0.34	1.7	1
14473	Perfluoropentanoic acid	2706-90-3	2,600 E	1.7	5.1	1
14473	Perfluorotetradecanoic acid	376-06-7	24	0.26	0.86	1
14473	Perfluorotridecanoic acid	72629-94-8	31	0.34	0.86	1
14473	Perfluoroundecanoic acid	2058-94-8	58	0.34	1.7	1

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. Since the target analytes detected in the sample are > 10 times the blank concentration, the data is reported.

The recovery for the sample injection standard peak areas and several labeled compounds used as extraction standards is outside of QC acceptance limits. The recovery for the sample injection standard peak areas and several labeled compounds used as extraction standards is also outside of QC acceptance limits in the background and matrix spike duplicate sample, indicating a matrix effect.

LC/MS/MS Miscellaneous SW-846 8321B			ng/l	ng/l	ng/l	
14654	HFPODA	13252-13-6	63	0.43	1.7	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid					

The recovery for the sample internal standard(s) is outside the QC acceptance limits. The recovery for the internal standard(s)

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-Outfall-001 MS Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798661
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 19:15
SDG#: GOA29-09MS

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
	is also outside the QC acceptance limits in the associated background and matrix spike duplicate sample, indicating a matrix effect.					

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257010	09/16/2018 16:14	Isaac Phillips-Cary	1
14654	HFPODA	SW-846 8321B	1	18257013	09/19/2018 20:45	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18257010	09/14/2018 09:35	Courtney J Fatta	1
14659	PFECA Water Prep	SW-846 8321B	1	18257013	09/14/2018 09:40	Danielle D McCully	1

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-Outfall-001 MSD Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798662
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 19:15
SDG#: GOA29-09MSD

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified			ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	3,100 E	0.86	1.7	1
14473	NEtFOSAA	2991-50-6	30	0.86	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	14	1.0	2.6	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	5.7	0.86	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	52	0.26	0.86	1
14473	Perfluorobutanoic acid	375-22-4	1,600 E	1.7	5.1	1
14473	Perfluorodecanoic acid	335-76-2	200	0.77	1.7	1
14473	Perfluorododecanoic acid	307-55-1	64	0.43	1.7	1
14473	Perfluoroheptanesulfonic acid	375-92-8	22	0.34	1.7	1
14473	Perfluoroheptanoic acid	375-85-9	2,700 E	0.34	0.86	1
14473	Perfluorohexadecanoic acid	67905-19-5	6.0	0.26	0.86	1
14473	Perfluorohexanesulfonic acid	355-46-4	140 B	0.34	1.7	1
14473	Perfluorohexanoic acid	307-24-4	3,200 E	0.34	1.7	1
14473	Perfluorononanoic acid	375-95-1	190	0.34	1.7	1
14473	Perfluorooctanesulfonamide	754-91-6	23	0.43	2.6	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	1,800 EB	0.34	1.7	1
14473	Perfluorooctanoic acid	335-67-1	5,800 EB	0.26	0.86	1
14473	Perfluoropentanesulfonic acid	2706-91-4	39	0.34	1.7	1
14473	Perfluoropentanoic acid	2706-90-3	2,500 E	1.7	5.1	1
14473	Perfluorotetradecanoic acid	376-06-7	25	0.26	0.86	1
14473	Perfluorotridecanoic acid	72629-94-8	33	0.34	0.86	1
14473	Perfluoroundecanoic acid	2058-94-8	65	0.34	1.7	1

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. Since the target analytes detected in the sample are > 10 times the blank concentration, the data is reported.

The recovery for the sample injection standard peak areas and several labeled compounds used as extraction standards is outside of QC acceptance limits. The recovery for the sample injection standard peak areas and several labeled compounds used as extraction standards is also outside of QC acceptance limits in the background and matrix spike sample, indicating a matrix effect.

LC/MS/MS Miscellaneous SW-846 8321B			ng/l	ng/l	ng/l	
14654	HFPODA	13252-13-6	57	0.43	1.7	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid					

The recovery for the sample internal standard(s) is outside the QC acceptance limits. The recovery for the internal standard(s)

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-Outfall-001 MSD Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798662
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 19:15
SDG#: GOA29-09MSD

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
	is also outside the QC acceptance limits in the associated background and matrix spike sample, indicating a matrix effect.					

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257010	09/16/2018 16:23	Isaac Phillips-Cary	1
14654	HFPODA	SW-846 8321B	1	18257013	09/19/2018 20:54	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18257010	09/14/2018 09:35	Courtney J Fatta	1
14659	PFECA Water Prep	SW-846 8321B	1	18257013	09/14/2018 09:40	Danielle D McCully	1

*=This limit was used in the evaluation of the final result

Analysis Report

Sample Description: SGPP-MH-23 Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798663
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 18:05
SDG#: GOA29-10

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified						
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	97	4.9	9.9	1
14473	NEtFOSAA	2991-50-6	20	4.9	15	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	5.9 U	5.9	15	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	4.9 U	4.9	15	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	6.2	1.5	4.9	1
14473	Perfluorobutanoic acid	375-22-4	250	9.9	30	1
14473	Perfluorodecanoic acid	335-76-2	55	4.5	9.9	1
14473	Perfluorododecanoic acid	307-55-1	23	2.5	9.9	1
14473	Perfluoroheptanesulfonic acid	375-92-8	5.0 J	2.0	9.9	1
14473	Perfluoroheptanoic acid	375-85-9	470	2.0	4.9	1
14473	Perfluorohexadecanoic acid	67905-19-5	1.5 U	1.5	4.9	1
14473	Perfluorohexanesulfonic acid	355-46-4	15 B	2.0	9.9	1
14473	Perfluorohexanoic acid	307-24-4	710	2.0	9.9	1
14473	Perfluorononanoic acid	375-95-1	75	2.0	9.9	1
14473	Perfluorooctanesulfonamide	754-91-6	7.6 J	2.5	15	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	460 B	2.0	9.9	1
14473	Perfluorooctanoic acid	335-67-1	1,400 B	1.5	4.9	1
14473	Perfluoropentanesulfonic acid	2706-91-4	3.8 J	2.0	9.9	1
14473	Perfluoropentanoic acid	2706-90-3	500	9.9	30	1
14473	Perfluorotetradecanoic acid	376-06-7	6.7	1.5	4.9	1
14473	Perfluorotridecanoic acid	72629-94-8	8.7	2.0	4.9	1
14473	Perfluoroundecanoic acid	2058-94-8	33	2.0	9.9	1

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. Since the target analytes detected in the sample are > 10 times the blank concentration, the data is reported.

Reporting limits were raised due to interference from the sample matrix.

LC/MS/MS Miscellaneous SW-846 8321B						
14654	HFPODA	13252-13-6	4.6 J	2.4	9.4	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid					
	Reporting limits were raised due to interference from the sample matrix.					

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
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*=This limit was used in the evaluation of the final result

Sample Description: SGPP-MH-23 Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798663
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 18:05
SDG#: GOA29-10

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257010	09/16/2018 16:32	Isaac Phillips-Cary	1
14654	HFPODA	SW-846 8321B	1	18257013	09/19/2018 21:03	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18257010	09/14/2018 09:35	Courtney J Fatta	1
14659	PFECA Water Prep	SW-846 8321B	1	18257013	09/14/2018 09:40	Danielle D McCully	1

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-MH-5 Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798664
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 16:40
SDG#: GOA29-11

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified						
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	12,000	78	160	100
14473	NEtFOSAA	2991-50-6	47	8.7	26	10
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	10 U	10	26	10
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	8.7 U	8.7	26	10
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	50	2.6	8.7	10
14473	Perfluorobutanoic acid	375-22-4	1,300	17	52	10
14473	Perfluorodecanoic acid	335-76-2	320	7.9	17	10
14473	Perfluorododecanoic acid	307-55-1	97	4.4	17	10
14473	Perfluoroheptanesulfonic acid	375-92-8	33	3.5	17	10
14473	Perfluoroheptanoic acid	375-85-9	3,200	3.5	8.7	10
14473	Perfluorohexadecanoic acid	67905-19-5	7.5 J	2.6	8.7	10
14473	Perfluorohexanesulfonic acid	355-46-4	140	3.5	17	10
14473	Perfluorohexanoic acid	307-24-4	7,300	31	160	100
14473	Perfluorononanoic acid	375-95-1	230	3.5	17	10
14473	Perfluorooctanesulfonamide	754-91-6	23 J	4.4	26	10
14473	Perfluoro-Octanesulfonic acid	1763-23-1	2,200	3.5	17	10
14473	Perfluorooctanoic acid	335-67-1	11,000 B	23	78	100
14473	Perfluoropentanesulfonic acid	2706-91-4	38	3.5	17	10
14473	Perfluoropentanoic acid	2706-90-3	2,200	17	52	10
14473	Perfluorotetradecanoic acid	376-06-7	29	2.6	8.7	10
14473	Perfluorotridecanoic acid	72629-94-8	40	3.5	8.7	10
14473	Perfluoroundecanoic acid	2058-94-8	100	3.5	17	10

Reporting limits were raised due to interference from the sample matrix.

LC/MS/MS Miscellaneous SW-846 8321B						
14654	HFPODA	13252-13-6	110	0.54	2.2	1

HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid

The stated QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

The sample injection internal standard peak areas were outside of the QC limits for both the initial injection and the re-injection. The values here are from the initial injection of the sample.

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-MH-5 Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798664
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 16:40
SDG#: GOA29-11

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18262012	09/21/2018 14:49	Jason W Knight	10
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18262012	09/26/2018 15:19	Jason W Knight	100
14654	HFPODA	SW-846 8321B	1	18262013	09/21/2018 13:48	Marissa C Drexinger	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	2	18262012	09/19/2018 15:25	Danielle D McCully	1
14659	PFESA Water Prep	SW-846 8321B	2	18262013	09/19/2018 15:40	Danielle D McCully	1

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-MH-5 Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798665
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20

Collection Date/Time: 09/10/2018 19:20

SDG#: GOA29-12

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified			ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	2,700.E	0.88	1.8	1
14473	NEtFOSAA	2991-50-6	35	0.88	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	26	1.1	2.6	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	0.88 U	0.88	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	23	0.26	0.88	1
14473	Perfluorobutanoic acid	375-22-4	1,200.E	1.8	5.3	1
14473	Perfluorodecanoic acid	335-76-2	220	0.79	1.8	1
14473	Perfluorododecanoic acid	307-55-1	90	0.44	1.8	1
14473	Perfluoroheptanesulfonic acid	375-92-8	21	0.35	1.8	1
14473	Perfluoroheptanoic acid	375-85-9	2,800.E	0.35	0.88	1
14473	Perfluorohexadecanoic acid	67905-19-5	11	0.26	0.88	1
14473	Perfluorohexanesulfonic acid	355-46-4	80	0.35	1.8	1
14473	Perfluorohexanoic acid	307-24-4	4,900.E	0.35	1.8	1
14473	Perfluorononanoic acid	375-95-1	190	0.35	1.8	1
14473	Perfluorooctanesulfonamide	754-91-6	31	0.44	2.6	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	1,900.E	0.35	1.8	1
14473	Perfluorooctanoic acid	335-67-1	7,500.EB	0.26	0.88	1
14473	Perfluoropentanesulfonic acid	2706-91-4	19	0.35	1.8	1
14473	Perfluoropentanoic acid	2706-90-3	2,200.E	1.8	5.3	1
14473	Perfluorotetradecanoic acid	376-06-7	34	0.26	0.88	1
14473	Perfluorotridecanoic acid	72629-94-8	51	0.35	0.88	1
14473	Perfluoroundecanoic acid	2058-94-8	85	0.35	1.8	1

The recovery for several labeled compounds used as extraction standards is outside of QC acceptance limits as noted on the QC Summary.

Several native PFAS compounds are above the range of the calibration and should be considered estimated. Several of the results that reported above the calibration range and E flagged are reported to facilitate the comparability of results between the unfiltered and dissolved samples.

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary.

LC/MS/MS Miscellaneous SW-846 8321B			ng/l	ng/l	ng/l	
14654	HFPODA	13252-13-6	67	0.56	2.2	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid					

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-MH-5 Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798665
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 19:20
SDG#: GOA29-12

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
The sample injection internal standard peak areas were outside of the QC limits for both the initial injection and the re-injection. The values here are from the initial injection of the sample.						
Wet Chemistry	SM 2540 D-2011		mg/l	mg/l	mg/l	
13858	Total Suspended Solids	n.a.	2.24 J	1.00	3.00	1

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18262012	09/26/2018 10:03	Jason W Knight	1
14654	HFPODA	SW-846 8321B	1	18262013	09/21/2018 13:57	Marissa C Drexinger	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	2	18262012	09/19/2018 15:25	Danielle D McCully	1
14659	PFECA Water Prep	SW-846 8321B	2	18262013	09/19/2018 15:40	Danielle D McCully	1
13858	Total Suspended Solids	SM 2540 D-2011	1	18256385801A	09/13/2018 10:22	Angelica Cintron	1

*=This limit was used in the evaluation of the final result

Analysis Report

Sample Description: SGPP-MH-5 Dissolved Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798666
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 19:20
SDG#: GOA29-13

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified						
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	14,000	170	330	100
14473	NEtFOSAA	2991-50-6	24	1.7	5.0	1
NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14473	NEtPFOSAE	1691-99-2	21	2.0	5.0	1
NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol						
14473	NMeFOSAA	2355-31-9	1.7 U	1.7	5.0	1
NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14473	Perfluorobutanesulfonic acid	375-73-5	41	0.50	1.7	1
14473	Perfluorobutanoic acid	375-22-4	2,300	33	100	10
14473	Perfluorodecanoic acid	335-76-2	350	15	33	10
14473	Perfluorododecanoic acid	307-55-1	110	0.83	3.3	1
14473	Perfluoroheptanesulfonic acid	375-92-8	35	0.67	3.3	1
14473	Perfluoroheptanoic acid	375-85-9	5,300	6.7	17	10
14473	Perfluorohexadecanoic acid	67905-19-5	3.1	0.50	1.7	1
14473	Perfluorohexanesulfonic acid	355-46-4	150	0.67	3.3	1
14473	Perfluorohexanoic acid	307-24-4	13,000	67	330	100
14473	Perfluorononanoic acid	375-95-1	350	0.67	3.3	1
14473	Perfluorooctanesulfonamide	754-91-6	59	0.83	5.0	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	4,200	6.7	33	10
14473	Perfluorooctanoic acid	335-67-1	20,000 B	50	170	100
14473	Perfluoropentanesulfonic acid	2706-91-4	29	0.67	3.3	1
14473	Perfluoropentanoic acid	2706-90-3	4,000	33	100	10
14473	Perfluorotetradecanoic acid	376-06-7	21	0.50	1.7	1
14473	Perfluorotridecanoic acid	72629-94-8	45	0.67	1.7	1
14473	Perfluoroundecanoic acid	2058-94-8	130	0.67	3.3	1

The recovery for labeled compound used as extraction standards is outside of QC acceptance limits as noted on the QC Summary due to the matrix of the sample.

LC/MS/MS Miscellaneous SW-846 8321B						
14654	HFPODA	13252-13-6	77	0.83	3.3	1
HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid						

The sample injection internal standard peak areas were outside of the QC limits for both the initial injection and the re-injection. The values here are from the initial injection of the sample.

Reporting limits were raised due to interference from the sample matrix.

Sample Comments

This sample was lab centrifuged for dissolved PFAS and GenX.

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-MH-5 Dissolved Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798666
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submission Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 19:20
SDG#: GOA29-13

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18262012	09/21/2018 11:25	Jason W Knight	1
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18262012	09/26/2018 15:10	Jason W Knight	10
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18262012	09/27/2018 14:38	Jason W Knight	100
14654	HFPODA	SW-846 8321B	1	18262013	09/21/2018 14:07	Marissa C Drexinger	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18262012	09/19/2018 15:25	Danielle D McCully	1
14659	PFECA Water Prep	SW-846 8321B	1	18262013	09/19/2018 15:40	Danielle D McCully	1

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-RD-MB-NW Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798667
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 17:37
SDG#: GOA29-14

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified						
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	14,000	50	99	10
14473	NEtFOSAA	2991-50-6	16	5.0	15	1
NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14473	NEtPFOSAE	1691-99-2	6.6 J	6.0	15	1
NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol						
14473	NMeFOSAA	2355-31-9	5.0 U	5.0	15	1
NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14473	Perfluorobutanesulfonic acid	375-73-5	30	1.5	5.0	1
14473	Perfluorobutanoic acid	375-22-4	5,900	99	300	10
14473	Perfluorodecanoic acid	335-76-2	480	4.5	9.9	1
14473	Perfluorododecanoic acid	307-55-1	180	2.5	9.9	1
14473	Perfluoroheptanesulfonic acid	375-92-8	14	2.0	9.9	1
14473	Perfluoroheptanoic acid	375-85-9	7,800	20	50	10
14473	Perfluorohexadecanoic acid	67905-19-5	15	1.5	5.0	1
14473	Perfluorohexanesulfonic acid	355-46-4	86	2.0	9.9	1
14473	Perfluorohexanoic acid	307-24-4	23,000	200	990	100
14473	Perfluorononanoic acid	375-95-1	470	2.0	9.9	1
14473	Perfluorooctanesulfonamide	754-91-6	7.0 J	2.5	15	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	900	2.0	9.9	1
14473	Perfluorooctanoic acid	335-67-1	11,000 B	15	50	10
14473	Perfluoropentanesulfonic acid	2706-91-4	17	2.0	9.9	1
14473	Perfluoropentanoic acid	2706-90-3	9,700	99	300	10
14473	Perfluorotetradecanoic acid	376-06-7	66	1.5	5.0	1
14473	Perfluorotridecanoic acid	72629-94-8	80	2.0	5.0	1
14473	Perfluoroundecanoic acid	2058-94-8	190	2.0	9.9	1

The recovery for labeled compound used as extraction standards is outside of QC acceptance limits as noted on the QC Summary due to the matrix of the sample.

LC/MS/MS Miscellaneous SW-846 8321B						
14654	HFPODA	13252-13-6	150	2.3	9.3	1
HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid						
Reporting limits were raised due to interference from the sample matrix.						

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257011	09/16/2018 17:35	Devon M Whooley	1

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-RD-MB-NW Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798667
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 17:37
SDG#: GOA29-14

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257011	09/18/2018 00:58	Devon M Whooley	10
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257011	09/21/2018 11:52	Joshua P Trost	100
14654	HFPODA	SW-846 8321B	1	18257014	09/21/2018 15:19	Marissa C Drexinger	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18257011	09/14/2018 09:35	Courtney J Fatta	1
14659	PFESA Water Prep	SW-846 8321B	1	18257014	09/14/2018 09:40	Danielle D McCully	1

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-RD-MB-NE Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798668
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20

Collection Date/Time: 09/10/2018 17:42

SDG#: GOA29-15

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified			ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	89,000	490	990	100
14473	NEtFOSAA	2991-50-6	70	4.9	15	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	56	5.9	15	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	4.9 U	4.9	15	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	540	1.5	4.9	1
14473	Perfluorobutanoic acid	375-22-4	10,000	99	300	10
14473	Perfluorodecanoic acid	335-76-2	390	4.4	9.9	1
14473	Perfluorododecanoic acid	307-55-1	150	2.5	9.9	1
14473	Perfluoroheptanesulfonic acid	375-92-8	90	2.0	9.9	1
14473	Perfluoroheptanoic acid	375-85-9	28,000	200	490	100
14473	Perfluorohexadecanoic acid	67905-19-5	10	1.5	4.9	1
14473	Perfluorohexanesulfonic acid	355-46-4	1,000	2.0	9.9	1
14473	Perfluorohexanoic acid	307-24-4	39,000	200	990	100
14473	Perfluorononanoic acid	375-95-1	570	2.0	9.9	1
14473	Perfluorooctanesulfonamide	754-91-6	63	2.5	15	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	6,300	20	99	10
14473	Perfluorooctanoic acid	335-67-1	52,000 B	150	490	100
14473	Perfluoropentanesulfonic acid	2706-91-4	310	2.0	9.9	1
14473	Perfluoropentanoic acid	2706-90-3	17,000	99	300	10
14473	Perfluorotetradecanoic acid	376-06-7	44	1.5	4.9	1
14473	Perfluorotridecanoic acid	72629-94-8	61	2.0	4.9	1
14473	Perfluoroundecanoic acid	2058-94-8	170	2.0	9.9	1

The recovery for labeled compound used as extraction standards is outside of QC acceptance limits as noted on the QC Summary due to the matrix of the sample.

LC/MS/MS Miscellaneous SW-846 8321B			ng/l	ng/l	ng/l	
14654	HFPODA	13252-13-6	92	2.4	9.5	1

HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid

The sample injection internal standard peak areas were outside of the QC limits for both the initial injection and the re-injection. The values here are from the initial injection of the sample.

Reporting limits were raised due to interference from the sample matrix.

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-RD-MB-NE Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798668
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 17:42
SDG#: GOA29-15

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257011	09/16/2018 17:44	Devon M Whooley	1
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257011	09/18/2018 01:07	Devon M Whooley	10
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257011	09/18/2018 01:52	Devon M Whooley	100
14654	HFPODA	SW-846 8321B	1	18257014	09/19/2018 17:26	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18257011	09/14/2018 09:35	Courtney J Fatta	1
14659	PFECA Water Prep	SW-846 8321B	1	18257014	09/14/2018 09:40	Danielle D McCully	1

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-RD-MB-SW Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798669
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 17:25
SDG#: GOA29-16

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified						
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	490	4.9	9.9	1
14473	NEtFOSAA	2991-50-6	4.9 U	4.9	15	1
NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14473	NEtPFOSAE	1691-99-2	6.3 J	5.9	15	1
NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol						
14473	NMeFOSAA	2355-31-9	4.9 U	4.9	15	1
NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14473	Perfluorobutanesulfonic acid	375-73-5	1.5 U	1.5	4.9	1
14473	Perfluorobutanoic acid	375-22-4	1,300	9.9	30	1
14473	Perfluorodecanoic acid	335-76-2	81	4.4	9.9	1
14473	Perfluorododecanoic acid	307-55-1	28	2.5	9.9	1
14473	Perfluoroheptanesulfonic acid	375-92-8	4.3 J	2.0	9.9	1
14473	Perfluoroheptanoic acid	375-85-9	2,100	20	49	10
14473	Perfluorohexadecanoic acid	67905-19-5	1.5 U	1.5	4.9	1
14473	Perfluorohexanesulfonic acid	355-46-4	14	2.0	9.9	1
14473	Perfluorohexanoic acid	307-24-4	3,900	20	99	10
14473	Perfluorononanoic acid	375-95-1	87	2.0	9.9	1
14473	Perfluorooctanesulfonamide	754-91-6	3.2 J	2.5	15	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	320	2.0	9.9	1
14473	Perfluorooctanoic acid	335-67-1	1,400 B	1.5	4.9	1
14473	Perfluoropentanesulfonic acid	2706-91-4	2.0 U	2.0	9.9	1
14473	Perfluoropentanoic acid	2706-90-3	1,900	99	300	10
14473	Perfluorotetradecanoic acid	376-06-7	5.7	1.5	4.9	1
14473	Perfluorotridecanoic acid	72629-94-8	9.4	2.0	4.9	1
14473	Perfluoroundecanoic acid	2058-94-8	35	2.0	9.9	1

The recovery for labeled compound used as extraction standards is outside of QC acceptance limits as noted on the QC Summary due to the matrix of the sample.

LC/MS/MS Miscellaneous SW-846 8321B						
14654	HFPODA	13252-13-6	36	2.4	9.6	1
HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid						

The stated QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

Reporting limits were raised due to interference from the sample matrix.

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-RD-MB-SW Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798669
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 17:25
SDG#: GOA29-16

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257011	09/16/2018 18:02	Devon M Whooley	1
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257011	09/18/2018 01:16	Devon M Whooley	10
14654	HFPODA	SW-846 8321B	1	18257014	09/19/2018 17:45	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18257011	09/14/2018 09:35	Courtney J Fatta	1
14659	PFESA Water Prep	SW-846 8321B	1	18257014	09/14/2018 09:40	Danielle D McCully	1

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-RD-MB-SE Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798670
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submission Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 17:58
SDG#: GOA29-17

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified			ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	610	4.9	9.9	1
14473	NEtFOSAA	2991-50-6	12 J	4.9	15	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	5.9 U	5.9	15	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	4.9 U	4.9	15	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	22	1.5	4.9	1
14473	Perfluorobutanoic acid	375-22-4	1,100	9.9	30	1
14473	Perfluorodecanoic acid	335-76-2	65	4.4	9.9	1
14473	Perfluorododecanoic acid	307-55-1	17	2.5	9.9	1
14473	Perfluoroheptanesulfonic acid	375-92-8	15	2.0	9.9	1
14473	Perfluoroheptanoic acid	375-85-9	1,600	2.0	4.9	1
14473	Perfluorohexadecanoic acid	67905-19-5	1.7 J	1.5	4.9	1
14473	Perfluorohexanesulfonic acid	355-46-4	56	2.0	9.9	1
14473	Perfluorohexanoic acid	307-24-4	3,400	20	99	10
14473	Perfluorononanoic acid	375-95-1	72	2.0	9.9	1
14473	Perfluorooctanesulfonamide	754-91-6	5.9 J	2.5	15	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	930	2.0	9.9	1
14473	Perfluorooctanoic acid	335-67-1	1,400 B	1.5	4.9	1
14473	Perfluoropentanesulfonic acid	2706-91-4	16	2.0	9.9	1
14473	Perfluoropentanoic acid	2706-90-3	2,100	99	300	10
14473	Perfluorotetradecanoic acid	376-06-7	5.4	1.5	4.9	1
14473	Perfluorotridecanoic acid	72629-94-8	6.7	2.0	4.9	1
14473	Perfluoroundecanoic acid	2058-94-8	24	2.0	9.9	1
The recovery for labeled compound used as extraction standards is outside of QC acceptance limits as noted on the QC Summary due to the matrix of the sample.						

LC/MS/MS Miscellaneous		SW-846 8321B	ng/l	ng/l	ng/l	
14654	HFPODA	13252-13-6	10	2.4	9.6	1
HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid						
Reporting limits were raised due to interference from the sample matrix.						

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257011	09/16/2018 18:11	Devon M Whooley	1

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-RD-MB-SE Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798670
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 17:58
SDG#: GOA29-17

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257011	09/18/2018 01:25	Devon M Whooley	10
14654	HFPODA	SW-846 8321B	1	18257014	09/19/2018 17:54	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18257011	09/14/2018 09:35	Courtney J Fatta	1
14659	PFECA Water Prep	SW-846 8321B	1	18257014	09/14/2018 09:40	Danielle D McCully	1

*=This limit was used in the evaluation of the final result

Analysis Report

Sample Description: SGPP-RD-NMB Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798671
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 15:18
SDG#: GOA29-18

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified						
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	9,200	49	98	10
14473	NEtFOSAA	2991-50-6	4.9 U	4.9	15	1
NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14473	NEtPFOSAE	1691-99-2	5.9 J	5.9	15	1
NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol						
14473	NMeFOSAA	2355-31-9	4.9 U	4.9	15	1
NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14473	Perfluorobutanesulfonic acid	375-73-5	29	1.5	4.9	1
14473	Perfluorobutanoic acid	375-22-4	1,700	9.8	29	1
14473	Perfluorodecanoic acid	335-76-2	290	4.4	9.8	1
14473	Perfluorododecanoic acid	307-55-1	43	2.5	9.8	1
14473	Perfluoroheptanesulfonic acid	375-92-8	44	2.0	9.8	1
14473	Perfluoroheptanoic acid	375-85-9	11,000	20	49	10
14473	Perfluorohexadecanoic acid	67905-19-5	1.6 J	1.5	4.9	1
14473	Perfluorohexanesulfonic acid	355-46-4	130	2.0	9.8	1
14473	Perfluorohexanoic acid	307-24-4	6,600	20	98	10
14473	Perfluorononanoic acid	375-95-1	220	2.0	9.8	1
14473	Perfluorooctanesulfonamide	754-91-6	20	2.5	15	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	2,200	20	98	10
14473	Perfluorooctanoic acid	335-67-1	4,300 B	15	49	10
14473	Perfluoropentanesulfonic acid	2706-91-4	24	2.0	9.8	1
14473	Perfluoropentanoic acid	2706-90-3	2,400	98	290	10
14473	Perfluorotetradecanoic acid	376-06-7	6.5	1.5	4.9	1
14473	Perfluorotridecanoic acid	72629-94-8	14	2.0	4.9	1
14473	Perfluoroundecanoic acid	2058-94-8	83	2.0	9.8	1

LC/MS/MS Miscellaneous SW-846 8321B						
14654	HFPODA	13252-13-6	23	2.4	9.5	1
HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid						

Reporting limits were raised due to interference from the sample matrix.

The stated QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257011	09/16/2018 18:20	Devon M Whooley	1

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-RD-NMB Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798671
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20

Collection Date/Time: 09/10/2018 15:18

SDG#: GOA29-18

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257011	09/18/2018 01:34	Devon M Whooley	10
14654	HFPODA	SW-846 8321B	1	18257014	09/19/2018 18:03	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18257011	09/14/2018 09:35	Courtney J Fatta	1
14659	PFESA Water Prep	SW-846 8321B	1	18257014	09/14/2018 09:40	Danielle D McCully	1

*=This limit was used in the evaluation of the final result

Analysis Report

Sample Description: SGPP-DI-34 Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798672
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 18:20
SDG#: GOA29-19

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous		EPA 537 Version 1.1 Modified	ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	260	5.0	10	1
14473	NEtFOSAA	2991-50-6	51	5.0	15	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	12 J	6.0	15	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	5.0 U	5.0	15	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	6.5	1.5	5.0	1
14473	Perfluorobutanoic acid	375-22-4	120	10	30	1
14473	Perfluorodecanoic acid	335-76-2	130	4.5	10	1
14473	Perfluorododecanoic acid	307-55-1	75	2.5	10	1
14473	Perfluoroheptanesulfonic acid	375-92-8	5.2 J	2.0	10	1
14473	Perfluoroheptanoic acid	375-85-9	200	2.0	5.0	1
14473	Perfluorohexadecanoic acid	67905-19-5	1.5 U	1.5	5.0	1
14473	Perfluorohexanesulfonic acid	355-46-4	17	2.0	10	1
14473	Perfluorohexanoic acid	307-24-4	430	2.0	10	1
14473	Perfluorononanoic acid	375-95-1	54	2.0	10	1
14473	Perfluorooctanesulfonamide	754-91-6	61	2.5	15	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	790	2.0	10	1
14473	Perfluorooctanoic acid	335-67-1	880 B	1.5	5.0	1
14473	Perfluoropentanesulfonic acid	2706-91-4	3.7 J	2.0	10	1
14473	Perfluoropentanoic acid	2706-90-3	200	10	30	1
14473	Perfluorotetradecanoic acid	376-06-7	11	1.5	5.0	1
14473	Perfluorotridecanoic acid	72629-94-8	20	2.0	5.0	1
14473	Perfluoroundecanoic acid	2058-94-8	60	2.0	10	1
LC/MS/MS Miscellaneous		SW-846 8321B	ng/l	ng/l	ng/l	
14654	HFPODA	13252-13-6	24	2.4	9.6	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid					
	Reporting limits were raised due to interference from the sample matrix.					

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257011	09/16/2018 18:29	Devon M Whooley	1
14654	HFPODA	SW-846 8321B	1	18257014	09/19/2018 18:12	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18257011	09/14/2018 09:35	Courtney J Fatta	1

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-DI-34 Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798672
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20

Collection Date/Time: 09/10/2018 18:20

SDG#: GOA29-19

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14659	PFECA Water Prep	SW-846 8321B	1	18257014	09/14/2018 09:40	Danielle D McCully	1

*=This limit was used in the evaluation of the final result

Analysis Report

Sample Description: EB-1 Grab Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798673
ELLE Group #: 1986297
Matrix: Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 21:10
SDG#: GOA29-20EB

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified			ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	0.89 U	0.89	1.8	1
14473	NEtFOSAA	2991-50-6	0.89 U	0.89	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	1.1 U	1.1	2.7	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	0.89 U	0.89	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	0.27 U	0.27	0.89	1
14473	Perfluorobutanoic acid	375-22-4	1.8 U	1.8	5.3	1
14473	Perfluorodecanoic acid	335-76-2	0.80 U	0.80	1.8	1
14473	Perfluorododecanoic acid	307-55-1	0.44 U	0.44	1.8	1
14473	Perfluoroheptanesulfonic acid	375-92-8	0.35 U	0.35	1.8	1
14473	Perfluoroheptanoic acid	375-85-9	0.76 J	0.35	0.89	1
14473	Perfluorohexadecanoic acid	67905-19-5	0.27 U	0.27	0.89	1
14473	Perfluorohexanesulfonic acid	355-46-4	0.35 U	0.35	1.8	1
14473	Perfluorohexanoic acid	307-24-4	0.35 U	0.35	1.8	1
14473	Perfluorononanoic acid	375-95-1	0.35 U	0.35	1.8	1
14473	Perfluorooctanesulfonamide	754-91-6	0.44 U	0.44	2.7	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	0.38 J	0.35	1.8	1
14473	Perfluorooctanoic acid	335-67-1	6.9 B	0.27	0.89	1
14473	Perfluoropentanesulfonic acid	2706-91-4	0.35 U	0.35	1.8	1
14473	Perfluoropentanoic acid	2706-90-3	1.8 U	1.8	5.3	1
14473	Perfluorotetradecanoic acid	376-06-7	0.27 U	0.27	0.89	1
14473	Perfluorotridecanoic acid	72629-94-8	0.35 U	0.35	0.89	1
14473	Perfluoroundecanoic acid	2058-94-8	0.35 U	0.35	1.8	1
LC/MS/MS Miscellaneous SW-846 8321B			ng/l	ng/l	ng/l	
14654	HFPODA	13252-13-6	0.44 U	0.44	1.7	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid					

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18262012	09/21/2018 11:34	Jason W Knight	1
14654	HFPODA	SW-846 8321B	1	18257014	09/19/2018 18:21	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	2	18262012	09/19/2018 15:25	Danielle D McCully	1
14659	PFECA Water Prep	SW-846 8321B	1	18257014	09/14/2018 09:40	Danielle D McCully	1

*=This limit was used in the evaluation of the final result

Analysis Report

Sample Description: FB-1 Grab Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798674
ELLE Group #: 1986297
Matrix: Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 21:00
SDG#: GOA29-21FB

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified			ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	0.87 U	0.87	1.7	1
14473	NEtFOSAA	2991-50-6	0.87 U	0.87	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	1.0 U	1.0	2.6	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	0.87 U	0.87	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	0.26 U	0.26	0.87	1
14473	Perfluorobutanoic acid	375-22-4	1.7 U	1.7	5.2	1
14473	Perfluorodecanoic acid	335-76-2	0.78 U	0.78	1.7	1
14473	Perfluorododecanoic acid	307-55-1	0.44 U	0.44	1.7	1
14473	Perfluoroheptanesulfonic acid	375-92-8	0.35 U	0.35	1.7	1
14473	Perfluoroheptanoic acid	375-85-9	0.35 U	0.35	0.87	1
14473	Perfluorohexadecanoic acid	67905-19-5	0.26 U	0.26	0.87	1
14473	Perfluorohexanesulfonic acid	355-46-4	0.35 U	0.35	1.7	1
14473	Perfluorohexanoic acid	307-24-4	0.35 U	0.35	1.7	1
14473	Perfluorononanoic acid	375-95-1	0.35 U	0.35	1.7	1
14473	Perfluorooctanesulfonamide	754-91-6	0.44 U	0.44	2.6	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	0.35 U	0.35	1.7	1
14473	Perfluorooctanoic acid	335-67-1	0.26 U	0.26	0.87	1
14473	Perfluoropentanesulfonic acid	2706-91-4	0.35 U	0.35	1.7	1
14473	Perfluoropentanoic acid	2706-90-3	1.7 U	1.7	5.2	1
14473	Perfluorotetradecanoic acid	376-06-7	0.26 U	0.26	0.87	1
14473	Perfluorotridecanoic acid	72629-94-8	0.35 U	0.35	0.87	1
14473	Perfluoroundecanoic acid	2058-94-8	0.35 U	0.35	1.7	1
LC/MS/MS Miscellaneous SW-846 8321B			ng/l	ng/l	ng/l	
14654	HFPODA	13252-13-6	0.43 U	0.43	1.7	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid					

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257011	09/16/2018 18:47	Devon M Whooley	1
14654	HFPODA	SW-846 8321B	1	18257014	09/19/2018 18:30	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18257011	09/14/2018 09:35	Courtney J Fatta	1
14659	PFECA Water Prep	SW-846 8321B	1	18257014	09/14/2018 09:40	Danielle D McCully	1

*=This limit was used in the evaluation of the final result

Analysis Report

Sample Description: TB-1 Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798675
ELLE Group #: 1986297
Matrix: Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 21:20
SDG#: GOA29-22TB

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified			ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	0.86 U	0.86	1.7	1
14473	NEtFOSAA	2991-50-6	0.86 U	0.86	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	1.0 U	1.0	2.6	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	0.86 U	0.86	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	0.26 U	0.26	0.86	1
14473	Perfluorobutanoic acid	375-22-4	1.7 U	1.7	5.2	1
14473	Perfluorodecanoic acid	335-76-2	0.78 U	0.78	1.7	1
14473	Perfluorododecanoic acid	307-55-1	0.43 U	0.43	1.7	1
14473	Perfluoroheptanesulfonic acid	375-92-8	0.35 U	0.35	1.7	1
14473	Perfluoroheptanoic acid	375-85-9	0.35 U	0.35	0.86	1
14473	Perfluorohexadecanoic acid	67905-19-5	0.26 U	0.26	0.86	1
14473	Perfluorohexanesulfonic acid	355-46-4	0.35 U	0.35	1.7	1
14473	Perfluorohexanoic acid	307-24-4	0.35 U	0.35	1.7	1
14473	Perfluorononanoic acid	375-95-1	0.35 U	0.35	1.7	1
14473	Perfluorooctanesulfonamide	754-91-6	0.43 U	0.43	2.6	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	0.35 U	0.35	1.7	1
14473	Perfluorooctanoic acid	335-67-1	0.26 U	0.26	0.86	1
14473	Perfluoropentanesulfonic acid	2706-91-4	0.35 U	0.35	1.7	1
14473	Perfluoropentanoic acid	2706-90-3	1.7 U	1.7	5.2	1
14473	Perfluorotetradecanoic acid	376-06-7	0.26 U	0.26	0.86	1
14473	Perfluorotridecanoic acid	72629-94-8	0.35 U	0.35	0.86	1
14473	Perfluoroundecanoic acid	2058-94-8	0.35 U	0.35	1.7	1
LC/MS/MS Miscellaneous SW-846 8321B			ng/l	ng/l	ng/l	
14654	HFPODA	13252-13-6	0.43 U	0.43	1.7	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid					

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257011	09/16/2018 18:56	Devon M Whooley	1
14654	HFPODA	SW-846 8321B	1	18257014	09/19/2018 18:39	Isaac Phillips-Cary	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18257011	09/14/2018 09:35	Courtney J Fatta	1
14659	PFECA Water Prep	SW-846 8321B	1	18257014	09/14/2018 09:40	Danielle D McCully	1

*=This limit was used in the evaluation of the final result

Sample Description: DUP-1 Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798676
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 19:15
SDG#: GOA29-23FD

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified						
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	8,800	50	100	10
14473	NEtFOSAA	2991-50-6	20	5.0	15	1
NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.						
14473	NEtPFOSAE	1691-99-2	6.0 U	6.0	15	1
NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol						
14473	NMeFOSAA	2355-31-9	5.0 U	5.0	15	1
NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.						
14473	Perfluorobutanesulfonic acid	375-73-5	52	1.5	5.0	1
14473	Perfluorobutanoic acid	375-22-4	1,800	10	30	1
14473	Perfluorodecanoic acid	335-76-2	180	4.5	10	1
14473	Perfluorododecanoic acid	307-55-1	42	2.5	10	1
14473	Perfluoroheptanesulfonic acid	375-92-8	25	2.0	10	1
14473	Perfluoroheptanoic acid	375-85-9	3,700	20	50	10
14473	Perfluorohexadecanoic acid	67905-19-5	2.0 J	1.5	5.0	1
14473	Perfluorohexanesulfonic acid	355-46-4	140	2.0	10	1
14473	Perfluorohexanoic acid	307-24-4	6,500	20	100	10
14473	Perfluorononanoic acid	375-95-1	190	2.0	10	1
14473	Perfluorooctanesulfonamide	754-91-6	18	2.5	15	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	1,800	2.0	10	1
14473	Perfluorooctanoic acid	335-67-1	9,400 B	15	50	10
14473	Perfluoropentanesulfonic acid	2706-91-4	40	2.0	10	1
14473	Perfluoropentanoic acid	2706-90-3	3,000	100	300	10
14473	Perfluorotetradecanoic acid	376-06-7	7.1	1.5	5.0	1
14473	Perfluorotridecanoic acid	72629-94-8	12	2.0	5.0	1
14473	Perfluoroundecanoic acid	2058-94-8	51	2.0	10	1
LC/MS/MS Miscellaneous SW-846 8321B						
14654	HFPODA	13252-13-6	41	2.5	10	1
HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid						
Reporting limits were raised due to interference from the sample matrix.						

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257011	09/16/2018 19:05	Devon M Whooley	1
14473	22 PFAS Compounds	EPA 537 Version 1.1 Modified	1	18257011	09/18/2018 01:43	Devon M Whooley	10
14654	HFPODA	SW-846 8321B	1	18257014	09/19/2018 18:48	Isaac Phillips-Cary	1

*=This limit was used in the evaluation of the final result

Sample Description: DUP-1 Grab Surface Water
Saint Gobain, Merrimack

Golder Associates
ELLE Sample #: WW 9798676
ELLE Group #: 1986297
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/12/2018 10:20
Collection Date/Time: 09/10/2018 19:15
SDG#: GOA29-23FD

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	1	18257011	09/14/2018 09:35	Courtney J Fatta	1
14659	PFECA Water Prep	SW-846 8321B	1	18257014	09/14/2018 09:40	Danielle D McCully	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Golder Associates
Reported: 10/23/2018 15:17

Group Number: 1986297

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result ng/l	MDL** ng/l	LOQ ng/l
Batch number: 18257010	Sample number(s): 9798652,9798654,9798660-9798663		
6:2-Fluorotelomersulfonic acid	1.0 U	1.0	2.0
NEtFOSAA	1.0 U	1.0	3.0
NEtPFOSAE	1.2 U	1.2	3.0
NMeFOSAA	1.0 U	1.0	3.0
Perfluorobutanesulfonic acid	0.30 U	0.30	1.0
Perfluorobutanoic acid	2.0 U	2.0	6.0
Perfluorodecanoic acid	0.90 U	0.90	2.0
Perfluorododecanoic acid	0.50 U	0.50	2.0
Perfluoroheptanesulfonic acid	0.40 U	0.40	2.0
Perfluoroheptanoic acid	0.40 U	0.40	1.0
Perfluorohexadecanoic acid	0.30 U	0.30	1.0
Perfluorohexanesulfonic acid	1.1 J	0.40	2.0
Perfluorohexanoic acid	0.40 U	0.40	2.0
Perfluorononanoic acid	0.40 U	0.40	2.0
Perfluorooctanesulfonamide	0.50 U	0.50	3.0
Perfluoro-Octanesulfonic acid	4.7	0.40	2.0
Perfluorooctanoic acid	0.39 J	0.30	1.0
Perfluoropentanesulfonic acid	0.40 U	0.40	2.0
Perfluoropentanoic acid	2.0 U	2.0	6.0
Perfluorotetradecanoic acid	0.30 U	0.30	1.0
Perfluorotridecanoic acid	0.40 U	0.40	1.0
Perfluoroundecanoic acid	0.40 U	0.40	2.0
Batch number: 18257011	Sample number(s): 9798667-9798672,9798674-9798676		
6:2-Fluorotelomersulfonic acid	1.0 U	1.0	2.0
NEtFOSAA	1.0 U	1.0	3.0
NEtPFOSAE	1.2 U	1.2	3.0
NMeFOSAA	1.0 U	1.0	3.0
Perfluorobutanesulfonic acid	0.30 U	0.30	1.0
Perfluorobutanoic acid	2.0 U	2.0	6.0
Perfluorodecanoic acid	0.90 U	0.90	2.0
Perfluorododecanoic acid	0.50 U	0.50	2.0
Perfluoroheptanesulfonic acid	0.40 U	0.40	2.0
Perfluoroheptanoic acid	0.40 U	0.40	1.0
Perfluorohexadecanoic acid	0.30 U	0.30	1.0
Perfluorohexanesulfonic acid	0.40 U	0.40	2.0
Perfluorohexanoic acid	0.40 U	0.40	2.0
Perfluorononanoic acid	0.40 U	0.40	2.0
Perfluorooctanesulfonamide	0.50 U	0.50	3.0

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Golder Associates
Reported: 10/23/2018 15:17

Group Number: 1986297

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	ng/l	ng/l	ng/l
Perfluoro-Octanesulfonic acid	0.40 U	0.40	2.0
Perfluorooctanoic acid	0.40 J	0.30	1.0
Perfluoropentanesulfonic acid	0.40 U	0.40	2.0
Perfluoropentanoic acid	2.0 U	2.0	6.0
Perfluorotetradecanoic acid	0.30 U	0.30	1.0
Perfluorotridecanoic acid	0.40 U	0.40	1.0
Perfluoroundecanoic acid	0.40 U	0.40	2.0
Batch number: 18257013	Sample number(s): 9798652,9798654-9798663		
HFPODA	0.50 U	0.50	2.0
Batch number: 18257014	Sample number(s): 9798667-9798676		
HFPODA	0.50 U	0.50	2.0
Batch number: 18262012	Sample number(s): 9798653,9798655-9798659,9798664-9798666,9798673		
6:2-Fluorotelomersulfonic acid	1.0 U	1.0	2.0
NEtFOSAA	1.0 U	1.0	3.0
NEtPFOSAE	1.2 U	1.2	3.0
NMeFOSAA	1.0 U	1.0	3.0
Perfluorobutanesulfonic acid	0.30 U	0.30	1.0
Perfluorobutanoic acid	2.0 U	2.0	6.0
Perfluorodecanoic acid	0.90 U	0.90	2.0
Perfluorododecanoic acid	0.50 U	0.50	2.0
Perfluoroheptanesulfonic acid	0.40 U	0.40	2.0
Perfluoroheptanoic acid	0.40 U	0.40	1.0
Perfluorohexadecanoic acid	0.30 U	0.30	1.0
Perfluorohexanesulfonic acid	0.40 U	0.40	2.0
Perfluorohexanoic acid	0.40 U	0.40	2.0
Perfluorononanoic acid	0.40 U	0.40	2.0
Perfluorooctanesulfonamide	0.50 U	0.50	3.0
Perfluoro-Octanesulfonic acid	0.40 U	0.40	2.0
Perfluorooctanoic acid	0.35 J	0.30	1.0
Perfluoropentanesulfonic acid	0.40 U	0.40	2.0
Perfluoropentanoic acid	2.0 U	2.0	6.0
Perfluorotetradecanoic acid	0.30 U	0.30	1.0
Perfluorotridecanoic acid	0.40 U	0.40	1.0
Perfluoroundecanoic acid	0.40 U	0.40	2.0
Batch number: 18262013	Sample number(s): 9798653,9798664-9798666		
HFPODA	0.50 U	0.50	2.0
	mg/l	mg/l	mg/l
Batch number: 18256385801A	Sample number(s): 9798652,9798665		
Total Suspended Solids	1.00 U	1.00	3.00

*- Outside of specification

**-This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Golder Associates
Reported: 10/23/2018 15:17

Group Number: 1986297

LCS/LCSD

Analysis Name	LCS Spike Added ng/l	LCS Conc ng/l	LCSD Spike Added ng/l	LCSD Conc ng/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 18257010	Sample number(s): 9798652,9798654,9798660-9798663								
6:2-Fluorotelomersulfonic acid	15.17	16.51			109		66-155		
NEtFOSAA	5.44	5.38			99		55-169		
NEtPFOSAE	5.44	6.05			111		70-130		
NMeFOSAA	5.44	6.16			113		62-167		
Perfluorobutanesulfonic acid	4.81	5.19			108		73-128		
Perfluorobutanoic acid	5.44	6.01			110		74-142		
Perfluorodecanoic acid	5.44	6.46			119		69-148		
Perfluorododecanoic acid	5.44	6.71			123		75-136		
Perfluoroheptanesulfonic acid	5.18	5.32			103		64-135		
Perfluoroheptanoic acid	5.44	6.22			114		76-140		
Perfluorohexadecanoic acid	5.44	5.95			109		21-151		
Perfluorohexanesulfonic acid	5.14	5.85			114		71-131		
Perfluorohexanoic acid	5.44	5.84			107		75-135		
Perfluorononanoic acid	5.44	6.38			117		72-148		
Perfluorooctanesulfonamide	5.44	5.63			103		65-164		
Perfluoro-Octanesulfonic acid	5.20	6.20			119		67-138		
Perfluorooctanoic acid	5.44	6.21			114		72-138		
Perfluoropentanesulfonic acid	5.10	4.79			94		76-127		
Perfluoropentanoic acid	5.44	6.35			117		74-134		
Perfluorotetradecanoic acid	5.44	6.22			114		74-135		
Perfluorotridecanoic acid	5.44	6.42			118		61-145		
Perfluoroundecanoic acid	5.44	6.42			118		75-146		
Batch number: 18257011	Sample number(s): 9798667-9798672,9798674-9798676								
6:2-Fluorotelomersulfonic acid	15.17	17.21	15.17	17.27	113	114	66-155	0	30
NEtFOSAA	5.44	5.92	5.44	6.46	109	119	55-169	9	30
NEtPFOSAE	5.44	5.68	5.44	5.75	104	106	70-130	1	30
NMeFOSAA	5.44	6.26	5.44	6.15	115	113	62-167	2	30
Perfluorobutanesulfonic acid	4.81	5.48	4.81	4.93	114	103	73-128	10	30
Perfluorobutanoic acid	5.44	6.03	5.44	5.98	111	110	74-142	1	30
Perfluorodecanoic acid	5.44	6.53	5.44	7.08	120	130	69-148	8	30
Perfluorododecanoic acid	5.44	6.50	5.44	6.39	119	117	75-136	2	30
Perfluoroheptanesulfonic acid	5.18	5.76	5.18	5.79	111	112	64-135	1	30
Perfluoroheptanoic acid	5.44	6.13	5.44	6.43	113	118	76-140	5	30
Perfluorohexadecanoic acid	5.44	6.61	5.44	6.02	122	111	21-151	9	30
Perfluorohexanesulfonic acid	5.14	5.92	5.14	5.40	115	105	71-131	9	30
Perfluorohexanoic acid	5.44	6.11	5.44	6.50	112	120	75-135	6	30
Perfluorononanoic acid	5.44	6.48	5.44	6.13	119	113	72-148	6	30
Perfluorooctanesulfonamide	5.44	5.67	5.44	5.30	104	97	65-164	7	30
Perfluoro-Octanesulfonic acid	5.20	6.08	5.20	6.22	117	120	67-138	2	30
Perfluorooctanoic acid	5.44	6.27	5.44	6.71	115	123	72-138	7	30
Perfluoropentanesulfonic acid	5.10	5.97	5.10	5.58	117	109	76-127	7	30
Perfluoropentanoic acid	5.44	6.43	5.44	6.25	118	115	74-134	3	30

*- Outside of specification

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Quality Control Summary

Client Name: Golder Associates
Reported: 10/23/2018 15:17

Group Number: 1986297

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ng/l	LCS Conc ng/l	LCSD Spike Added ng/l	LCSD Conc ng/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Perfluorotetradecanoic acid	5.44	6.69	5.44	6.32	123	116	74-135	6	30
Perfluorotridecanoic acid	5.44	6.31	5.44	6.39	116	117	61-145	1	30
Perfluoroundecanoic acid	5.44	6.38	5.44	6.19	117	114	75-146	3	30
Batch number: 18257013 HFPODA	Sample number(s): 9798652,9798654-9798663 5.44	4.37			80		70-130		
Batch number: 18257014 HFPODA	Sample number(s): 9798667-9798676 5.44	5.18	5.44	4.79	95	88	70-130	8	30
Batch number: 18262012	Sample number(s): 9798653,9798655-9798659,9798664-9798666,9798673								
6:2-Fluorotelomersulfonic acid	15.17	17.97	15.17	17.46	118	115	66-155	3	30
NEtFOSAA	5.44	4.68	5.44	4.85	86	89	55-169	4	30
NEtPFOSAE	5.44	4.45	5.44	4.27	82	79	70-130	4	30
NMeFOSAA	5.44	5.34	5.44	5.92	98	109	62-167	10	30
Perfluorobutanesulfonic acid	4.81	5.55	4.81	5.62	115	117	73-128	1	30
Perfluorobutanoic acid	5.44	6.07	5.44	6.20	112	114	74-142	2	30
Perfluorodecanoic acid	5.44	5.74	5.44	5.69	106	105	69-148	1	30
Perfluorododecanoic acid	5.44	5.86	5.44	5.75	108	106	75-136	2	30
Perfluoroheptanesulfonic acid	5.18	5.61	5.18	5.66	108	109	64-135	1	30
Perfluoroheptanoic acid	5.44	6.24	5.44	5.98	115	110	76-140	4	30
Perfluorohexadecanoic acid	5.44	6.86	5.44	6.42	126	118	21-151	7	30
Perfluorohexanesulfonic acid	5.14	5.68	5.14	6.13	110	119	71-131	8	30
Perfluorohexanoic acid	5.44	6.07	5.44	7.27	112	134	75-135	18	30
Perfluorononanoic acid	5.44	5.92	5.44	6.25	109	115	72-148	5	30
Perfluorooctanesulfonamide	5.44	5.15	5.44	4.90	95	90	65-164	5	30
Perfluoro-Octanesulfonic acid	5.20	6.18	5.20	6.40	119	123	67-138	3	30
Perfluorooctanoic acid	5.44	6.39	5.44	6.71	118	123	72-138	5	30
Perfluoropentanesulfonic acid	5.10	5.81	5.10	5.54	114	109	76-127	5	30
Perfluoropentanoic acid	5.44	5.99	5.44	6.28	110	116	74-134	5	30
Perfluorotetradecanoic acid	5.44	6.57	5.44	6.50	121	119	74-135	1	30
Perfluorotridecanoic acid	5.44	5.71	5.44	5.85	105	107	61-145	2	30
Perfluoroundecanoic acid	5.44	5.86	5.44	6.81	108	125	75-146	15	30
Batch number: 18262013 HFPODA	Sample number(s): 9798653,9798664-9798666 5.44	5.02	5.44	4.82	92	89	70-130	4	30
	mg/l	mg/l	mg/l	mg/l					
Batch number: 18256385801A Total Suspended Solids	Sample number(s): 9798652,9798665 150	140.3			94		89-105		

*- Outside of specification

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P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Golder Associates
Reported: 10/23/2018 15:17

Group Number: 1986297

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ng/l	MS Spike Added ng/l	MS Conc ng/l	MSD Spike Added ng/l	MSD Conc ng/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 18257010 6:2-Fluorotelomersulfonic acid	8130.11	12.98	2964.43	13.02	3060.16	-39802 (2)	-38945 (2)	70-130	3	30
NEtFOSAA	29.24	4.66	31.38	4.67	29.78	46 (2)	11 (2)	49-159	5	30
NEtPFOSAE	11.75	4.66	13.34	4.67	14.08	34*	50*	70-130	5	30
NMeFOSAA	0.86 U	4.66	5.83	4.67	5.67	125	121	58-157	3	30
Perfluorobutanesulfonic acid	51.22	4.12	48.54	4.13	52.01	-64 (2)	19 (2)	73-134	7	30
Perfluorobutanoic acid	1418.27	4.66	1559.25	4.67	1561.69	3028 (2)	3072 (2)	58-155	0	30
Perfluorodecanoic acid	175.14	4.66	185.28	4.67	196.81	218 (2)	464 (2)	73-142	6	30
Perfluorododecanoic acid	57.12	4.66	58.88	4.67	63.93	38 (2)	146 (2)	76-136	8	30
Perfluoroheptanesulfonic acid	16.43	4.43	20.35	4.44	21.82	89	121	50-145	7	30
Perfluoroheptanoic acid	3066.69	4.66	2604.29	4.67	2707.02	-9932 (2)	-7702 (2)	67-137	4	30
Perfluorohexadecanoic acid	4.82	4.66	8.22	4.67	5.99	73	25*	70-130	31*	30
Perfluorohexanesulfonic acid	131.33	4.40	137.91	4.42	136.69	149 (2)	121 (2)	73-129	1	30
Perfluorohexanoic acid	5604.09	4.66	3213.46	4.67	3196.22	-51355 (2)	-51570 (2)	70-130	1	30
Perfluorononanoic acid	170.55	4.66	173.2	4.67	186.87	57 (2)	349 (2)	70-130	8	30
Perfluorooctanesulfonamide	17.46	4.66	21.36	4.67	22.57	84	109	70-130	6	30
Perfluoro-Octanesulfonic acid	1550.61	4.45	1761.1	4.46	1762.98	4731 (2)	4758 (2)	48-154	0	30
Perfluorooctanoic acid	7904.67	4.66	5526.85	4.67	5848.78	-51080 (2)	-44032 (2)	48-160	6	30
Perfluoropentanesulfonic acid	31.89	4.37	32.53	4.38	39.31	15 (2)	170 (2)	78-152	19	30
Perfluoropentanoic acid	2788.01	4.66	2611.1	4.67	2535.71	-3799 (2)	-5403 (2)	53-161	3	30
Perfluorotetradecanoic acid	20.44	4.66	24.13	4.67	25.31	79 (2)	104 (2)	78-133	5	30
Perfluorotridecanoic acid	27.24	4.66	31.24	4.67	32.63	86 (2)	115 (2)	57-151	4	30
Perfluoroundecanoic acid	57.81	4.66	58.35	4.67	65.44	11 (2)	163 (2)	66-137	11	30
Batch number: 18257013 HFPODA	57.03	4.65	63.1	4.65	56.5	131 (2)	-10 (2)	70-130	11	30

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/l	DUP Conc mg/l	DUP RPD	DUP RPD Max
Batch number: 18256385801A Total Suspended Solids	85	87	2 (1)	5

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Golder Associates
Reported: 10/23/2018 15:17

Group Number: 1986297

Labeled Isotope Quality Control

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: 22 PFAS Compounds
Batch number: 18257010

	13C4-PFBA	13C5-PFPeA	13C3-PFBS	13C5-PFHxA	13C3-PFHxS	13C4-PFHpA
9798652	90	93	101	90	93	94
9798654	96	88	109	100	110	109
9798660	81	99	183*	69	89	92
9798661	83	97	196*	71	91	92
9798662	82	103	190*	68	85	86
9798663	92	95	110	92	87	97
Blank	84	78	75	84	73	84
LCS	94	91	89	87	74	85
MS	83	97	196*	71	91	92
MSD	82	103	190*	68	85	86
Limits:	33-123	31-157	26-148	35-138	34-126	35-126
	13C2-6:2-FTS	13C8-PFOA	13C8-PFOS	13C9-PFNA	13C6-PFDA	d3-NMeFOSAA
9798652	137	96	88	88	91	94
9798654	89	86	86	92	86	86
9798660	183*	59	85	86	82	66
9798661	187*	62	84	93	87	77
9798662	174*	57	85	88	83	68
9798663	134	92	95	100	96	90
Blank	107	82	63	79	64	55
LCS	113	87	62	83	68	60
MS	187*	62	84	93	87	77
MSD	174*	57	85	88	83	68
Limits:	32-170	48-122	50-121	41-144	47-125	30-127
	13C7-PFUnDA	d5-NEtFOSAA	13C2-PFDoDA	13C2-PFTeDA	13C8-PFOSA	d9-NEtPFOSAE
9798652	98	105	94	91	97	98
9798654	79	74	77	73	57	29
9798660	81	79	79	71	39	33
9798661	90	86	90	77	24	25
9798662	85	87	83	67	19	19
9798663	91	90	99	82	88	57
Blank	53	53	60	69	63	66
LCS	61	61	67	76	66	72
MS	90	86	90	77	24	25
MSD	85	87	83	67	19	19
Limits:	30-128	30-142	39-130	26-119	11-127	10-121

*- Outside of specification

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Quality Control Summary

Client Name: Golder Associates
Reported: 10/23/2018 15:17

Group Number: 1986297

Labeled Isotope Quality Control (continued)

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: 22 PFAS Compounds
Batch number: 18257011

	13C4-PFBA	13C5-PFPeA	13C3-PFBS	13C5-PFHxA	13C3-PFHxS	13C4-PFHpA
9798667	97	135	232*	74	98	100
9798668	88	118	220*	72	91	86
9798669	69	148	268*	58	81	72
9798670	92	119	156*	86	95	101
9798671	85	77	99	89	80	81
9798672	86	87	96	82	82	83
9798674	90	87	89	89	86	93
9798675	91	91	84	88	87	93
9798676	90	87	108	96	112	110
Blank	90	84	84	86	88	92
LCS	95	91	89	90	89	95
LCSD	89	88	88	82	87	83
Limits:	33-123	31-157	26-148	35-138	34-126	35-126
	13C2-6:2-FTS	13C8-PFOA	13C8-PFOS	13C9-PFNA	13C6-PFDA	d3-NMeFOSAA
9798667	142	88	93	95	96	74
9798668	242*	60	86	85	86	62
9798669	121	81	82	90	87	70
9798670	144	98	96	106	92	82
9798671	130	86	92	93	85	76
9798672	134	82	88	92	83	71
9798674	119	93	90	91	96	92
9798675	120	95	96	101	91	81
9798676	125	86	87	89	90	88
Blank	118	88	89	93	95	82
LCS	119	95	97	106	101	99
LCSD	109	84	88	94	83	76
Limits:	32-170	48-122	50-121	41-144	47-125	30-127
	13C7-PFUnDA	d5-NEtFOSAA	13C2-PFDODA	13C2-PFTeDA	13C8-PFOSA	d9-NEtPFOSAE
9798667	92	87	93	75	45	35
9798668	84	70	78	67	27	12
9798669	84	68	77	72	26	18
9798670	91	75	86	68	38	16
9798671	83	83	83	76	81	85
9798672	81	71	80	64	58	31
9798674	91	97	92	84	99	79
9798675	93	90	85	81	98	90
9798676	94	104	88	88	95	109
Blank	88	95	92	80	88	101

*- Outside of specification

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Quality Control Summary

Client Name: Golder Associates
Reported: 10/23/2018 15:17

Group Number: 1986297

Labeled Isotope Quality Control (continued)

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: 22 PFAS Compounds
Batch number: 18257011

	13C7-PFUnDA	d5-NEtFOSAA	13C2-PFDoDA	13C2-PFTeDA	13C8-PFOSA	d9-NEtPFOSAE
LCS	101	102	100	92	98	109
LCSD	82	81	78	77	83	90
Limits:	30-128	30-142	39-130	26-119	11-127	10-121

Analysis Name: HFPODA
Batch number: 18257013

	13C3-HFPODA
9798652	63*
9798654	124
9798655	84
9798656	108
9798657	93
9798658	87
9798659	88
9798660	103
9798661	98
9798662	99
9798663	90
Blank	91
LCS	98
MS	98
MSD	99
Limits:	70-130

Analysis Name: HFPODA
Batch number: 18257014

	13C3-HFPODA
9798667	81
9798668	118
9798669	57*
9798670	89
9798671	160*
9798672	90
9798673	101
9798674	103
9798675	99
9798676	126
Blank	99
LCS	87
LCSD	94

*- Outside of specification

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Quality Control Summary

Client Name: Golder Associates
Reported: 10/23/2018 15:17

Group Number: 1986297

Labeled Isotope Quality Control (continued)

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: HFPODA
Batch number: 18257014

Limits: 70-130

Analysis Name: 22 PFAS Compounds
Batch number: 18262012

	13C4-PFBA	13C5-PFPeA	13C3-PFBS	13C5-PFHxA	13C3-PFHxS	13C4-PFHpA
9798653	94	131	193*	88	102	101
9798655	89	91	102	81	86	83
9798656	99	100	113	102	107	102
9798657	110	114	125	107	111	107
9798658	107	116	125	111	112	113
9798659	95	100	109	85	92	89
9798664	90	80	93	95	114	105
9798665	16*	16*	19*	16*	18*	17*
9798666	103	116	230*	90	121	111
9798673	104	97	98	101	104	100
Blank	94	85	85	92	95	90
LCS	106	101	100	100	104	98
LCSD	87	81	83	80	92	88
Limits:	33-123	31-157	26-148	35-138	34-126	35-126
	13C2-6:2-FTS	13C8-PFOA	13C8-PFOS	13C9-PFNA	13C6-PFDA	d3-NMeFOSAA
9798653	124	94	99	100	94	92
9798655	109	88	85	88	85	73
9798656	115	92	91	95	93	105
9798657	138	110	101	100	105	103
9798658	147	112	103	98	96	112
9798659	120	91	95	99	91	87
9798664	101	85	88	84	89	93
9798665	42	15*	15*	15*	15*	14*
9798666	166	76	103	109	102	93
9798673	121	108	105	103	107	97
Blank	105	91	97	94	94	91
LCS	111	103	96	93	97	102
LCSD	92	85	86	87	87	77
Limits:	32-170	48-122	50-121	41-144	47-125	30-127
	13C7-PFUnDA	d5-NEtFOSAA	13C2-PFDODA	13C2-PFTeDA	13C8-PFOA	d9-NEtPFOSAE
9798653	94	94	90	94	47	34
9798655	76	77	76	63	26	15
9798656	91	86	77	70	46	28

*- Outside of specification

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Quality Control Summary

Client Name: Golder Associates
Reported: 10/23/2018 15:17

Group Number: 1986297

Labeled Isotope Quality Control (continued)

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: 22 PFAS Compounds
Batch number: 18262012

	13C7-PFUnDA	d5-NEtFOSAA	13C2-PFDoDA	13C2-PFTeDA	13C8-PFOSA	d9-NEtPFOSAE
9798657	107	109	103	89	30	12
9798658	93	98	92	77	35	20
9798659	84	89	79	71	37	19
9798664	93	92	85	88	91	109
9798665	16*	15*	17*	26	16	13
9798666	104	107	101	100	84	110
9798673	102	94	102	95	108	36
Blank	86	90	90	94	92	63
LCS	100	103	98	92	102	116
LCSD	81	82	77	81	85	45
Limits:	30-128	30-142	39-130	26-119	11-127	10-121

Analysis Name: HFPODA
Batch number: 18262013

	13C3-HFPODA
9798653	76
9798664	140*
9798665	90
9798666	88
Blank	104
LCS	100
LCSD	99
Limits:	70-130

*- Outside of specification

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Environmental**

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Acct. # 0653

Group #

Sample #

COC # 563281

Client Information						Matrix		Analysis Requested								For Lab Use Only		
Client: Golder Associates Inc.			Acct. #:			☐ Tissue ☒ Groundwater ☒ Surface	☐ Potable ☐ NPDES ☐ Other:	Preservation and Filtration Codes								FSC: _____	SCR#: _____	
Project Name/#: Saint Gobain, Merrimack			PWSID #:													Preservation Codes		
Project Manager: Ross Bennett, Jim Peace			P.O. #: K068623181													H=HCl N=HNO ₃ S=H ₂ SO ₄ F=Field Filtered	T=Thiosulfate B=NaOH P=H ₃ PO ₄ O=Other	
Sampler: Scott Drew			Quote #:			☐ Sediment	☐ Water	Total # of Containers									Remarks	
State where samples were collected: NH			For Compliance: Yes ☐ No ☐														* site specific list	
Sample Identification			Collected		Grab				Composite									
			Date	Time														
SGPP-MH-23			09/10/18	1912	X			9	X	X	X							
SGPP-RD-MB-SW				1758	X													
SGPP-RD-MB-SW				1725	X													
SGPP-Outfall-001				1705	X			4										
SW-MERR-10/W-NS				1805	X			4										
SW-MERR-201W-NS				1715	X			4										
SW-MERR-201W-IC				1730	X			4										
SW-MERR-202W-NS				1840	X			4										
SW-MERR-202W-IC				1850	X			4										
SGPP-Outfall-001				1915	X			4										
Turnaround Time (TAT) Requested (please circle)						Relinquished by		Date	Time	Received by		Date	Time					
(Standard) Rush						[Signature]		9/11/18	1600									
(Rush TAT is subject to laboratory approval and surcharge.)						Relinquished by		Date	Time	Received by		Date	Time					
						Relinquished by		Date	Time	Received by		Date	Time					
						Relinquished by		Date	Time	Received by		Date	Time					
						Relinquished by		Date	Time	Received by		Date	Time					
						Relinquished by		Date	Time	Received by		Date	Time					
Date results are needed: _____																		
E-mail address: jpeace@golder.com																		
E-mail address: rbennett@golder.com sdrew@golder.com																		
Data Package Options (circle if required)						EDD Required? Yes No				Relinquished by Commercial Carrier:								
Type I (EPA Level 3 Equivalent/non-CLP)						If yes, format: _____				UPS _____ FedEx X Other _____								
Type VI (Raw Data Only)						Site-Specific QC (MS/MSD/Dup)? Yes No				Temperature upon receipt								
Type III (Reduced non-CLP)						(If yes, indicate QC sample and submit triplicate sample volume.)												
NJ DKQP TX TRRP-13																		
MA MCP CT RCP																		

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories
Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 10253 Group # 1986297 Sample # 1798652-76

COC # 579692

Client Information				Matrix				Analysis Requested												For Lab Use Only	
Client: <u>Golder Associates</u>		Acct. #:		☐ Tissue ☐ Ground ☒ Surface ☐ Potable ☐ NPDES ☐ Other:				Preservation and Filtration Codes												FSC: <u>230714</u>	Preservation Codes H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ P=H ₃ PO ₄ F=Field Filtered O=Other
Project Name/##: <u>Saint Gabeau Morrimack</u>		PWSID #:																		SCR#: <u>230714</u>	
Project Manager: <u>Jim Peace</u>		P.O. #:		Soil ☐ Sediment ☐ Tissue ☐ Water ☐ NPDES ☐ Other:																Remarks * site specific list	
Sampler: <u>Scott Drew</u>		Quote #:																			
State where samples were collected: <u>NH</u>		For Compliance: Yes ☐ No ☐		Grab ☐ Composite ☐ Total # of Containers																	
Sample Identification		Collected																			
Date	Time	Grab	Composite																		
S6PP-MH-23	9/10/18 1805	X			X		4	X	X												
S6PP-MH-5	1640						4														
S6PP-MH-5	1920						9		X												
S6PP-RD-MB-NW	1737						4														
S6PP-RD-MB-NE	1742						4														
S6PP-RD-MB-SW	1725						4														
S6PP-RD-MB-SE	1758						4														
S6PP-RD-NMB	1518						4														
S6PP-DI-34	1820						4														
EB-1	2110						4														

Turnaround Time (TAT) Requested (please circle) Standard <u>Standard</u> Rush				Relinquished by <u>K. L. Hunt</u> Date <u>8-31-18</u> Time <u>1125</u>		Received by <u>ATD</u> Date <u>9/11/18</u> Time <u>1125</u>	
(Rush TAT is subject to laboratory approval and surcharge.)				Relinquished by <u>ATD</u> Date <u>9/11/18</u> Time <u>1600</u>		Received by <u>ATD</u> Date <u>9/11/18</u> Time <u>1125</u>	
Requested TAT in business days: <u>jpeace@golder.com</u>				Relinquished by <u>/</u> Date <u>/</u> Time <u>/</u>		Received by <u>/</u> Date <u>/</u> Time <u>/</u>	
E-mail address: <u>chennett@golder.com</u> <u>sdrew@golder.com</u>				Relinquished by <u>/</u> Date <u>/</u> Time <u>/</u>		Received by <u>/</u> Date <u>/</u> Time <u>/</u>	
Data Package Options (circle if required)				Relinquished by <u>/</u> Date <u>/</u> Time <u>/</u>		Received by <u>MMR</u> Date <u>9/12/18</u> Time <u>1020</u>	
Type I (EPA Level 3) Equivalent/non-CLP		Type VI (Raw Data Only)		EDD Required? <u>Yes</u> No		Relinquished by Commercial Carrier	
Type III (Reduced non-CLP)		NJ DKQP TX TRRP-13		If yes, format:		UPS <u>/</u> FedEx <u>X</u> Other <u>/</u>	
NYSDEC Category A or B		MA MCP CT RCP		Site-Specific QC (MS/MSD/Dup)? <u>Yes</u> No		Temperature upon receipt <u>1.1-2.4</u> °C	
(If yes, indicate QC sample and submit triplicate sample volume.)							

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 10253 Group # 1986297 Sample # 9798652-76

COC # 578662

Eurolins Lancaster Laboratories Environmental, LLC • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • FOR HELP COMPLETING FORM CHECK OUT <https://www.eurolinsus.com/coc>

The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client.

7044 0718

Sample Administration
Receipt Documentation Log

Doc Log ID: 226792



Group Number(s): 1986297

Client: Golder Assoc.**Saint Gobain, Merrimack****Delivery and Receipt Information**

Delivery Method:	<u>Fed Ex</u>	Arrival Timestamp:	<u>09/12/2018 10:20</u>
Number of Packages:	<u>3</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>NH</u>		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace $\geq$ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	4
Paperwork Enclosed:	Yes	Trip Blank Type:	See Below
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	Yes		

Trip Blank Type(s): Unpreserved

*Unpacked by Nicole Reiff (25684) at 16:27 on 09/12/2018***Samples Chilled Details: Saint Gobain, Merrimack**

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT146	1.1	DT	Wet	Y	Bagged	N
2	DT146	1.6	DT	Wet	Y	Bagged	N
3	DT146	2.4	DT	Wet	Y	Bagged	N

Container Quantity Discrepancy Details: Saint Gobain, Merrimack

Sample ID on COC	Container Qty. Received	Container Qty. on COC	Comments
SGPP-MH-23	10	9	9/10/18 1912
SGPP-MH-5	10	9	9/10/18 1920

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mL	milliliter(s)
C	degrees Celsius	MPN	Most Probable Number
cfu	colony forming units	N.D.	non-detect
CP Units	cobalt-chloroplatinate units	ng	nanogram(s)
F	degrees Fahrenheit	NTU	nephelometric turbidity units
g	gram(s)	pg/L	picogram/liter
IU	International Units	RL	Reporting Limit
kg	kilogram(s)	TNTC	Too Numerous To Count
L	liter(s)	µg	microgram(s)
lb.	pound(s)	µL	microliter(s)
m3	cubic meter(s)	umhos/cm	micromhos/cm
meq	milliequivalents	MCL	Maximum Contamination Limit
mg	milligram(s)		
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value $\geq$ the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
P^	Concentration difference between the primary and confirmation column $> 40\%$. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.

Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.



ANALYTICAL REPORT

Lab Number:	L1835977
Client:	Golder Associates 670 North Commercial St. Suite 103 Manchester, NH 03101
ATTN:	Jim Peace
Phone:	(603) 668-0880
Project Name:	SGPP
Project Number:	166-8623
Report Date:	09/20/18

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

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: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1835977-01	SGPP-MH-23	WATER	MERRIMACK, NH	09/10/18 18:05	09/11/18
L1835977-02	SGPP-MH-5	WATER	MERRIMACK, NH	09/10/18 16:40	09/11/18
L1835977-03	SGPP-MH-5	WATER	MERRIMACK, NH	09/10/18 19:20	09/11/18
L1835977-04	SGPP-RD-MB-NW	WATER	MERRIMACK, NH	09/10/18 17:37	09/11/18
L1835977-05	SGPP-RD-MB-NE	WATER	MERRIMACK, NH	09/10/18 17:42	09/11/18
L1835977-06	SGPP-RD-MB-SW	WATER	MERRIMACK, NH	09/10/18 17:25	09/11/18
L1835977-07	SGPP-RD-MB-SE	WATER	MERRIMACK, NH	09/10/18 17:58	09/11/18
L1835977-08	SGPP-RD-NMB	WATER	MERRIMACK, NH	09/10/18 15:18	09/11/18
L1835977-09	SGPP-DI-34	WATER	MERRIMACK, NH	09/10/18 18:20	09/11/18
L1835977-10	EB-1	WATER	MERRIMACK, NH	09/10/18 21:10	09/11/18
L1835977-11	SGPP-MH-23	WATER	MERRIMACK, NH	09/10/18 19:12	09/11/18
L1835977-12	SGGP-OUTFALL-001	WATER	MERRIMACK, NH	09/10/18 17:05	09/11/18
L1835977-13	SW-MERR-101W-NS	WATER	MERRIMACK, NH	09/10/18 18:05	09/11/18
L1835977-14	SW-MERR-201W-NS	WATER	MERRIMACK, NH	09/10/18 17:15	09/11/18
L1835977-15	SW-MERR-201W-IC	WATER	MERRIMACK, NH	09/10/18 17:30	09/11/18
L1835977-16	SW-MERR-202W-NS	WATER	MERRIMACK, NH	09/10/18 18:40	09/11/18
L1835977-17	SW-MERR-202W-IC	WATER	MERRIMACK, NH	09/10/18 18:50	09/11/18
L1835977-18	SGPP-OUTFALL-001	WATER	MERRIMACK, NH	09/10/18 19:15	09/11/18
L1835977-19	DUP-1	WATER	MERRIMACK, NH	09/10/18 19:15	09/11/18

Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

Case Narrative (continued)

Sulfite

L1835977-01 through -19 were analyzed with the method required holding time exceeded.

Solids, Total Suspended

L1835977-03 and -11: The sample has an elevated detection limit due to limited sample volume available for analysis.

Nitrogen, Ammonia

The WG1156058-4 MS recovery (175%), performed on L1835977-09, is outside the acceptance criteria; however, the associated LCS recovery is within criteria. No further action was taken.

Anions by Ion Chromatography

The WG1156257-11 MS recoveries, performed on L1835977-09, are outside the acceptance criteria for nitrate (88%) and chloride (88%); however, the associated LCS recoveries are within criteria. No further action was taken.

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:



Cristin Walker

Title: Technical Director/Representative

Date: 09/20/18

METALS

Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-01
Client ID: SGPP-MH-23
Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 18:05
Date Received: 09/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Calcium, Total	8.08		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 04:11	EPA 3005A	1,6010D	AB
Iron, Total	0.261		mg/l	0.050	--	1	09/14/18 13:29	09/20/18 04:11	EPA 3005A	1,6010D	AB
Magnesium, Total	2.02		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 04:11	EPA 3005A	1,6010D	AB
Manganese, Total	0.071		mg/l	0.010	--	1	09/14/18 13:29	09/20/18 04:11	EPA 3005A	1,6010D	AB
Potassium, Total	ND		mg/l	2.50	--	1	09/14/18 13:29	09/20/18 04:11	EPA 3005A	1,6010D	AB
Sodium, Total	8.19		mg/l	2.00	--	1	09/14/18 13:29	09/20/18 04:11	EPA 3005A	1,6010D	AB



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-02
 Client ID: SGPP-MH-5
 Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 16:40
 Date Received: 09/11/18
 Field Prep: Not Specified

Sample Depth:
 Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Calcium, Total	9.29		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 04:29	EPA 3005A	1,6010D	AB
Iron, Total	0.594		mg/l	0.050	--	1	09/14/18 13:29	09/20/18 04:29	EPA 3005A	1,6010D	AB
Magnesium, Total	1.28		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 04:29	EPA 3005A	1,6010D	AB
Manganese, Total	0.053		mg/l	0.010	--	1	09/14/18 13:29	09/20/18 04:29	EPA 3005A	1,6010D	AB
Potassium, Total	ND		mg/l	2.50	--	1	09/14/18 13:29	09/20/18 04:29	EPA 3005A	1,6010D	AB
Sodium, Total	21.4		mg/l	2.00	--	1	09/14/18 13:29	09/20/18 04:29	EPA 3005A	1,6010D	AB



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-03
Client ID: SGPP-MH-5
Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 19:20
Date Received: 09/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Calcium, Total	4.42		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 04:34	EPA 3005A	1,6010D	AB
Iron, Total	0.282		mg/l	0.050	--	1	09/14/18 13:29	09/20/18 04:34	EPA 3005A	1,6010D	AB
Magnesium, Total	2.12		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 04:34	EPA 3005A	1,6010D	AB
Manganese, Total	0.046		mg/l	0.010	--	1	09/14/18 13:29	09/20/18 04:34	EPA 3005A	1,6010D	AB
Potassium, Total	ND		mg/l	2.50	--	1	09/14/18 13:29	09/20/18 04:34	EPA 3005A	1,6010D	AB
Sodium, Total	6.96		mg/l	2.00	--	1	09/14/18 13:29	09/20/18 04:34	EPA 3005A	1,6010D	AB



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-04
 Client ID: SGPP-RD-MB-NW
 Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 17:37
 Date Received: 09/11/18
 Field Prep: Not Specified

Sample Depth:
 Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Calcium, Total	11.3		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 04:58	EPA 3005A	1,6010D	AB
Iron, Total	0.617		mg/l	0.050	--	1	09/14/18 13:29	09/20/18 04:58	EPA 3005A	1,6010D	AB
Magnesium, Total	6.90		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 04:58	EPA 3005A	1,6010D	AB
Manganese, Total	0.125		mg/l	0.010	--	1	09/14/18 13:29	09/20/18 04:58	EPA 3005A	1,6010D	AB
Potassium, Total	ND		mg/l	2.50	--	1	09/14/18 13:29	09/20/18 04:58	EPA 3005A	1,6010D	AB
Sodium, Total	6.50		mg/l	2.00	--	1	09/14/18 13:29	09/20/18 04:58	EPA 3005A	1,6010D	AB



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-05
 Client ID: SGPP-RD-MB-NE
 Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 17:42
 Date Received: 09/11/18
 Field Prep: Not Specified

Sample Depth:
 Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Calcium, Total	10.1		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 05:02	EPA 3005A	1,6010D	AB
Iron, Total	0.537		mg/l	0.050	--	1	09/14/18 13:29	09/20/18 05:02	EPA 3005A	1,6010D	AB
Magnesium, Total	6.53		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 05:02	EPA 3005A	1,6010D	AB
Manganese, Total	0.106		mg/l	0.010	--	1	09/14/18 13:29	09/20/18 05:02	EPA 3005A	1,6010D	AB
Potassium, Total	ND		mg/l	2.50	--	1	09/14/18 13:29	09/20/18 05:02	EPA 3005A	1,6010D	AB
Sodium, Total	6.69		mg/l	2.00	--	1	09/14/18 13:29	09/20/18 05:02	EPA 3005A	1,6010D	AB



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-06
 Client ID: SGPP-RD-MB-SW
 Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 17:25
 Date Received: 09/11/18
 Field Prep: Not Specified

Sample Depth:
 Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Calcium, Total	17.0		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 05:07	EPA 3005A	1,6010D	AB
Iron, Total	0.436		mg/l	0.050	--	1	09/14/18 13:29	09/20/18 05:07	EPA 3005A	1,6010D	AB
Magnesium, Total	9.40		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 05:07	EPA 3005A	1,6010D	AB
Manganese, Total	0.118		mg/l	0.010	--	1	09/14/18 13:29	09/20/18 05:07	EPA 3005A	1,6010D	AB
Potassium, Total	ND		mg/l	2.50	--	1	09/14/18 13:29	09/20/18 05:07	EPA 3005A	1,6010D	AB
Sodium, Total	7.19		mg/l	2.00	--	1	09/14/18 13:29	09/20/18 05:07	EPA 3005A	1,6010D	AB



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-07
 Client ID: SGPP-RD-MB-SE
 Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 17:58
 Date Received: 09/11/18
 Field Prep: Not Specified

Sample Depth:
 Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Calcium, Total	5.32		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 05:12	EPA 3005A	1,6010D	AB
Iron, Total	0.577		mg/l	0.050	--	1	09/14/18 13:29	09/20/18 05:12	EPA 3005A	1,6010D	AB
Magnesium, Total	3.15		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 05:12	EPA 3005A	1,6010D	AB
Manganese, Total	0.091		mg/l	0.010	--	1	09/14/18 13:29	09/20/18 05:12	EPA 3005A	1,6010D	AB
Potassium, Total	ND		mg/l	2.50	--	1	09/14/18 13:29	09/20/18 05:12	EPA 3005A	1,6010D	AB
Sodium, Total	5.05		mg/l	2.00	--	1	09/14/18 13:29	09/20/18 05:12	EPA 3005A	1,6010D	AB



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-08
 Client ID: SGPP-RD-NMB
 Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 15:18
 Date Received: 09/11/18
 Field Prep: Not Specified

Sample Depth:
 Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Calcium, Total	2.73		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 05:16	EPA 3005A	1,6010D	AB
Iron, Total	0.575		mg/l	0.050	--	1	09/14/18 13:29	09/20/18 05:16	EPA 3005A	1,6010D	AB
Magnesium, Total	1.52		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 05:16	EPA 3005A	1,6010D	AB
Manganese, Total	0.063		mg/l	0.010	--	1	09/14/18 13:29	09/20/18 05:16	EPA 3005A	1,6010D	AB
Potassium, Total	ND		mg/l	2.50	--	1	09/14/18 13:29	09/20/18 05:16	EPA 3005A	1,6010D	AB
Sodium, Total	12.6		mg/l	2.00	--	1	09/14/18 13:29	09/20/18 05:16	EPA 3005A	1,6010D	AB



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-09
 Client ID: SGPP-DI-34
 Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 18:20
 Date Received: 09/11/18
 Field Prep: Not Specified

Sample Depth:
 Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Calcium, Total	3.36		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 05:21	EPA 3005A	1,6010D	AB
Iron, Total	1.41		mg/l	0.050	--	1	09/14/18 13:29	09/20/18 05:21	EPA 3005A	1,6010D	AB
Magnesium, Total	0.866		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 05:21	EPA 3005A	1,6010D	AB
Manganese, Total	0.107		mg/l	0.010	--	1	09/14/18 13:29	09/20/18 05:21	EPA 3005A	1,6010D	AB
Potassium, Total	3.09		mg/l	2.50	--	1	09/14/18 13:29	09/20/18 05:21	EPA 3005A	1,6010D	AB
Sodium, Total	6.08		mg/l	2.00	--	1	09/14/18 13:29	09/20/18 05:21	EPA 3005A	1,6010D	AB



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-10
Client ID: EB-1
Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 21:10
Date Received: 09/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Calcium, Total	ND		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 05:26	EPA 3005A	1,6010D	AB
Iron, Total	ND		mg/l	0.050	--	1	09/14/18 13:29	09/20/18 05:26	EPA 3005A	1,6010D	AB
Magnesium, Total	ND		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 05:26	EPA 3005A	1,6010D	AB
Manganese, Total	ND		mg/l	0.010	--	1	09/14/18 13:29	09/20/18 05:26	EPA 3005A	1,6010D	AB
Potassium, Total	ND		mg/l	2.50	--	1	09/14/18 13:29	09/20/18 05:26	EPA 3005A	1,6010D	AB
Sodium, Total	ND		mg/l	2.00	--	1	09/14/18 13:29	09/20/18 05:26	EPA 3005A	1,6010D	AB



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-11
 Client ID: SGPP-MH-23
 Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 19:12
 Date Received: 09/11/18
 Field Prep: Not Specified

Sample Depth:
 Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Calcium, Total	5.69		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 05:30	EPA 3005A	1,6010D	AB
Iron, Total	0.209		mg/l	0.050	--	1	09/14/18 13:29	09/20/18 05:30	EPA 3005A	1,6010D	AB
Magnesium, Total	2.01		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 05:30	EPA 3005A	1,6010D	AB
Manganese, Total	0.063		mg/l	0.010	--	1	09/14/18 13:29	09/20/18 05:30	EPA 3005A	1,6010D	AB
Potassium, Total	ND		mg/l	2.50	--	1	09/14/18 13:29	09/20/18 05:30	EPA 3005A	1,6010D	AB
Sodium, Total	5.29		mg/l	2.00	--	1	09/14/18 13:29	09/20/18 05:30	EPA 3005A	1,6010D	AB



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-12
Client ID: SGGP-OUTFALL-001
Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 17:05
Date Received: 09/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Calcium, Total	28.6		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 05:35	EPA 3005A	1,6010D	AB
Iron, Total	0.166		mg/l	0.050	--	1	09/14/18 13:29	09/20/18 05:35	EPA 3005A	1,6010D	AB
Magnesium, Total	5.88		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 05:35	EPA 3005A	1,6010D	AB
Manganese, Total	ND		mg/l	0.010	--	1	09/14/18 13:29	09/20/18 05:35	EPA 3005A	1,6010D	AB
Potassium, Total	4.28		mg/l	2.50	--	1	09/14/18 13:29	09/20/18 05:35	EPA 3005A	1,6010D	AB
Sodium, Total	155		mg/l	2.00	--	1	09/14/18 13:29	09/20/18 05:35	EPA 3005A	1,6010D	AB



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-13
 Client ID: SW-MERR-101W-NS
 Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 18:05
 Date Received: 09/11/18
 Field Prep: Not Specified

Sample Depth:
 Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Calcium, Total	5.65		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 05:54	EPA 3005A	1,6010D	AB
Iron, Total	0.408		mg/l	0.050	--	1	09/14/18 13:29	09/20/18 05:54	EPA 3005A	1,6010D	AB
Magnesium, Total	1.16		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 05:54	EPA 3005A	1,6010D	AB
Manganese, Total	0.030		mg/l	0.010	--	1	09/14/18 13:29	09/20/18 05:54	EPA 3005A	1,6010D	AB
Potassium, Total	ND		mg/l	2.50	--	1	09/14/18 13:29	09/20/18 05:54	EPA 3005A	1,6010D	AB
Sodium, Total	22.2		mg/l	2.00	--	1	09/14/18 13:29	09/20/18 05:54	EPA 3005A	1,6010D	AB



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-14
Client ID: SW-MERR-201W-NS
Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 17:15
Date Received: 09/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Calcium, Total	6.56		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 05:59	EPA 3005A	1,6010D	AB
Iron, Total	0.366		mg/l	0.050	--	1	09/14/18 13:29	09/20/18 05:59	EPA 3005A	1,6010D	AB
Magnesium, Total	1.34		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 05:59	EPA 3005A	1,6010D	AB
Manganese, Total	0.026		mg/l	0.010	--	1	09/14/18 13:29	09/20/18 05:59	EPA 3005A	1,6010D	AB
Potassium, Total	ND		mg/l	2.50	--	1	09/14/18 13:29	09/20/18 05:59	EPA 3005A	1,6010D	AB
Sodium, Total	27.0		mg/l	2.00	--	1	09/14/18 13:29	09/20/18 05:59	EPA 3005A	1,6010D	AB



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-15
 Client ID: SW-MERR-201W-IC
 Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 17:30
 Date Received: 09/11/18
 Field Prep: Not Specified

Sample Depth:
 Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Calcium, Total	5.62		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 06:03	EPA 3005A	1,6010D	AB
Iron, Total	0.388		mg/l	0.050	--	1	09/14/18 13:29	09/20/18 06:03	EPA 3005A	1,6010D	AB
Magnesium, Total	1.12		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 06:03	EPA 3005A	1,6010D	AB
Manganese, Total	0.029		mg/l	0.010	--	1	09/14/18 13:29	09/20/18 06:03	EPA 3005A	1,6010D	AB
Potassium, Total	ND		mg/l	2.50	--	1	09/14/18 13:29	09/20/18 06:03	EPA 3005A	1,6010D	AB
Sodium, Total	21.8		mg/l	2.00	--	1	09/14/18 13:29	09/20/18 06:03	EPA 3005A	1,6010D	AB



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-16
 Client ID: SW-MERR-202W-NS
 Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 18:40
 Date Received: 09/11/18
 Field Prep: Not Specified

Sample Depth:
 Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Calcium, Total	5.63		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 06:08	EPA 3005A	1,6010D	AB
Iron, Total	0.373		mg/l	0.050	--	1	09/14/18 13:29	09/20/18 06:08	EPA 3005A	1,6010D	AB
Magnesium, Total	1.14		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 06:08	EPA 3005A	1,6010D	AB
Manganese, Total	0.030		mg/l	0.010	--	1	09/14/18 13:29	09/20/18 06:08	EPA 3005A	1,6010D	AB
Potassium, Total	ND		mg/l	2.50	--	1	09/14/18 13:29	09/20/18 06:08	EPA 3005A	1,6010D	AB
Sodium, Total	22.4		mg/l	2.00	--	1	09/14/18 13:29	09/20/18 06:08	EPA 3005A	1,6010D	AB



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-17
 Client ID: SW-MERR-202W-IC
 Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 18:50
 Date Received: 09/11/18
 Field Prep: Not Specified

Sample Depth:
 Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Calcium, Total	5.67		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 06:13	EPA 3005A	1,6010D	AB
Iron, Total	0.373		mg/l	0.050	--	1	09/14/18 13:29	09/20/18 06:13	EPA 3005A	1,6010D	AB
Magnesium, Total	1.14		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 06:13	EPA 3005A	1,6010D	AB
Manganese, Total	0.028		mg/l	0.010	--	1	09/14/18 13:29	09/20/18 06:13	EPA 3005A	1,6010D	AB
Potassium, Total	ND		mg/l	2.50	--	1	09/14/18 13:29	09/20/18 06:13	EPA 3005A	1,6010D	AB
Sodium, Total	22.7		mg/l	2.00	--	1	09/14/18 13:29	09/20/18 06:13	EPA 3005A	1,6010D	AB



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-18
 Client ID: SGPP-OUTFALL-001
 Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 19:15
 Date Received: 09/11/18
 Field Prep: Not Specified

Sample Depth:
 Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Calcium, Total	13.0		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 06:17	EPA 3005A	1,6010D	AB
Iron, Total	0.436		mg/l	0.050	--	1	09/14/18 13:29	09/20/18 06:17	EPA 3005A	1,6010D	AB
Magnesium, Total	2.94		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 06:17	EPA 3005A	1,6010D	AB
Manganese, Total	0.036		mg/l	0.010	--	1	09/14/18 13:29	09/20/18 06:17	EPA 3005A	1,6010D	AB
Potassium, Total	ND		mg/l	2.50	--	1	09/14/18 13:29	09/20/18 06:17	EPA 3005A	1,6010D	AB
Sodium, Total	48.7		mg/l	2.00	--	1	09/14/18 13:29	09/20/18 06:17	EPA 3005A	1,6010D	AB



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-19
Client ID: DUP-1
Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 19:15
Date Received: 09/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Calcium, Total	12.0		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 06:22	EPA 3005A	1,6010D	AB
Iron, Total	0.390		mg/l	0.050	--	1	09/14/18 13:29	09/20/18 06:22	EPA 3005A	1,6010D	AB
Magnesium, Total	2.77		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 06:22	EPA 3005A	1,6010D	AB
Manganese, Total	0.036		mg/l	0.010	--	1	09/14/18 13:29	09/20/18 06:22	EPA 3005A	1,6010D	AB
Potassium, Total	ND		mg/l	2.50	--	1	09/14/18 13:29	09/20/18 06:22	EPA 3005A	1,6010D	AB
Sodium, Total	44.5		mg/l	2.00	--	1	09/14/18 13:29	09/20/18 06:22	EPA 3005A	1,6010D	AB



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-19 Batch: WG1157032-1										
Calcium, Total	ND		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 04:02	1,6010D	AB
Iron, Total	ND		mg/l	0.050	--	1	09/14/18 13:29	09/20/18 04:02	1,6010D	AB
Magnesium, Total	ND		mg/l	0.100	--	1	09/14/18 13:29	09/20/18 04:02	1,6010D	AB
Manganese, Total	ND		mg/l	0.010	--	1	09/14/18 13:29	09/20/18 04:02	1,6010D	AB
Potassium, Total	ND		mg/l	2.50	--	1	09/14/18 13:29	09/20/18 04:02	1,6010D	AB
Sodium, Total	ND		mg/l	2.00	--	1	09/14/18 13:29	09/20/18 04:02	1,6010D	AB

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-19 Batch: WG1157032-2								
Calcium, Total	103		-		80-120	-		
Iron, Total	105		-		80-120	-		
Magnesium, Total	104		-		80-120	-		
Manganese, Total	98		-		80-120	-		
Potassium, Total	100		-		80-120	-		
Sodium, Total	103		-		80-120	-		

Matrix Spike Analysis

Batch Quality Control

Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-19 QC Batch ID: WG1157032-3 QC Sample: L1835977-01 Client ID: SGPP-MH-23												
Calcium, Total	8.08	10	19.0	109		-	-		75-125	-		20
Iron, Total	0.261	1	1.32	106		-	-		75-125	-		20
Magnesium, Total	2.02	10	12.3	103		-	-		75-125	-		20
Manganese, Total	0.071	0.5	0.567	99		-	-		75-125	-		20
Potassium, Total	ND	10	11.0	110		-	-		75-125	-		20
Sodium, Total	8.19	10	19.0	108		-	-		75-125	-		20

Lab Duplicate Analysis *Batch Quality Control*

Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-19 QC Batch ID: WG1157032-4 QC Sample: L1835977-01 Client ID: SGPP-MH-23						
Calcium, Total	8.08	8.27	mg/l	2		20
Iron, Total	0.261	0.246	mg/l	6		20
Magnesium, Total	2.02	2.04	mg/l	1		20
Manganese, Total	0.071	0.073	mg/l	2		20
Potassium, Total	ND	ND	mg/l	NC		20
Sodium, Total	8.19	8.32	mg/l	2		20

INORGANICS & MISCELLANEOUS

Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-01
Client ID: SGPP-MH-23
Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 18:05
Date Received: 09/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	26.1		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Alkalinity, Bicarbonate	26.1		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	09/12/18 12:10	121,2540D	DR
Nitrogen, Ammonia	0.236		mg/l	0.075	--	1	09/12/18 14:40	09/17/18 22:31	44,350.1	AT
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	09/11/18 22:34	121,4500NO3-F	MR
Sulfite	ND		mg/l	0.50	--	1	-	09/12/18 13:30	121,4500SO3-B	JT
Anions by Ion Chromatography - Westborough Lab										
Chloride	10.8		mg/l	0.500	--	1	-	09/12/18 01:06	44,300.0	JR
Nitrogen, Nitrate	0.835		mg/l	0.050	--	1	-	09/12/18 01:06	44,300.0	JR
Sulfate	8.54		mg/l	1.00	--	1	-	09/12/18 01:06	44,300.0	JR



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-02
Client ID: SGPP-MH-5
Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 16:40
Date Received: 09/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	17.8		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Alkalinity, Bicarbonate	17.8		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Solids, Total Suspended	5.6		mg/l	5.0	NA	1	-	09/12/18 12:10	121,2540D	DR
Nitrogen, Ammonia	1.06		mg/l	0.075	--	1	09/12/18 14:40	09/17/18 22:32	44,350.1	AT
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	09/11/18 22:35	121,4500NO3-F	MR
Sulfite	ND		mg/l	0.50	--	1	-	09/12/18 13:30	121,4500SO3-B	JT
Anions by Ion Chromatography - Westborough Lab										
Chloride	42.4		mg/l	0.500	--	1	-	09/12/18 01:18	44,300.0	JR
Nitrogen, Nitrate	0.787		mg/l	0.050	--	1	-	09/12/18 01:18	44,300.0	JR
Sulfate	5.66		mg/l	1.00	--	1	-	09/12/18 01:18	44,300.0	JR



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-03
Client ID: SGPP-MH-5
Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 19:20
Date Received: 09/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	10.7		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Alkalinity, Bicarbonate	10.7		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Solids, Total Suspended	ND		mg/l	20	NA	4	-	09/15/18 10:55	121,2540D	JT
Nitrogen, Ammonia	1.13		mg/l	0.075	--	1	09/12/18 14:40	09/17/18 22:32	44,350.1	AT
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	09/11/18 22:37	121,4500NO3-F	MR
Sulfite	ND		mg/l	0.50	--	1	-	09/12/18 13:30	121,4500SO3-B	JT
Anions by Ion Chromatography - Westborough Lab										
Chloride	14.1		mg/l	0.500	--	1	-	09/12/18 01:30	44,300.0	JR
Nitrogen, Nitrate	0.501		mg/l	0.050	--	1	-	09/12/18 01:30	44,300.0	JR
Sulfate	6.96		mg/l	1.00	--	1	-	09/12/18 01:30	44,300.0	JR



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-04
Client ID: SGPP-RD-MB-NW
Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 17:37
Date Received: 09/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	9.20		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Alkalinity, Bicarbonate	9.20		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	09/12/18 12:10	121,2540D	DR
Nitrogen, Ammonia	1.64		mg/l	0.075	--	1	09/12/18 14:40	09/17/18 22:33	44,350.1	AT
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	09/11/18 22:38	121,4500NO3-F	MR
Sulfite	0.50		mg/l	0.50	--	1	-	09/12/18 13:30	121,4500SO3-B	JT
Anions by Ion Chromatography - Westborough Lab										
Chloride	15.6		mg/l	0.500	--	1	-	09/12/18 02:06	44,300.0	JR
Nitrogen, Nitrate	1.16		mg/l	0.050	--	1	-	09/12/18 02:06	44,300.0	JR
Sulfate	21.6		mg/l	1.00	--	1	-	09/12/18 02:06	44,300.0	JR



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-05
Client ID: SGPP-RD-MB-NE
Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 17:42
Date Received: 09/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	7.30		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Alkalinity, Bicarbonate	7.30		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	09/12/18 12:10	121,2540D	DR
Nitrogen, Ammonia	2.05		mg/l	0.075	--	1	09/12/18 14:40	09/17/18 22:34	44,350.1	AT
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	09/11/18 22:39	121,4500NO3-F	MR
Sulfite	0.80		mg/l	0.50	--	1	-	09/12/18 13:30	121,4500SO3-B	JT
Anions by Ion Chromatography - Westborough Lab										
Chloride	15.4		mg/l	0.500	--	1	-	09/12/18 02:42	44,300.0	JR
Nitrogen, Nitrate	1.11		mg/l	0.050	--	1	-	09/12/18 02:42	44,300.0	JR
Sulfate	20.3		mg/l	1.00	--	1	-	09/12/18 02:42	44,300.0	JR



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-06
Client ID: SGPP-RD-MB-SW
Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 17:25
Date Received: 09/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	8.00		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Alkalinity, Bicarbonate	8.00		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Solids, Total Suspended	36.		mg/l	5.0	NA	1	-	09/12/18 12:10	121,2540D	DR
Nitrogen, Ammonia	0.636		mg/l	0.075	--	1	09/12/18 14:40	09/17/18 22:38	44,350.1	AT
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	09/11/18 22:40	121,4500NO3-F	MR
Sulfite	ND		mg/l	0.50	--	1	-	09/12/18 13:30	121,4500SO3-B	JT
Anions by Ion Chromatography - Westborough Lab										
Chloride	19.2		mg/l	0.500	--	1	-	09/12/18 02:54	44,300.0	JR
Nitrogen, Nitrate	1.48		mg/l	0.050	--	1	-	09/12/18 02:54	44,300.0	JR
Sulfate	33.0		mg/l	1.00	--	1	-	09/12/18 02:54	44,300.0	JR



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-07
Client ID: SGPP-RD-MB-SE
Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 17:58
Date Received: 09/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	3.70		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Alkalinity, Bicarbonate	3.70		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	09/12/18 12:10	121,2540D	DR
Nitrogen, Ammonia	0.621		mg/l	0.075	--	1	09/12/18 14:40	09/17/18 22:39	44,350.1	AT
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	09/11/18 22:46	121,4500NO3-F	MR
Sulfite	0.58		mg/l	0.50	--	1	-	09/12/18 13:30	121,4500SO3-B	JT
Anions by Ion Chromatography - Westborough Lab										
Chloride	13.7		mg/l	0.500	--	1	-	09/12/18 03:06	44,300.0	JR
Nitrogen, Nitrate	0.623		mg/l	0.050	--	1	-	09/12/18 03:06	44,300.0	JR
Sulfate	11.8		mg/l	1.00	--	1	-	09/12/18 03:06	44,300.0	JR



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-08
Client ID: SGPP-RD-NMB
Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 15:18
Date Received: 09/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	3.00		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Alkalinity, Bicarbonate	3.00		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Solids, Total Suspended	26.		mg/l	5.0	NA	1	-	09/12/18 12:10	121,2540D	DR
Nitrogen, Ammonia	2.24		mg/l	0.075	--	1	09/12/18 14:40	09/17/18 22:40	44,350.1	AT
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	09/11/18 22:47	121,4500NO3-F	MR
Sulfite	ND		mg/l	0.50	--	1	-	09/12/18 13:30	121,4500SO3-B	JT
Anions by Ion Chromatography - Westborough Lab										
Chloride	28.5		mg/l	0.500	--	1	-	09/12/18 03:18	44,300.0	JR
Nitrogen, Nitrate	1.61		mg/l	0.050	--	1	-	09/12/18 03:18	44,300.0	JR
Sulfate	6.43		mg/l	1.00	--	1	-	09/12/18 03:18	44,300.0	JR



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-09
Client ID: SGPP-DI-34
Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 18:20
Date Received: 09/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	7.30		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Alkalinity, Bicarbonate	7.30		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Solids, Total Suspended	14.		mg/l	5.0	NA	1	-	09/12/18 12:10	121,2540D	DR
Nitrogen, Ammonia	0.301		mg/l	0.075	--	1	09/12/18 14:40	09/17/18 22:41	44,350.1	AT
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	09/11/18 22:48	121,4500NO3-F	MR
Sulfite	ND		mg/l	0.50	--	1	-	09/12/18 13:30	121,4500SO3-B	JT
Anions by Ion Chromatography - Westborough Lab										
Chloride	8.60		mg/l	0.500	--	1	-	09/12/18 03:30	44,300.0	JR
Nitrogen, Nitrate	0.130		mg/l	0.050	--	1	-	09/12/18 03:30	44,300.0	JR
Sulfate	3.85		mg/l	1.00	--	1	-	09/12/18 03:30	44,300.0	JR



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-10
Client ID: EB-1
Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 21:10
Date Received: 09/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	2.00		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Alkalinity, Bicarbonate	2.00		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	09/12/18 12:10	121,2540D	DR
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	09/12/18 14:40	09/17/18 22:44	44,350.1	AT
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	09/11/18 22:49	121,4500NO3-F	MR
Sulfite	ND		mg/l	0.50	--	1	-	09/12/18 13:30	121,4500SO3-B	JT
Anions by Ion Chromatography - Westborough Lab										
Chloride	ND		mg/l	0.500	--	1	-	09/12/18 03:42	44,300.0	JR
Nitrogen, Nitrate	ND		mg/l	0.050	--	1	-	09/12/18 03:42	44,300.0	JR
Sulfate	ND		mg/l	1.00	--	1	-	09/12/18 03:42	44,300.0	JR



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-11
Client ID: SGPP-MH-23
Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 19:12
Date Received: 09/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	10.2		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Alkalinity, Bicarbonate	10.2		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Solids, Total Suspended	ND		mg/l	20	NA	4	-	09/15/18 10:55	121,2540D	JT
Nitrogen, Ammonia	0.288		mg/l	0.075	--	1	09/12/18 14:40	09/17/18 22:45	44,350.1	AT
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	09/11/18 22:51	121,4500NO3-F	MR
Sulfite	ND		mg/l	0.50	--	1	-	09/12/18 13:30	121,4500SO3-B	JT
Anions by Ion Chromatography - Westborough Lab										
Chloride	10.3		mg/l	0.500	--	1	-	09/12/18 03:54	44,300.0	JR
Nitrogen, Nitrate	0.560		mg/l	0.050	--	1	-	09/12/18 03:54	44,300.0	JR
Sulfate	7.58		mg/l	1.00	--	1	-	09/12/18 03:54	44,300.0	JR



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-12
Client ID: SGGP-OUTFALL-001
Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 17:05
Date Received: 09/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	29.7		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Alkalinity, Bicarbonate	29.7		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	09/12/18 11:45	121,2540D	DR
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	09/12/18 14:40	09/17/18 22:46	44,350.1	AT
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	09/11/18 22:53	121,4500NO3-F	MR
Sulfite	ND		mg/l	0.50	--	1	-	09/12/18 13:30	121,4500SO3-B	JT
Anions by Ion Chromatography - Westborough Lab										
Chloride	332.		mg/l	5.00	--	10	-	09/12/18 06:54	44,300.0	JR
Nitrogen, Nitrate	1.04		mg/l	0.050	--	1	-	09/12/18 04:06	44,300.0	JR
Sulfate	15.7		mg/l	1.00	--	1	-	09/12/18 04:06	44,300.0	JR



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-13
Client ID: SW-MERR-101W-NS
Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 18:05
Date Received: 09/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	14.8		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Alkalinity, Bicarbonate	14.8		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	09/12/18 11:45	121,2540D	DR
Nitrogen, Ammonia	0.110		mg/l	0.075	--	1	09/12/18 14:40	09/17/18 22:47	44,350.1	AT
Nitrogen, Nitrite	0.075		mg/l	0.050	--	1	-	09/11/18 22:56	121,4500NO3-F	MR
Sulfite	ND		mg/l	0.50	--	1	-	09/12/18 13:30	121,4500SO3-B	JT
Anions by Ion Chromatography - Westborough Lab										
Chloride	37.4		mg/l	0.500	--	1	-	09/12/18 04:18	44,300.0	JR
Nitrogen, Nitrate	0.348		mg/l	0.050	--	1	-	09/12/18 04:18	44,300.0	JR
Sulfate	5.17		mg/l	1.00	--	1	-	09/12/18 04:18	44,300.0	JR



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-14
Client ID: SW-MERR-201W-NS
Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 17:15
Date Received: 09/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	15.2		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Alkalinity, Bicarbonate	15.2		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	09/12/18 11:45	121,2540D	DR
Nitrogen, Ammonia	0.094		mg/l	0.075	--	1	09/12/18 14:40	09/17/18 22:50	44,350.1	AT
Nitrogen, Nitrite	0.057		mg/l	0.050	--	1	-	09/11/18 23:02	121,4500NO3-F	MR
Sulfite	ND		mg/l	0.50	--	1	-	09/12/18 13:30	121,4500SO3-B	JT
Anions by Ion Chromatography - Westborough Lab										
Chloride	58.7		mg/l	2.50	--	5	-	09/12/18 07:06	44,300.0	JR
Nitrogen, Nitrate	0.381		mg/l	0.050	--	1	-	09/12/18 05:18	44,300.0	JR
Sulfate	5.88		mg/l	1.00	--	1	-	09/12/18 05:18	44,300.0	JR



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-15
Client ID: SW-MERR-201W-IC
Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 17:30
Date Received: 09/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	13.4		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Alkalinity, Bicarbonate	13.4		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	09/12/18 11:45	121,2540D	DR
Nitrogen, Ammonia	0.105		mg/l	0.075	--	1	09/12/18 14:40	09/17/18 22:51	44,350.1	AT
Nitrogen, Nitrite	0.068		mg/l	0.050	--	1	-	09/11/18 23:04	121,4500NO3-F	MR
Sulfite	ND		mg/l	0.50	--	1	-	09/12/18 13:30	121,4500SO3-B	JT
Anions by Ion Chromatography - Westborough Lab										
Chloride	37.1		mg/l	0.500	--	1	-	09/12/18 05:30	44,300.0	JR
Nitrogen, Nitrate	0.334		mg/l	0.050	--	1	-	09/12/18 05:30	44,300.0	JR
Sulfate	5.18		mg/l	1.00	--	1	-	09/12/18 05:30	44,300.0	JR



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-16
Client ID: SW-MERR-202W-NS
Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 18:40
Date Received: 09/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	16.9		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Alkalinity, Bicarbonate	16.9		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	09/12/18 11:45	121,2540D	DR
Nitrogen, Ammonia	0.079		mg/l	0.075	--	1	09/12/18 14:40	09/17/18 22:52	44,350.1	AT
Nitrogen, Nitrite	0.089		mg/l	0.050	--	1	-	09/11/18 23:05	121,4500NO3-F	MR
Sulfite	ND		mg/l	0.50	--	1	-	09/12/18 13:30	121,4500SO3-B	JT
Anions by Ion Chromatography - Westborough Lab										
Chloride	38.4		mg/l	0.500	--	1	-	09/12/18 05:42	44,300.0	JR
Nitrogen, Nitrate	0.367		mg/l	0.050	--	1	-	09/12/18 05:42	44,300.0	JR
Sulfate	5.39		mg/l	1.00	--	1	-	09/12/18 05:42	44,300.0	JR



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-17
Client ID: SW-MERR-202W-IC
Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 18:50
Date Received: 09/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	16.5		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Alkalinity, Bicarbonate	16.5		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	09/12/18 11:45	121,2540D	DR
Nitrogen, Ammonia	0.128		mg/l	0.075	--	1	09/12/18 14:40	09/17/18 22:53	44,350.1	AT
Nitrogen, Nitrite	0.094		mg/l	0.050	--	1	-	09/11/18 23:06	121,4500NO3-F	MR
Sulfite	ND		mg/l	0.50	--	1	-	09/12/18 13:30	121,4500SO3-B	JT
Anions by Ion Chromatography - Westborough Lab										
Chloride	38.8		mg/l	0.500	--	1	-	09/12/18 05:54	44,300.0	JR
Nitrogen, Nitrate	0.366		mg/l	0.050	--	1	-	09/12/18 05:54	44,300.0	JR
Sulfate	5.41		mg/l	1.00	--	1	-	09/12/18 05:54	44,300.0	JR



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-18
Client ID: SGPP-OUTFALL-001
Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 19:15
Date Received: 09/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	17.0		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Alkalinity, Bicarbonate	17.0		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	09/12/18 11:45	121,2540D	DR
Nitrogen, Ammonia	0.632		mg/l	0.075	--	1	09/12/18 14:40	09/17/18 22:54	44,350.1	AT
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	09/11/18 23:08	121,4500NO3-F	MR
Sulfite	ND		mg/l	0.50	--	1	-	09/12/18 13:30	121,4500SO3-B	JT
Anions by Ion Chromatography - Westborough Lab										
Chloride	91.5		mg/l	2.50	--	5	-	09/12/18 07:18	44,300.0	JR
Nitrogen, Nitrate	0.994		mg/l	0.050	--	1	-	09/12/18 06:06	44,300.0	JR
Sulfate	10.3		mg/l	1.00	--	1	-	09/12/18 06:06	44,300.0	JR



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

SAMPLE RESULTS

Lab ID: L1835977-19
Client ID: DUP-1
Sample Location: MERRIMACK, NH

Date Collected: 09/10/18 19:15
Date Received: 09/11/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Alkalinity, Total	16.5		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Alkalinity, Bicarbonate	16.5		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	09/12/18 11:45	121,2540D	DR
Nitrogen, Ammonia	0.637		mg/l	0.075	--	1	09/12/18 14:40	09/17/18 22:55	44,350.1	AT
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	09/11/18 23:09	121,4500NO3-F	MR
Sulfite	ND		mg/l	0.50	--	1	-	09/12/18 13:30	121,4500SO3-B	JT
Anions by Ion Chromatography - Westborough Lab										
Chloride	85.0		mg/l	2.50	--	5	-	09/12/18 08:06	44,300.0	JR
Nitrogen, Nitrate	0.960		mg/l	0.050	--	1	-	09/12/18 06:18	44,300.0	JR
Sulfate	10.0		mg/l	1.00	--	1	-	09/12/18 06:18	44,300.0	JR



Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-02,04-10 Batch: WG1155937-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	09/12/18 12:10	121,2540D	DR
General Chemistry - Westborough Lab for sample(s): 12-19 Batch: WG1155939-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	09/12/18 11:45	121,2540D	DR
General Chemistry - Westborough Lab for sample(s): 11-19 Batch: WG1155960-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	09/12/18 14:40	09/17/18 22:27	44,350.1	AT
General Chemistry - Westborough Lab for sample(s): 01-10 Batch: WG1156058-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	09/12/18 14:40	09/17/18 22:26	44,350.1	AT
General Chemistry - Westborough Lab for sample(s): 01-19 Batch: WG1156091-1										
Alkalinity, Bicarbonate	ND		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
General Chemistry - Westborough Lab for sample(s): 01-19 Batch: WG1156093-1										
Alkalinity, Total	ND		mg CaCO3/L	2.00	NA	1	-	09/12/18 09:41	121,2320B	BR
General Chemistry - Westborough Lab for sample(s): 01-19 Batch: WG1156185-1										
Nitrogen, Nitrite	ND		mg/l	0.050	--	1	-	09/11/18 22:31	121,4500NO3-F	MR
Anions by Ion Chromatography - Westborough Lab for sample(s): 01-08,10-11 Batch: WG1156256-5										
Chloride	ND		mg/l	0.500	--	1	-	09/12/18 00:42	44,300.0	JR
Nitrogen, Nitrate	ND		mg/l	0.050	--	1	-	09/12/18 00:42	44,300.0	JR
Sulfate	ND		mg/l	1.00	--	1	-	09/12/18 00:42	44,300.0	JR
Anions by Ion Chromatography - Westborough Lab for sample(s): 09,12-19 Batch: WG1156257-9										
Chloride	ND		mg/l	0.500	--	1	-	09/12/18 00:42	44,300.0	JR
Nitrogen, Nitrate	ND		mg/l	0.050	--	1	-	09/12/18 00:42	44,300.0	JR
Sulfate	ND		mg/l	1.00	--	1	-	09/12/18 00:42	44,300.0	JR
General Chemistry - Westborough Lab for sample(s): 01-19 Batch: WG1156540-1										
Sulfite	ND		mg/l	0.50	--	1	-	09/12/18 13:30	121,4500SO3-B	JT
General Chemistry - Westborough Lab for sample(s): 03,11 Batch: WG1157237-1										
Solids, Total Suspended	ND		mg/l	5.0	NA	1	-	09/15/18 10:55	121,2540D	JT

Lab Control Sample Analysis

Batch Quality Control

Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 11-19 Batch: WG1155960-2								
Nitrogen, Ammonia	100		-		90-110	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-10 Batch: WG1156058-2								
Nitrogen, Ammonia	98		-		90-110	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-19 Batch: WG1156093-2								
Alkalinity, Total	107		-		90-110	-		10
General Chemistry - Westborough Lab Associated sample(s): 01-19 Batch: WG1156185-2								
Nitrogen, Nitrite	100		-		90-110	-		
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-08,10-11 Batch: WG1156256-6								
Chloride	105		-		90-110	-		
Nitrogen, Nitrate	103		-		90-110	-		
Sulfate	103		-		90-110	-		
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 09,12-19 Batch: WG1156257-10								
Chloride	105		-		90-110	-		
Nitrogen, Nitrate	103		-		90-110	-		
Sulfate	103		-		90-110	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-19 Batch: WG1156540-2					
Sulfite	100	-	60-140	-	

Matrix Spike Analysis **Batch Quality Control**

Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 11-19 QC Batch ID: WG1155960-4 QC Sample: L1835977-19 Client ID: DUP-1												
Nitrogen, Ammonia	0.637	4	4.58	98		-	-		90-110	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-10 QC Batch ID: WG1156058-4 QC Sample: L1835977-09 Client ID: SGPP-DI-34												
Nitrogen, Ammonia	0.301	4	7.32	175	Q	-	-		90-110	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-19 QC Batch ID: WG1156093-4 QC Sample: L1835977-02 Client ID: SGPP-MH-5												
Alkalinity, Total	17.8	100	128	110		-	-		86-116	-		10
General Chemistry - Westborough Lab Associated sample(s): 01-19 QC Batch ID: WG1156185-4 QC Sample: L1835977-13 Client ID: SW-MERR-101W-NS												
Nitrogen, Nitrite	0.075	4	4.10	101		-	-		80-120	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-08,10-11 QC Batch ID: WG1156256-7 QC Sample: L1835977-04 Client ID: SGPP-RD-MB-NW												
Chloride	15.6	4	19.2	90		-	-		90-110	-		18
Nitrogen, Nitrate	1.16	0.4	1.53	93		-	-		90-110	-		15
Sulfate	21.6	8	29.2	95		-	-		90-110	-		20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 09,12-19 QC Batch ID: WG1156257-11 QC Sample: L1835977-09 Client ID: SGPP-DI-34												
Chloride	8.60	4	12.1	88	Q	-	-		90-110	-		18
Nitrogen, Nitrate	0.130	0.4	0.481	88	Q	-	-		90-110	-		15
Sulfate	3.85	8	11.4	94		-	-		90-110	-		20

Lab Duplicate Analysis *Batch Quality Control*

Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02,04-10 QC Batch ID: WG1155937-2 QC Sample: L1800009-53 Client ID: DUP Sample						
Solids, Total Suspended	5100	5100	mg/l	0		29
General Chemistry - Westborough Lab Associated sample(s): 12-19 QC Batch ID: WG1155939-2 QC Sample: L1835908-05 Client ID: DUP Sample						
Solids, Total Suspended	330	360	mg/l	9		29
General Chemistry - Westborough Lab Associated sample(s): 11-19 QC Batch ID: WG1155960-3 QC Sample: L1835977-19 Client ID: DUP-1						
Nitrogen, Ammonia	0.637	0.650	mg/l	2		20
General Chemistry - Westborough Lab Associated sample(s): 01-10 QC Batch ID: WG1156058-3 QC Sample: L1835977-09 Client ID: SGPP-DI-34						
Nitrogen, Ammonia	0.301	0.334	mg/l	10		20
General Chemistry - Westborough Lab Associated sample(s): 01-19 QC Batch ID: WG1156091-2 QC Sample: L1835977-01 Client ID: SGPP-MH-23						
Alkalinity, Bicarbonate	26.1	24.8	mg CaCO3/L	5		9
General Chemistry - Westborough Lab Associated sample(s): 01-19 QC Batch ID: WG1156093-3 QC Sample: L1835977-01 Client ID: SGPP-MH-23						
Alkalinity, Total	26.1	24.8	mg CaCO3/L	5		10
General Chemistry - Westborough Lab Associated sample(s): 01-19 QC Batch ID: WG1156185-3 QC Sample: L1835977-11 Client ID: SGPP-MH-23						
Nitrogen, Nitrite	ND	ND	mg/l	NC		20

Lab Duplicate Analysis *Batch Quality Control*

Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 01-08,10-11 QC Batch ID: WG1156256-8 QC Sample: L1835977-04 Client ID: SGPP-RD-MB-NW					
Chloride	15.6	15.6	mg/l	0	18
Nitrogen, Nitrate	1.16	1.17	mg/l	1	15
Sulfate	21.6	21.8	mg/l	1	20
Anions by Ion Chromatography - Westborough Lab Associated sample(s): 09,12-19 QC Batch ID: WG1156257-12 QC Sample: L1835977-09 Client ID: SGPP-DI-34					
Chloride	8.60	8.59	mg/l	0	18
Nitrogen, Nitrate	0.130	0.124	mg/l	5	15
Sulfate	3.85	3.80	mg/l	1	20
General Chemistry - Westborough Lab Associated sample(s): 01-19 QC Batch ID: WG1156540-3 QC Sample: L1835977-08 Client ID: SGPP-RD-NMB					
Sulfite	ND	ND	mg/l	NC	20
General Chemistry - Westborough Lab Associated sample(s): 03,11 QC Batch ID: WG1157237-2 QC Sample: L1836369-01 Client ID: DUP Sample					
Solids, Total Suspended	57	60	mg/l	5	29

Project Name: SGPP
Project Number: 166-8623

Serial_No:09201816:22
Lab Number: L1835977
Report Date: 09/20/18

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent
D	Absent
E	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1835977-01A	Plastic 60ml unpreserved	A	7	7	4.2	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2)
L1835977-01B	Plastic 250ml HNO3 preserved	A	<2	<2	4.2	Y	Absent		FE-TI(180),MG-TI(180),MN-TI(180),CA-TI(180),K-TI(180),NA-TI(180)
L1835977-01C	Plastic 250ml unpreserved/No Headspace	A	NA		4.2	Y	Absent		ALK-T-2320(14),ALK-HCO3-2320(14)
L1835977-01D	Other container unpreserved	A	NA		4.2	Y	Absent		SO3-4500(1)
L1835977-01E	Plastic 500ml H2SO4 preserved	A	<2	<2	4.2	Y	Absent		NH3-350(28)
L1835977-01F	Plastic 950ml unpreserved	A	7	7	4.2	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2),TSS-2540(7)
L1835977-02A	Plastic 60ml unpreserved	A	7	7	4.2	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2)
L1835977-02B	Plastic 250ml HNO3 preserved	A	<2	<2	4.2	Y	Absent		FE-TI(180),MG-TI(180),MN-TI(180),CA-TI(180),K-TI(180),NA-TI(180)
L1835977-02C	Plastic 250ml unpreserved/No Headspace	A	NA		4.2	Y	Absent		ALK-T-2320(14),ALK-HCO3-2320(14)
L1835977-02D	Other container unpreserved	A	NA		4.2	Y	Absent		SO3-4500(1)
L1835977-02E	Plastic 500ml H2SO4 preserved	A	<2	<2	4.2	Y	Absent		NH3-350(28)
L1835977-02F	Plastic 950ml unpreserved	A	7	7	4.2	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2),TSS-2540(7)
L1835977-03A	Plastic 60ml unpreserved	B	7	7	4.0	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2),TSS-2540(7)
L1835977-03B	Plastic 250ml HNO3 preserved	B	<2	<2	4.0	Y	Absent		FE-TI(180),MG-TI(180),MN-TI(180),CA-TI(180),K-TI(180),NA-TI(180)
L1835977-03C	Plastic 250ml unpreserved/No Headspace	B	NA		4.0	Y	Absent		ALK-T-2320(14),ALK-HCO3-2320(14),NO3-300(2),TSS-2540(7)
L1835977-03D	Other container unpreserved	B	NA		4.0	Y	Absent		SO3-4500(1)

Project Name: SGPP
Project Number: 166-8623

Serial_No: 09201816:22
Lab Number: L1835977
Report Date: 09/20/18

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1835977-03E	Plastic 500ml H2SO4 preserved	B	<2	<2	4.0	Y	Absent		NH3-350(28)
L1835977-03F	Plastic 250ml unpreserved	NA	NA			Y	Absent		SO4-300(28),CL-300(28),NO2-4500NO3(2)
L1835977-04A	Plastic 60ml unpreserved	B	7	7	4.0	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2)
L1835977-04B	Plastic 250ml HNO3 preserved	B	<2	<2	4.0	Y	Absent		FE-TI(180),MG-TI(180),MN-TI(180),CA-TI(180),K-TI(180),NA-TI(180)
L1835977-04C	Plastic 250ml unpreserved/No Headspace	B	NA		4.0	Y	Absent		ALK-T-2320(14),ALK-HCO3-2320(14)
L1835977-04D	Other container unpreserved	B	NA		4.0	Y	Absent		SO3-4500(1)
L1835977-04E	Plastic 500ml H2SO4 preserved	B	<2	<2	4.0	Y	Absent		NH3-350(28)
L1835977-04F	Plastic 950ml unpreserved	B	7	7	4.0	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2),TSS-2540(7)
L1835977-05A	Plastic 60ml unpreserved	B	7	7	4.0	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2)
L1835977-05B	Plastic 250ml HNO3 preserved	B	<2	<2	4.0	Y	Absent		FE-TI(180),MG-TI(180),MN-TI(180),CA-TI(180),K-TI(180),NA-TI(180)
L1835977-05C	Plastic 250ml unpreserved/No Headspace	B	NA		4.0	Y	Absent		ALK-T-2320(14),ALK-HCO3-2320(14)
L1835977-05D	Other container unpreserved	B	NA		4.0	Y	Absent		SO3-4500(1)
L1835977-05E	Plastic 500ml H2SO4 preserved	B	<2	<2	4.0	Y	Absent		NH3-350(28)
L1835977-05F	Plastic 950ml unpreserved	B	7	7	4.0	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2),TSS-2540(7)
L1835977-06A	Plastic 60ml unpreserved	B	7	7	4.0	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2)
L1835977-06B	Plastic 250ml HNO3 preserved	B	<2	<2	4.0	Y	Absent		FE-TI(180),MG-TI(180),MN-TI(180),CA-TI(180),K-TI(180),NA-TI(180)
L1835977-06C	Plastic 250ml unpreserved/No Headspace	B	NA		4.0	Y	Absent		ALK-T-2320(14),ALK-HCO3-2320(14)
L1835977-06D	Other container unpreserved	B	NA		4.0	Y	Absent		SO3-4500(1)
L1835977-06E	Plastic 500ml H2SO4 preserved	B	<2	<2	4.0	Y	Absent		NH3-350(28)
L1835977-06F	Plastic 950ml unpreserved	B	7	7	4.0	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2),TSS-2540(7)
L1835977-07A	Plastic 60ml unpreserved	E	7	7	4.0	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2)
L1835977-07B	Plastic 250ml HNO3 preserved	E	<2	<2	4.0	Y	Absent		FE-TI(180),MG-TI(180),MN-TI(180),CA-TI(180),K-TI(180),NA-TI(180)
L1835977-07C	Plastic 250ml unpreserved/No Headspace	E	NA		4.0	Y	Absent		ALK-T-2320(14),ALK-HCO3-2320(14)
L1835977-07D	Other container unpreserved	E	NA		4.0	Y	Absent		SO3-4500(1)
L1835977-07E	Plastic 500ml H2SO4 preserved	E	<2	<2	4.0	Y	Absent		NH3-350(28)

*Values in parentheses indicate holding time in days

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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1835977-07F	Plastic 950ml unpreserved	E	7	7	4.0	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2),TSS-2540(7)
L1835977-08A	Plastic 60ml unpreserved	E	7	7	4.0	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2)
L1835977-08B	Plastic 250ml HNO3 preserved	E	<2	<2	4.0	Y	Absent		FE-Ti(180),MG-Ti(180),MN-Ti(180),CA-Ti(180),K-Ti(180),NA-Ti(180)
L1835977-08C	Plastic 250ml unpreserved/No Headspace	E	NA		4.0	Y	Absent		ALK-T-2320(14),ALK-HCO3-2320(14)
L1835977-08D	Other container unpreserved	E	NA		4.0	Y	Absent		SO3-4500(1)
L1835977-08E	Plastic 500ml H2SO4 preserved	E	<2	<2	4.0	Y	Absent		NH3-350(28)
L1835977-08F	Plastic 950ml unpreserved	E	7	7	4.0	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2),TSS-2540(7)
L1835977-09A	Plastic 60ml unpreserved	E	7	7	4.0	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2)
L1835977-09B	Plastic 250ml HNO3 preserved	E	<2	<2	4.0	Y	Absent		FE-Ti(180),MG-Ti(180),MN-Ti(180),CA-Ti(180),K-Ti(180),NA-Ti(180)
L1835977-09B1	Plastic 500ml HNO3 preserved	D	<2	<2	3.9	Y	Absent		FE-Ti(180),MG-Ti(180),MN-Ti(180),CA-Ti(180),K-Ti(180),NA-Ti(180)
L1835977-09C	Plastic 250ml unpreserved/No Headspace	E	NA		4.0	Y	Absent		ALK-T-2320(14),ALK-HCO3-2320(14)
L1835977-09D	Other container unpreserved	E	NA		4.0	Y	Absent		SO3-4500(1)
L1835977-09E	Plastic 500ml H2SO4 preserved	E	<2	<2	4.0	Y	Absent		NH3-350(28)
L1835977-09F	Plastic 950ml unpreserved	E	7	7	4.0	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2),TSS-2540(7)
L1835977-10A	Plastic 60ml unpreserved	C	7	7	3.8	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2)
L1835977-10B	Plastic 250ml HNO3 preserved	C	<2	<2	3.8	Y	Absent		FE-Ti(180),MG-Ti(180),MN-Ti(180),CA-Ti(180),K-Ti(180),NA-Ti(180)
L1835977-10C	Plastic 250ml unpreserved/No Headspace	C	NA		3.8	Y	Absent		ALK-T-2320(14),ALK-HCO3-2320(14)
L1835977-10D	Other container unpreserved	C	NA		3.8	Y	Absent		SO3-4500(1)
L1835977-10E	Plastic 500ml H2SO4 preserved	C	<2	<2	3.8	Y	Absent		NH3-350(28)
L1835977-10F	Plastic 950ml unpreserved	C	7	7	3.8	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2),TSS-2540(7)
L1835977-11A	Plastic 60ml unpreserved	C	7	7	3.8	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2),TSS-2540(7)
L1835977-11B	Plastic 250ml HNO3 preserved	C	<2	<2	3.8	Y	Absent		FE-Ti(180),MG-Ti(180),MN-Ti(180),CA-Ti(180),K-Ti(180),NA-Ti(180)
L1835977-11C	Plastic 250ml unpreserved/No Headspace	C	NA		3.8	Y	Absent		ALK-T-2320(14),ALK-HCO3-2320(14),NO3-300(2),TSS-2540(7)
L1835977-11D	Other container unpreserved	C	NA		3.8	Y	Absent		SO3-4500(1)

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Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1835977-11E	Plastic 500ml H2SO4 preserved	C	<2	<2	3.8	Y	Absent		NH3-350(28)
L1835977-11F	Plastic 250ml unpreserved	NA	NA			Y	Absent		SO4-300(28),CL-300(28),NO2-4500NO3(2)
L1835977-12A	Plastic 60ml unpreserved	C	7	7	3.8	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2)
L1835977-12B	Plastic 250ml HNO3 preserved	C	<2	<2	3.8	Y	Absent		FE-Ti(180),MG-Ti(180),MN-Ti(180),CA-Ti(180),K-Ti(180),NA-Ti(180)
L1835977-12B1	Plastic 500ml HNO3 preserved	D	<2	<2	3.9	Y	Absent		FE-Ti(180),MG-Ti(180),MN-Ti(180),CA-Ti(180),K-Ti(180),NA-Ti(180)
L1835977-12C	Plastic 250ml unpreserved/No Headspace	C	NA		3.8	Y	Absent		ALK-T-2320(14),ALK-HCO3-2320(14)
L1835977-12D	Other container unpreserved	C	NA		3.8	Y	Absent		SO3-4500(1)
L1835977-12E	Plastic 500ml H2SO4 preserved	C	<2	<2	3.8	Y	Absent		NH3-350(28)
L1835977-12F	Plastic 950ml unpreserved	C	7	7	3.8	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2),TSS-2540(7)
L1835977-13A	Plastic 60ml unpreserved	C	7	7	3.8	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2)
L1835977-13B	Plastic 250ml HNO3 preserved	C	<2	<2	3.8	Y	Absent		FE-Ti(180),MG-Ti(180),MN-Ti(180),CA-Ti(180),K-Ti(180),NA-Ti(180)
L1835977-13C	Plastic 250ml unpreserved/No Headspace	C	NA		3.8	Y	Absent		ALK-T-2320(14),ALK-HCO3-2320(14)
L1835977-13D	Other container unpreserved	C	NA		3.8	Y	Absent		SO3-4500(1)
L1835977-13E	Plastic 500ml H2SO4 preserved	C	<2	<2	3.8	Y	Absent		NH3-350(28)
L1835977-13F	Plastic 950ml unpreserved	C	7	7	3.8	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2),TSS-2540(7)
L1835977-14A	Plastic 60ml unpreserved	C	7	7	3.8	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2)
L1835977-14B	Plastic 250ml HNO3 preserved	C	<2	<2	3.8	Y	Absent		FE-Ti(180),MG-Ti(180),MN-Ti(180),CA-Ti(180),K-Ti(180),NA-Ti(180)
L1835977-14C	Plastic 250ml unpreserved/No Headspace	C	NA		3.8	Y	Absent		ALK-T-2320(14),ALK-HCO3-2320(14)
L1835977-14D	Other container unpreserved	C	NA		3.8	Y	Absent		SO3-4500(1)
L1835977-14E	Plastic 500ml H2SO4 preserved	C	<2	<2	3.8	Y	Absent		NH3-350(28)
L1835977-14F	Plastic 950ml unpreserved	C	7	7	3.8	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2),TSS-2540(7)
L1835977-15A	Plastic 60ml unpreserved	C	7	7	3.8	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2)
L1835977-15B	Plastic 250ml HNO3 preserved	C	<2	<2	3.8	Y	Absent		FE-Ti(180),MG-Ti(180),MN-Ti(180),CA-Ti(180),K-Ti(180),NA-Ti(180)
L1835977-15C	Plastic 250ml unpreserved/No Headspace	C	NA		3.8	Y	Absent		ALK-T-2320(14),ALK-HCO3-2320(14)

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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1835977-15D	Other container unpreserved	C	NA		3.8	Y	Absent		SO3-4500(1)
L1835977-15E	Plastic 500ml H2SO4 preserved	C	<2	<2	3.8	Y	Absent		NH3-350(28)
L1835977-15F	Plastic 950ml unpreserved	C	7	7	3.8	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2),TSS-2540(7)
L1835977-16A	Plastic 60ml unpreserved	D	7	7	3.9	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2)
L1835977-16B	Plastic 250ml HNO3 preserved	D	<2	<2	3.9	Y	Absent		FE-Ti(180),MG-Ti(180),MN-Ti(180),CA-Ti(180),K-Ti(180),NA-Ti(180)
L1835977-16B1	Plastic 500ml HNO3 preserved	D	<2	<2	3.9	Y	Absent		FE-Ti(180),MG-Ti(180),MN-Ti(180),CA-Ti(180),K-Ti(180),NA-Ti(180)
L1835977-16C	Plastic 250ml unpreserved/No Headspace	D	NA		3.9	Y	Absent		ALK-T-2320(14),ALK-HCO3-2320(14)
L1835977-16D	Other container unpreserved	D	NA		3.9	Y	Absent		SO3-4500(1)
L1835977-16E	Plastic 500ml H2SO4 preserved	D	<2	<2	3.9	Y	Absent		NH3-350(28)
L1835977-16F	Plastic 950ml unpreserved	D	7	7	3.9	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2),TSS-2540(7)
L1835977-17A	Plastic 60ml unpreserved	D	7	7	3.9	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2)
L1835977-17B	Plastic 250ml HNO3 preserved	D	<2	<2	3.9	Y	Absent		FE-Ti(180),MG-Ti(180),MN-Ti(180),CA-Ti(180),K-Ti(180),NA-Ti(180)
L1835977-17C	Plastic 250ml unpreserved/No Headspace	D	NA		3.9	Y	Absent		ALK-T-2320(14),ALK-HCO3-2320(14)
L1835977-17D	Other container unpreserved	D	NA		3.9	Y	Absent		SO3-4500(1)
L1835977-17E	Plastic 500ml H2SO4 preserved	D	<2	<2	3.9	Y	Absent		NH3-350(28)
L1835977-17F	Plastic 950ml unpreserved	D	7	7	3.9	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2),TSS-2540(7)
L1835977-17F1	Plastic 950ml unpreserved	C	7	7	3.8	Y	Absent		TSS-2540(7)
L1835977-18A	Plastic 60ml unpreserved	D	7	7	3.9	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2)
L1835977-18B	Plastic 250ml HNO3 preserved	D	<2	<2	3.9	Y	Absent		FE-Ti(180),MG-Ti(180),MN-Ti(180),CA-Ti(180),K-Ti(180),NA-Ti(180)
L1835977-18C	Plastic 250ml unpreserved/No Headspace	D	NA		3.9	Y	Absent		ALK-T-2320(14),ALK-HCO3-2320(14)
L1835977-18D	Other container unpreserved	D	NA		3.9	Y	Absent		SO3-4500(1)
L1835977-18E	Plastic 500ml H2SO4 preserved	D	<2	<2	3.9	Y	Absent		NH3-350(28)
L1835977-18F	Plastic 950ml unpreserved	D	7	7	3.9	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2),TSS-2540(7)
L1835977-19A	Plastic 60ml unpreserved	D	7	7	3.9	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2)

*Values in parentheses indicate holding time in days

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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1835977-19B	Plastic 250ml HNO3 preserved	D	<2	<2	3.9	Y	Absent		FE-TI(180),MG-TI(180),MN-TI(180),CA-TI(180),K-TI(180),NA-TI(180)
L1835977-19C	Plastic 120ml unpreserved/No Headspace	D	NA		3.9	Y	Absent		ALK-T-2320(14),ALK-HCO3-2320(14)
L1835977-19D	Other container unpreserved	D	NA		3.9	Y	Absent		SO3-4500(1)
L1835977-19E	Plastic 500ml H2SO4 preserved	D	<2	<2	3.9	Y	Absent		NH3-350(28)
L1835977-19F	Plastic 950ml unpreserved	D	7	7	3.9	Y	Absent		SO4-300(28),CL-300(28),NO3-300(2),NO2-4500NO3(2),TSS-2540(7)

Container Comments

L1835977-01D	Preserved with ethylenediamine tetraacetic acid (EDTA)
L1835977-02D	Preserved with ethylenediamine tetraacetic acid (EDTA)
L1835977-03D	Preserved with ethylenediamine tetraacetic acid (EDTA)
L1835977-04D	Preserved with ethylenediamine tetraacetic acid (EDTA)
L1835977-05D	Preserved with ethylenediamine tetraacetic acid (EDTA)
L1835977-06D	Preserved with ethylenediamine tetraacetic acid (EDTA)
L1835977-07D	Preserved with ethylenediamine tetraacetic acid (EDTA)
L1835977-08D	Preserved with ethylenediamine tetraacetic acid (EDTA)
L1835977-09D	Preserved with ethylenediamine tetraacetic acid (EDTA)
L1835977-10D	Preserved with ethylenediamine tetraacetic acid (EDTA)
L1835977-11D	Preserved with ethylenediamine tetraacetic acid (EDTA)
L1835977-12D	Preserved with ethylenediamine tetraacetic acid (EDTA)
L1835977-13D	Preserved with ethylenediamine tetraacetic acid (EDTA)
L1835977-14D	Preserved with ethylenediamine tetraacetic acid (EDTA)
L1835977-15D	Preserved with ethylenediamine tetraacetic acid (EDTA)
L1835977-16D	Preserved with ethylenediamine tetraacetic acid (EDTA)

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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
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Container Comments

L1835977-17D	Preserved with ethylenediamine tetraacetic acid (EDTA)
L1835977-18D	Preserved with ethylenediamine tetraacetic acid (EDTA)
L1835977-19D	Preserved with ethylenediamine tetraacetic acid (EDTA)

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GLOSSARY

Acronyms

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.
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.
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.
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.

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.

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.

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.

Report Format: Data Usability Report



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Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- 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.
- 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.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where 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.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

Project Name: SGPP
Project Number: 166-8623

Lab Number: L1835977
Report Date: 09/20/18

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
- 44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

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: m/p-xylene, o-xylene

EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 300: DW: Bromide

EPA 6860: SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; 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.

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, SM4500CI-D, SM2320B, SM2540C, SM4500H-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, **EPA 351.1, 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 624: Volatile Halocarbons & Aromatics,

EPA 608: 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: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, SM9222D.**

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Be, Cd, Cr, Cu, 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, Pb, Mn, Ni, Se, Ag, TL, Zn.

EPA 245.1 Hg.

SM2340B

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



CHAIN OF CUSTODY

PAGE 1 OF 2

8 Walkup Drive
Westboro, MA 01581
Tel: 508-398-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Project Information

Project Name: SGPP

Project Location: Merrimack, NH

Project #: 166-8623

Project Manager: JAMES PEACE

ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due:

Date Rec'd in Lab: 9/11/18

ALPHA Job #: L1835977

Report Information - Data Deliverables

☒ ADEx ☒ EMAIL

Billing Information

☐ Same as Client Info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☒ No MA MCP Analytical Methods ☐ Yes ☒ No CT RCP Analytical Methods
☐ Yes ☒ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☒ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☒ No NPDES RGP
☐ Other State /Fed Program Criteria

Client Information

Client: Golden Associates

Address: 670 N. Commercial
Manchester NH

Phone: 603-668-0880

Email: RBENNET@GOLDEN

SDRAW@GOLDEN
Additional Project Information:ALPHA Lab ID
(Lab Use Only)

Sample ID

Collection

Date

Time

Sample Matrix

Sampler Initials

35977-01	SGPP-MH-23	9/10/18	1805	SW	SD
02	SGPP-MH-5		1640		
03	SGPP-MH-5		1920		
04	SGPP-RD-MB-NW		1737		
05	SGPP-RD-MB-NE		1742		
06	SGPP-RD-MB-SW		1725		
07	SGPP-RD-MB-SE		1758		
08	SGPP-RD-NMB		1518		
09	SGPP-DI-34		1820		
10	EB-1		2110	EB	

ANALYSIS	VOC: ☐ 8260 ☐ 624 ☐ 524.2	SVOC: ☐ ABN ☐ PAH	METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15	EPH: ☐ RCRA5 ☐ RCRA8	VPH: ☐ Ranges & Targets ☐ Ranges Only	TPH: ☐ Ranges & Targets ☐ Ranges Only	TSS	Ammonia/Bicarb	Ammonium/Cyanide	CA Fe/Mg/Mn/K/Na	NITRATE/NITRITE	SULFATE/SULFIDE	SAMPLE INFO
													Filtration
													☐ Field
													☐ Lab to do
													Preservation
													☐ Lab to do
													Sample Comments

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO₃
D= H₂SO₄
E= NaOH
F= MeOH
G= NaHSO₄
H= Na₂S₂O₃
I= Ascorbic Acid
J= NH₄Cl
K= Zn Acetate
O= Other

Container Type

Preservative

Relinquished By:

Date/Time

R. B. Bennett
J. Sudeman AAL

9/11/18 1600
9/11/18 1850

Received By:

Date/Time

J. Sudeman RCP
J. Sudeman

9/11/18 1600
9/11/18 1850

All samples submitted are subject to
Alpha's Terms and Conditions.
See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)



CHAIN OF CUSTODY

PAGE 2 OF 2

8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Project Information

Project Name: **SGPP**Project Location: **Mansfield, NH**Project #: **166-8623**Project Manager: **JAMES PENCE**

ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due:

Date Rec'd in Lab: **09/14/18**ALPHA Job #: **L1835977**

Report Information - Data Deliverables

☒ ADEX ☒ EMAIL

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

- ☐ Yes ☒ No MA MCP Analytical Methods ☐ Yes ☒ No CT RCP Analytical Methods
☐ Yes ☒ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☒ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☒ No NPDES RGP
☐ Other State /Fed Program Criteria

Client Information

Client: **GOLDEN ASSOCIATES**Address: **670 N. COMMERCIAL
MANCHESTER NH**Phone: **603-668-0880**Email: **RIBENWAT@GOLDEN****SPRAW@GOLDEN**

Additional Project Information:

ANALYSIS							SAMPLE INFO	
VOC: ☐ 8260 ☐ 824 ☐ 524.2	SVOC: ☐ ABN ☐ PAH	METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15	METALS: ☐ RCRA5 ☐ RCRA8	EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	TPH: ☐ Quant Only ☐ Fingerprint	Filtration	Preservation ☐ Lab to do
TSS							☐ Field	
ALKALINITY IS BASIC							☐ Lab to do	
AMMONIUM								
CALCIUM, CHLORIDE								
NITRATE, FERTILIZER								
NITRATE / NITRITE								
SULFATE / NITRATE								
Sample Comments								

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler Initials
		Date	Time		
35977-11	SGPP-MH-23	9/10/18	1912	SW	SD
12	SGPP-OUTFALL-001		1705		
13	SW-MERL-101W-NS		1805		
14	SW-MERL-201W-NS		1715		
15	SW-MERL-201W-IC		1730		
16	SW-MERL-202W-NS		1840		
17	SW-MERL-202W-IC		1850		
18	SGPP-OUTFALL-001		1915		
19	DUP-1		1915		

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO₃
D= H₂SO₄
E= NaOH
F= MeOH
G= NaHSO₄
H= Na₂S₂O₃
I= Ascorbic Acid
J= NH₄Cl
K= Zn Acetate
O= Other

Container Type

Preservative

Relinquished By:

Date/Time

Received By:

Date/Time

R. Burt
Burderman AAH

9/14/18 1600
9/14/18 1850

Spindange AAH
Murphy 9/14/18 1600
9/14/18 1850

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Golder Associates
670 North Commercial Street
Suite 103
Manchester NH 03101

Report Date: October 16, 2018 12:16

Project: SGPP-Merrimack NH

Account #: 10253
Group Number: 1991864
SDG: GOA33
PO Number: PROJECT: 166-8623
State of Sample Origin: NH

Electronic Copy To	Golder Associates
Electronic Copy To	Environmental Standards
Electronic Copy To	Environmental Standards
Electronic Copy To	Golder Associates
Electronic Copy To	Golder Associates
Electronic Copy To	Golder Associates
Electronic Copy To	Golder Associates

Attn: Jim Peace
Attn: Meg Michell
Attn: SaintGobain
Attn: Ross Bennett
Attn: Scott Drew
Attn: Jen Fisher
Attn: McKenzie Sheldon

Respectfully Submitted,



Kay Hower

(717) 556-7364

To view our laboratory's current scopes of accreditation please go to <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/> . Historical copies may be requested through your project manager.



SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection</u> <u>Date/Time</u>	<u>ELLE#</u>
SGPP-Drainage-001 Grab Surface Water	09/25/2018 16:10	9823639
SGPP-Drainage-002 Grab Surface Water	09/25/2018 16:35	9823640
SGPP-MH-23 Grab Surface Water	09/25/2018 12:05	9823641
SGPP-MH-5 Grab Surface Water	09/25/2018 17:35	9823642
FB-1 Grab Water	09/25/2018 17:55	9823643
EB-1 Grab Water	09/25/2018 17:50	9823644
TB-1 Water	07/18/2018	9823645

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: SGPP-Merrimack NH
ELLE Group #: 1991864

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below.

Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set.

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:**EPA 537 Version 1.1 Modified, LC/MS/MS Miscellaneous****Sample #s: 9823645**

The holding time was not met. The sample was submitted to the laboratory outside of the holding time.

Sample #s: 9823641

The recovery for labeled compound used as extraction standard 13C2-6:2-FTS is outside of QC acceptance limits due to the matrix of the sample.

Sample #s: 9823639

The stated QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

Batch #: 18278009 (Sample number(s): 9823639-9823645)

The recovery(ies) for one or more surrogates exceeded the acceptance window indicating a positive bias for sample(s) 9823641

The recovery(ies) for one or more surrogates were below the acceptance window for sample(s) 9823639, 9823645

EPA 300.0, Wet Chemistry**Batch #: 18270520117A (Sample number(s): 9823639-9823640 UNSPK: P823194 BKG: P823194)**

The recovery(ies) for the following analyte(s) in the MS exceeded the acceptance window indicating a positive bias: Chloride

The recovery(ies) for the following analyte(s) in the MS were below the acceptance window: Nitrate Nitrogen, Nitrite Nitrogen

EPA 350.1, Wet Chemistry

Batch #: 18275107102A (Sample number(s): 9823639-9823640 UNSPK: P813404 BKG: P813404)

The recovery(ies) for the following analyte(s) in the MS exceeded the acceptance window indicating a positive bias: Ammonia Nitrogen

SM 2320 B-2011, Wet Chemistry

Batch #: 18271004202A (Sample number(s): 9823639-9823640 UNSPK: P824433 BKG: P824427, P824433)

The recovery(ies) for the following analyte(s) in the MS were below the acceptance window: Total Alkalinity to pH 4.5

SM 2540 D-2011, Wet Chemistry

Batch #: 18271385802A (Sample number(s): 9823639-9823640 BKG: P823839)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Total Suspended Solids

Sample Description: SGPP-Drainage-001 Grab Surface Water
SGPP Merrimack

Golder Associates
ELLE Sample #: WW 9823639
ELLE Group #: 1991864
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/27/2018 10:30
Collection Date/Time: 09/25/2018 16:10
SDG#: GOA33-01

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified						
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	0.99 U	0.99	2.0	1
14473	HFPODA	13252-13-6	0.49 U	0.49	2.0	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid					
14473	NEtFOSAA	2991-50-6	0.99 U	0.99	3.0	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	1.2 U	1.2	3.0	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	0.99 U	0.99	3.0	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	0.95 J	0.30	0.99	1
14473	Perfluorobutanoic acid	375-22-4	12	2.0	5.9	1
14473	Perfluorodecanoic acid	335-76-2	1.1 J	0.89	2.0	1
14473	Perfluorododecanoic acid	307-55-1	0.61 J	0.49	2.0	1
14473	Perfluoroheptanesulfonic acid	375-92-8	0.39 U	0.39	2.0	1
14473	Perfluoroheptanoic acid	375-85-9	30	0.39	0.99	1
14473	Perfluorohexadecanoic acid	67905-19-5	0.30 U	0.30	0.99	1
14473	Perfluorohexanesulfonic acid	355-46-4	0.98 J	0.39	2.0	1
14473	Perfluorohexanoic acid	307-24-4	38	0.39	2.0	1
14473	Perfluorononanoic acid	375-95-1	0.97 J	0.39	2.0	1
14473	Perfluorooctanesulfonamide	754-91-6	0.49 U	0.49	3.0	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	3.5	0.39	2.0	1
14473	Perfluorooctanoic acid	335-67-1	110	0.30	0.99	1
14473	Perfluoropentanesulfonic acid	2706-91-4	0.39 U	0.39	2.0	1
14473	Perfluoropentanoic acid	2706-90-3	20	2.0	5.9	1
14473	Perfluorotetradecanoic acid	376-06-7	0.30 U	0.30	0.99	1
14473	Perfluorotridecanoic acid	72629-94-8	0.39 U	0.39	0.99	1
14473	Perfluoroundecanoic acid	2058-94-8	0.53 J	0.39	2.0	1

The stated QC limits are advisory only until sufficient data points can be obtained to calculate statistical limits.

Metals		SW-846 6010C	mg/l	mg/l	mg/l	
01750	Calcium	7440-70-2	3.45	0.0330	0.500	1
01754	Iron	7439-89-6	0.590	0.0400	0.200	1
01757	Magnesium	7439-95-4	0.626	0.0190	0.100	1
07058	Manganese	7439-96-5	0.0193 J	0.0011	0.0200	1
01762	Potassium	7440-09-7	1.89	0.203	0.500	1
01767	Sodium	7440-23-5	25.8	0.326	1.00	1

Wet Chemistry **EPA 300.0** **mg/l** **mg/l** **mg/l**

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-Drainage-001 Grab Surface Water
SGPP Merrimack

Golder Associates
ELLE Sample #: WW 9823639
ELLE Group #: 1991864
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/27/2018 10:30
Collection Date/Time: 09/25/2018 16:10
SDG#: GOA33-01

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Wet Chemistry EPA 300.0						
00224	Chloride	16887-00-6	52.7	4.0	8.0	20
00368	Nitrate Nitrogen	14797-55-8	0.49 J	0.25	0.50	5
01506	Nitrite Nitrogen	14797-65-0	0.25 U	0.25	0.50	5
00228	Sulfate	14808-79-8	4.7 J	1.5	5.0	5
EPA 350.1						
12892	Ammonia Nitrogen	7664-41-7	0.16	0.050	0.10	1
SM 2320 B-2011						
12150	Total Alkalinity to pH 4.5	n.a.	5.5	1.7	5.0	1
12149	Bicarbonate Alkalinity	n.a.	5.5	1.7	5.0	1
SM 2540 D-2011						
13858	Total Suspended Solids	n.a.	9.40	1.00	3.00	1
SM 4500-SO3 B-2011						
00229	Sulfite	14265-45-3	1.5 U	1.5	5.0	1
The 40 CFR Part 136 requires that this analysis be performed immediately (within 15 minutes) upon sample collection. Because this was not possible, the result may not be used for reporting purposes.						

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS + GenX	EPA 537 Version 1.1 Modified	1	18278009	10/10/2018 20:12	Christine E Dolman	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	3	18278009	10/09/2018 07:30	Pamela Rothharpt	1
01750	Calcium	SW-846 6010C	1	182711063602	10/08/2018 15:25	Elaine F Stoltzfus	1
01754	Iron	SW-846 6010C	1	182711063602	10/09/2018 19:34	Elaine F Stoltzfus	1
01757	Magnesium	SW-846 6010C	1	182711063602	10/08/2018 15:25	Elaine F Stoltzfus	1
07058	Manganese	SW-846 6010C	1	182711063602	10/08/2018 15:25	Elaine F Stoltzfus	1
01762	Potassium	SW-846 6010C	1	182711063602	10/08/2018 15:25	Elaine F Stoltzfus	1
01767	Sodium	SW-846 6010C	1	182711063602	10/08/2018 15:25	Elaine F Stoltzfus	1
10636	ICP-WWW/TL, 3010A (tot) - U4	SW-846 3010A	1	182711063602	10/01/2018 06:08	James L Mertz	1
00224	Chloride	EPA 300.0	1	18270520117A	10/01/2018 11:29	Ashlynn M Cornelius	20
00368	Nitrate Nitrogen	EPA 300.0	1	18270520117A	09/27/2018 15:15	Samuel J Weaver	5
01506	Nitrite Nitrogen	EPA 300.0	1	18270520117A	09/27/2018 15:15	Samuel J Weaver	5
00228	Sulfate	EPA 300.0	1	18270520117A	09/27/2018 15:15	Samuel J Weaver	5
12892	Ammonia Nitrogen	EPA 350.1	1	18275107102A	10/02/2018 12:52	Joseph E McKenzie	1
12150	Total Alkalinity to pH 4.5	SM 2320 B-2011	1	18271004202A	09/29/2018 00:15	Jeremy L Bolf	1
12149	Bicarbonate Alkalinity	SM 2320 B-2011	1	18271004202A	09/29/2018 00:15	Jeremy L Bolf	1
13858	Total Suspended Solids	SM 2540 D-2011	1	18271385802A	09/28/2018 12:00	Alexa Sanchez	1
00229	Sulfite	SM 4500-SO3 B-2011	1	18274022901A	10/01/2018 11:10	Michelle L Lalli	1

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-Drainage-002 Grab Surface Water
SGPP Merrimack

Golder Associates
ELLE Sample #: WW 9823640
ELLE Group #: 1991864
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/27/2018 10:30
Collection Date/Time: 09/25/2018 16:35
SDG#: GOA33-02

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified						
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	1.6 J	0.98	2.0	1
14473	HFPODA	13252-13-6	0.49 U	0.49	2.0	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid					
14473	NEtFOSAA	2991-50-6	0.98 U	0.98	2.9	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	1.2 U	1.2	2.9	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	0.98 U	0.98	2.9	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	0.29 U	0.29	0.98	1
14473	Perfluorobutanoic acid	375-22-4	4.3 J	2.0	5.9	1
14473	Perfluorodecanoic acid	335-76-2	2.0	0.88	2.0	1
14473	Perfluorododecanoic acid	307-55-1	1.3 J	0.49	2.0	1
14473	Perfluoroheptanesulfonic acid	375-92-8	0.39 U	0.39	2.0	1
14473	Perfluoroheptanoic acid	375-85-9	19	0.39	0.98	1
14473	Perfluorohexadecanoic acid	67905-19-5	0.29 U	0.29	0.98	1
14473	Perfluorohexanesulfonic acid	355-46-4	0.39 U	0.39	2.0	1
14473	Perfluorohexanoic acid	307-24-4	11	0.39	2.0	1
14473	Perfluorononanoic acid	375-95-1	1.0 J	0.39	2.0	1
14473	Perfluorooctanesulfonamide	754-91-6	0.61 J	0.49	2.9	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	8.7	0.39	2.0	1
14473	Perfluorooctanoic acid	335-67-1	14	0.29	0.98	1
14473	Perfluoropentanesulfonic acid	2706-91-4	0.39 U	0.39	2.0	1
14473	Perfluoropentanoic acid	2706-90-3	5.9	2.0	5.9	1
14473	Perfluorotetradecanoic acid	376-06-7	0.29 U	0.29	0.98	1
14473	Perfluorotridecanoic acid	72629-94-8	0.39 U	0.39	0.98	1
14473	Perfluoroundecanoic acid	2058-94-8	1.4 J	0.39	2.0	1
Metals SW-846 6010C						
01750	Calcium	7440-70-2	0.263 J	0.0330	0.500	1
01754	Iron	7439-89-6	0.192 J	0.0400	0.200	1
01757	Magnesium	7439-95-4	0.166	0.0190	0.100	1
07058	Manganese	7439-96-5	0.0067 J	0.0011	0.0200	1
01762	Potassium	7440-09-7	2.00	0.203	0.500	1
01767	Sodium	7440-23-5	2.47	0.326	1.00	1
Wet Chemistry EPA 300.0						
00224	Chloride	16887-00-6	1.4 J	1.0	2.0	5
00368	Nitrate Nitrogen	14797-55-8	0.25 U	0.25	0.50	5

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-Drainage-002 Grab Surface Water
SGPP Merrimack

Golder Associates
ELLE Sample #: WW 9823640
ELLE Group #: 1991864
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/27/2018 10:30
Collection Date/Time: 09/25/2018 16:35
SDG#: GOA33-02

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
Wet Chemistry						
		EPA 300.0	mg/l	mg/l	mg/l	
01506	Nitrite Nitrogen	14797-65-0	0.25 U	0.25	0.50	5
00228	Sulfate	14808-79-8	1.5 U	1.5	5.0	5
EPA 350.1						
			mg/l	mg/l	mg/l	
12892	Ammonia Nitrogen	7664-41-7	0.20	0.050	0.10	1
SM 2320 B-2011						
			mg/l as CaCO3	mg/l as CaCO3	mg/l as CaCO3	
12150	Total Alkalinity to pH 4.5	n.a.	6.1	1.7	5.0	1
12149	Bicarbonate Alkalinity	n.a.	6.1	1.7	5.0	1
SM 2540 D-2011						
			mg/l	mg/l	mg/l	
13858	Total Suspended Solids	n.a.	4.18	1.00	3.00	1
SM 4500-SO3 B-2011						
			mg/l	mg/l	mg/l	
00229	Sulfite	14265-45-3	1.5 U	1.5	5.0	1
The 40 CFR Part 136 requires that this analysis be performed immediately (within 15 minutes) upon sample collection. Because this was not possible, the result may not be used for reporting purposes.						

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS + GenX	EPA 537 Version 1.1 Modified	1	18278009	10/10/2018 20:21	Christine E Dolman	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	3	18278009	10/09/2018 07:30	Pamela Rothharpt	1
01750	Calcium	SW-846 6010C	1	182711063602	10/08/2018 15:40	Elaine F Stoltzfus	1
01754	Iron	SW-846 6010C	1	182711063602	10/09/2018 19:49	Elaine F Stoltzfus	1
01757	Magnesium	SW-846 6010C	1	182711063602	10/08/2018 15:40	Elaine F Stoltzfus	1
07058	Manganese	SW-846 6010C	1	182711063602	10/08/2018 15:40	Elaine F Stoltzfus	1
01762	Potassium	SW-846 6010C	1	182711063602	10/08/2018 15:40	Elaine F Stoltzfus	1
01767	Sodium	SW-846 6010C	1	182711063602	10/08/2018 22:23	Cindy M Gehman	1
10636	ICP-WW/TL, 3010A (tot) - U4	SW-846 3010A	1	182711063602	10/01/2018 06:08	James L Mertz	1
00224	Chloride	EPA 300.0	1	18270520117A	09/27/2018 15:32	Samuel J Weaver	5
00368	Nitrate Nitrogen	EPA 300.0	1	18270520117A	09/27/2018 15:32	Samuel J Weaver	5
01506	Nitrite Nitrogen	EPA 300.0	1	18270520117A	09/27/2018 15:32	Samuel J Weaver	5
00228	Sulfate	EPA 300.0	1	18270520117A	09/27/2018 15:32	Samuel J Weaver	5
12892	Ammonia Nitrogen	EPA 350.1	1	18275107102A	10/02/2018 12:47	Joseph E McKenzie	1
12150	Total Alkalinity to pH 4.5	SM 2320 B-2011	1	18271004202A	09/29/2018 00:22	Jeremy L Bolf	1
12149	Bicarbonate Alkalinity	SM 2320 B-2011	1	18271004202A	09/29/2018 00:22	Jeremy L Bolf	1
13858	Total Suspended Solids	SM 2540 D-2011	1	18271385802A	09/28/2018 12:00	Alexa Sanchez	1
00229	Sulfite	SM 4500-SO3 B-2011	1	18274022901A	10/01/2018 11:10	Michelle L Lalli	1

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-MH-23 Grab Surface Water
SGPP Merrimack

Golder Associates
ELLE Sample #: WW 9823641
ELLE Group #: 1991864
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submission Date/Time: 09/27/2018 10:30
Collection Date/Time: 09/25/2018 12:05
SDG#: GOA33-03

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified						
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	120	0.98	2.0	1
14473	HFPODA	13252-13-6	5.1	0.49	2.0	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid					
14473	NEtFOSAA	2991-50-6	14	0.98	2.9	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	1.2 U	1.2	2.9	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	0.98 U	0.98	2.9	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	2.6	0.29	0.98	1
14473	Perfluorobutanoic acid	375-22-4	160	2.0	5.9	1
14473	Perfluorodecanoic acid	335-76-2	28	0.88	2.0	1
14473	Perfluorododecanoic acid	307-55-1	11	0.49	2.0	1
14473	Perfluoroheptanesulfonic acid	375-92-8	2.4	0.39	2.0	1
14473	Perfluoroheptanoic acid	375-85-9	350	0.39	0.98	1
14473	Perfluorohexadecanoic acid	67905-19-5	0.34 J	0.29	0.98	1
14473	Perfluorohexanesulfonic acid	355-46-4	8.5	0.39	2.0	1
14473	Perfluorohexanoic acid	307-24-4	660	3.9	20	10
14473	Perfluorononanoic acid	375-95-1	33	0.39	2.0	1
14473	Perfluorooctanesulfonamide	754-91-6	5.3	0.49	2.9	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	180	0.39	2.0	1
14473	Perfluorooctanoic acid	335-67-1	870	2.9	9.8	10
14473	Perfluoropentanesulfonic acid	2706-91-4	1.8 J	0.39	2.0	1
14473	Perfluoropentanoic acid	2706-90-3	300	2.0	5.9	1
14473	Perfluorotetradecanoic acid	376-06-7	2.0	0.29	0.98	1
14473	Perfluorotridecanoic acid	72629-94-8	4.7	0.39	0.98	1
14473	Perfluoroundecanoic acid	2058-94-8	13	0.39	2.0	1

The recovery for labeled compound used as extraction standard
13C2-6:2-FTS is outside of QC acceptance limits due to the matrix
of the sample.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS + GenX	EPA 537 Version 1.1 Modified	1	18278009	10/10/2018 20:39	Christine E Dolman	1
14473	22 PFAS + GenX	EPA 537 Version 1.1 Modified	1	18278009	10/11/2018 19:39	Isaac Phillips-Cary	10

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-MH-23 Grab Surface Water
SGPP Merrimack

Golder Associates
ELLE Sample #: WW 9823641
ELLE Group #: 1991864
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/27/2018 10:30

Collection Date/Time: 09/25/2018 12:05

SDG#: GOA33-03

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	3	18278009	10/09/2018 07:30	Pamela Rothharpt	1

*=This limit was used in the evaluation of the final result

Sample Description: SGPP-MH-5 Grab Surface Water
SGPP Merrimack

Golder Associates
ELLE Sample #: WW 9823642
ELLE Group #: 1991864
Matrix: Surface Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/27/2018 10:30
Collection Date/Time: 09/25/2018 17:35
SDG#: GOA33-04

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified						
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	700	9.8	20	10
14473	HFPODA	13252-13-6	1.7 J	0.49	2.0	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid					
14473	NEtFOSAA	2991-50-6	9.2	0.98	2.9	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	5.1	1.2	2.9	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	0.98 U	0.98	2.9	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	2.1	0.29	0.98	1
14473	Perfluorobutanoic acid	375-22-4	90	2.0	5.9	1
14473	Perfluorodecanoic acid	335-76-2	38	0.88	2.0	1
14473	Perfluorododecanoic acid	307-55-1	14	0.49	2.0	1
14473	Perfluoroheptanesulfonic acid	375-92-8	2.6	0.39	2.0	1
14473	Perfluoroheptanoic acid	375-85-9	660	3.9	9.8	10
14473	Perfluorohexadecanoic acid	67905-19-5	0.37 J	0.29	0.98	1
14473	Perfluorohexanesulfonic acid	355-46-4	10	0.39	2.0	1
14473	Perfluorohexanoic acid	307-24-4	390	3.9	20	10
14473	Perfluorononanoic acid	375-95-1	20	0.39	2.0	1
14473	Perfluorooctanesulfonamide	754-91-6	8.2	0.49	2.9	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	280	0.39	2.0	1
14473	Perfluorooctanoic acid	335-67-1	1,700	2.9	9.8	10
14473	Perfluoropentanesulfonic acid	2706-91-4	2.2	0.39	2.0	1
14473	Perfluoropentanoic acid	2706-90-3	190	2.0	5.9	1
14473	Perfluorotetradecanoic acid	376-06-7	2.3	0.29	0.98	1
14473	Perfluorotridecanoic acid	72629-94-8	5.1	0.39	0.98	1
14473	Perfluoroundecanoic acid	2058-94-8	16	0.39	2.0	1

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS + GenX	EPA 537 Version 1.1 Modified	1	18278009	10/10/2018 20:48	Christine E Dolman	1
14473	22 PFAS + GenX	EPA 537 Version 1.1 Modified	1	18278009	10/11/2018 19:48	Isaac Phillips-Cary	10
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	3	18278009	10/09/2018 07:30	Pamela Rothharpt	1

*=This limit was used in the evaluation of the final result

Sample Description: FB-1 Grab Water
SGPP Merrimack

Golder Associates
ELLE Sample #: WW 9823643
ELLE Group #: 1991864
Matrix: Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/27/2018 10:30
Collection Date/Time: 09/25/2018 17:55
SDG#: GOA33-05FB

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified			ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	0.89 U	0.89	1.8	1
14473	HFPODA	13252-13-6	0.45 U	0.45	1.8	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid					
14473	NEtFOSAA	2991-50-6	0.89 U	0.89	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	1.1 U	1.1	2.7	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	0.89 U	0.89	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	0.27 U	0.27	0.89	1
14473	Perfluorobutanoic acid	375-22-4	1.8 U	1.8	5.4	1
14473	Perfluorodecanoic acid	335-76-2	0.80 U	0.80	1.8	1
14473	Perfluorododecanoic acid	307-55-1	0.45 U	0.45	1.8	1
14473	Perfluoroheptanesulfonic acid	375-92-8	0.36 U	0.36	1.8	1
14473	Perfluoroheptanoic acid	375-85-9	0.36 U	0.36	0.89	1
14473	Perfluorohexadecanoic acid	67905-19-5	0.27 U	0.27	0.89	1
14473	Perfluorohexanesulfonic acid	355-46-4	0.36 U	0.36	1.8	1
14473	Perfluorohexanoic acid	307-24-4	0.36 U	0.36	1.8	1
14473	Perfluorononanoic acid	375-95-1	0.36 U	0.36	1.8	1
14473	Perfluorooctanesulfonamide	754-91-6	0.45 U	0.45	2.7	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	0.36 U	0.36	1.8	1
14473	Perfluorooctanoic acid	335-67-1	0.27 U	0.27	0.89	1
14473	Perfluoropentanesulfonic acid	2706-91-4	0.36 U	0.36	1.8	1
14473	Perfluoropentanoic acid	2706-90-3	1.8 U	1.8	5.4	1
14473	Perfluorotetradecanoic acid	376-06-7	0.27 U	0.27	0.89	1
14473	Perfluorotridecanoic acid	72629-94-8	0.36 U	0.36	0.89	1
14473	Perfluoroundecanoic acid	2058-94-8	0.36 U	0.36	1.8	1

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS + GenX	EPA 537 Version 1.1 Modified	1	18278009	10/10/2018 20:57	Christine E Dolman	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	2	18278009	10/09/2018 07:30	Pamela Rothharpt	1

*=This limit was used in the evaluation of the final result

Sample Description: EB-1 Grab Water
SGPP Merrimack

Golder Associates
ELLE Sample #: WW 9823644
ELLE Group #: 1991864
Matrix: Water

Project Name: SGPP-Merrimack NH

Submittal Date/Time: 09/27/2018 10:30
Collection Date/Time: 09/25/2018 17:50
SDG#: GOA33-06EB

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified						
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	0.91 U	0.91	1.8	1
14473	HFPODA	13252-13-6	0.46 U	0.46	1.8	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid					
14473	NEtFOSAA	2991-50-6	0.91 U	0.91	2.7	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	1.1 U	1.1	2.7	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	0.91 U	0.91	2.7	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	0.27 U	0.27	0.91	1
14473	Perfluorobutanoic acid	375-22-4	1.8 U	1.8	5.5	1
14473	Perfluorodecanoic acid	335-76-2	0.82 U	0.82	1.8	1
14473	Perfluorododecanoic acid	307-55-1	0.46 U	0.46	1.8	1
14473	Perfluoroheptanesulfonic acid	375-92-8	0.36 U	0.36	1.8	1
14473	Perfluoroheptanoic acid	375-85-9	0.36 U	0.36	0.91	1
14473	Perfluorohexadecanoic acid	67905-19-5	0.27 U	0.27	0.91	1
14473	Perfluorohexanesulfonic acid	355-46-4	0.36 U	0.36	1.8	1
14473	Perfluorohexanoic acid	307-24-4	0.36 U	0.36	1.8	1
14473	Perfluorononanoic acid	375-95-1	0.36 U	0.36	1.8	1
14473	Perfluorooctanesulfonamide	754-91-6	0.46 U	0.46	2.7	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	0.36 U	0.36	1.8	1
14473	Perfluorooctanoic acid	335-67-1	0.27 U	0.27	0.91	1
14473	Perfluoropentanesulfonic acid	2706-91-4	0.36 U	0.36	1.8	1
14473	Perfluoropentanoic acid	2706-90-3	1.8 U	1.8	5.5	1
14473	Perfluorotetradecanoic acid	376-06-7	0.27 U	0.27	0.91	1
14473	Perfluorotridecanoic acid	72629-94-8	0.36 U	0.36	0.91	1
14473	Perfluoroundecanoic acid	2058-94-8	0.36 U	0.36	1.8	1

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS + GenX	EPA 537 Version 1.1 Modified	1	18278009	10/10/2018 21:06	Christine E Dolman	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	2	18278009	10/09/2018 07:30	Pamela Rothharpt	1

*=This limit was used in the evaluation of the final result

Sample Description: TB-1 Water
SGPP Merrimack

Golder Associates
ELLE Sample #: WW 9823645
ELLE Group #: 1991864
Matrix: Water

Project Name: SGPP-Merrimack NH

Submission Date/Time: 09/27/2018 10:30
Collection Date/Time: 07/18/2018
SDG#: GOA33-07TB

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
	LC/MS/MS Miscellaneous EPA 537 Version 1.1 Modified		ng/l	ng/l	ng/l	
14473	6:2-Fluorotelomersulfonic acid	27619-97-2	0.86 U	0.86	1.7	1
14473	HFPODA	13252-13-6	0.43 U	0.43	1.7	1
	HFPODA is the acronym for 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid					
14473	NEtFOSAA	2991-50-6	0.86 U	0.86	2.6	1
	NEtFOSAA is the acronym for N-ethyl perfluorooctanesulfonamidoacetic Acid.					
14473	NEtPFOSAE	1691-99-2	1.0 U	1.0	2.6	1
	NEtPFOSAE is the acronym for 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol					
14473	NMeFOSAA	2355-31-9	0.86 U	0.86	2.6	1
	NMeFOSAA is the acronym for N-methyl perfluorooctanesulfonamidoacetic Acid.					
14473	Perfluorobutanesulfonic acid	375-73-5	0.26 U	0.26	0.86	1
14473	Perfluorobutanoic acid	375-22-4	1.7 U	1.7	5.1	1
14473	Perfluorodecanoic acid	335-76-2	0.77 U	0.77	1.7	1
14473	Perfluorododecanoic acid	307-55-1	0.43 U	0.43	1.7	1
14473	Perfluoroheptanesulfonic acid	375-92-8	0.34 U	0.34	1.7	1
14473	Perfluoroheptanoic acid	375-85-9	0.34 U	0.34	0.86	1
14473	Perfluorohexadecanoic acid	67905-19-5	0.26 U	0.26	0.86	1
14473	Perfluorohexanesulfonic acid	355-46-4	0.34 U	0.34	1.7	1
14473	Perfluorohexanoic acid	307-24-4	0.34 U	0.34	1.7	1
14473	Perfluorononanoic acid	375-95-1	0.34 U	0.34	1.7	1
14473	Perfluorooctanesulfonamide	754-91-6	0.43 U	0.43	2.6	1
14473	Perfluoro-Octanesulfonic acid	1763-23-1	0.34 U	0.34	1.7	1
14473	Perfluorooctanoic acid	335-67-1	0.26 U	0.26	0.86	1
14473	Perfluoropentanesulfonic acid	2706-91-4	0.34 U	0.34	1.7	1
14473	Perfluoropentanoic acid	2706-90-3	1.7 U	1.7	5.1	1
14473	Perfluorotetradecanoic acid	376-06-7	0.26 U	0.26	0.86	1
14473	Perfluorotridecanoic acid	72629-94-8	0.34 U	0.34	0.86	1
14473	Perfluoroundecanoic acid	2058-94-8	0.34 U	0.34	1.7	1

The holding time was not met. The sample was submitted to the laboratory outside of the holding time.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14473	22 PFAS + GenX	EPA 537 Version 1.1 Modified	1	18278009	10/10/2018 21:15	Christine E Dolman	1
14091	PFAS Water Prep	EPA 537 Version 1.1 Modified	2	18278009	10/09/2018 07:30	Pamela Rothharp	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Golder Associates
Reported: 10/16/2018 12:16

Group Number: 1991864

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	ng/l	ng/l	ng/l
Batch number: 18278009	Sample number(s): 9823639-9823645		
6:2-Fluorotelomersulfonic acid	1.0 U	1.0	2.0
HFPODA	0.50 U	0.50	2.0
NEtFOSAA	1.0 U	1.0	3.0
NEtPFOSAE	1.2 U	1.2	3.0
NMeFOSAA	1.0 U	1.0	3.0
Perfluorobutanesulfonic acid	0.30 U	0.30	1.0
Perfluorobutanoic acid	2.0 U	2.0	6.0
Perfluorodecanoic acid	0.90 U	0.90	2.0
Perfluorododecanoic acid	0.50 U	0.50	2.0
Perfluoroheptanesulfonic acid	0.40 U	0.40	2.0
Perfluoroheptanoic acid	0.40 U	0.40	1.0
Perfluorohexadecanoic acid	0.30 U	0.30	1.0
Perfluorohexanesulfonic acid	0.40 U	0.40	2.0
Perfluorohexanoic acid	0.40 U	0.40	2.0
Perfluorononanoic acid	0.40 U	0.40	2.0
Perfluorooctanesulfonamide	0.50 U	0.50	3.0
Perfluoro-Octanesulfonic acid	0.40 U	0.40	2.0
Perfluorooctanoic acid	0.30 U	0.30	1.0
Perfluoropentanesulfonic acid	0.40 U	0.40	2.0
Perfluoropentanoic acid	2.0 U	2.0	6.0
Perfluorotetradecanoic acid	0.30 U	0.30	1.0
Perfluorotridecanoic acid	0.40 U	0.40	1.0
Perfluoroundecanoic acid	0.40 U	0.40	2.0
	mg/l	mg/l	mg/l
Batch number: 182711063602	Sample number(s): 9823639-9823640		
Calcium	0.0330 U	0.0330	0.500
Iron	0.0400 U	0.0400	0.200
Magnesium	0.0190 U	0.0190	0.100
Manganese	0.0011 U	0.0011	0.0200
Potassium	0.203 U	0.203	0.500
Sodium	0.332 J	0.326	1.00
Batch number: 18270520117A	Sample number(s): 9823639-9823640		
Chloride	0.20 U	0.20	0.40
Nitrate Nitrogen	0.050 U	0.050	0.10
Nitrite Nitrogen	0.050 U	0.050	0.10
Sulfate	0.30 U	0.30	1.0
Batch number: 18275107102A	Sample number(s): 9823639-9823640		

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Golder Associates
Reported: 10/16/2018 12:16

Group Number: 1991864

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	mg/l	mg/l	mg/l
Ammonia Nitrogen	0.050 U	0.050	0.10
Batch number: 18271385802A	Sample number(s): 9823639-9823640		
Total Suspended Solids	1.00 U	1.00	3.00
Batch number: 18274022901A	Sample number(s): 9823639-9823640		
Sulfite	1.5 U	1.5	5.0
	mg/l as CaCO3	mg/l as CaCO3	mg/l as CaCO3
Batch number: 18271004202A	Sample number(s): 9823639-9823640		
Total Alkalinity to pH 4.5	1.7 U	1.7	5.0

LCS/LCSD

Analysis Name	LCS Spike Added ng/l	LCS Conc ng/l	LCSD Spike Added ng/l	LCSD Conc ng/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 18278009	Sample number(s): 9823639-9823645								
6:2-Fluorotelomersulfonic acid	15.17	13.55	15.17	14.08	89	93	66-155	4	30
HFPODA	5.44	4.85	5.44	4.72	89	87	70-130	3	30
NEtFOSAA	5.44	5.16	5.44	5.16	95	95	55-169	0	30
NEtPFOSAE	5.44	4.64	5.44	5.20	85	96	70-130	11	30
NMeFOSAA	5.44	3.90	5.44	4.08	72	75	62-167	5	30
Perfluorobutanesulfonic acid	4.81	3.93	4.81	4.33	82	90	73-128	9	30
Perfluorobutanoic acid	5.44	5.16	5.44	5.36	95	98	74-142	4	30
Perfluorodecanoic acid	5.44	4.26	5.44	4.41	78	81	69-148	3	30
Perfluorododecanoic acid	5.44	4.80	5.44	4.54	88	83	75-136	6	30
Perfluoroheptanesulfonic acid	5.18	4.33	5.18	4.59	84	89	64-135	6	30
Perfluoroheptanoic acid	5.44	5.08	5.44	5.96	93	109	76-140	16	30
Perfluorohexadecanoic acid	5.44	4.75	5.44	4.94	87	91	21-151	4	30
Perfluorohexanesulfonic acid	5.14	4.76	5.14	5.07	93	98	71-131	6	30
Perfluorohexanoic acid	5.44	4.49	5.44	4.89	83	90	75-135	8	30
Perfluorononanoic acid	5.44	4.44	5.44	5.07	82	93	72-148	13	30
Perfluorooctanesulfonamide	5.44	4.27	5.44	4.53	78	83	65-164	6	30
Perfluoro-Octanesulfonic acid	5.20	4.25	5.20	4.93	82	95	67-138	15	30
Perfluorooctanoic acid	5.44	4.31	5.44	4.64	79	85	72-138	7	30
Perfluoropentanesulfonic acid	5.10	4.03	5.10	4.73	79	93	76-127	16	30
Perfluoropentanoic acid	5.44	4.64	5.44	5.23	85	96	74-134	12	30
Perfluorotetradecanoic acid	5.44	4.70	5.44	4.78	86	88	74-135	2	30
Perfluorotridecanoic acid	5.44	5.29	5.44	5.16	97	95	61-145	3	30
Perfluoroundecanoic acid	5.44	4.66	5.44	4.56	86	84	75-146	2	30

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

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Quality Control Summary

Client Name: Golder Associates
Reported: 10/16/2018 12:16

Group Number: 1991864

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/l	LCS Conc mg/l	LCSD Spike Added mg/l	LCSD Conc mg/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 182711063602	Sample number(s): 9823639-9823640								
Calcium	4.00	4.23			106		88-112		
Iron	1.00	1.05			105		80-114		
Magnesium	2.00	2.09			104		88-114		
Manganese	0.500	0.541			108		90-112		
Potassium	10	10.54			105		88-112		
Sodium	10	10.78			108		87-112		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 18270520117A	Sample number(s): 9823639-9823640								
Chloride	3.00	2.91			97		90-110		
Nitrate Nitrogen	0.750	0.710			95		90-110		
Nitrite Nitrogen	0.750	0.701			93		90-110		
Sulfate	7.50	7.23			96		90-110		
Batch number: 18275107102A	Sample number(s): 9823639-9823640								
Ammonia Nitrogen	1.50	1.64			109		90-110		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 18271385802A	Sample number(s): 9823639-9823640								
Total Suspended Solids	150	146.8			98		89-105		
Batch number: 18274022901A	Sample number(s): 9823639-9823640								
Sulfite	50	46			92		79-105		
	mg/l as CaCO3	mg/l as CaCO3	mg/l as CaCO3	mg/l as CaCO3					
Batch number: 18271004202A	Sample number(s): 9823639-9823640								
Total Alkalinity to pH 4.5	188	183.69			98		77-109		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/l	MS Spike Added mg/l	MS Conc mg/l	MSD Spike Added mg/l	MSD Conc mg/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 182711063602	Sample number(s): 9823639-9823640 UNSPK: 9823639									
Calcium	3.45	4.00	7.58	4.00	7.71	103	107	75-125	2	20
Iron	0.590	1.00	1.59	1.00	1.61	100	102	75-125	1	20
Magnesium	0.626	2.00	2.67	2.00	2.71	102	104	75-125	1	20
Manganese	0.0193	0.500	0.547	0.500	0.559	106	108	75-125	2	20

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Golder Associates
Reported: 10/16/2018 12:16

Group Number: 1991864

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/l	MS Spike Added mg/l	MS Conc mg/l	MSD Spike Added mg/l	MSD Conc mg/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Potassium	1.89	10	12.26	10	12.49	104	106	75-125	2	20
Sodium	25.79	10	35.87	10	36.69	101	109	75-125	2	20
	mg/l	mg/l	mg/l	mg/l	mg/l					
Batch number: 18270520117A	Sample number(s): 9823639-9823640 UNSPK: P823194									
Chloride	175.65	40	224.34			122 (2)		90-110		
Nitrate Nitrogen	0.673	2.50	2.91			89*		90-110		
Nitrite Nitrogen	0.375	2.50	2.50			85*		90-110		
Sulfate	154.53	100	255.87			101		90-110		
Batch number: 18275107102A	Sample number(s): 9823639-9823640 UNSPK: P813404									
Ammonia Nitrogen	0.429	1.00	1.71			128*		90-110		
	mg/l	mg/l	mg/l	mg/l	mg/l					
Batch number: 18274022901A	Sample number(s): 9823639-9823640 UNSPK: 9823640									
Sulfite	1.5 U	50	47.5	50	48	95	96	79-105	1	5
	mg/l as CaCO3	mg/l as CaCO3	mg/l as CaCO3	mg/l as CaCO3	mg/l as CaCO3					
Batch number: 18271004202A	Sample number(s): 9823639-9823640 UNSPK: P824433									
Total Alkalinity to pH 4.5	127.07	188	143.85			9*		77-109		

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/l	DUP Conc mg/l	DUP RPD	DUP RPD Max
Batch number: 182711063602	Sample number(s): 9823639-9823640 BKG: 9823639			
Calcium	3.45	3.42	1	20
Iron	0.590	0.571	3 (1)	20
Magnesium	0.626	0.617	1	20
Manganese	0.0193	0.0191	1 (1)	20
Potassium	1.89	1.84	3 (1)	20
Sodium	25.79	25.34	2	20
	mg/l	mg/l		
Batch number: 18270520117A	Sample number(s): 9823639-9823640 BKG: P823194			
Chloride	175.65	175.51	0	15
Nitrate Nitrogen	0.673	0.690	3 (1)	15

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

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(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Golder Associates
Reported: 10/16/2018 12:16

Group Number: 1991864

Laboratory Duplicate (continued)

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/l	DUP Conc mg/l	DUP RPD	DUP RPD Max
Nitrite Nitrogen	0.375	0.382	2 (1)	15
Sulfate	154.53	154.33	0	15
Batch number: 18275107102A	Sample number(s): 9823639-9823640 BKG: P813404			
Ammonia Nitrogen	0.429	0.444	3 (1)	20
	mg/l	mg/l		
Batch number: 18271385802A	Sample number(s): 9823639-9823640 BKG: P823839			
Total Suspended Solids	558	480	15*	5
Batch number: 18274022901A	Sample number(s): 9823639-9823640 BKG: 9823640			
Sulfite	1.5 U	1.5 U	0 (1)	20
	mg/l as CaCO ₃	mg/l as CaCO ₃		
Batch number: 18271004202A	Sample number(s): 9823639-9823640 BKG: P824433			
Total Alkalinity to pH 4.5	127.07	126.37	1	5

Labeled Isotope Quality Control

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: 22 PFAS + GenX
Batch number: 18278009

	13C4-PFBA	13C5-PFPeA	13C3-PFBS	13C5-PFHxA	13C3-PFHxS	13C4-PFHpA
9823639	88	90	99	82	82	96
9823640	99	83	108	91	90	107
9823641	88	88	106	80	95	107
9823642	95	85	94	117	107	122
9823643	90	90	84	90	86	90
9823644	86	83	82	85	77	85
9823645	87	82	78	80	77	80
Blank	95	88	85	95	90	96
LCS	96	95	90	98	89	96
LCSD	93	91	83	90	84	88
Limits:	33-123	31-157	26-148	35-138	34-126	35-126
	13C2-6:2-FTS	13C8-PFOA	13C8-PFOS	13C9-PFNA	13C6-PFDA	d3-NMeFOSAA
9823639	161	91	76	102	79	73
9823640	161	99	86	101	88	84
9823641	204*	99	80	118	89	71

*- Outside of specification

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(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Golder Associates
Reported: 10/16/2018 12:16

Group Number: 1991864

Labeled Isotope Quality Control (continued)

Labeled isotope recoveries which are outside of the QC window are confirmed unless otherwise noted on the analysis report.

Analysis Name: 22 PFAS + GenX
Batch number: 18278009

	13C2-6:2-FTS	13C8-PFOA	13C8-PFOS	13C9-PFNA	13C6-PFDA	d3-NMeFOSAA
9823642	126	94	86	108	87	104
9823643	111	97	88	98	95	107
9823644	105	92	82	94	91	105
9823645	104	89	80	94	83	97
Blank	112	101	94	104	93	101
LCS	117	101	89	102	100	114
LCSD	110	93	91	102	96	120
Limits:	32-170	48-122	50-121	41-144	47-125	30-127

	13C7-PFUnDA	d5-NEtFOSAA	13C2-PFDoDA	13C2-PFTeDA	13C8-PFOSA	d9-NEtPFOSAE
9823639	79	78	71	57	45	21
9823640	89	75	77	42	44	16
9823641	73	63	71	66	64	61
9823642	91	99	83	83	83	57
9823643	104	100	88	89	104	85
9823644	95	96	86	90	104	83
9823645	88	94	79	83	95	81
Blank	95	97	93	95	100	84
LCS	99	110	96	95	107	91
LCSD	108	106	102	103	109	89
Limits:	30-128	30-142	39-130	26-119	11-127	10-121

	13C3-HFPODA
9823639	69*
9823640	73
9823641	83
9823642	123
9823643	74
9823644	77
9823645	65*
Blank	78
LCS	88
LCSD	79
Limits:	70-130

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

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P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories
Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 10253 Group # 1991864 Sample # 9823639-45

COC # 578343

Client Information				Matrix		Analysis Requested										For Lab Use Only		
Client: <u>Golder Associates</u>		Acct. #:		☐ Tissue ☐ Ground ☒ Surface ☐ Potable ☐ NPDES	Other:	Preservation and Filtration Codes										FSC:	SCR#:	
Project Name/ID: <u>SGPP Merrimack</u>		PWSID #:				PPAS (23 compound list) HFPODA ('benx') TSS alkalinity as bicarbonate ammonium, chloride Ca, Fe, Mg, Mn, K, Na nitrate, nitrite sulfide, sulfate										Preservation Codes H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ P=H ₃ PO ₄ F=Field Filtered O=Other		
Project Manager: <u>Jim Peace</u>		P.O. #:														Remarks * Site Specific list		
Sampler: <u>Leonard Ancuta</u>		Quote #:																
State where samples were collected: <u>NH</u>		For Compliance: Yes ☐ No ☐		Soil ☐ Sediment ☐	Water ☐	Total # of Containers												
Sample Identification		Collected					Grab	Composite										
Date	Time																	
SGPP-Drainage-001	9/26/18 16:10	X				10	X	X	X	X	X	X	X	X	X			
SGPP-Drainage-002	16:35	X				10	X	X	X	X	X	X	X	X	X			
SGPP-MH-23	12:05	X				4	X	X										
SGPP-MH-5	17:35	X				4	X	X										
FB-1	17:55	X				4	X	X										
EB-1	17:50	X				4	X	X										
TB-1	9/18/18	X				4	X	X										

Turnaround Time (TAT) Requested (please circle) Standard ☒ Rush ☐ (Rush TAT is subject to laboratory approval and surcharge.)				Relinquished by <u>[Signature]</u> Date <u>9/26/18</u> Time <u>16:00</u>		Received by _____ Date _____ Time _____	
Requested TAT in business days: _____ E-mail address: <u>R.Bennette@golder.com; SPraw@Golder.com</u>				Relinquished by _____ Date _____ Time _____		Received by _____ Date _____ Time _____	
				Relinquished by _____ Date _____ Time _____		Received by _____ Date _____ Time _____	
				Relinquished by _____ Date _____ Time _____		Received by _____ Date _____ Time _____	
				Relinquished by _____ Date _____ Time _____		Received by <u>[Signature]</u> Date <u>9/27/18</u> Time <u>1030</u>	
Data Package Options (circle if required) Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only) Type III (Reduced non-CLP) NJ DKQP TX TRRP-13 NYSDEC Category A or B MA MCP CT RCP				EDD Required? ☒ Yes ☐ No If yes, format: _____		Relinquished by Commercial Carrier: UPS _____ FedEx <u>[X]</u> Other _____	
				Site-Specific QC (MS/MSD/Dup)? Yes ☐ No ☐ (If yes, indicate QC sample and submit triplicate sample volume.)		Temperature upon receipt <u>1.3</u> °C	

Sample Administration
Receipt Documentation Log

Doc Log ID: 228253

Client: Golder Associates

Group Number(s):

1991864

SGPP Merrimack

Delivery and Receipt Information

Delivery Method:	<u>Fed Ex</u>	Arrival Timestamp:	<u>09/27/2018 10:30</u>
Number of Packages:	<u>1</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>NH</u>		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace $\geq$ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	4
Paperwork Enclosed:	Yes	Trip Blank Type:	See Below
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Trip Blank Type(s): unpreserved

Unpacked by Leah Foreman (12616) at 12:34 on 09/27/2018

Samples Chilled Details: SGPP Merrimack

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	32170023	1.3	IR	Wet	Y	Bagged	N

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mL	milliliter(s)
C	degrees Celsius	MPN	Most Probable Number
cfu	colony forming units	N.D.	non-detect
CP Units	cobalt-chloroplatinate units	ng	nanogram(s)
F	degrees Fahrenheit	NTU	nephelometric turbidity units
g	gram(s)	pg/L	picogram/liter
IU	International Units	RL	Reporting Limit
kg	kilogram(s)	TNTC	Too Numerous To Count
L	liter(s)	µg	microgram(s)
lb.	pound(s)	µL	microliter(s)
m3	cubic meter(s)	umhos/cm	micromhos/cm
meq	milliequivalents	MCL	Maximum Contamination Limit
mg	milligram(s)		
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value $\geq$ the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
P^	Concentration difference between the primary and confirmation column $>40\%$. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.

Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

ATTACHMENT B

ATTACHMENT B: FIELD INFORMATION FORM

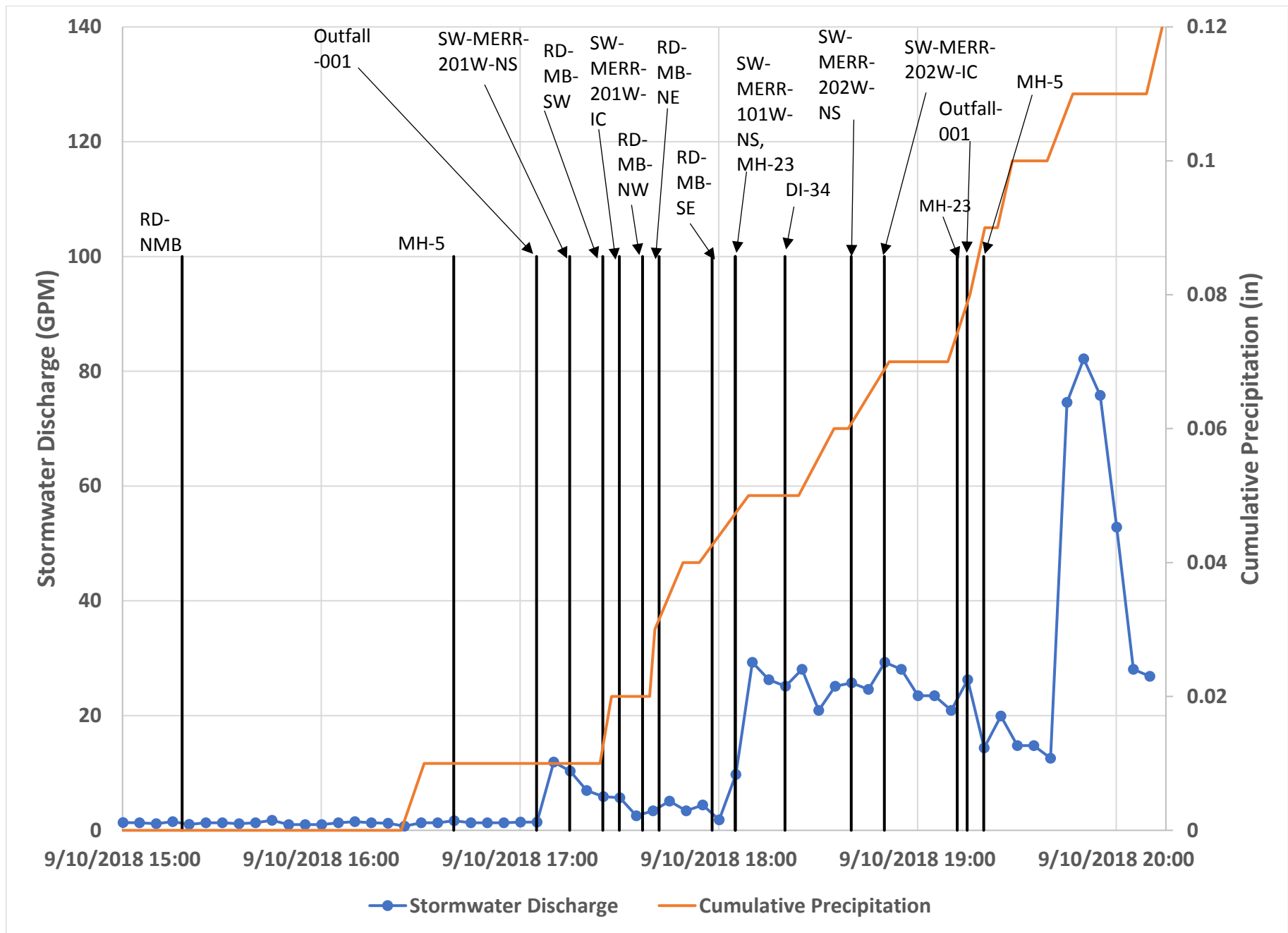


Site:	Saint-Gobain Performance Plastics	Meter/Type/Serial #:	YSI 600, HACH2100Q
Location:	Merrimack, NH	Sampling Device:	Stainless Steel Dipper
Project Number:	166-8623	Analytical Parameters:	Flow, temperature, DO, conductivity, pH, turbidity, ORP
Sampler(s):	L. Lampo, L. Ancuta, S. Drew, B. Campelia, R. Bennett, D.Sylvia		
Weather Conditions:	09/10/2018 & 9/25/2018 - Rain 60's°F		

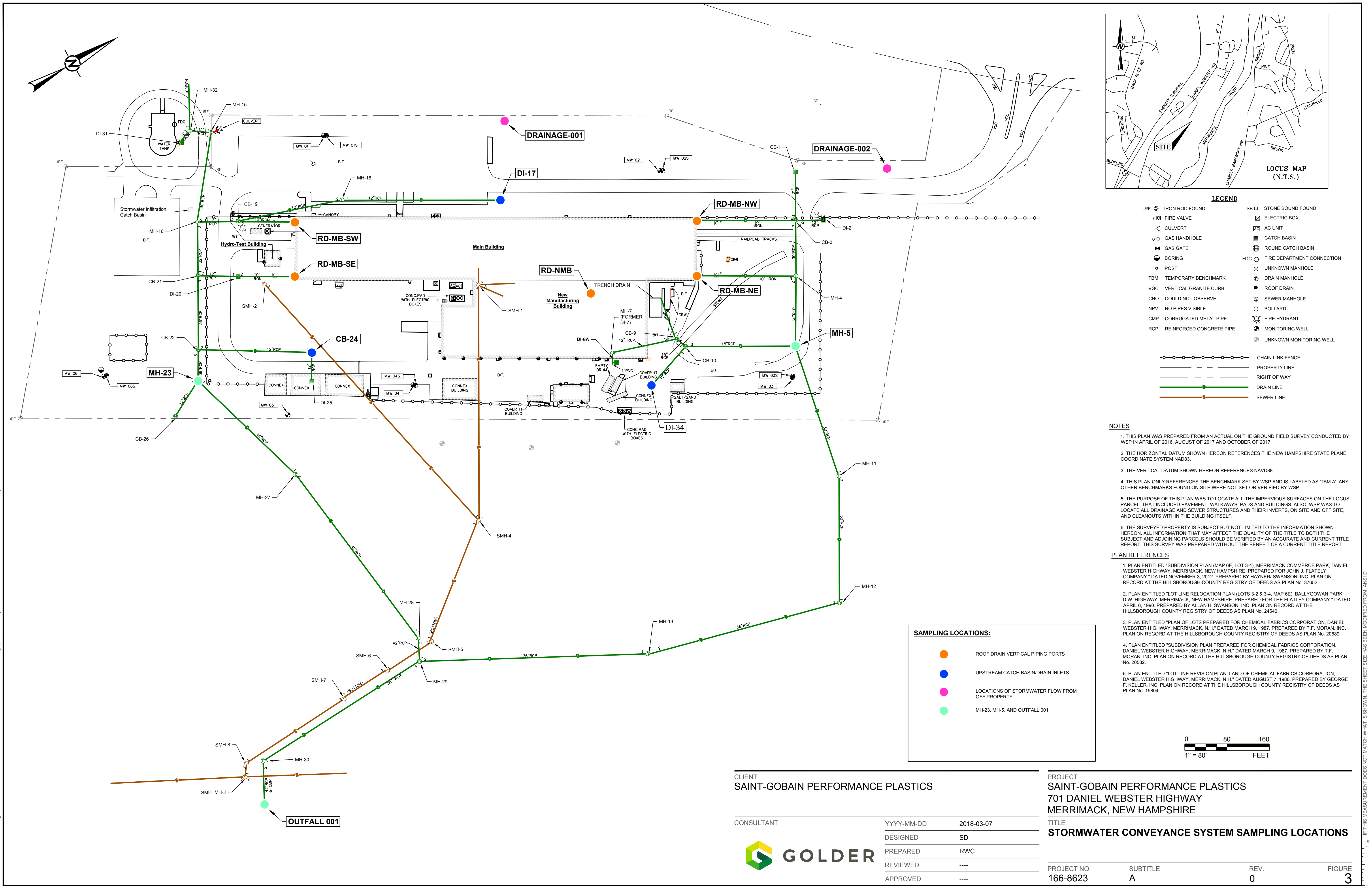
STATION / SAMPLE ID	DATE	TIME	TOTAL DEPTH	FLOW	TEMP	DO	COND	PH	TURBIDITY	ORP	COMMENTS
	mm/dd/yyyy	hr:min	feet	ft/s	Celsius	mg/L	µS/cm	su	NTU	mV	
SGPP-Outfall-001	9/10/2018	17:05	-	-	-	-	-	-	-	-	First flush, clear, odorless
SW-MERR-101W-NS	9/10/2018	18:05	0.5	0.06	21.42	6.54	155	7.24	3.65	130.4	Clear, odorless
SW-MERR-201W-NS	9/10/2018	17:15	0.5	-	21.31	8.5	228	7.21	1.25	148.7	Clear, odorless
SW-MERR-201W-IC	9/10/2018	17:30	1	-	21.75	8.19	162	7.27	1.13	123.3	Clear, odorless
SW-MERR-202W-NS	9/10/2018	18:40	0.5	0.25	21.69	7.99	114	7.38	1.5	102.3	Clear, odorless
SW-MERR-202W-IC	9/10/2018	18:50	1	0.79	21.69	8.18	170	7.38	1.65	89.4	Clear, odorless
SGPP-MH-23	9/10/2018	18:05	-	-	-	-	-	-	-	-	Mildly turbid, no odor or sheen
SGPP-MH-5	9/10/2018	16:40	-	-	18.37	8.31	289	6.97	8.87	220.8	Small black flecks, no odor or sheen
SGPP-RD-MB-NW	9/10/2018	17:37	-	-	19.18	9.43	153	5.52	6.96	19.54	Clear, slightly yellow, trace foam, no odor
SGPP-RD-MB-NE	9/10/2018	17:42	-	-	18.62	14.13	137	5.36	8.88	207.6	Clear, slightly yellow, trace foam, no odor
SGPP-RD-MB-SW	9/10/2018	17:25	-	-	-	-	-	-	-	-	Clear, slight odor, yellow, foaming
SGPP-RD-MB-SE	9/10/2018	17:58	-	-	-	-	-	-	-	-	Clear, lightly yellow, less foaming
SGPP-RD-NMB	9/10/2018	15:18	-	-	18.77	9.68	125	5.44	23.1	292.6	Clear, no odor or sheen/foam
SGPP-DI-34	9/10/2018	18:20	-	-	17.44	9.43	59	6.49	39.1	182.4	
SGPP-MH-23	9/10/2018	19:12	-	-	17.88	8.69	86	6.79	3.05	215.8	Clear, odorless
SGPP-Outfall-001	9/10/2018	19:15	-	-	16.44	9.45	169	7.15	8.79	108.5	Clear, odorless. Dup-1 and MS/MSD collected
SGPP-MH-5	9/10/2018	19:20	-	-	-	-	-	-	-	-	Clear, no odor or foam
SGPP-Drainage-001	9/25/2018	16:10	0.25	-	16.44	9.84	240	7.17	13.3	184.3	Some sediment, lightbrown, odorless, significant flow
SGPP-Drainage-002	9/25/2018	16:35	-	-	16.24	8.04	37	7.08	5.66	197.7	Brown, some sediment, odorless
SGPP-MH-23	9/25/2018	12:05	-	-	16.48	10.35	123	7.65	10.3	195.2	Some sediment, light brown, odorless
SGPP-MH-5	9/25/2018	17:35	-	-	16.60	9.17	14	7.15	4.24	195.3	Some sediment, colorless, odorless

Prepared By: MLS 10/30/2018
Checked By: SJS 10/30/2018
Reviewed By: RWB 10/30/2018

ATTACHMENT C



ATTACHMENT D





LEGEND

- ★ Manhole Sampling Location
- ▲ Outfall Sampling Location
- Proposed Sample Location - Unnamed Brook North of Plant
- ◆ Merrimack River Near Shore (<5 ft from shore) and Channel (>5 ft from shore) Sampling Location
- ◆ Merrimack River Near Shore Sampling Location
- Dumpling Brook and River Meander Sampling Location
- Dumpling Brook
- - - Dumpling Brook - Underground
- Approximate SGPP Facility Boundary
- Beaver Dam

1 inch = 800 feet
0 400 800 Feet

REFERENCE

2015 IMAGERY DOWNLOADED FROM NH GRANIT WEBSITE

CLIENT

SAINT-GOBAIN PERFORMANCE PLASTICS

PROJECT

SAINT-GOBAIN PERFORMANCE PLASTICS
701 DANIEL WEBSTER HIGHWAY
MERRIMACK, NH

TITLE

FACILITY, MERRIMACK RIVER, DUMPLING BROOK, AND UNNAMED BROOK SAMPLING LOCATIONS

CONSULTANT



YYYY-MM-DD 5/23/2018

PREPARED SHL

DESIGN STD

REVIEW -

APPROVED -

PROJECT No.
166-8623

CONTROL
-

Rev.
0

FIGURE
4