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

SAMPLING AND ANALYSIS PLAN
Troy Mills Landfill Superfund Site
Troy, New Hampshire

NHDES Site #: 198405082
Project Type: Superfund
Project Number: 104

Prepared For:
NH Department of Environmental Services
Hazardous Waste Remediation Bureau
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GZA File No.: 04.0190987.33

Date of Report: April 2023

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SAMPLING AND ANALYSIS PLAN
Revised Tables and Chain of Custody
Troy Mills Landfill Superfund Site
Off Rockwood Pond Road
Troy, New Hampshire

NHDES No. 198405082

April 2023
File No. 04.0190987.33

PREPARED FOR:
Hazardous Waste Remediation Bureau (HWRB)
Waste Management Division
New Hampshire Department of Environmental Services
29 Hazen Drive, Concord, New Hampshire

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Tables

Table 1 Contaminants of Concern, Associated Standards and Lab Criteria

Table 1 - Contaminants of Concern, Analytes, Associated ICLs, Standards and Lab Criteria
Troy Mills Landfill Superfund Site - Confirmatory Sampling
Troy, New Hampshire

GROUNDWATER

Test Methods / Analytes	CAS #	Laboratory Reporting Limits (RLs)	NHDES Ambient Groundwater Quality Standards (AGQS) Env-Or 600	Established EPA Health Advisory	Interim EPA Health Advisory [3]	ROD Interim Concentration Levels [1] (ICLs)	Established Site-Specific EPA Regional Screening Levels (RSLs)
Additional Analytes - Alpha Analytical							
PFAS[4] by Method LC-MS/MS analysis using Isotope Dilution (ng/L) (40 Compounds)							
Perfluorobutanoic Acid (PFBA)	*375-22-4*	2	---	---	---	---	---
Perfluoropentanoic Acid (PFPeA)	*2706-90-3*	2	---	---	---	---	---
Perfluorobutanesulfonic Acid (PFBS)	*375-73-5*	2	---	2,000	---	---	600
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	*757124-72-4*	2	---	---	---	---	---
Perfluorohexanoic Acid (PFHxA)	*307-24-4*	2	---	---	---	---	---
Perfluoropentanesulfonic Acid (PFPeS)	*2706-91-4*	2	---	---	---	---	---
Perfluoroheptanoic Acid (PFHpA)	*375-85-9*	2	---	---	---	---	---
Perfluorohexanesulfonic Acid (PFHxS)	*355-46-4*	2	18 [2]	---	---	---	39.4
Perfluorooctanoic Acid (PFOA)	*335-67-1*	2	12 [2]	---	0.004	---	6
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	*27619-97-2*	2	---	---	---	---	---
Perfluoroheptanesulfonic Acid (PFHpS)	*375-92-8*	2	---	---	---	---	---
Perfluorononanoic Acid (PFNA)	*375-95-1*	2	11 [2]	---	---	---	5.89
Perfluorooctanesulfonic Acid (PFOS)	*1763-23-1*	2	15 [2]	---	0.02	---	4
Perfluorodecanoic Acid (PFDA)	*335-76-2*	2	---	---	---	---	---
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	*39108-34-4*	2	---	---	---	---	---
Perfluorononanesulfonic Acid (PFNS)	*68259-12-1*	2	---	---	---	---	---
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	*2355-31-9*	2	---	---	---	---	---
Perfluoroundecanoic Acid (PFUnA)	*2058-94-8*	2	---	---	---	---	---
Perfluorodecanesulfonic Acid (PFDS)	*335-77-3*	2	---	---	---	---	---
Perfluorooctanesulfonamide (FOSA)	*754-91-6*	2	---	---	---	---	---
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	*2991-50-6*	2	---	---	---	---	---
Perfluorododecanoic Acid (PFDoA)	*307-55-1*	2	---	---	---	---	---
Perfluorotridecanoic Acid (PFTrDA)	*72629-94-8*	2	---	---	---	---	---
Perfluorotetradecanoic Acid (PFTA)	*376-06-7*	2	---	---	---	---	---
[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	*13252-13-6*	50	---	10	---	---	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	*919005-14-4*	2	---	---	---	---	---
Perfluorohexadecanoic Acid (PFHxDA)	*67905-19-5*	4	---	---	---	---	---
Perfluorooctadecanoic Acid (PFODA)	*16517-11-6*	4	---	---	---	---	---
Perfluorododecane Sulfonic Acid (PFDoDS)	*79780-39-5*	2	---	---	---	---	---
1H,1H,2H,2H-Perfluorododecanesulfonic Acid (10:2FTS)	*120226-60-0*	5	---	---	---	---	---
9chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	*756426-58-1*	2	---	---	---	---	---
11chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	*763051-92-9*	2	---	---	---	---	---
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	*31506-32-8*	20	---	---	---	---	---
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	*4151-50-2*	20	---	---	---	---	---
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	*24448-09-7*	50	---	---	---	---	---
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	*1691-99-2*	50	---	---	---	---	---
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	*377-73-1*	2	---	---	---	---	---
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	*863090-89-5*	2	---	---	---	---	---
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	*113507-82-7*	2	---	---	---	---	---
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	*151772-58-6*	2	---	---	---	---	---

Table Key:
ng/L = nanograms per liter
PFAS = Per- & Polyfluoroalkyl Substances. There are no ROD ICLs for PFAS.
"---" indicates no standard was available for the analyte.

Notes:
1. Interim Concentration Levels established in the Record of Decision (ROD)
2. Effective July 23, 2020, NHDES established AGQS for PFOA (12 ng/L), PFOS (15 ng/L), PFNA (11 ng/L), and PFHxS (18 ng/L).
3. On June 15, 2022, EPA issued new Interim Health Advisories for PFOA (0.004 ng/L) and PFOS (0.02 ng/L). Additionally, EPA issued final Lifetime Drinking Water Health Advisories for PFBS (2,000 ng/L) and HFPO-DA or "GenX Chemicals" (10 ng/L). For the purposes of this scope of work, values are compared to the Established Site-specific RSLs with the exception of HFPO-DA, which is compared to the EPA Lifetime Drinking Water Health Advisory.
4. LC-MS/MS analysis using isotope dilutoin following the protocols outlined in the USDoD/DOE QSM Version 5.3 or later, modified for a custom analytical suite.

Table 1 - Contaminants of Concern, Analytes, Associated ICLs, Standards and Lab Criteria
Troy Mills Landfill Superfund Site - Confirmatory Sampling
Troy, New Hampshire

SURFACE WATER [1]

Test Methods / Analytes	Laboratory Reporting Limits (RLs)	Surface Water Quality Criteria (Env-Wq 1700) [2]
Additional Analytes - Alpha Analytical		
PFAS[3] by Method LC-MS/MS analysis using Isotope Dilution (ng/L) (40 Compounds)		
Perfluorobutanoic Acid (PFBA)	2	---
Perfluoropentanoic Acid (PFPeA)	2	---
Perfluorobutanesulfonic Acid (PFBS)	2	---
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	2	---
Perfluorohexanoic Acid (PFHxA)	2	---
Perfluoropentanesulfonic Acid (PFPeS)	2	---
Perfluoroheptanoic Acid (PFHpA)	2	---
Perfluorohexanesulfonic Acid (PFHxS)	2	---
Perfluorooctanoic Acid (PFOA)	2	---
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	2	---
Perfluoroheptanesulfonic Acid (PFHpS)	2	---
Perfluorononanoic Acid (PFNA)	2	---
Perfluorooctanesulfonic Acid (PFOS)	2	---
Perfluorodecanoic Acid (PFDA)	2	---
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	2	---
Perfluorononanesulfonic Acid (PFNS)	2	---
l-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	2	---
Perfluoroundecanoic Acid (PFUnA)	2	---
Perfluorodecanesulfonic Acid (PFDS)	2	---
Perfluorooctanesulfonamide (FOSA)	2	---
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	2	---
Perfluorododecanoic Acid (PFDoA)	2	---
Perfluorotridecanoic Acid (PFTrDA)	2	---
Perfluorotetradecanoic Acid (PFTA)	2	---
[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	50	---
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	2	---
Perfluorohexadecanoic Acid (PFHxDA)	4	---
Perfluorooctadecanoic Acid (PFODA)	4	---
Perfluorododecane Sulfonic Acid (PFDoDS)	2	---
1H,1H,2H,2H-Perfluorododecanesulfonic Acid (10:2FTS)	5	---
hlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	2	---
oeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	2	---
N-Methyl Perfluorooctane Sulfonamide (NMeFOSA)	20	---
N-Ethyl Perfluorooctane Sulfonamide (NEtFOSA)	20	---
N-Methyl Perfluorooctanesulfonamido Ethanol (NMeFOSE)	50	---
N-Ethyl Perfluorooctanesulfonamido Ethanol (NEtFOSE)	50	---
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	2	---
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	2	---
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	2	---
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	2	---

Table Key:
ng/L = nanograms per liter
PFAS = Per- & Polyfluoroalkyl Substances. There are no ROD ICLs for PFAS.
"---" indicates no standard was available for the analyte.

Notes:
1. There are no ROD Interim Cleanup Goals established for surface water.
2. Surface Water Quality Criteria are based on the Env-Wq 1700 Water Quality Criteria for Toxic Substances Protection of Aquatic Life in Freshwaters with chronic criteria. If a chronic criteria standard has not been established, GZA used the Freshwater Acute Criteria.
3. LC-MS/MS analysis using isotope dilutoin following the protocols outlined in the USDoD/DOE QSM Version 5.3 or later, modified for a custom analytical suite.

Table 2 Monitoring Locations and Analytical Parameters

Table 2 - Sample Locations and Analytical Parameters
Troy Mills Landfill Superfund Site - Confirmatory Sampling
Troy, New Hampshire

SAMPLE LOCATION AND DESIGNATION	QC Samples (Table 5) [1]	WELL TYPE	SAMPLE METHOD	PARAMETERS [2]	SAMPLING RATIONALE
GROUNDWATER (7 Locations Total)					
TRY_MW-601B		Bedrock	QED SamplePro	**Field Measurements:** Water Levels, Dissolved Oxygen, Temperature, Oxygen Reduction Potential, Specific Conductance, pH, and Turbidity **Laboratory Analyses:** PFAS (537)	Former drum disposal area. Monitor groundwater quality changes and natural attenuation.
TRY_MW-901S		Overburden	Bailer/QED SamplePro		Newly installed monitoring wells to further evaluate the distribution of PFAS at the site.
TRY_MW-901B		Bedrock	QED SamplePro		
TRY_MW-902S		Overburden	QED SamplePro		
TRY_MW-902B		Bedrock	QED SamplePro		
TRY_MW-903S	DUP	Overburden	QED SamplePro		
TRY_MW-903B		Bedrock	QED SamplePro		
SURFACE WATER					
TRY_SW-100	DUP	N/A	Glass Jar	PFAS (537)	See the Sampling and Analysis Plan for rationale
EQUIPMENT BLANKS (Refer to Table 5 for QC samples)					
QED SamplePro Bladder Pump (collected after use/decon in TRY_MW-903S)				PFAS (537)	Decontamination does not include Hexane & 2-propanol
Water Level Probe (collected after use/decon in TRY_MW-903S)					

Table key:
QC = Quality Control
PFAS = Per-and Polyfluoroalkyl Substances

Specific Notes:
1. Refer to **Table 5** for specific QC (quality control) sampling requirements and analysis (equipment blanks, etc.).
2. Refer to **Table 3** for specific information on trip blanks, containers, preservatives and hold times.

Table 3 Media, Analysis, Test Methods, Containers, Sample Volume, Preservation and Hold Times

TABLE 3 - Media, Analysis, Test Methods, Containers/Sample Volume, Preservation, and Hold Time

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Troy Mills Landfill Superfund Site - Confirmatory Sampling

Troy, New Hampshire

Parameters	Number of Samples Including Field QC [1,2]	Analytical Method	Containers (Type and Size)	Preservation Requirements	Maximum Holding Time
Alpha Analytical					
Groundwater Samples					
PFAS	7 field samples, 1 duplicate, 2 equipment blanks, 2 field blanks	LC-MS/MS analysis using isotope dilution following the protocols outlined in the USDoD/DOE QSM Version 5.3 or later	2- 250 mL polypropylene [1]	4°C +/-2°C	14 days
Surface Water Samples					
PFAS	1 field sample, 1 duplicate	LC-MS/MS analysis using isotope dilution following the protocols outlined in the USDoD/DOE QSM Version 5.3 or later	2 - 250 mL polypropylene [1]	4°C +/-2°C	14 days

Table Key:

QC = Quality Control

PFAS = Per-and Polyfluoroalkyl Substances

NHDES = New Hampshire Department of Environmental Services

EPA = Environmental Protection Agency

^{o}C = Degrees Centigrade

Notes:

1. There will be one temperature blank per cooler.
2. Refer specifically to **Table 5** for equipment blank details as well as other QC sampling requirements.

Table 4 Well Construction Information

TABLE 4
WELL CONSTRUCTION INFORMATION
Troy Mills Landfill Superfund Site - Confirmatory Sampling
Troy, New Hampshire

Monitoring Well Designation	Well Type (2-in, 1.5-in etc.)	Screened Geologic Unit	Reported Depth to Well Bottom [1] (ft, referenced to measuring point)	Measured Depth to Well Bottom[1] (ft, referenced to measuring point)	Screen Interval (ft, referenced to measuring point)	Screen Length (ft)	Reference Measuring Point	Height of Stickup of Measuring Point (ft)	Bladder Pump Model	Bladder Length in feet (L) / Diameter in inches (D) / & Capacity in mL (C)	Sampling Method	Historical Low Water Level [2] (ft, referenced to measuring point)	Recommended Depth of Bladder Pump Intake (ft, referenced to measuring point)	Pump Intake Distance from Top of Screen (ft, referenced to measuring point)	Distance Between Pump Intake and Bottom of Well [3] (ft, referenced to measuring point)
TRY_M-1	1 1/2-in PVC	Overburden	67.3 [5]	dedicated equip.	8.3-67.3 [5]	59	PVC	0.64	QED T1300	3.8-ft L, 1-in D, 220-mL C	Low Flow	8.76	55.0	46.7	12.3
TRY_M-7	1 1/2-in PVC	Overburden	17.3	dedicated equip.	7.8-17.3	9.5	PVC	1.61	QED T1300	3.8-ft L, 1-in D, 220-mL C	LF/Mod	8.76	15.8	8.0	1.5
TRY_M-7D	1 1/2-in PVC	Bedrock	81.4	81.4	50.8-80.8	30	PVC	1.49	N / A [7]	N / A [7]	Mod/IR	5.58	74.0 [7]	23.2 [7]	6.8 [7]
TRY_MW-A28	1 1/2-in PVC	Overburden	13.0	13.2	8.03	5	PVC	3.03	N / A [7]	N / A [7]	LF/Mod[12]	9.28	11.1 [7]	3.1 [7]	1.9 [7]
TRY_MW-C6S	2-in PVC	Overburden	15.2	15.2	5.2-15.2	10	PVC	1.79	N / A [7]	N / A [7]	LF/Mod	6.67	11.0 [7]	5.8 [7]	4.2 [7]
TRY_MW-C6D	2-in PVC	Overburden	38.0	dedicated equip.	28.0-38.0	10	PVC	2.50	QED T1250	1.2-ft L, 1.5-in D, 100-mL C	Low Flow	7.18	33.0	5.0	5.0
TRY_MW-101S	2-in PVC	Overburden	29.4	dedicated equip.	19.4-29.4	10	PVC	1.71	QED T1250	1.2-ft L, 1.5-in D, 100-mL C	LF/Mod	21.30	24.4	5.0	5.0
TRY_MW-101D	2-in PVC	Overburden	67.1	dedicated equip.	57.1-67.1	10	PVC	2.50	QED T1250	1.2-ft L, 1.5-in D, 100-mL C	Mod/IR	18.86	62.1	5.0	5.0
TRY_MW-102	2-in PVC	Predominantly Overburden	36.2 [5]	36.0	21.2-36.2 [5]	15	Casing	2.89	QED Sample Pro	1.2-ft L, 1.75 in D, 100-mL C	Low Flow	25.31	34.0	13.0	2.2
TRY_MW-104S	2-in PVC	Overburden	17.7 [5]	dedicated equip.	5-17 [5]	12	PVC	2.17	QED T1250	1.2-ft L, 1.5-in D, 100-mL C	Low Flow	4.39	15.5	10.5	1.5
TRY_MW-104D	2-in PVC	Overburden	52.1 [5]	dedicated equip.	37.1-52.1 [5]	15	PVC	2.48	QED T1250	1.2-ft L, 1.5-in D, 100-mL C	Low Flow	4.24	48.0	10.9	4.1
TRY_MW-105S	2-in PVC	Overburden	21.1	dedicated equip.	6.5-19.5 [5]	13	PVC	---	QED T1250	1.2-ft L, 1.75 in D, 100-mL C	LF/Mod	11.58	17.5	11.0	3.6
TRY_MW-105D	2-in PVC	Bedrock	87.9	87.9	48.5-88.2 [5]	39.7	PVC	1.89	QED Sample Pro	1.2-ft L, 1.75 in D, 100-mL C	Mod/IR	12.65	68.0	19.5	20.2
TRY_MW-201SX	2-in PVC	Overburden	17.2	dedicated equip.	7.2-17.2	10	PVC	1.69	QED T1250	1.2-ft L, 1.5-in D, 100-mL C	Low Flow	7.54	12.2	5.0	5.0
TRY_MW-202P	4-in PVC	Overburden	61.6	61.4	4.9-59.9 [5]	55	PVC	1.96	QED Sample Pro	1.2-ft L, 1.75 in D, 100-mL C	Low Flow[12]	9.97	52.5	47.6	7.4
TRY_MW-204	2-in PVC	Overburden	32.8	dedicated equip.	22.8-32.8	10	PVC	2.6	QED T1250	1.2-ft L, 1.5-in D, 100-mL C	Low Flow	21.52	31.3	8.5	1.5
TRY_MW-205	2-in PVC	Overburden	39.1	dedicated equip.	29.1-39.1	10	PVC	2.07	QED T1250	1.2-ft L, 1.5-in D, 100-mL C	LF/Mod	33.42	37.6	8.5	1.5
TRY_MW-301X	2-in PVC	Overburden	52.5	52.7	42.5-52.5	10	PVC	2.42	QED Sample Pro	1.2-ft L, 1.75 in D, 100-mL C	Low Flow	35.55	47.5	5.0	5.0
TRY_MW-501X	2-in PVC	Overburden	14.0	13.8	4.0-14.0	10	PVC	2.02	QED Sample Pro	1.2-ft L, 1.75 in D, 100-mL C	LF/Mod	6.39	10.2	6.2	3.8
TRY_MW-501D	2-in PVC	Overburden	31.9	dedicated equip.	21.9-31.9	10	PVC	2.17	QED T1250	1.2-ft L, 1.5-in D, 100-mL C	Low Flow [10]	6.22	26.9	5.0	5.0
TRY_MW-508X	2-in PVC	Overburden	9.7	9.95	4.7-9.7	5	PVC	2.9	QED Sample Pro	1.2-ft L, 1.75 in D, 100-mL C	LF/Mod	6.45	8.1	3.4	1.6
TRY_MW-601S	2-in PVC	Overburden	29.3	dedicated equip.	14.3-29.3	15	PVC	2.69	QED T1250	1.2-ft L, 1.5-in D, 100-mL C	LF/Mod	21.80	27.8	13.5	1.5
TRY_MW-601D	2-in PVC	Overburden	62.1	dedicated equip.	52.1-62.1	10	PVC	2.23	QED T1250	1.2-ft L, 1.5-in D, 100-mL C	Low Flow [8,10]	23.10	57.1	5.0	5.0
TRY_MW-601B[11]	2-in PVC	Bedrock	86.1	86.1	72.5-82.5	10	PVC	3.21	QED Sample Pro	N / A [7]	Low Flow	26.08	77.5	5.0	5.0
TRY_MW-602B	2-in PVC	Bedrock	47.5	dedicated equip.	37.5-47.5	10	PVC	2.12	QED T1250	1.2-ft L, 1.5-in D, 100-mL C	Low Flow	21.76	42.5	5.0	5.0
TRY_MW-701	2-in PVC	Bedrock	78.3	dedicated equip.	18.3-78.3	60	PVC	3.18	QED T1250	1.2-ft L, 1.5-in D, 100-mL C	Low Flow	10.70	48.3	30.0	30.0
TRY_MW-702SX	2-in PVC	Overburden	15.4 [6]	14.8	5.4-15.4 [6]	10	PVC	3.9	QED Sample Pro	1.2-ft L, 1.75 in D, 100-mL C	LF/Mod [9]	7.95	11.7	6.3	3.7
TRY_MW-702D	2-in PVC	Bedrock	46.4 [5,6]	46.7	19.4-46.4 [5,6]	27	PVC	2.44	QED Sample Pro	1.2-ft L, 1.75 in D, 100-mL C	Low Flow	6.55	33.0	13.6	13.4
TRY_MW-801	2-in PVC	Overburden	46.4	46.7	36.4-46.4	10	PVC	2.25	QED Sample Pro	1.2-ft L, 1.75 in D, 100-mL C	Low Flow	33.46	41.4	5.0	5.0
TRY_MW-802	2-in PVC	Overburden	35.6	35.9	25.6-35.6	10	PVC	2.1	QED Sample Pro	1.2-ft L, 1.75 in D, 100-mL C	LF/Mod	29.18	32.4	6.8	3.2
TRY_MW-803	2-in PVC	Overburden	32.3	dedicated equip.	22.3-32.3	10	PVC	2.15	QED T1250	1.2-ft L, 1.5-in D, 100-mL C	LF/Mod	29.12	30.7	8.4	1.6
TRY_MW-804	2-in PVC	Overburden	36.0	dedicated equip.	26.0-36.0	10	PVC	2.32	QED T1250	1.2-ft L, 1.5-in D, 100-mL C	LF/Mod[12]	31.71	33.9	7.9	2.1
TRY_MW-805	2-in PVC	Overburden	42.4	42.6	32.4-42.4	10	PVC	2.37	QED Sample Pro	1.2-ft L, 1.75 in D, 100-mL C	Low Flow	31.41	37.4	5.0	5.0
TRY_MW-901S[11]	2-in PVC	Overburden	39.0	39.0	34.0-39.0	5	PVC	2.29	Polyethylene Bailer	3.0-ft L, 1.6 in D, 1,000-mL C	Low Flow	38.56	36.5[11]	N/A[11]	N/A[11]
TRY_MW-901B	2-in PVC	Bedrock	74.4	74.4	64.4-74.4	10	PVC	1.75	QED Sample Pro	1.2-ft L, 1.75 in D, 100-mL C	Low Flow	34.88	69.8	5.4	4.6
TRY_MW-902S	2-in PVC	Overburden	31.5	31.5	21.5-31.5	10	PVC	2.21	QED Sample Pro	1.2-ft L, 1.75 in D, 100-mL C	Low Flow	25.02	28.5	7.0	3.0
TRY_MW-902B	2-in PVC	Bedrock	110.4	110.4	100.4-110.4	10	PVC	1.71	QED Sample Pro	1.2-ft L, 1.75 in D, 100-mL C	Low Flow	32.17	105.8	5.4	4.6
TRY_MW-903S	2-in PVC	Overburden	15.2	15.2	10.2-15.2	5	PVC	2.75	QED Sample Pro	1.2-ft L, 1.75 in D, 100-mL C	Low Flow	7.27	12.7	2.5	2.5
TRY_MW-903B	2-in PVC	Bedrock	72.7	72.7	62.7-72.7	10	PVC	2.13	QED Sample Pro	1.2-ft L, 1.75 in D, 100-mL C	Low Flow	7.70	67.7	5.0	5.0

TABLE 4
WELL CONSTRUCTION INFORMATION
Troy Mills Landfill Superfund Site - Confirmatory Sampling
Troy, New Hampshire

TABLE KEY:
in = Inch
ft = Feet
PVC = Polyvinyl chloride
LNAPL = Light Non-aqueous Phase Liquid
L = Length
D = Diameter
C = Capacity
mL = milliliters
"---" = No data available
N / A = Not applicable
LF/Mod = Low Flow or Modified Sampling Procedure depending upon water level (i.e., the screen is bisected by water table)
Mod/IR = Modified sampling method used due to historical insufficient recharge
Wells that require collecting additional information during future sampling event

SPECIFIC NOTES:
1. Reported Depth to Well Bottom depths are field measured unless otherwise noted.
2. Wells labeled "Mod/IR" had two or more consecutive sampling years during which stabilized drawdown could not be achieved. The wells are now sampled using the Modified Sampling Method described in SOP B-5 Groundwater Well Sampling - Low Flow using a Peristaltic Pump and SOP B-6 Groundwater Well Sampling - Low Flow using a Bladder Pump.
3. Historical low water levels are compiled from water level measurements taken from 2006 to the present. This data is checked yearly and updated as necessary. Refer to Table 3 - Groundwater Level Measurements and Elevation Data for historical groundwater levels and elevations. The historical low water level for well TRY_MW-C6S was taken from the 11/19/12 measurement included on Table 4 - Summary of LNAPL Well Observations of the June 2013 Monitoring Report.
4. The distance between pump intake and bottom of the well is calculated using the Depth to Well Bottom information.
5. Downhole information was not verified during the October 8, 2008 camera survey.
6. GZA notes that there appears to be a minor discrepancy between the historical information regarding the bottom of screen/well and that which was measured during 2014 by GZA in wells TRY_MW-702SX (14.9 feet) and TRY_MW-702D (46.7 feet).
7. Wells TRY_MW-A28 and TRY_M-7D have a 1.5-inch diameter, which is too small to accommodate a SamplePro Bladder pump; therefore, a peristaltic pump and dedicated poly tubing is used to sample these wells. The last three columns of the table (Recommended Depth of Bladder Pump Intake, etc.) refer to the intake depth of the poly tubing used for sampling. Well TRY_MW-C6S is also be sampled with a peristaltic pump due to bis(2-ethylhexyl)phthalate contamination concerns.
8. The water level and field parameters in TRY_MW-601D often stabilize at or near the two hour time limit.
9. For TRY_MW-702SX, the use of low flow or modified methodology for purging the well will depend on the water level in the screen and the turbidity of the water during purging.
10. The water level in these wells did not stabilize prior to the two hour time limit during the spring 2020 sampling event.
11. Due to limited groundwater available within the screened interval at TRY_MW-901S, a polyethylene bailer is required to collect a grab sample from this location.
12. For TRY_MW-202P, TRY_MW-804, and TRY_MW-A28 attempt full low flow

Table 5 Summary of Quality Assurance Samples to be Collected

Table 5 - Summary of Quality Assurance Samples to be Collected
Troy Mills Landfill Superfund Site
Troy, New Hampshire

Troy Mills Landfill Superfund Site	Associated Sampling Equipment	Sample ID	Designated NOTE to be used on Chain-of-Custody	Analyses [1,2,3]
GROUNDWATER EQUIPMENT BLANK SAMPLES				
(collected after sampling MW-903S/after regular less stringent decon)	QED Sample Pro Bladder Pump	EQUIP BLANK	"QED Sample Pro/903S"	PFAS
	Water Level	EQUIP BLANK	"Water Level/903S"	PFAS
DUPLICATE SAMPLES				
Groundwater	Bladder Pump	TRY_MW-903S DUP	N/A	PFAS
Surface Water	Clean Glass Jar	TRY_SW-100 DUP	N/A	PFAS
FIELD BLANK SAMPLES				
1 per person collecting PFAS samples (1 250-mL polypropylene bottle)	**Preservatives** (4˚C +/- 2˚C)	FIELD BLANK - "SAMPLER'S LAST NAME" (e.g., FIELD BLANK - PERKINS)	N/A	PFAS
TEMPERATURE BLANKS				
Temperature Blank (1 per cooler)	N/A	TEMP BLANK	Check off box on COC that a temperature blank has been included in the cooler	Temperature

Table key:
PFAS = Per-and Polyfluoroalkyl Substances
DUP = Duplicate sample
^{o}C = Degrees Centigrade
mL = milliliter

Notes:
1. Refer to **Table 3** in the SAP for specific test methods for each analysis.
2. Refer to **Table 2** in the SAP for a summary of individual parameters being sampled for at each well location.
3. It is not necessary to collect equipment blanks on bailers (if they are used) because separate bailers will be used at each location. It is not necessary to collect an equipment blank on new bladder pumps as previous equipment blanks on new bladder pumps have contained no contamination. In addition, other equipment blanks confirm the adequacy of the decontamination procedures.

Alpha Chain-of-Custody

CHAIN OF CUSTODY

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ALPHA ANALYTICAL — World Class Chemistry

Westborough, MA TEL: 508-898-9220 FAX: 508-898-9193
Mansfield, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #:

Project Information

Project Name: Troy Mills Landfill Superfund

Project Location: Troy, NH

Project #: 04.0190987.33

Project Manager: Michael Summerlin

ALPHA Quote #: Contract #1081921

Report Information — Data Deliverables

☐ FAX ☒ EMAIL

☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #: 2590-03 "T"

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
NHDES	Sampling and Analysis Plan limits

Client Information

Client: NHDES

Address: 29 Hazen Drive

Concord, NH 03302

Phone: 603-271-3649

Fax:

Email: see comments

☐ These samples have been Previously analyzed by Alpha

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Other Project Specific Requirements/Comments/Detection Limits:

michael.d.summerlinjr@des.nh.gov. Please also email login receipts and lab reports to megan.murphy@gza.com and katherine.mcdonald@gza.com. Please provide excel files formatted for upload to the NHDES EMD and for GZA EQuIS upload.
Temperature Blank included in cooler.

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS (NHDES Contract 40-compound List)	Sample Specific Comments	TOTAL # BOTTLES
	TRY_SW-100 DUP			SW				2

Please check appropriate boxes below

Container Type	P	-	-	-	-	-	-	-	-	-	-	-	
Preservative	-	-	-	-	-	-	-	-	-	-	-	-	

Relinquished By:	Date/Time	Received By:	Date/Time

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

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CHAIN OF CUSTODY

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Date Rec'd in Lab:

ALPHA Job #:

Westborough, MA
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: NHDES
Address: 29 Hazen Drive
Concord, NH 03302
Phone: 603-271-3649
Fax:
Email: see comments

☐ These samples have been Previously analyzed by Alpha

Project Information

Project Name: Troy Mills Landfill Superfund
Project Location: Troy, NH
Project #: 04.0190987.35
Project Manager: Michael Summerlin
ALPHA Quote #: Contract #1081921

Turn-Around Time

☒ Standard ☐ Rush (ONLY IF PRE-APPROVED)

Due Date: Time:

Report Information — Data Deliverables

☐ FAX ☒ EMAIL
☒ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #: 2589-00 "T"

Regulatory Requirements/Report Limits

State/Fed Program	Criteria
NHDES	Sampling and Analysis Plan limits

Other Project Specific Requirements/Comments/Detection Limits:

michael.d.summerlinjr@des.nh.gov. Please also email login receipts and lab reports to megan.murphy@gza.com and katherine.mcdonald@gza.com. Please provide excel files formatted for upload to the NHDES EMD and for GZA EQuIS upload.
Temperature Blank included in cooler.

ANALYSIS

SAMPLE HANDLING
Filtration
☐ Done
☒ Not Needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

TOTAL # BOTTLES

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS (NHDES Contract 40-compound list)	Sample Specific Comments	TOTAL # BOTTLES
	TRY_SW-100			SW		✔		2
	TRY_SW-100 DUP			SW		✔		2

Please check appropriate boxes below

Container Type	P	-	-	-	-	-	-	-	-	-	-	-
Preservative	-	-	-	-	-	-	-	-	-	-	-	-

Relinquished By:	Date/Time	Received By:	Date/Time

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms.

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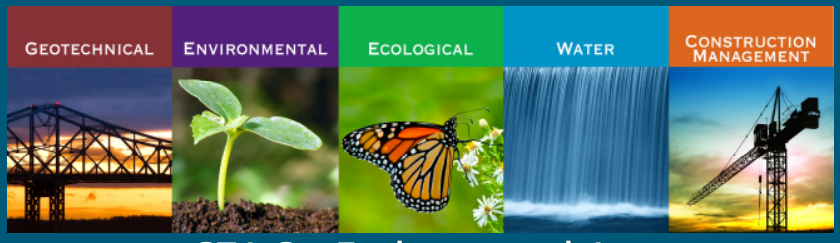

GZA GeoEnvironmental, Inc.