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TOWN OF CANTON ENVIRONMENTAL INVESTIGATION REPORT 4 Barbourtown Road Canton, Connecticut

June 2021
File No. 05.0046589.02



PREPARED FOR:
Town of Canton
Canton, Connecticut

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June 23, 2021
File No. 05.0046589.02

Town of Canton
Canton Town Hall
P.O. Box 168, 4 Market Street
Canton CT 06019

Attention: Mr. Robert Skinner

Re: Environmental Investigation Report
4 Barbourtown Road
Canton, Connecticut

Dear Mr. Skinner:

In response to a Connecticut Department of Energy and Environmental Protection (CTDEEP) letter dated November 15, 2019 to the Town of Canton, GZA GeoEnvironmental, Inc. (GZA) has completed investigations to assess the impact of Aqueous Film Forming Foam (AFFF) which was used in firefighting training conducted at the Cherry Brook Primary School at 4 Barbourtown Road (Site). Previously, adjacent water supply wells were tested, and no samples were reported above the CTDEEP's action limit for the sum of five per- and polyfluoroalkyl substances (PFAS) compounds.

This report delineates the nature and extent of the PFAS impacts both on- and off-Site from the AFFF firefighting training activities. The report indicates that the level of PFAS contamination will require remedial action to comply with the CTDEEP Remediation Standard Regulations (RSRs). A Remedial Action Plan (RAP) is being developed to define the remedial goals and outline the remedial approach to comply with the RSRs and estimated costs are being developed to implement the remedial work. The conclusions of this letter report are subject to the Limitations included as Appendix A.

If you have any questions, please do not hesitate to contact Richard Desrosiers at 860-965-1117 or richard.desrosiers@gza.com.

Very truly yours,

GZA GeoEnvironmental, Inc.

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EXECUTIVE SUMMARY

Prior investigations and the supplemental investigations summarized herein have identified the following impacts due to the application of Aqueous Film Forming Foam (AFFF) during firefighting training activities conducted at the Cherry Brook Primary School:

- 1) Private potable water supply wells.
 - a) All private and the Cherry Brook Primary School (CBPS) potable water supply wells sampled reported concentrations below the Department of Public Health (DPH) drinking water action levels (See GZA report dated October 23, 2020). It should be noted that not all property owners permitted access to sample water supply wells.
- 2) Direct Exposure Criteria (DEC)
 - a) All shallow and deep soil samples collected, above the water table and within 15 feet to grade (including samples collected from 0 to 3 inches), reported concentrations of per- and polyfluoroalkyl substances (PFAS) compounds below CTDEEP's DEC.
- 3) Pollutant Mobility Criteria (PMC)
 - a) Total mass analyses reported concentrations of PFAS compounds above the CTDEEP's PMC in both the Eastern and Southern Fields.
 - b) SPLP Leachability analyses reported that all Southern Field samples were below the alternative PMC (see Section 1.2).
 - c) SPLP Leachability analyses reported that concentrations in the shallow and deep soil samples were greater than the CTDEEP's alternate PMC, requiring remedial action.
- 4) Groundwater Protection Criteria (GWPC)
 - a) Groundwater data identified concentrations of PFAS greater than the CTDEEP's GWPC, requiring remedial action.
- 5) Surface water Criteria (SWC)
 - a) Surface water samples reported low concentrations of PFAS; however, there is no RSR criteria to compare these results.

Based upon these findings, it is GZA's recommendation that those soils exceeding the alternative SPLP Pollutant Mobility Criteria in the Eastern Field be remediated to remove the source of PFAS contamination to the groundwater. Because the limits of groundwater contamination (less than 70 ng/L) are defined and generally located beneath the soil source area, GZA recommends that a groundwater and surface water monitoring program be implemented after the soil remedial action. Dependent on the results of the groundwater monitoring, it might become necessary to implement a groundwater treatment remedial action if concentrations increase or if elevated concentrations are reported in the surface water samples.

1.0 INTRODUCTION

1.1. BACKGROUND

GZA understands that in 2014 and perhaps as early as 2007/2008, the Town of Canton fire department conducted fire training drills using Aqueous Film Forming Foam (AFFF), at two locations on the grounds of the CBPS located at 4 Barbourtown Road, Canton, Connecticut (Figure 1). During the 2014 fire training drill, approximately 40-gallons of the AFFF concentrate were mixed with approximately 1,300-gallons of water and sprayed in two locations (see attached Figure 2). The first area was the grassy field area between the school's parking lot and Barbourtown Road ("Eastern Field"), whereas the second area was defined as the grassy field south of the school building and north of a playscape ("Southern Field"). The constituents of concern associated with AFFF are per- and polyfluoroalkyl substances (PFAS) which are a group of chemical compounds that may have environmental and human health impacts.



On November 15, 2019 the Connecticut Department of Energy and Environmental Protection (CTDEEP) Bureau of Water Protection and Land Reuse Remediation Division sent a letter to the Town of Canton requesting that the Town conduct subsurface investigations at the two locations where AFFF was used/released on CBPS Water the CBPS property and to evaluate adjacent sensitive receptors (potable water supply wells) within a 500-foot radius of the school property boundary (including the CBPS wells).

The Cherry Brook Primary School has two primary bedrock water supply wells (Wells 1 & 2) as shown on Figure 4. These wells are located along the northwestern property line, upgradient of the release of the firefighting foam. An influent well sample (pre-holding tank) was collected by the Town from Wells 1 and 2 on November 11, 2019 and a combined sample (Wells 1 & 2) was collected on November 6, 2019 after the holding tank. These samples were analyzed using EPA Method 537.1. On November 27, 2019, the laboratory reported the results as non-detect at less than 2 parts per trillion (ppt). The Town provided approximately 2,000 gallons of potable water to the school per day during the period while the samples were being analyzed.

1.2. CONCEPTUAL SITE MODEL (CSM) AND REGULATORY FRAMEWORK

The releases were from the application of AFFF onto the CBPS grounds by mixing concentrated AFFF with water during fire training exercises. The released PFAS compounds were either sorbed onto the soil and/or infiltrated to the underlying groundwater. In accordance with the Connecticut Environmental Conditions Online database (CTECO), the CTDEEP has classified the groundwater beneath the Site as “GA”, indicating that is suitable for drinking without treatment. The water supply for the private properties surrounding the CBPS are on bedrock wells. The adjacent Cherry Brook (located east and south of the Eastern Field) has been designated as a Class A surface water body. Class A surface waters include habitat for fish and other aquatic life and wildlife; potential drinking water supplies; recreation; navigation; and water supply for industry and agriculture. The Site is underlain by sandy deposits overlying bedrock.

The CTDEEP has established Remediation Standard Regulations (RSRs) to define the regulatory criteria in which to compare site characterization data. The regulatory criteria are further defined under the Additional Polluting Substance (APS) criteria within the framework of the RSRs; however, these criteria have not been promulgated but are required to be considered when comparing data to determine if remedial actions are warranted. In addition, the Connecticut Department of Public Health (DPH) has established a health advisory criterion for PFAS in drinking water, at 70 nano grams per Liter (ng/L), for the sum of 5-PFAS individual compounds.

The current regulatory criteria recommended by CTDEEP and DPH in the comparison of site characterization data (soil, groundwater, surface water and drinking water) are listed below. It is also worth noting that the 70 ng/L for drinking water and groundwater are the current recommended criteria; however, CTDEEP and DPH may lower these criteria in the future. The criteria used for assessing these data include:

- Drinking water samples are compared to the DPH health advisory criteria of 70 ng/L or 0.07 micrograms per liter (µg/L), for the sum of 5-PFAS compounds.
- Groundwater samples are compared to the APS Groundwater Protection Criteria (GWPC) of 70 ng/L or 0.07 µg/L, for the sum of 5-PFAS compounds.
- Soil samples are compared to either 1) the direct exposure criteria (DEC) for those soil within the upper 15-feet or 2) the pollutant mobility criteria (PMC) to assess the potential for contaminant to leach into the underlying groundwater.
- The Residential Direct Exposure Criteria (R-DEC) has been established at 1,350 micro grams per kilogram (µg/Kg) for PFAS.



- The Pollutant Mobility Criteria considers two provisions: 1) a direct comparison of the total mass analyses directly to the PMC or 2) a leachability analysis using a synthetic precipitation leaching procedure (SPLP) and comparing those results to ten times the GWPC. The second alternative is considered an alternative PMC under RCSA 22a-133k-2(C)(2)(c). The leachability analysis mimics contaminant migration from soil to groundwater under standard environmental conditions (i.e., during precipitation events). Site data has been collected in order to provide the data needed to assess PFAS under either alternative. These criteria include:
 - Pollutant Mobility Criteria (PMC) established at 1.4 µg/Kg (based on total mass analysis).
 - Alternative Pollutant Mobility Criteria (PMC) established at 0.7 µg/L (based on SPLP leaching analysis).

2.0 FIELD SAMPLING PROGRAM

The supplemental investigations summarized herein were developed based upon the CSM and previous investigations to define the nature and extent of the PFAS contamination. These investigations focused on 1) soil delineation through the use of total and SPLP limits, 2) defining the nature and extent of groundwater contamination within and beyond the Eastern Field, 3) collecting surface water samples from Cherry Brook to determine potential impacts from groundwater discharge, 4) collection of additional potable water supply well samples, and 5) understanding groundwater hydraulic conditions to determine the fate and transport of PFAS beyond the Eastern Field towards Cherry Brook.

2.1. SOIL DELINEATION

The soil exploration program focused on the two areas where historic AFFF was historically applied.

- In the Southern Field, total PFAS was detected above the mass-based PMC, but the results of the SPLP analyses were below the alternative PMC. However, the total mass analyses indicated an increasing trend to the west, and it was recommended to collect additional western samples, out of an abundance of caution.
- In the Eastern Field, both total and SPLP analyses exceeded either the mass-based PMC or the alternative PMC. The goal was to fill in a data gap along Barbourtown Road and to advance additional borings to further define the limits of the exceedances to reduce the potential area requiring remedial actions.

All soil samples were either collected using hand sampling techniques or a Geoprobe® type direct-push drill rig. Figure 3 depicts the location of these soil samples. Soil boring logs are included in Appendix B soil sample laboratory analytical results are included in Appendix C. A summary of these results is discussed in Section 4.0.

2.1.1. Southern Field

On April 1, 2021, GZA collected four (4) additional soil samples from three (3) separate sample locations (GZ-101S (0-1'), GZ-101D (2-3.7'), GZ-102S (0-2') and GZ-103S (0-2')). One sample was collected beneath the asphalt pavement just southwest of the school (4-square play area) and the other two locations were within the grassy area just west of the asphalt pavement. These locations were selected because 1) the Town indicated that this area might have been used during fire training, and 2) data collected during the initial characterization that identified increased concentration trends to the west. These samples were analyzed for total and SPLP PFAS using a modified EPA method 537.1 revision and total organic carbon. Table 2 presents the analytical results for these samples.



2.1.2. Eastern Field

On April 1, 2021, GZA collected eight (8) shallow samples (GZ-104S through GZ-111S) from 0 to 2 feet below grade. These samples were collected using hand sampling techniques. However, due to encountering large cobble and boulders, deeper samples could not be recovered. On April 14, 2021, GZA collected five (5) deeper samples (GZ-107 (3.8-5.3'), GZ-108 (3.5-5'), GZ-109 (3.2-4.7'), GZ-110 (3.7-5.2') and GZ-111 (3-4.3') using a GeoProbe™ unit.

Samples GZ-104, -105 and -106 were defined as the data gap samples along Barbourtown Road. The remaining samples were advanced to further define the limits of the potential remedial actions. These samples were analyzed for total and SPLP PFAS using a modified EPA method 537.1 revision and total organic carbon. Table 3 presents the analytical results for these samples. Figure 3 shows the sample locations.

2.2. GROUNDWATER INVESTIGATION

Between July 31 and December 7, 2020, either a Geoprobe® type direct-push unit or a Sonic drill rig was used to install nineteen monitoring wells. These wells were vertically installed as 1) shallow monitoring wells screened across the water table, 2) intermediate monitoring wells screened above the bedrock, 3) deep monitoring wells screened in the overburden and shallow weathered bedrock and 4) bedrock monitoring wells screened in bedrock. A summary of the monitoring well construction is provided on Table 1 (screen length, screen depth and media the vertical well screens were installed).

These wells were constructed with 2-inch diameter schedule 40, flush-joint threaded, polyvinyl chloride (PVC) screens completed at depths ranging from 13 and 44.5 feet below grade (fbg). The water table wells were constructed with 10-foot long 10-slot PVC wells screens, whereas the intermediate (wells labeled with an "I") and deep (wells labeled with a "D") were constructed with 5-foot long 10-slot PVC well screens. The wells were sand-packed, sealed with bentonite and finished with either flush-mount road box or a steel standpipe (nearest to Cherry Brook). Monitoring well installation details are included in Appendix D.

Upon completion and prior to groundwater sampling, monitoring wells were developed to remove any fine-grained material that might have entered the wells during construction. These wells were surveyed to define elevations at the top of the PVC casings and at the adjacent ground surface to assess groundwater flow direction. A summary of elevations is provided in Table 1 and the assessment of the data is provided in Section 4.0.

The locations of the monitoring wells are shown of Figure 4. A summary of the well locations are as follows:

2.2.1. Southern Field

During the previous investigation, one monitoring well was installed in the Southern Field (GZ-1) as a shallow overburden well. Based upon the initial groundwater data collected, no additional monitoring wells were installed during this supplemental investigation.

2.2.2. Eastern Field and Off-Site

During the previous investigation, three shallow water table monitoring wells (GZ-2, GZ-3 and GZ-4) were installed in the Eastern Field identifying PFAS contamination. The additional wells were used to evaluate the potential for vertical and horizontal migration to delineate the nature and extent of the PFAS plume. The additional monitoring wells were installed as follows:



- A total of 11 additional monitoring wells were installed in the Eastern Field, either as single wells or in clusters. The vertical screen placements were as follows: 1) shallow overburden wells (GZ-5, GZ-6, GZ-7, GZ-9, GZ-10), 2) intermediate overburden wells (GZ-4I and GZ-9I), 3) deeper overburden/weathered bedrock wells (GZ-2I and GZ-7I), and 4) bedrock wells (GZ-2D and GZ-4D).
- A total of four (4) monitoring wells were installed south and east of the Eastern Field. Access to the east was granted by the Town's inland wetlands commission; however, mobility was restricted, and the intended locations were field modified. The vertical screen placements were as follows: 1) shallow overburden wells (GZ-8 and GZ-10), and 2) bedrock wells (GZ-8I and GZ-11I).

2.2.3. Groundwater Sampling

The initial four (4) groundwater samples (GZ-1 through GZ-4) were collected on August 14, 2020. These wells were not resampled during this investigation. On January 13 and 14 2021, GZA sampled the newly installed monitoring wells for analysis of PFAS. Sampling for PFAS required stringent field sampling protocols to reduce the likelihood of false positives and to reduce cross-contamination, given the groundwater criteria is in the parts per trillion range. Prior to sampling, GZA measured the depth to the static groundwater table and then dedicated sampling equipment was lowered to the mid-point of the monitoring well screened interval. GZA proceeded to sample the wells using CTDEEP low flow sampling techniques using a Geotech® pump, and a YSI™ ProPlus Multiparameter Sondes equipped with a flow-through cell to field measure: pH, oxidation/reduction potential (ORP), conductivity, temperature, and dissolved oxygen. Turbidity was measured using a MicroTPI Turbidity meter. Once all field parameters met low-flow criteria, a sample was collected for PFAS. Groundwater sampling logs are provided in Appendix E and laboratory reports are provided in Appendix F. The results of the laboratory analyses are summarized in Table 4 and discussed in Section 4.0.

2.3. SURFACE WATER SAMPLING

To assess the groundwater connectivity to Cherry Brook, GZA collected three surface water samples on January 15, 2021 when Cherry Brook was under low flow conditions. The goal was to collect a surface water sample that would be representative of a groundwater discharge condition to Cherry Brook.

At the time of surface water sampling, GZA installed three (3) staff gauges. These gauges (SG-1 through SG-3) were surveyed (top of stake) along with a point of the Barbourtown Road bridge. Measurements were collected from these referenced elevations to the surface of Cherry Brook to assess groundwater flow to Cherry Brook.

Figure 4 depicts the location of the monitoring well and staff gauge locations. Surface water sampling logs are provided in Appendix E, surface water laboratory reports are provided in Appendix F and the laboratory analyses are summarized on Table 5.

2.4. POTABLE WATER SUPPLY SAMPLING

GZA recommended that the one potable water supply well at 225 Cherry Brook Road property be sampled because this property appears to be located down gradient of the PFAS plume based upon the initial groundwater sampling completed in August 2020. However, based upon communications between the Town of Canton and the property owner, the property owner did not want the potable water supply sampled. Therefore, no sample was collected.



2.5. GROUNDWATER HYDRAULIC ANALYSES

To assess geologic and hydrogeologic conditions, GZA evaluated the data from the monitoring wells and performed slug tests at each of the nineteen installed monitoring wells. Slug tests were performed by installing a pressure transducer to record displacement from the slug test and the elapsed time for the displacement of groundwater to return to static water levels. For the water table wells, a physical slug was used to produce the water level displacement. For deeper wells (wells with a fully saturated screen), a pneumatic slug test was performed. GZA utilized AQTESOLV for Windows to calculate the hydraulic conductivity for each well. Table 6 presents the calculated hydraulic conductivity for each well.

The hydraulic conductivity values obtained from the field measurements were used to assess the fate and transport of PFAS in the various geologic media (overburden and bedrock). Section 3.3 provides a discussion of the potential distance that the PFAS could have migrated (does not include attenuation, dilution and/or advection).

3.0 GEOLOGIC and HYDROGEOLOGIC ASSESSMENT

The Site data was used to determine 1) the elevation of bedrock below the Eastern Field, 2) the direction of groundwater flow in the various geologic media, and 3) to estimate the time of travel that PFAS could have migrated since the AFFF was released from the Eastern Field in 2014 (where PFAS concentration exceeded the alternative PMC). While it is understood that AFFF may have been used as early as 2007/2008, it is believed that this older release was to the Southern Field and the detected low concentrations in the Southern Field do not warrant remedial action.

3.1. BEDROCK ELEVATIONS

To assess the bedrock elevations beneath, south, and east of the Eastern Field, GZA developed a contour map that depicts bedrock elevations based upon survey data and boring log information. Figure 5 shows that the surface of the bedrock appears to slope downward toward the school's rotary. In the northern portion, bedrock dips from the east-northeast towards the west-southwest, whereas in the south, the bedrock dips from the south to the north. Thus, bedrock elevation along Cherry Brook is higher in elevation than the Eastern Field. Due to the limited number of monitoring wells that encountered bedrock, it is unknown if there is a bedrock trough that extends to the southwest.

3.2. GROUNDWATER FLOW DIRECTION

To assess groundwater flow directions, GZA developed three (3) groundwater contour maps (Figures 6A, 6B and 6C) that depict groundwater flow 1) at those wells screened across the water table, 2) those wells screened across the deeper overburden, and those wells screened in the bedrock. A summary of groundwater elevations is provided in Table 1.

3.2.1. Water Table Groundwater Flow

To develop the groundwater water table contour map, all 12 shallow monitoring wells (Southern and Eastern Fields) that intersect the groundwater table were used along with the four (4) surface water points along Cherry Brook. The assumption was that groundwater was discharging to Cherry Brook given the low flow conditions in the brook.

Figure 6A depicts that shallow groundwater flows to the southeast towards Cherry Brook. These data show that groundwater beneath the Eastern Field release area likely discharges to Cherry Brook just north of Barbourtown Road. The hydraulic gradient from GZ-2 to south of GZ-11 was calculated at approximately 0.009.



The August 2020 groundwater level round was used to define the seasonal low groundwater. The seasonal low water table was calculated by averaging depth to water measurements from grade at wells GZ-2 and GZ-3 (considered in the central portion of the eastern field). The seasonal low water table has been estimated at 6.3 feet below ground surface.

3.2.2. Intermediate Groundwater Flow

To develop the intermediate groundwater contour map, GZA used five monitoring wells screened in the deeper overburden within the Eastern Field. For this interpretation, the four (4) surface water points along Cherry Brook were not used.

Figure 6B depicts that intermediate groundwater flows to the south- southeast towards Cherry Brook. These data show that groundwater beneath the Eastern Field release area likely discharges to Cherry Brook at or just north of the Barbourtown Road. The hydraulic gradient from GZ-2I to south of GZ-11I was calculated at approximately 0.009 feet per foot (ft/ft).

3.2.3. Bedrock Groundwater Flow

To develop the groundwater bedrock contour map, GZA used the four monitoring wells fully screened in bedrock. These wells were located within the Eastern Field. For this interpretation, the four (4) surface water points along Cherry Brook were not used.

Figure 6C depicts that bedrock groundwater flows to the southeast towards Cherry Brook. These data show that groundwater beneath the Eastern Field release may discharge to Cherry Brook north of the Barbourtown Road. The vertical gradient downgradient at GZ-11/GZ-11I (south) and GZ-4, GZ-4I and GZ-4D were upward from bedrock to the overburden. However, the vertical gradient at GZ-8/GZ-8I (east) was downward from the overburden to the bedrock. The hydraulic gradient from GZ-2D to south of GZ-11I was calculated at approximately 0.007 ft/ft.

3.3. ESTIMATED PFAS MIGRATION

To estimate the extent of potential PFAS migration, hydraulic data collected from the groundwater elevations along with the calculated average hydraulic gradient (i) values were used to estimate a seepage velocity. The hydraulic conductivity data (k) was calculated from the field slug tests performed on the various vertically screened monitoring wells. The average hydraulic conductivity value for the overburden soil was 5.5 feet per day and the bedrock was 4.7 feet per day. In addition, several wells were screened in the lower overburden soil and partially in the upper weathered bedrock. The average hydraulic conductivity value for the lower overburden soil was 25 feet per day.

The equation for seepage velocity (V_s) is $(k)(i)/\text{porosity } (n)$. For this estimate, a soil porosity value of 0.2 was used, whereas a value of 0.1 was used in the fractured bedrock (those wells fully screened in the bedrock). To estimate the distance that PFAS may have traveled (excludes, attenuation, dilution, advection, etc.) since 2014, the seepage velocity was multiplied by the difference in time between 2014 and today (7-years). Table A provides a summary based upon the screened geologic intervals in soil and bedrock.

Table A - Potential PFAS Migration Distance, over 7-Years

Well Screen Interval	(k) ft/day	(i)	(n)	(V_s) ft/day	(V_s) ft/year	Migration Distance (feet)
Soil/Overburden	5.5	0.009	0.2	0.25	91.2	640
Bedrock	4.7	0.007	0.1	0.33	120.1	840



These calculations indicate that since 2014, the PFAS released in the Eastern Field could have migrated from approximately 640 to 840 feet down gradient dependent on the media in which ground flows. These distances do not consider travel in the upper weathered bedrock which could transport PFAS further based upon hydraulic conductivity values.

3.4. VERTICAL GROUNDWATER GRADIENTS

Four well clusters were installed with an overburden and bedrock monitoring well. Groundwater elevation data indicated that two of the four well clusters reported upward groundwater flow from bedrock to the overburden, whereas the other two reported a downward vertical flow to the bedrock. A summary of the vertical gradients include:

Groundwater Vertical Gradient					
Cluster Wells	Wells ID	Location to Source	Media Type	Vertical gradient	
GZ-2	GZ-2	Below Soil Hot Spot	Overburden	Downward (GZ-2 to GZ-2I)	Downward (GZ-2I to GZ-2D)
	GZ-2I		Overburden & Weathered Bedrock		
	GZ-2D		Bedrock		
GZ-4	GZ-4	Downgradient of Soil Hot Spot	Overburden	Upward (GZ-4I to GZ-4)	Upward (GZ-4D to GZ-4I)
	GZ-4I		Overburden		
	GZ-4D		Bedrock		
GZ-8	GZ-8	East of the Soil Hot Spot	Overburden	Downward (GZ-8 to GZ-8I)	
	GZ-8I		Bedrock		
GZ-11	GZ-11	Near Cherry Brook to east	Overburden	Upward (GZ-11I to GZ-11)	
	GZ-11I		Bedrock		

The two well clusters with a reported upward flow were in the downgradient direction of both groundwater flow and contaminant migration. The two well with a downward flow into the bedrock were located directly below the source of PFAS and the well cluster located to the east of Barbourtown Road.

4.0 PFAS ANALYTICAL DATA ASSESSMENT

To assess the limits of PFAS contamination, GZA developed a series of concentration isopleth maps (Figures 7 to 15) to depict the inferred PFAS (as the sum of 5 compounds) distribution in 1) the groundwater, 2) in soil in the Southern Field, and 3) in soil in the Eastern Field. To the development of the isopleth maps, if the results of PFAS were non-detect, half the detection limit was used for plotting purposes. The data is presented on Tables 2, 3, 4 and 5. A summary of these findings is as follows:

4.1. GROUNDWATER ANALYTICAL DATA ASSESSMENT

The groundwater analyses included an assessment of the 1) shallow water table, 2) intermediate, and 3) bedrock screened intervals. The groundwater data is summarized on Table 4.

4.1.1. Water Table PFAS Assessment

For this analysis, all monitoring wells (Southern and Eastern Fields) were incorporated into the assessment. Figure 7 depicts that the concentration of PFAS in shallow overburden groundwater at concentrations greater than 70 ng/L are isolated to the Eastern Field. The greatest concentration reported was at GZ-2, in the central portion of the field with a concentration of 16,810 ng/L. However, these concentrations decrease beyond GZ-2. The data depicts that the PFAS



plume is migrating in a south-southeasterly direction, generally consistent with groundwater flow. The monitoring well network was sufficient to fully bound the 70 ng/L water table plume.

4.1.2. Intermediate Groundwater PFAS Assessment

Figure 8 depicts the distribution of PFAS in the intermediate groundwater wells. Again, consistent with the water table plume, the greatest concentration was detected at GZ-2i at 930 ng/L. However, unlike the water table wells, a concentration of 140 ng/L was reported at GZ-7i, located to the northeast, along Barbourtown Town Road, whereas the as the water table well (GZ-7) reported a PFAS concentration of 33 ng/L. The downgradient wells reported concentration of 40 ng/L (GZ-4i) and 5 ng/L (GZ-9i). These limited data would suggest that the extent of PFAS may go beyond Barbourtown Town Road on to another Town owned property; however, based upon the groundwater data and decreases beyond the hot spot, further delineation does not seem warranted in these upland wetlands.

4.1.3. Bedrock Groundwater PFAS Assessment

Figure 9 depicts the distribution of PFAS in the bedrock wells. The greatest concentration was reported at GZ-4D, at 102 ng/L, located downgradient of GZ-2. Further downgradient, at GZ-11i, the concentrations were reported at 25 ng/L. To the east, towards Cherry Brook, concentrations were reported at 14 ng/L on the adjacent Town owned property. Except for data to the southwest, the bedrock plume is defined by monitoring wells.

4.2. SOIL ANALYTICAL DATA ASSESSMENT – SOUTHERN FIELD

To assess the soil data, two criteria were used: 1) analytical results from the total mass analyses, and 2) the results from the SPLP analyses. In the case of the Southern Field, only two soil contour maps were developed (shallow total and deep total) because the SPLP data was well below criteria. The Southern Field soil data is summarized in Table 2.

4.2.1. Southern Field – Shallow (0 to 2 feet) Total Mass PFAS Analyses

Figure 10 indicates PFAS concentrations in shallow surface soils in the Southern Field range from 1.4 µg/L (north) to 6.14 µg/L (west of sample GZ-102S). A sample was collected beneath the asphalt (GZ-101S) with a reported concentration of 0.15 µg/L. The other samples were collected from shallow western surface soil samples from 0 to 2 feet below grade. These data continue to show an increase in concentration to the west (GZ-102S) consistent with the previous investigation but below criteria.

4.2.2. Southern Field – Shallow (0-2 feet) SPLP PFAS Analyses

No isopleth maps were developed for the shallow or deep soil SPLP because the SPLP results ranged from non-detect to 0.06 µg/L for the sum of the five PFAS compounds.

These data indicate that while there were exceedances of the mass-based PMC, all results in the Southern Field were below the alternative PMC. Therefore, based upon the data collected, no further investigations or remedial actions are warranted.



4.2.3. Southern Field – Deep (3 to 5 feet) Total Mass PFAS Analyses

Figure 11 depicts that PFAS were detected in the deep soil samples from two (2) (GZ-D-12 and GZ-D-9) of the seven (7) locations at concentrations greater than 1.4 µg/L. To the north and west, concentrations decreased with a reported concentration of 0.05 µg/L at location GZ-D-8. These data continue to show a limited area with concentrations greater than 1.4 µg/L, consistent with the previous investigation.

4.3 SOIL ANALYTICAL DATA ASSESSMENT – EASTERN FIELD

PFAS concentrations detected in the soil samples from the Eastern Field exceed both the mass-based PMC and the alternative PMC in both the shallow and deep soil samples. To evaluate the extent of the PFAS contamination, four isopleth maps have been developed: 1) shallow total mass analyses, 2) shallow SPLP analyses, 3) deep total mass analyses, and 4) deep SPLP analyses. In addition, an estimate of the total square feet (sf) of soil that contain PFAS concentrations that exceed either the mass-based PMC or the alternative PMC is discussed below. Figure 16 shows the sf of soil that contains PFAS exceeding the alternative PMC.

4.3.1 Eastern Field – Shallow (0 to 2 feet) Total Mass PFAS Analyses

The Figure 12 isopleth identifies that the limit of PFAS concentrations exceeding the PMC of 1.4 µg/Kg was not fully delineated. The data suggests that there is a localized zone of elevated concentrations ranging from 332.6 to 479.0 µg/Kg in the central portion of the exploration area. Concentration decreased from the central point outward with PFAS concentrations to the north and south ranging from 3.5 µg/Kg (south) to 2.9 µg/Kg (north). To the east, the concentrations decreased along Barbourtown Road ranging from 1.7 to 18.7 µg/Kg. To the west, the data was limited to the field where elevated concentrations were previously detected. No soil samples were collected beneath asphalt pavement.

The data indicates that all soil samples collected from 0 to 2 feet within the Eastern Field area contain PFAS concentrations that exceed the mass-based PMC value of 1.4 µg/Kg with a range of concentrations from 1.68 µg/Kg (GZ-106) to 479.94 µg/Kg (GZ-109s). The estimated area of soil containing PFAS concentrations above the mass-based PMC of 1.4 µg/L is at least 30,000 sf; however, the extent of PFAS concentrations exceeding the mass-based PMC value was not fully delineated.

4.3.2 Eastern Field – Shallow (0 to 2 feet) SPLP PFAS Analyses

The Figure 13 isopleth indicates that the extent of PFAS concentrations above the alternative PMC of 0.7 µg/L (10 x the GWPC) has been fully delineated, except to the west proximate to the asphalt pavement. The greatest concentrations (6.76 to 7.41 µg/L) were in the central portion of the Eastern Field generally corresponding with the elevated concentration reported for total mass based PFAS. The concentrations surrounding soil samples outside the 0.7 µg/L limit were reported from 0.03 to 0.61 µg/L.

The data suggests that PFAS concentrations in shallow soils above the alternative PMC value of 0.07 µg/L have been fully delineated (except to the west beneath the asphalt) and that the PFAS impacts above the alternative PMC value cover at least an estimated 14,000 sf. This estimate includes up to the asphalt pavement area west of explorations GZ-17, GZ-14, and GZ-110s.



4.3.3 Eastern Field – Deep (3.5 to 6 feet) Total Mass PFAS Analyses

Figure 14 isopleth generally depicts a similar footprint of impacted soil as the shallow mass based PFAS isopleth map (Figure 12). The highest PFAS concentrations were reported at 337.7 µg/Kg (GZ-D-5) and 351.84 µg/Kg (GZ-110). The extent of PFAS impacts at concentrations above the mass-based PMC value of 1.4 µg/Kg in the deeper zone was delineated to the north (samples GZ-D-2 and GZ-107) and to the south (GZ-D-15). PFAS impacts above the mass-based PMC were not delineated to the east and west.

The data suggests that except for the most northwesterly samples (GZ-D-2 at 0.19 µg/Kg and GZ-107 at 0.45 µg/Kg) and most southerly sample (GZ-D-15 at <1.1 µg/Kg) the remaining samples collected exceeded the mass-based PMC value of 1.4 µg/L. The range in concentrations greater the 1.4 µg/Kg was from 1.66 µg/Kg (GZ-108) to 351.84 µg/Kg (GZ-110). The total enclosed area with PFAS concentrations greater than the mass-based PMC concentration of 1.4 µg/Kg has been estimated to cover an area at least 18,500 sf in size; however, the extent of PFAS concentrations exceeding the mass-based PMC value was not fully delineated.

4.3.4 Eastern Field – Deep (3.5 to 6 feet) SPLP PFAS Analyses

The Figure 15 isopleth indicates that PFAS concentrations above the alternative PMC of 0.7 µg/L (10 x GWPC) in the deep soils in the Eastern Field have been fully delineated, except to the west proximate to the asphalt pavement. The greatest concentrations (6.76 to 7.41 µg/L) were observed in the central portion of the Eastern Field generally corresponding with the elevated concentrations reported for total mass based PFAS. The PFAS concentrations surrounding soil samples outside the 0.7 µg/L limit were reported at concentration from 0.03 to 0.29 µg/L.

The data suggests that the extent of PFAS concentrations in deep soil above the alternative PMC has been fully delineated (except to the west beneath the asphalt) and is estimated to cover an area of at least 9,500 sf. This estimate includes the additional area west of GZ-17 and GZ-14 including soils east of the pavement.

4.4 SURFACE WATER ANALYSES

Figure 4 identifies the location of the three (3) surface water sampling locations (S-1, S-3, and S-5). These samples were collected along with the groundwater samples in January 2021, during a dry period when stream levels were low. Two additional samples are proposed to be collected in late summer, during a dry period downgradient of the defined groundwater plume. These samples will be located downgradient of the PFAS groundwater plume to target the potential discharge areas based upon the lateral limits of the groundwater plume and groundwater flow directions.

The results of the three (3) surface water samples identified only one compound (PFOS) was reported at a concentration an estimated value (J flagged). This sample (S-3) was located north of the Barbourtown Town Road, generally downgradient of the plume.

5.0 REGULATORY COMPLIANCE

As discussed in Section 1.2, the data has been compared to the following criteria to determine compliance with the RSRs.

1. Drinking water – the PFAS concentrations in all the previously collected potable water supply samples were below the DPH's Drinking Water Action Limit 70 ng/L criteria.



2. Groundwater – PFAS were detected in groundwater at concentrations exceeding the CTDEEP's APS GWPC of 70 ng/L, for the sum of 5-PFAS compounds. The area of groundwater impact includes the Eastern Field and extends to the east of Barbourtown Town Road onto the Town's property, to the west beneath a portion of the parking lot, to the south near the driveway to the school and to the north within the Eastern Field. The greatest concentration is beneath the impacted soil within the Eastern Field.
3. Soil Direct Exposure – PFAS compounds were not detected in the soil samples analyzed at concentrations above the R-DEC in the Southern or Eastern Fields. The maximum concentration detected was 479.0 µg/Kg, below the R-DEC of 1,350 µg/Kg.
4. Soil Pollutant Mobility Criteria (PMC) – PFAS compounds were detected in soil at concentrations above the mass-based PMC of 1.4 µg/Kg in both the Southern and Eastern Fields.
 - a. In the Southern Field, the mass-based PMC was exceeded in both the shallow (6 of 11 samples) and deep (2 of 7 samples) soil samples with the highest detected mass based PFAS concentration of 6.1 µg/Kg.
 - b. In the Eastern Field, the mass-based PMC was exceeded in both the shallow (all 26 samples) and deep (14 of 17 samples) soil samples. The highest concentration reported was 479.0 µg/Kg.
5. Soil Alternative Pollutant Mobility Criteria (PMC) – SPLP PFAS compounds were detected at concentrations that exceeded the alternative PMC in the Eastern Field but not in the Southern Field. In the Southern Field, the highest SPLP PFAS concentration was 0.06 µg/L. In the Eastern Field, 8 of the 18 shallow soil samples reported concentrations greater than 0.7 µg/L, whereas in the deep soil samples 3 of the 30 samples reported concentrations greater than 0.7 µg/L.

These data suggest that the Southern Field complies with both the soil and groundwater RSR criteria. However, soil and groundwater PFAS impacts within the Eastern Field exceed the applicable RSR criteria.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The investigations completed to date have generally defined the limits of PFAS compounds in soil and groundwater at concentrations that exceed a Remediation Standard Regulation criterion. The investigations completed to date indicate the following:

- No potable water supply well sampled to date reported PFAS compounds at concentrations above DPH's Drinking Water Action Limit.
- No soil sample contained PFAS compounds at concentrations above the Residential Direct Exposure Criteria.
- PFAS concentrations in groundwater in the Eastern Field exceed the Groundwater Protection Criteria. The extent of the groundwater contamination extends to the Town owned land east of Barbourtown Road.
- PFAS concentrations in soil exceed the alternative Pollutant Mobility Criteria in the Eastern Field.
- Surface water samples detected low concentrations of PFAS; however, there is no RSR criteria to compare these results. However, these data would indicate that contaminated groundwater has migrated to Cherry Brook, just north of the Barbourtown Road bridge.

These data suggest that the release in the Eastern Field will require remedial actions to comply with the RSRs. To achieve compliance, the following briefly outlines three potential soil remedial strategies to comply with the Alternative PMC

1. Soil excavation to the seasonal low water table (approximately 6.3 ftbg): This approach would result in the removal of an estimated 14,000 sf area of impacted shallow soil to a depth of three (3) feet (1,560 cubic yards)



and an estimated 9,500 sf area of impacted deeper soil from 3.0 feet to 6.3 feet below grade (1,065 cubic yards). A total of 2,625 cubic yards or approximately 3,949 tons would be removed.

2. Engineered Control: This approach would involve the removal and off-Site disposal of a portion of the unsaturated PFAS soil (above the seasonal high groundwater reported to approximately 3 feet below grade), placement of an impermeable membrane over the remaining soil exceeding the Alternative PMC to limit the infiltration of precipitation and covering the membrane with clean imported soil. The Engineered Control is a variance from the RSRs that requires Commissioner approval and would include long term inspection and maintenance obligations.
3. Soil Stabilization: This approach would use a form of carbon or clay type material to bind the PFAS to the soil making the PFAS stable and immobile. This alternative has been approved in New York State; however, it would require bench scale studies prior to implementation and potentially re-stabilization of the soil.

GZA recommends that a feasibility study and cost benefit analysis be completed for the soil in the Eastern Field to determine the most cost-effective remedial approach that limits potential exposure to the PFAS and limits the Town's liabilities. The results of the feasibility study and cost benefit analysis would be discussed with the Town and other stakeholders and the details on the selected preferred remedy will be outlined within a separate Remedial Action Plan (RAP).

Prior to the implementation of the soil remedial action, GZA recommends collecting additional soil samples along the eastern edge of the parking lot pavement associated with the Eastern Field to fill a data gap. These samples will be collected in the shallow and deep intervals and will include samples collected beneath the pavement.

Groundwater Remedial Actions – While there are exceedances in the groundwater above the RSRs, GZA currently does not recommend the performance of remedial actions to address the groundwater impacts for the following reasons:

- No adjacent sampled potable water supply wells have been impacted.
- At one surface water location, PFOS was reported at 1.4 µg/L. Thus, while it appears PFAS is discharging to Cherry Brook, the groundwater PFAS concentration greater than 70 ng/L was located over 200-feet west of Cherry Brook.
- The groundwater concentrations decrease significantly away from the maximum soil concentrations in the Eastern Field. Therefore, with the remediation of those soil greater than the Alternative PMC, it is anticipated that the groundwater concentrations will decrease over time because the source contributing to groundwater will no longer be present.

Therefore, because the 70 ng/L limit has been defined, GZA would propose that a monitored natural attenuation groundwater sampling program be implemented in-leu of an active groundwater remedial action. However, should the results of the monitoring program not show significant decreases in groundwater concentrations or potable water supply well concentrations increase, then the possible implementation of a groundwater remedial action will be re-evaluated. The recommended groundwater monitoring program would include:

- Installation of additional monitoring wells to monitor changes in groundwater quality after the removal of the soil. GZA recommends the installation of two (2) additional monitoring wells.
 - Sampling of 12 current and the 2 newly installed wells.



- Sampling of select potable water supply wells (if permission is granted) within the potential radius (840 feet) defined where PFAS might have migrated in bedrock. This would include two (2) supply wells not previously sampled.
- Collection of surface water sampling in conjunction with the groundwater sampling.



TABLES

Table 1
Well Construction Details

Town of Canton
4 Barbourtown road
Canton, CT

Well	Screen Length	Depth to Top of Screen	Depth to Bottom of Screen	Screened Media	Well Completion	Reference Elev. (feet)	Grade Elev. (feet)	Top of Screen, Elev. (feet)	Bot Screen, Elev. (feet)	August 20, 2020			January 13, 2021		
										Depth to Water From PVC (feet)	Depth to Water From Grade (feet)	GW Elev. (feet)	Depth to Water From PVC (feet)	Depth to Water From Grade (feet)	GW Elev. (feet)
GZ-1	13	7.0	20.0	OB	Road Box	399.43	400.06	393.06	380.06	9.02	9.65	390.41	5.12	5.75	394.31
GZ-2	13	4.5	17.5	OB	Road Box	396.22	397.20	392.70	379.70	5.53	6.51	390.69	3.47	4.45	392.75
GZ-2D	5	39.5	44.5	BR	Road Box	396.59	397.26	357.76	352.76	Not Installed			4.30	4.97	392.29
GZ-2I	5	20.0	25.0	OB/WBR	Road Box	396.25	397.29	377.29	372.29	Not Installed			3.63	4.67	392.62
GZ-3	15	4.3	19.3	OB	Road Box	395.36	396.26	391.96	376.96	5.20	6.10	390.16	3.59	4.49	391.77
GZ-4	10	4.5	14.5	OB	Road Box	395.05	395.44	390.94	380.94	5.33	5.71	389.72	3.64	4.02	391.41
GZ-4D	5	29.0	34.0	BR	Road Box	395.08	395.33	366.33	361.33	Not Installed			3.45	3.70	391.63
GZ-4I	5	16.0	21.0	OB	Road Box	395.24	395.47	379.47	374.47	Not Installed			3.67	3.90	391.57
GZ-5	10	5.0	15.0	OB	Road Box	401.40	402.01	397.01	387.01	Not Installed			7.19	7.79	394.21
GZ-6	10	4.0	14.0	OB	Road Box	398.32	398.61	394.61	384.61	Not Installed			4.09	4.38	394.23
GZ-7	10	4.0	14.0	OB	Road Box	396.27	397.06	393.06	383.06	Not Installed			3.54	4.32	392.73
GZ-7I	5	16.0	21.0	OB/BR	Road Box	396.91	397.13	381.13	376.13	Not Installed			4.22	4.43	392.69
GZ-8	10	3.0	13.0	OB	Stand Pipe	395.07	392.64	389.64	379.64	Not Installed			4.66	2.23	390.41
GZ-8I	5	23.5	28.5	BR	Stand Pipe	394.35	392.66	369.16	364.16	Not Installed			4.07	2.38	390.28
GZ-9	10	3.5	13.5	OB	Road Box	396.84	397.18	393.68	383.68	Not Installed			4.74	5.08	392.10
GZ-9I	5	21.0	26.0	OB	Road Box	396.56	396.99	375.99	370.99	Not Installed			4.68	5.10	391.88
GZ-10	10	3.0	13.0	OB/WBR	Stand Pipe	395.58	392.95	389.95	379.95	Not Installed			5.62	2.98	389.96
GZ-11	10	3.5	13.5	OB	Road Box	393.63	394.41	390.91	380.91	Not Installed			4.00	4.78	389.63
GZ-11I	5	19.5	24.5	BR	Road Box	394.24	394.59	375.09	370.09	Not Installed			3.96	4.31	390.28
SG-1	--	--	--			393.74	--	--	--	Not Installed			2.81	--	390.28
SG-2	--	--	--			393.17	--	--	--	Not Installed			2.89	--	390.28
SG-3	--	--	--			390.92	--	--	--	Not Installed			3.40	--	390.28
Bridge	--	--	--			401.54	--	--	--	Not Installed			12.51	--	389.03

Notes:

1. Depth to water was measured on the above dates using an electric water level meter.
2. Elevations were measured by Alfred Benesch & Company on December 7, 2020 and are referenced to feet above sea level.
3. The depth to groundwater in Site monitoring wells was measured relative to the top of the PVC riser pipe.
4. Monitoring wells are constructed of 2-inch diameter schedule 40 PVC well screen and riser.
5. Depth to groundwater is relative to the top of the PVC riser of the well.
6. OB = Overburden, WBR = Weathered Bedrock & BR = Bedrock

Table 2
Southern Field - Soil Sampling Data
Cherry Brook Elementary School
Canton, Connecticut

Parameters	RSR - APS Criteria				Location	Shallow & Deep Co-Located Samples								Shallow & Deep Co-Located Samples				Shallow				Shallow & Deep Co-Located Samples				Shallow & Deep Co-Located Samples								
					Sample ID	GZ-8		GZ-D-9		GZ-D-12		GZ-D-12		GZ-9		GZ-D-7		GZ-10		GZ-11		GZ-D-10		GZ-D-10		GZ-12		GZ-12R		GZ-12R		GZ-D-8		
	Depth Interval	GZ-8 (0-3")		GZ-D-9 (3-5")		GZ-D-12(4-6")		GZ-D-12(4-6")		GZ-9 (0-3")		GZ-D-7 (3-5")		GZ-10 (0-3")		GZ-11 (0-3")		GZ-D-10(4-6")		GZ-D-10(4-6")		GZ-12 (0-3")		GZ-12R (0.5-2")		GZ-12R (0.5-2")		GZ-D-8 (3-5")						
	Date Sampled	02/17/2020		03/31/2020		07/16/2020		07/16/2020		02/17/2020		03/31/2020		02/17/2020		07/16/2020		07/16/2020		07/16/2020		02/17/2020		07/16/2020		07/16/2020		03/31/2020						
	Units	ug/Kg		ug/Kg		ug/Kg		ug/L		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/L		ug/Kg		ug/Kg		ug/L		ug/L		ug/Kg						
	Analysis Type	N		N		N		SPLP		N		N		N		N		SPLP		N		N		SPLP		N		N						
CT DEEP Additional Polluting Substances (APS) for PFAS	µg/Kg	µg/Kg	µg/Kg	µg/L																														
Perfluorooctanoic acid (PFOA)	Sum of 5-PFAS Compounds	Sum of 5-PFAS Compounds	Sum of 5-PFAS Compounds	Sum of 5-PFAS Compounds		<1.3	U	0.74	J	<1.08	U	0.0111		0.34	J	0.41	J	<1.2	U	0.4	J	<1	U	0.0133		0.58	J	<0.982	U	<0.005	U	<1.1	U	
Perfluorooctanesulfonic acid (PFOS)						1.1	J	1.3		1.42		0.00911		1.2	J	0.66	J	0.38		J	0.61	J	<1	U	0.00994		1.6		<0.982	U	0.0056	U	<1.1	U
Perfluorononanoic acid (PFNA)						<1.3	U	0.48	J	<1.08	U	<0.005	U	0.35	J	<1.2	U	<1.2	U		0.33	J	<1	U	<0.005	U	0.52	J	<0.982	U	<0.005	U	<1.1	U
Perfluorohexanoic acid (PFHxA)						<1.3	U	0.28	J	<1.08	U	<0.005	U	<1.3	U	<1.2	U	<1.2	U		<1.3	U	<1	U	<0.005	U	0.28	J	<0.982	U	<0.005	U	<1.1	U
Perfluorohexanesulfonic acid (PFHxS)						<1.3	U	<1.3	U	<1.08	U	<0.005	U	<1.3	U	<1.2	U	<1.2	U		<1.3	U	<1	U	<0.005	U	<1.3	U	<0.982	U	<0.005	U	<1.1	U
Sum of PFAS Compounds	1,350	41,000	1.4	0.70		1.10		2.80		1.42		0.02		1.89		1.07		0.38		1.34		0.00		0.02		2.98		0.00		0.01		0.00		
Other PFAS Compounds Not on APS List																																		
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	NC	NC	NC	NC		<2.7	U	<2.5	U	<1.08	U	<0.005	U	<2.6	U	<2.4	U	<2.3	U	<2.6	U	<1	U	<0.005	U	<2.6	U	<0.982	U	<0.005	U	<2.3	U	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	NC	NC	NC	NC		<2.7	U	<2.5	U	<1.08	U	<0.005	U	<2.6	U	<2.4	U	<2.3	U	<2.6	U	<1	U	<0.005	U	<2.6	U	<0.982	U	<0.005	U	<2.3	U	
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	NC	NC	NC	NC		<2.7	U	<2.5	U	<1.08	U	<0.005	U	<2.6	U	<2.4	U	<2.3	U	<2.6	U	<1	U	<0.005	U	<2.6	U	<0.982	U	<0.005	U	<2.3	U	
Hexafluoropropylene oxide dimer acid (GenX)	NC	NC	NC	NC		<5.3	U	<5	U	<10.8	U	<0.125	U	<5.1	U	<4.8	U	<4.7	U	<5.1	U	<10	U	<0.125	U	<5.2	U	<9.82	U	<0.125	U	<4.6	U	
N-ethylperfluoro-1-octanesulfonamidoacetic acid (NetFOSAA)	NC	NC	NC	NC		<1.3	U	<1.3	U	<1.08	U	<0.005	U	<1.3	U	<1.2	U	<1.2	U	<1.3	U	<1	U	<0.005	U	<1.3	U	<0.982	U	<0.005	U	<1.1	U	
N-methylperfluoro-1-octanesulfonamidoacetic acid (NMeFOSAA)	NC	NC	NC	NC		<1.3	U	<1.3	U	<1.08	U	<0.005	U	<1.3	U	<1.2	U	<1.2	U	<1.3	U	<1	U	<0.005	U	<1.3	U	<0.982	U	<0.005	U	<1.1	U	
Perfluorobutanesulfonic acid (PFBS)	NC	NC	NC	NC		<1.3	U	<1.3	U	<1.08	U	<0.005	U	<1.3	U	<1.2	U	<1.2	U	0.24	J	<1	U	<0.005	U	<1.3	U	<0.982	U	<0.005	U	<1.1	U	
Perfluorobutanoic Acid (PFBA)	NC	NC	NC	NC		<1.3	U	<1.3	U	<1.08	U	<0.005	U	<1.3	U	<1.2	U	<1.2	U	<1.3	U	<1	U	<0.005	U	<1.3	U	<0.982	U	<0.005	U	<1.1	U	
Perfluorodecanoic acid (PFDA)	NC	NC	NC	NC		0.35	J	0.43	J	<1.08	U	<0.005	U	0.38	J	<1.2	U	<1.2	U	0.47	J	<1	U	<0.005	U	0.51	J	<0.982	U	<0.005	U	<1.1	U	
Perfluorodecanesulfonic Acid (PFDS)	NC	NC	NC	NC		<1.3	U	<1.3	U	<1.08	U	<0.005	U	<1.3	U	<1.2	U	<1.2	U	<1.3	U	<1	U	<0.005	U	<1.3	U	<0.982	U	<0.005	U	<1.1	U	
Perfluorododecanoic acid (PFDDa)	NC	NC	NC	NC		<1.3	U	0.28	J	<1.08	U	<0.005	U	<1.3	U	<1.2	U	<1.2	U	<1.3	U	<1	U	<0.005	U	<1.3	U	<0.982	U	<0.005	U	<1.1	U	
Perfluoropentanoic Acid (PFPeA)	NC	NC	NC	NC		<1.3	U	0.33	J	<1.08	U	0.00504		<1.3	U	<1.2	U	<1.2	U	<1.3	U	<1	U	<0.005	U	<1.3	U	<0.982	U	<0.005	U	<1.1	U	
Perfluorotetradecanoic acid (PFTA)	NC	NC	NC	NC		<1.3	U	<1.3	U	<1.08	U	<0.005	U	<1.3	U	<1.2	U	<1.2	U	<1.3	U	<1	U	<0.005	U	<1.3	U	<0.982	U	<0.005	U	<1.1	U	
Perfluorotridecanoic Acid (PFTriA)	NC	NC	NC	NC		<1.3	U	<1.3	U	<1.08	U	<0.005	U	<1.3	U	<1.2	U	<1.2	U	<1.3	U	<1	U	<0.005	U	<1.3	U	<0.982	U	<0.005	U	<1.1	U	
Perfluoroundecanoic Acid (PFUnA)	NC	NC	NC	NC		<1.3	U	0.28	J	<1.08	U	<0.005	U	0.33	J	<1.2	U	<1.2	U	0.34	J	<1	U	<0.005	U	0.26	J	<0.982	U	<0.005	U	<1.1	U	

Parameters	RSR - APS Criteria				Location	Deep				Shallow				Shallow				Shallow		Southern Field		Shallow & Deep Co-Located Samples								Shallow				Shallow			
					Sample ID	GZ-D-11	GZ-D-11	GZ-D-11	GZ-D-11	GZ-23	GZ-23	GZ-23	GZ-23	GZ-24	GZ-24	GZ-24	GZ-24	GZ-37	GZ-37	GZ-101S	GZ-101S	GZ-101D	GZ-101D	GZ-101D	GZ-101D	GZ-102S	GZ-102S	GZ-102S	GZ-102S	GZ-103S	GZ-103S	GZ-103S	GZ-103S				
	Depth Interval	GZ-D-11(4-6')	GZ-D-11(4-6')	GZ-D-11(4-6')	GZ-D-11(4-6')	GZ-23 (0.5-2)	GZ-23 (0.5-2)	GZ-23 (0.5-2)	GZ-23 (0.5-2)	GZ-24 (0.5-2)	GZ-24 (0.5-2)	GZ-24 (0.5-2)	GZ-24 (0.5-2)	GZ-37 (1.0-2.0)	GZ-37	GZ-101S (0-1')	GZ-101S (0-1')	GZ-101D (2-3.7')	GZ-101D (2-3.7')	GZ-101D (2-3.7')	GZ-101D (2-3.7')	GZ-102S (0-2')	GZ-102S (0-2')	GZ-102S (0-2')	GZ-102S (0-2')	GZ-103S (0-2')	GZ-103S (0-2')	GZ-103S (0-2')	GZ-103S (0-2')								
	Date Sampled	07/16/2020	07/16/2020	07/16/2020	07/16/2020	07/16/2020	07/16/2020	07/16/2020	07/16/2020	07/16/2020	07/16/2020	07/16/2020	07/16/2020	08/24/2020	08/24/2020	4/1/2021	4/1/2021	4/1/2021	4/1/2021	4/1/2021	4/1/2021	4/1/2021	4/1/2021	4/1/2021	4/1/2021	4/1/2021	4/1/2021	4/1/2021	4/1/2021								
	Units	ug/Kg	ug/Kg	ug/L	ug/L	ug/Kg	ug/Kg	ug/L	ug/L	ug/Kg	ug/Kg	ug/L	ug/L	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/L	ug/L	ug/Kg	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L							
	CT DEEP Additional Polluting Substances (APS) for PFAS	µg/Kg	µg/Kg	µg/Kg	µg/L	Analysis Type	N	N	SPLP	SPLP	N	N	SPLP	SPLP	N	N	N	N	SPLP	SPLP	N	N	SPLP	SPLP	N	N	SPLP	SPLP	N	N	SPLP	SPLP					
Perfluorooctanoic acid (PFOA)	Sum of 5-PFAS Compounds	Sum of 5-PFAS Compounds	Sum of 5-PFAS Compounds	Sum of 5-PFAS Compounds		< 1.05	U	0.00948		< 1.01	U	< 0.005	U	< 1.1	U	0.0198		< 1.07	U	< 0.292	U	<0.00175	U	<0.556	U	< 0.00192	U	1.76		0.0353		1.15		0.025			
Perfluorooctanesulfonic acid (PFOS)						< 1.05	U	0.0134		< 1.01	U	< 0.005	U	2.82		0.00955		2.06	F	< 0.292	U	0.00189		<0.556	U	< 0.00192	U	3.53		0.0145		1.13	F	0.00802			
Perfluorononanoic acid (PFNA)						< 1.05	U	< 0.005	U	< 1.01	U	< 0.005	U	< 1.1	U	0.00909		< 1.07	U	< 0.292	U	<0.00175	U	<0.278	U	< 0.00192	U	0.408		0.00557		< 0.295	U	0.00436			
Perfluorheptanoic acid (PFHpA)						< 1.05	U	< 0.005	U	< 1.01	U	< 0.005	U	< 1.1	U	0.0105		< 1.07	U	< 0.292	U	<0.00175	U	<0.556	U	< 0.00192	U	0.446		0.00936		0.323		0.00767			
Perfluorohexanesulfonic acid (PFHxS)						< 1.05	U	< 0.005	U	< 1.01	U	< 0.005	U	< 1.1	U	< 0.005	U	< 1.07	U	< 0.292	U	<0.00175	U	<0.556	U	< 0.00192	U	< 0.291	U	<0.00174	U	< 0.295	U	< 0.00179	U		
Sum of PFAS Compounds	1,350	41,000	1.4	0.70		0.00		0.02		0.00		0.00		2.82		0.05		2.06		ND		0.00		ND		0.00		6.14		0.06		2.60		0.05			
Other PFAS Compounds Not on APS List																																					
11-chloroicosafluoro-3-oxadecane-1-sulfonic acid (11CI-PF30UdS)	NC	NC	NC	NC		< 1.05	U	< 0.005	U	< 1.01	U	< 0.005	U	< 1.1	U	< 0.005	U	< 1.07	U	-	U	-		U	-		-		-		-		-				
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	NC	NC	NC	NC		< 1.05	U	< 0.005	U	< 1.01	U	< 0.005	U	< 1.1	U	< 0.005	U	< 1.07	U	-	U	-		U	-		-		-		-		-				
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF30NS)	NC	NC	NC	NC		< 1.05	U	< 0.005	U	< 1.01	U	< 0.005	U	< 1.1	U	< 0.005	U	< 1.07	U	-	U	-		U	-		-		-		-		-				
Hexafluoropropylene oxide dimer acid (GenX)	NC	NC	NC	NC		< 10.5	U	< 0.125	U	< 10.1	U	< 0.125	U	< 11	U	< 0.125	U	< 10.7	U	-	U	-		U	-		-		-		-		-				
N-ethylperfluoro-1-octanesulfonamidoacetic acid (NetFOSAA)	NC	NC	NC	NC		< 1.05	U	< 0.005	U	< 1.01	U	< 0.005	U	< 1.1	U	< 0.005	U	< 1.07	U	< 0.584	U	<0.00175	U	<0.556	U	< 0.00192	U	< 0.581	U	<0.00174	U	< 0.591	U	< 0.00179	U		
N-methylperfluoro-1-octanesulfonamidoacetic acid (NMeFOSAA)	NC	NC	NC	NC		< 1.05	U	< 0.005	U	< 1.01	U	< 0.005	U	< 1.1	U	< 0.005	U	1.34	F	< 0.292	U	<0.00175	U	<0.556	U	< 0.00192	U	< 0.581	U	<0.00174	U	< 0.591	U	< 0.00179	U		
Perfluorobutanesulfonic acid (PFBS)	NC	NC	NC	NC		< 1.05	U	< 0.005	U	< 1.01	U	< 0.005	U	< 1.1	U	< 0.005	U	< 1.07	U	< 0.292	U	<0.00175	U	<0.556	U	< 0.00192	U	< 0.291	U	0.0071		< 0.295	U	0.00317			
Perfluorobutanoic acid (PFBA)	NC	NC	NC	NC		< 1.05	U	< 0.005	U	< 1.01	U	< 0.005	U	< 1.1	U	< 0.005	U	< 1.07	U	< 0.292	U	<0.00175	U	<0.556	U	< 0.00192	U	< 0.291	U	0.0042		< 0.295	U	0.00344			
Perfluorodecanoic acid (PFDA)	NC	NC	NC	NC		< 1.05	U	< 0.005	U	< 1.01	U	< 0.005	U	< 1.1	U	< 0.005	U	< 1.07	U	< 0.292	U	<0.00175	U	<0.556	U	< 0.00192	U	< 0.291	U	<0.00174	U	< 0.591	U	< 0.00179	U		
Perfluorodecanesulfonic acid (PFDS)	NC	NC	NC	NC		< 1.05	U	< 0.005	U	< 1.01	U	< 0.005	U	< 1.1	U	< 0.005	U	< 1.07	U	< 0.292	U	<0.00175	U	<0.556	U	< 0.00192	U	1.1		<0.00174	U	< 0.591	U	< 0.00179	U		
Perfluorohexanoic acid (PFHxA)	NC	NC	NC	NC		< 1.05	U	< 0.005	U	< 1.01	U	< 0.005	U	< 1.1	U	< 0.005	U	< 1.07	U	< 0.292	U	<0.00175	U	<0.556	U	< 0.00192	U	< 0.581	U	0.00827		< 0.591	U	0.00706			
Perfluoropentanoic acid (PFPeA)	NC	NC	NC	NC		< 1.05	U	< 0.005	U	< 1.01	U	< 0.005	U	< 1.1	U	0.00961		< 1.07	U	< 0.292	U	<0.00175	U	<0.556	U	< 0.00192	U	< 0.581	U	0.0063		< 0.591	U	0.0434			
Perfluorotetradecanoic acid (PFTA)	NC	NC	NC	NC		< 1.05	U	< 0.005	U	< 1.01	U	< 0.005	U	< 1.1	U	< 0.005	U	< 1.07	U	< 0.292	U	<0.00175	U	<0.556	U	< 0.00192	U	< 0.581	U	<0.00174	U	< 0.591	U	< 0.00179	U		
Perfluorotridecanoic Acid (PFTriA)	NC	NC	NC	NC		< 1.05	U	< 0.005	U	< 1.01	U	< 0.005	U	< 1.1	U	< 0.005	U	< 1.07	U	< 0.292	U	<0.00175	U	<0.556	U	< 0.00192	U	< 0.581	U	<0.00174	U	< 0.591	U	< 0.00179	U		
Perfluoroundecanoic Acid (PFUnA)	NC	NC	NC	NC		< 1.05	U	< 0.005	U	< 1.01	U	< 0.005	U	< 1.1	U	< 0.005	U	< 1.07	U	< 0.292	U	<0.00175	U	<0.556	U	< 0.00192	U	< 0.581	U	<0.00174	U	< 0.591	U	< 0.00179	U		

Table 3
Eastern Field - Soil Sampling Data
Cherry Brook Elementary School
Canton, Connecticut

Parameters	RSR - APS Criteria				Location	Shallow & Deep Co-Located Samples				GZ D-3 (deep) Located between GZ-2 & GZ-3 (shallow)				Shallow & Deep Co-Located Samples				GZ D-2 (deep) Located between GZ-5 & GZ-6 (shallow)				Shallow & Deep Co-Located Samples													
					Sample ID	GZ-1		GZ-1R		GZ-D-5		GZ-2		GZ-D-3		GZ-3		GZ-4		GZ-D-1		GZ-5		GZ-D-2		GZ-6		GZ-7		GZ-D-4					
	Depth Interval	GZ-1 (0-3")		GZ-1R (0.5-2")		GZ-1R (0.5-2")		GZ-D-5 (3-5")		GZ-2 (0-3")		GZ-D-3 (3-5")		GZ-3 (0-3")		GZ-3 (0-3") DUP		GZ-4 (0-3")		GZ-D-1 (3-5")		GZ-5 (0-3")		GZ-D-2 (3-5")		GZ-6 (0-3")		GZ-7 (0-3")		GZ-D-4 (3-5")					
	Date Sampled	02/17/2020		07/16/2020		07/16/2020		03/31/2020		02/17/2020		03/26/2020		02/17/2020		02/17/2020		02/17/2020		03/26/2020		02/17/2020		03/26/2020		02/17/2020		03/26/2020							
	Units	ug/Kg		ug/Kg		ug/L		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg		ug/Kg							
CT DEEP Additional Polluting Substances (APS) for PFAS	μg/Kg	μg/Kg	μg/Kg	μg/L	Analysis Type	N		N		SPLP		N		N		N		N		N		N		N		N		N							
Perfluorooctanoic acid (PFOA)	Sum of 5-PFAS Compounds	Sum of 5-PFAS Compounds	Sum of 5-PFAS Compounds	Sum of 5-PFAS Compounds		5.7		2.77		0.0904		2.7		5		1	J	1.9		2		0.29	J	0.22	J	0.81	J	< 0.95	U	1.8		4.1		1.5	
Perfluorooctanesulfonic acid (PFOS)						230		88.6		0.684		270		21		10		5.8		5.5		1.4		0.24	J	1.2		0.19	J	5.3		89		7.2	
Perfluorononanoic acid (PFNA)						59		8.77		0.203		45		11		3.4		4.1		3.5		0.48	J	< 1.2	U	2		< 0.95	U	3.8		19		6.7	
Perfluoroheptanoic acid (PFHpA)						4.9		3.79		0.146		2		1.9		0.38	J	0.71	J	0.76	J	< 1.3	U	< 1.2	U	0.33	J	< 0.95	U	0.7	J	3.8		1.3	
Perfluorohexanesulfonic acid (PFHxS)						33		13.6		0.455		18		1.9		0.37	J	0.35	J	0.31	J	< 1.3	U	< 1.2	U	< 1.2	U	< 0.95	U	< 1.3	U	15		0.8	J
Sum of PFAS Compounds	1,350	41,000	1.4	0.70		332.60		117.53		1.58		337.70		40.80		15.15		12.86		12.07		2.17		0.46		4.34		0.19		11.60		130.90		17.50	
Other PFAS Compounds Not on APS List																																			
11-chloroeicosafiuoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	NC	NC	NC	NC		< 2.8	U	< 1.1	U	< 0.00181	U	< 2.4	U	< 2.7	U	< 2.3	U	< 2.3	U	< 2.5	U	< 2.7	U	< 2.4	U	< 2.4	U	< 1.9	U	< 2.7	U	< 2.7	U	< 2.3	U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	NC	NC	NC	NC		< 2.8	U	< 1.1	U	< 0.00181	U	< 2.4	U	< 2.7	U	< 2.3	U	< 2.3	U	< 2.5	U	< 2.7	U	< 2.4	U	< 2.4	U	< 1.9	U	< 2.7	U	< 2.7	U	< 2.3	U
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	NC	NC	NC	NC		< 2.8	U	< 1.1	U	< 0.00181	U	< 2.4	U	< 2.7	U	< 2.3	U	< 2.3	U	< 2.5	U	< 2.7	U	< 2.4	U	< 2.4	U	< 1.9	U	< 2.7	U	< 2.7	U	< 2.3	U
Hexafluoropropylene oxide dimer acid (GenX)	NC	NC	NC	NC		< 5.6	U	< 1.1	U	< 0.0453	U	< 4.9	U	< 5.4	U	< 4.6	U	< 4.6	U	< 5	U	< 4.7	U	< 4.8	U	< 3.8	U	< 3.8	U	< 5.4	U	< 5.4	U	< 4.6	U
N-ethylperfluoro-1-octanesulfonamidoacetic acid (NetFOSAA)	NC	NC	NC	NC		< 1.4	U	< 1.1	U	< 0.00181	U	< 1.2	U	< 1.4	U	< 1.1	U	< 1.2	U	< 1.3	U	< 1.3	U	< 1.2	U	< 1.2	U	< 0.95	U	< 1.3	U	< 1.3	U	< 1.1	U
N-methylperfluoro-1-octanesulfonamidoacetic acid (NMeFOSAA)	NC	NC	NC	NC		< 1.4	U	< 1.1	U	< 0.00181	U	< 1.2	U	< 1.4	U	< 1.1	U	< 1.2	U	< 1.3	U	< 1.3	U	< 1.2	U	< 1.2	U	< 0.95	U	< 1.3	U	< 1.3	U	< 1.1	U
Perfluorobutanesulfonic acid (PFBS)	NC	NC	NC	NC		0.65	J	< 1.1	U	0.0197		0.33	J	< 1.4	U	< 1.1	U	< 1.2	U	< 1.3	U	< 1.3	U	< 1.2	U	< 1.2	U	< 0.95	U	< 1.3	U	0.5	J	< 1.1	U
Perfluorodecanoic acid (PFDA)	NC	NC	NC	NC		19		13.4		0.13		6.1		7.5		0.81	J	1.8		2.1		0.43	J	< 1.2	U	0.66	J	< 0.95	U	3.5		17		1.4	
Perfluorododecanoic acid (PFDoA)	NC	NC	NC	NC		6.1		4.7		0.00398		0.91	J	1.4		< 1.1	U	0.3	J	0.34	J	< 1.3	U	< 1.2	U	< 1.2	U	< 0.95	U	0.44	J	4.4		0.26	J
Perfluorohexanoic acid (PFHxA)	NC	NC	NC	NC		3.9		2.84		0.119		2.1		0.97	J	0.27	J	0.59	J	0.67	J	< 1.3	U	< 1.2	U	0.31	J	< 0.95	U	0.5	J	2.9		0.97	J
Perfluorotetradecanoic acid (PFTA)	NC	NC	NC	NC		1.4		1.69		< 0.00181	U	< 1.2	U	0.28	J	< 1.1	U	< 1.2	U	< 1.3	U	< 1.3	U	< 1.2	U	< 1.2	U	< 0.95	U	< 1.3	U	1.1	J	< 1.1	U
Perfluorotridecanoic Acid (PFTriA)	NC	NC	NC	NC		32		13.2		0.00633		3.8		1.1	J	< 1.1	U	0.26	J	0.25	J	< 1.3	U	< 1.2	U	< 1.2	U	< 0.95	U	0.41	J	4.5		0.25	J
Perfluoroundecanoic Acid (PFUnA)	NC	NC	NC	NC		140		24.7		0.0772		16		9.4		0.56	J	2.1		2.5		0.57	J	< 1.2	U	0.79	J	< 0.95	U	4.1		19		1.2	

Parameters	RSR - APS Criteria				Location	Shallow & Deep Co-Located Samples				Shallow & Deep Co-Located Samples				Shallow	Shallow	Shallow & Deep Co-Located Samples				Shallow & Deep Co-Located Samples																			
					Sample ID	GZ-13		GZ-D-6	GZ-17	GZ-D-13	GZ-D-13	GZ-14	GZ-15	GZ-19	GZ-19	GZ-D-15	GZ-D-15	GZ-18	GZ-18	GZ-D-14	GZ-D-14																		
	Depth Interval	GZ-13 (0-0.25')		GZ-D-6 (3-5')	GZ-17 (0.5-2')		GZ-D-13(4-6')		GZ-14 (0-0.25')	GZ-15 (0-0.25')	GZ-19 (0.5-2')		GZ-D-15(4-6')		GZ-18 (0.5-2')		GZ-D-14(4-6')																						
	Date Sampled	03/26/2020		03/26/2020	07/16/2020		07/16/2020		03/26/2020	03/26/2020	07/16/2020		07/16/2020		07/16/2020		07/16/2020																						
	Units	ug/Kg		ug/Kg	ug/Kg		ug/L		ug/Kg	ug/L	ug/Kg		ug/L		ug/Kg		ug/L																						
CT DEEP Additional Polluting Substances (APS) for PFAS	μg/Kg	μg/Kg	μg/Kg	μg/L	Analysis Type	N		N	SPLP		N		N	N	N		SPLP																						
Perfluorooctanoic acid (PFOA)	Sum of 5-PFAS Compounds	Sum of 5-PFAS Compounds	Sum of 5-PFAS Compounds	Sum of 5-PFAS Compounds		8.4		6.7		1.97		0.0524		1.85		0.0595		2.6		0.56	J	< 1.11	U	0.0218		< 1.1	U	0.0237		< 1.13	U	0.0205		1.11		0.0368			
Perfluorooctanesulfonic acid (PFOS)						4.7		3		18.4		0.13		4.64		0.0543		6.5		1.3	J	1.29		0.0038		< 1.1	U	0.00521		1.57		0.00283		< 1.05	U	0.0144			
Perfluorononanoic acid (PFNA)						24		24		4.08		0.0694		2.78		0.0711		5.2		1.6		2.16		0.0192		< 1.1	U	0.00732		2.17		0.0157		< 1.05	U	0.0232			
Perfluoroheptanoic acid (PFHpA)						4.7		6		1.8		0.0656		1.52		0.0596		2.7		< 1.6	U	< 1.11	U	0.017		< 1.1	U	0.0401		< 1.13	U	0.0153		< 1.05	U	0.0309			
Perfluorohexanesulfonic acid (PFHxS)						< 1.5	U	< 1.2	U	2.38		0.0742	F	< 1.01	U	0.0256	F	2.5		< 1.6	U	< 1.11	U	0.00403		< 1.1	U	0.00356	F	< 1.13	U	0.00496	F	1.12		0.0416			
Sum of PFAS Compounds	1,350	41,000	1.4	0.70		41.80		39.70		28.63		0.39		10.79		0.27		19.50		3.46		3.45			0.07			0.00		0.08		3.74		0.06		2.23		0.15	
Other PFAS Compounds Not on APS List																																							
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	NC	NC	NC	NC			< 3	U	< 2.4	U	< 1.09	U	< 0.00174	U	< 1.01	U	< 0.005	U	< 3.4	U	< 3.1	U	< 1.11	U	< 0.00177	U	< 1.1	U	< 0.00177	U	< 1.13	U	< 0.00175	U	< 1.05	U	< 0.00182	U	
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	NC	NC	NC	NC			< 3	U	< 2.4	U	< 1.09	U	< 0.00174	U	< 1.01	U	< 0.005	U	< 3.4	U	< 3.1	U	< 1.11	U	< 0.00177	U	< 1.1	U	< 0.00177	U	< 1.13	U	< 0.00175	U	< 1.05	U	< 0.00182	U	
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	NC	NC	NC	NC			< 3	U	< 2.4	U	< 1.09	U	< 0.00174	U	< 1.01	U	< 0.005	U	< 3.4	U	< 3.1	U	< 1.11	U	< 0.00177	U	< 1.1	U	< 0.00177	U	< 1.13	U	< 0.00175	U	< 1.05	U	< 0.00182	U	
Hexafluoropropylene oxide dimer acid (GenX)	NC	NC	NC	NC			< 5.9	U	< 4.8	U	< 10.9	U	< 0.0434	U	< 10.1	U	< 0.125	U	< 6.8	U	< 6.3	U	< 1.11	U	< 0.00177	U	< 1.1	U	< 0.0443	U	< 0.0437	U	< 10.5	U	< 0.0456	U			
N-ethylperfluoro-1-octanesulfonamidoacetic acid (NetFOSAA)	NC	NC	NC	NC			< 1.5	U	< 1.2	U	< 1.09	U	< 0.00174	U	< 1.01	U	< 0.005	U	< 1.7	U	< 1.6	U	< 1.11	U	< 0.00177	U	< 1.1	U	< 0.00177	U	< 1.13	U	< 0.00175	U	< 1.05	U	< 0.00182	U	
N-methylperfluoro-1-octanesulfonamidoacetic acid (NMeFOSAA)	NC	NC	NC	NC			< 1.5	U	< 1.2	U	< 1.09	U	< 0.00174	U	< 1.01	U	< 0.005	U	< 1.7	U	< 1.6	U	< 1.11	U	< 0.00177	U	< 1.1	U	< 0.00177	U	< 1.13	U	< 0.00175	U	< 1.05	U	< 0.00182	U	
Perfluorobutanesulfonic acid (PFBS)	NC	NC	NC	NC			< 1.5	U	< 1.2	U	< 1.09	U	0.00537		< 1.01	U	< 0.005	U	< 1.7	U	< 1.6	U	< 1.11	U	< 0.00177	U	< 1.1	U	< 0.00177	U	< 1.13	U	< 0.00175	U	< 1.05	U	0.00276		
Perfluorodecanoic acid (PFDA)	NC	NC	NC	NC			14		6.6		7.17		0.0398		1.03		0.0107		2.8		0.63	J	< 1.11	U	< 0.00177	U	< 1.1	U	< 0.00177	U	< 1.13	U	< 0.00175	U	< 1.05	U	0.00302		
Perfluorododecanoic acid (PFDoA)	NC	NC	NC	NC			2.2		0.049	J	1.41		< 0.00174	U	< 1.01	U	< 0.005	U	0.68	J	< 1.6	U	< 1.11	U	< 0.00177	U	< 1.1	U	< 0.00177	U	< 1.13	U	< 0.00175	U	< 1.05	U	< 0.00182	U	
Perfluorohexanoic acid (PFHxA)	NC	NC	NC	NC			2.1		NC		1.28		0.0523		1.3		0.0501		1.4	J	< 1.6	U	< 1.11	U	0.0129		< 1.1	U	0.0251		< 1.13	U	0.0123		< 1.05	U	0.0264		
Perfluorotetradecanoic acid (PFTA)	NC	NC	NC	NC			0.51	J	< 1.2	U	< 1.09	U	< 0.00174	U	< 1.01	U	< 0.005	U	< 1.7	U	< 1.6	U	< 1.11	U	< 0.00177	U	< 1.1	U	< 0.00177	U	< 1.13	U	< 0.00175	U	< 1.05	U	< 0.00182	U	
Perfluorotridecanoic acid (PFTrA)	NC	NC	NC	NC			1.4	J	0.27	J	2.37		< 0.00174	U	< 1.01	U	< 0.005	U	4.9		< 1.6	U	< 1.11	U	< 0.00177	U	< 1.1	U	< 0.00177	U	< 1.13	U	< 0.00175	U	< 1.05	U	< 0.00182	U	
Perfluoroundecanoic acid (PFUnA)	NC	NC	NC	NC			13		2.7		11.2		0.0149		1.23		< 0.005	U	7.9		1.1	J	< 1.11	U	< 0.00177	U	< 1.1	U	< 0.00177	U	1.48		< 0.00175	U	< 1.05	U	< 0.00182	U	

Table 3
Eastern Field - Soil Sampling Data
Cherry Brook Elementary School
Canton, Connecticut

Parameters	RSR - APS Criteria				Location	Shallow				Shallow & Deep Co-Located Samples				Shallow & Deep Co-Located Samples				Shallow & Deep Co-Located Samples															
					Sample ID	GZ-16		GZ-16		GZ-20		GZ-20		GZ-D-16		GZ-D-16		GZ-21		GZ-21		GZ-D-17		GZ-22		GZ-22		GZ-D-18		GZ-D-18			
					Depth Interval	GZ-16 (0.5-2')		GZ-16 (0.5-2')		GZ-20 (0.5-2')		GZ-20 (0.5-2')		GZ-D-16(4-6')		GZ-D-16(4-6')		GZ-21 (0.5-2')		GZ-21 (0.5-2')		GZ-D-17(4-6')		GZ-D-17(4-6')		GZ-22 (0.5-2')		GZ-22 (0.5-2')		GZ-D-18(4-6')		GZ-D-18(4-6')	
					Date Sampled	07/16/2020		07/16/2020		07/16/2020		07/16/2020		07/16/2020		07/16/2020		07/16/2020		07/16/2020		07/17/2020		07/17/2020		07/16/2020		07/16/2020		07/20/2020		07/20/2020	
					Units	ug/Kg		ug/L		ug/Kg		ug/L		ug/Kg		ug/L		ug/Kg		ug/L		ug/Kg		ug/L		ug/Kg		ug/L		ug/Kg		ug/L	
CT DEEP Additional Polluting Substances (APS) for PFAS	µg/Kg	µg/Kg	µg/Kg	µg/L	Analysis Type	N		SPLP		N		SPLP		N		SPLP		N		SPLP		N		SPLP		N		SPLP					
Perfluorooctanoic acid (PFOA)	Sum of 5-PFAS Compounds	Sum of 5-PFAS Compounds	Sum of 5-PFAS Compounds	Sum of 5-PFAS Compounds		< 1.1	U	0.0254		4.48		0.128		4.98		0.182		4.88		0.109		< 1.06	U	0.0284		< 0.988	U	0.0132		1.33		0.0373	
Perfluorooctanesulfonic acid (PFOS)						1.66		0.00713		39.6		0.291		4.77		0.0762		30		0.122		15.8		0.157		1.86		0.0091		1.1		0.00707	
Perfluorononanoic acid (PFNA)						1.3		0.0166		16.8		0.308		15.2		0.441		9.62		0.116		3.63		0.0634		< 0.988	U	0.0162		< 1.01	U	0.0101	
Perfluoroheptanoic acid (PFHpA)						< 1.1	U	0.0149		2.07		0.0848		3.15		0.131		1.89		0.063		< 1.06	U	0.022		< 0.988	U	0.00743		< 1.01	U	0.0242	
Perfluorohexanesulfonic acid (PFHxS)						< 1.1	U	0.0106		2.6		0.0869	F	1.52		0.0536	F	1.71		0.0445	F	< 1.06	U	0.016	F	< 0.988	U	0.0029	F	< 1.01	U	0.00942	
Sum of PFAS Compounds	1,350	41,000	1.4	0.70		2.96		0.07		65.55		0.90		29.62		0.88		48.10		0.45		19.43		0.29		1.86		0.05		2.43		0.09	
Other PFAS Compounds Not on APS List																																	
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	NC	NC	NC	NC		< 1.1	U	< 0.00185	U	< 1.1	U	< 0.00182	U	< 0.97	U	< 0.005	U	< 1.18	U	< 0.00185	U	< 1.06	U	< 0.00179	U	< 0.988	U	< 0.00182	U	< 1.01	U	< 0.00177	U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	NC	NC	NC	NC		< 1.1	U	< 0.00185	U	< 1.1	U	< 0.00182	U	< 0.97	U	< 0.005	U	< 1.18	U	< 0.00185	U	< 1.06	U	< 0.00179	U	< 0.988	U	< 0.00182	U	< 1.01	U	< 0.00177	U
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	NC	NC	NC	NC		< 1.1	U	< 0.00185	U	< 1.1	U	< 0.00182	U	< 0.97	U	< 0.005	U	< 1.18	U	< 0.00185	U	< 1.06	U	< 0.00179	U	< 0.988	U	< 0.00182	U	< 1.01	U	< 0.00177	U
Hexafluoropropylene oxide dimer acid (GenX)	NC	NC	NC	NC		< 1.1	U	< 0.0463	U	< 1.1	U	< 0.0454	U	< 9.7	U	< 0.125	U	< 11.8	U	< 0.0463	U	< 10.6	U	< 0.0447	U	< 9.88	U	< 0.0456	U	< 10.1	U	< 0.0442	U
N-ethylperfluoro-1-octanesulfonamidoacetic acid (NetFOSAA)	NC	NC	NC	NC		< 1.1	U	< 0.00185	U	< 1.1	U	< 0.00182	U	< 9.7	U	< 0.005	U	< 1.18	U	< 0.00185	U	< 1.06	U	< 0.00179	U	< 0.988	U	< 0.00182	U	< 1.01	U	< 0.00177	U
N-methylperfluoro-1-octanesulfonamidoacetic acid (NMeFOSAA)	NC	NC	NC	NC		< 1.1	U	< 0.00185	U	< 1.1	U	< 0.00182	U	< 9.7	U	< 0.005	U	< 1.18	U	< 0.00185	U	< 1.06	U	< 0.00179	U	< 0.988	U	< 0.00182	U	< 1.01	U	< 0.00177	U
Perfluorobutanesulfonic acid (PFBS)	NC	NC	NC	NC		< 1.1	U	< 0.00185	U	< 1.1	U	0.00369		< 0.97	U	< 0.005	U	< 1.18	U	0.00209		< 1.06	U	< 0.00179	U	< 0.988	U	< 0.00182	U	< 1.01	U	< 0.00177	U
Perfluorodecanoic acid (PFDA)	NC	NC	NC	NC		< 1.1	U	< 0.00185	U	5.78		0.0317		1.43		0.0162		4.62		0.0165		1.16		0.00802		< 0.988	U	0.00348		< 1.01	U	< 0.00177	U
Perfluorododecanoic acid (PFDoA)	NC	NC	NC	NC		< 1.1	U	< 0.00185	U	< 1.1	U	< 0.00182	U	< 0.97	U	< 0.005	U	< 1.18	U	< 0.00185	U	< 1.06	U	< 0.00179	U	< 0.988	U	< 0.00182	U	< 1.01	U	< 0.00177	U
Perfluorohexanoic acid (PFHxA)	NC	NC	NC	NC		< 1.1	U	0.013		1.52		0.0672		1.77		0.0765		< 1.18	U	0.0428		< 1.06	U	0.0158		< 0.988	U	0.00578		< 1.01	U	0.0172	
Perfluorotetradecanoic acid (PFTA)	NC	NC	NC	NC		< 1.1	U	< 0.00185	U	< 1.1	U	< 0.00182	U	< 0.97	U	< 0.005	U	< 1.18	U	< 0.00185	U	< 1.06	U	< 0.00179	U	< 0.988	U	< 0.00182	U	< 1.01	U	< 0.00177	U
Perfluorotridecanoic Acid (PFTriA)	NC	NC	NC	NC		< 1.1	U	< 0.00185	U	7.26		0.0026		< 0.97	U	< 0.005	U	1.31		< 0.00185	U	< 1.06	U	< 0.00179	U	< 0.988	U	< 0.00182	U	< 1.01	U	< 0.00177	U
Perfluoroundecanoic Acid (PFUnA)	NC	NC	NC	NC		< 1.1	U	< 0.00185	U	60.2		0.0534		4.24		0.00735		7.58		0.00544		1.11		< 0.00179	U	< 0.988	U	< 0.00182	U	< 1.01	U	< 0.00177	U

Parameters	RSR - APS Criteria				Location	Shallow & Deep Co-Located Samples		Shallow & Deep Co-Located Samples		Shallow & Deep Co-Located Samples		Shallow & Deep Co-Located Samples		Shallow & Deep Co-Located Samples		Shallow & Deep Co-Located Samples		Shallow													
					Sample ID	GZ-30		GZ-D-30		GZ-31		GZ-D-31		GZ-32		GZ-D-32		GZ-33		GZ-D-33		GZ-34		GZ-D-34		GZ-35		GZ-D-35		GZ-36	
	Depth Interval	GZ-30 (0.5-2.0')		GZ-D-30 (4-6')		GZ-31 (0.5-2.0')		GZ-D-31 (4-6')		GZ-32 (0.5-2.0')		GZ-D-32 (5-7')		GZ-33 (0.5-2.0')		GZ-D-33 (4-5.5')		GZ-34 (0.5-2.0')		GZ-D-34 (4-6')		GZ-35 (0.5-2.0')		GZ-D-35 (4-6')		GZ-36 (0.5-2.0')					
	Date Sampled	08/24/2020		08/24/2020		08/24/2020		08/24/2020		08/24/2020		08/24/2020		08/24/2020		08/24/2020		08/24/2020		08/24/2020		08/24/2020		08/24/2020		08/24/2020					
	Units	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/Kg			
CT DEEP Additional Polluting Substances (APS) for PFAS	µg/Kg	µg/Kg	µg/Kg	µg/L	Analysis Type	SPLP		SPLP		SPLP		SPLP		SPLP		SPLP		SPLP		SPLP		SPLP		SPLP		N					
Perfluorooctanoic acid (PFOA)	Sum of 5-PFAS Compounds	Sum of 5-PFAS Compounds	Sum of 5-PFAS Compounds	Sum of 5-PFAS Compounds		0.0975		0.00215		0.0516		0.0051		0.013		0.00405		0.0756		0.0217		0.128		0.00742		0.0587		0.0261		4.35	
Perfluorooctanesulfonic acid (PFOS)						0.103		0.0364		0.00683		0.00331		0.00464		0.0224		3.09		0.951		2.66		0.254		1.04		0.148		2.23	F
Perfluorononanoic acid (PFNA)						0.028		0.0111		0.0702		0.00461		0.0217		< 0.00179	U	0.23		0.12		0.298		0.0137		0.231		0.0452		< 1.03	U
Perfluoroheptanoic acid (PFHpA)						0.154		0.00311		0.0346		0.0119		0.0138		0.00623		0.0888		0.0227		0.121		0.00734		0.0526		0.0267		5.38	
Perfluorohexanesulfonic acid (PFHxS)						0.225		0.00595		0.00779		0.00347		0.026		0.036		0.404		0.138		0.277		0.0484		0.0957		0.0297		4.18	F
Sum of PFAS Compounds	1,350	41,000	1.4	0.70		0.61		0.06		0.17		0.03		0.08		0.07		3.89		1.25		3.48		0.33		1.48		0.28		16.14	
Other PFAS Compounds Not on APS List																															
11-chloroicosafuoro-3-oxaundecane-1-sulfonic acid (11CI-PF30UdS)	NC	NC	NC	NC		< 0.00191	U	< 0.0019	U	< 0.00184	U	< 0.00182	U	< 0.0019	U	< 0.00179	U	< 0.00188	U	< 0.00182	U	< 0.0019	U	< 0.00178	U	< 0.00175	U	< 0.0019	U	< 1.03	U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	NC	NC	NC	NC		< 0.00191	U	< 0.0019	U	< 0.00184	U	< 0.00182	U	< 0.0019	U	< 0.00179	U	< 0.00188	U	< 0.00182	U	< 0.0019	U	< 0.00178	U	< 0.00175	U	< 0.0019	U	< 1.03	U
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF30NS)	NC	NC	NC	NC		< 0.00191	U	< 0.0019	U	< 0.00184	U	< 0.00182	U	< 0.0019	U	< 0.00179	U	< 0.00188	U	< 0.00182	U	< 0.0019	U	< 0.00178	U	< 0.00175	U	< 0.0019	U	< 1.03	U
Hexafluoropropylene oxide dimer acid (GenX)	NC	NC	NC	NC		< 0.0477	U	< 0.0475	U	< 0.0464	U	< 0.0456	U	< 0.0474	U	< 0.0471	U	< 0.0456	U	< 0.0476	U	< 0.0445	U	< 0.0437	U	< 0.0445	U	< 0.0476	U	< 10.3	U
N-ethylperfluoro-1-octanesulfonamidoacetic acid (NetFOSAA)	NC	NC	NC	NC		< 0.00191	U	< 0.0019	U	< 0.00184	U	< 0.00182	U	< 0.0019	U	< 0.00179	U	< 0.00188	U	< 0.00182	U	< 0.0019	U	< 0.00178	U	< 0.00175	U	< 0.0019	U	< 1.03	U
N-methylperfluoro-1-octanesulfonamidoacetic acid (NMeFOSAA)	NC	NC	NC	NC		< 0.00191	U	< 0.0019	U	< 0.00184	U	< 0.00182	U	< 0.0019	U	< 0.00179	U	< 0.00188	U	< 0.00182	U	< 0.0019	U	< 0.00178	U	< 0.00175	U	< 0.0019	U	< 10.3	U
Perfluorobutanesulfonic acid (PFBS)	NC	NC	NC	NC		< 0.00191	U	< 0.0019	U	< 0.00184	U	< 0.00182	U	< 0.0019	U	0.00687		0.00741		0.00466		0.00226		< 0.00178	U	< 0.00175	U	< 0.0019	U	< 1.03	U
Perfluorodecanoic acid (PFDA)	NC	NC	NC	NC		< 0.00191	U	< 0.0019	U	0.00386		< 0.00182	U	< 0.0019	U	< 0.00179	U	0.0685		0.0272		0.0295		< 0.00178	U	< 0.00175	U	< 0.0019	U	< 1.03	U
Perfluorododecanoic acid (PFDoA)	NC	NC	NC	NC		< 0.00191	U	< 0.0019	U	< 0.00184	U	< 0.00182	U	< 0.0019	U	< 0.00179	U	< 0.00188	U	< 0.00182	U	< 0.0019	U	< 0.00178	U	< 0.00175	U	< 0.0019	U	< 1.03	U
Perfluorohexanoic acid (PFHxA)	NC	NC	NC	NC		0.139		0.00372		0.0207		0.00485		0.0134		0.0142		0.106		0.0261		0.0819		0.0067		0.0406		0.0263		5.29	
Perfluorotetradecanoic acid (PFTA)	NC	NC	NC	NC		< 0.00191	U	< 0.0019	U	< 0.00184	U	< 0.00182	U	< 0.0019	U	< 0.00179	U	< 0.00188	U	< 0.00182	U	< 0.0019	U	< 0.00178	U	< 0.00175	U	< 0.0019	U	< 1.03	U
Perfluorotridecanoic acid (PFTrA)	NC	NC	NC	NC		< 0.00191	U	< 0.0019	U	< 0.00184	U	< 0.00182	U	< 0.0019	U	< 0.00179	U	< 0.00188	U	< 0.00182	U	< 0.0019	U	< 0.00178	U	< 0.00175	U	< 0.0019	U	< 1.03	U
Perfluoroundecanoic Acid (PFUnA)	NC	NC	NC	NC		< 0.00191	U	< 0.0019	U	< 0.00184	U	< 0.00182	U	< 0.0019	U	< 0.00179	U	0.00603		0.00704		0.00443		< 0.00178	U	< 0.00175	U	< 0.0019	U	< 1.03	U

Table 3
Eastern Field - Soil Sampling Data
Cherry Brook Elementary School
Canton, Connecticut

Parameters	RSR - APS Criteria				Location	Shallow				Shallow				Shallow				Shallow & Deep Co-Located								Shallow & Deep Co-Located							
					Sample ID	GZ-1045		GZ-1045		GZ-1055		GZ-1055		GZ-1065		GZ-1065		GZ-1075		GZ-1075		GZ-107		GZ-107		GZ-1085		GZ-1085		GZ-108			
					Depth Interval	GZ-1045 (0-2')		GZ-1045 (0-2')		GZ-1055 (0-2')		GZ-1055 (0-2')		GZ-1065 (0-2')		GZ-1065 (0-2')		GZ-1075 (0-2')		GZ-1075 (0-2')		GZ-107 (3.8-5.3')		GZ-107 (3.8-5.3')		GZ-1085 (0-2')		GZ-1085 (0-2')		GZ-108 (3.5-5')			
					Date Sampled	4/1/2021		4/1/2021		4/1/2021		4/1/2021		4/1/2021		4/1/2021		4/1/2021		4/1/2021		4/14/2021		4/14/2021		4/1/2021		4/1/2021		4/14/2021			
					Units	ug/Kg		ug/L		ug/Kg		ug/L		ug/Kg		ug/L		ug/Kg		ug/L		ug/Kg		ug/L		ug/Kg		ug/L		ug/Kg			
CT DEEP Additional Polluting Substances (APS) for PFAS	µg/Kg	µg/Kg	µg/Kg	µg/L	Analysis Type	N		SPLP		N		SPLP		N		SPLP		N		SPLP		N		SPLP		N							
Perfluorooctanoic acid (PFOA)	Sum of 5-PFAS Compounds	Sum of 5-PFAS Compounds	Sum of 5-PFAS Compounds	Sum of 5-PFAS Compounds		3.65		0.0808		0.911		0.184		0.553		0.0117		0.855		0.0344		< 0.285	U	0.00788		1.12		0.0452		0.731		0.0344	
Perfluorooctanesulfonic acid (PFOS)						8.08		0.0519		0.947		0.0456		0.474		0.00296	F	4.16		0.0738		< 0.285	U	0.0134		10.6		0.234		0.62		0.0289	
Perfluorononanoic acid (PFNA)						1.52		0.0201		0.333		0.0462		< 0.378	U	< 0.00186	U	2.1		0.0854		0.45		0.0175		2.93		0.12		< 0.267	U	0.00576	
Perfluoroheptanoic acid (PFHpA)						2.18		0.0566		0.446		0.103		< 0.378	U	0.00649		0.342		0.0149		< 0.285	U	0.00293		0.544		0.0252		0.308		0.0149	
Perfluorohexanesulfonic acid (PFHxS)						3.26		0.0665		0.726		0.186		0.653		0.0133		< 0.273	U	0.00322		< 0.285	U	< 0.00185	U	< 0.26	U	0.00562		< 0.267	U	0.0113	
Sum of PFAS Compounds	1,350	41,000	1.4	0.70		18.69		0.28		3.36		0.56		1.68		0.03		7.46		0.21		0.45		0.04		15.19		0.43		1.66		0.10	
Other PFAS Compounds Not on APS List																																	
11-chloroicosafuoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	NC	NC	NC	NC																													
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	NC	NC	NC	NC																													
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	NC	NC	NC	NC																													
Hexafluoropropylene oxide dimer acid (GenX)	NC	NC	NC	NC																													
N-ethylperfluoro-1-octanesulfonamidoacetic acid (NetFOSAA)	NC	NC	NC	NC		< 0.734	U	< 0.00171	U	< 0.549	U	< 0.00173	U	< 0.757	U	< 0.0186	U	< 0.547	U	< 0.00175	U	< 0.285	U	< 0.00185	U	< 0.52	U	< 0.00177	U	< 0.267	U	< 0.00184	U
N-methylperfluoro-1-octanesulfonamidoacetic acid (NMeFOSAA)	NC	NC	NC	NC		< 0.734	U	< 0.00171	U	< 0.549	U	< 0.00173	U	< 0.757	U	< 0.0186	U	< 0.547	U	< 0.00175	U	< 0.285	U	< 0.00185	U	< 0.52	U	< 0.00177	U	< 0.267	U	< 0.00184	U
Perfluorobutanoic Acid (PFBA)	NC	NC	NC	NC		1.43		0.0334		< 0.549	U	0.00748		< 0.757	U	0.00856		< 0.547	U	0.0178		< 0.285	U	< 0.00185	U	< 0.52	U	0.0193		< 0.267	U	0.0057	
Perfluorobutanesulfonic acid (PFBS)	NC	NC	NC	NC		< 0.734	U	0.00183		< 0.549	U	0.00382		< 0.757	U	0.00328		< 0.547	U	< 0.00175	U	< 0.285	U	< 0.00185	U	< 0.52	U	< 0.00177	U	< 0.267	U	< 0.00184	U
Perfluorodecanoic acid (PFDA)	NC	NC	NC	NC		< 0.734	U	< 0.00171	U	< 0.549	U	< 0.00173	U	< 0.757	U	< 0.0186	U	1.03		0.0149		< 0.285	U	< 0.00185	U	0.632		0.0113		< 0.267	U	< 0.00184	U
Perfluorododecanoic acid (PFDDa)	NC	NC	NC	NC		< 0.734	U	< 0.00171	U	< 0.549	U	< 0.00173	U	< 0.757	U	< 0.0186	U	< 0.547	U	< 0.00175	U	< 0.285	U	< 0.00185	U	< 0.52	U	< 0.00177	U	< 0.267	U	< 0.00184	U
Perfluorohexanoic acid (PFHxA)	NC	NC	NC	NC		3.33		0.0908		< 0.549	U	0.00784		< 0.757	U	0.00832		0.547	U	0.0119		< 0.285	U	0.00355		< 0.52	U	0.0177		< 0.267	U	0.00854	
Perfluoropentanoic Acid (PFPeA)	NC	NC	NC	NC		3.39		0.0811		< 0.549	U	0.00999		< 0.757	U	0.0132		< 0.547	U	0.0228		< 0.285	U	0.00388		0.628		0.0288		< 0.267	U	0.0133	
Perfluorotetradecanoic acid (PFTA)	NC	NC	NC	NC		< 0.734	U	< 0.00171	U	< 0.549	U	< 0.00173	U	< 0.757	U	< 0.0186	U	< 0.547	U	< 0.00175	U	< 0.285	U	< 0.00185	U	< 0.52	U	< 0.00177	U	< 0.267	U	< 0.00184	U
Perfluorotridecanoic Acid (PFTriA)	NC	NC	NC	NC		< 0.734	U	< 0.00171	U	< 0.549	U	< 0.00173	U	< 0.757	U	< 0.0186	U	< 0.547	U	< 0.00175	U	< 0.285	U	< 0.00185	U	< 0.52	U	< 0.00177	U	< 0.267	U	< 0.00184	U
Perfluoropentanesulfonic Acid (PFPeS)	NC	NC	NC	NC		< 0.735	U	0.00257		< 0.549	U	0.0023		< 0.757	U	0.00238		< 0.547	U	< 0.00175	U	< 0.285	U	< 0.00185	U	< 0.52	U	< 0.00177	U	< 0.267	U	< 0.00184	U
Perfluoroheptanesulfonic Acid (PFHpS)	NC	NC	NC	NC		< 0.734	U	0.00275		< 0.549	U	< 0.00173	U	< 0.757	U	< 0.0186	U	< 0.547	U	< 0.00175	U	< 0.285	U	< 0.00185	U	< 0.52	U	< 0.00177	U	< 0.267	U	< 0.00184	U

Parameters	RSR - APS Criteria				Location	Shallow & Deep Co-Located								Shallow & Deep Co-Located								Shallow & Deep Co-Located							
					GZ-1095		GZ-109		GZ-109		GZ-1105		GZ-110		GZ-1105		GZ-110		GZ-1115		GZ-111		GZ-111						
	GZ-1095 (0-2')		GZ-1095 (0-2')		GZ-109 (3.2-4.7')		GZ-109 (3.2-4.7')		GZ-1105 (0-2')		GZ-1105 (0-2')		GZ-110 (3.5-5.2')		GZ-110 (3.5-5.2')		GZ-1115 (0-2')		GZ-1115 (0-2')		GZ-111 (3-4.3')		GZ-111 (3-4.3')						
	4/1/2021		4/1/2021		4/14/2021		4/14/2021		4/1/2021		4/1/2021		4/14/2021		4/14/2021		4/1/2021		4/1/2021		4/14/2021		4/14/2021						
	Total Mass		Total Mass		Total Mass		SPLP		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L				
CT DEEP Additional Polluting Substances (APS) for PFAS	µg/Kg	µg/Kg	µg/Kg	µg/L	Analysis Type	N		SPLP		N		SPLP		N		SPLP		N		SPLP		N		SPLP					
Perfluorooctanoic acid (PFOA)	Sum of 5-PFAS Compounds	Sum of 5-PFAS Compounds	Sum of 5-PFAS Compounds	Sum of 5-PFAS Compounds		6.06		0.208		1.77		0.0563		4.06		0.184		7.68		0.238		2.23		0.0828		1.46		0.0389	
Perfluorooctanesulfonic acid (PFOS)						423		5.7		327		9.5		323		4.86		266		5.28		16		0.342		6.68		0.196	
Perfluorononanoic acid (PFNA)						26.1		0.646		8.23		0.236		18.2		0.627		15.7		0.341		15.1		0.446		14.2		0.412	
Perfluoroheptanoic acid (PFHpA)						3.28		0.119		< 1.1	U	0.0292		2.7		0.132		4.46	U	0.155		1.73		0.0703		< 1.19	U	0.012	
Perfluorohexanesulfonic acid (PFHxS)						21.5		0.738		14.3		0.496		21.5		0.953		58		1.33		2.29		0.0689		< 1.19		0.0377	
Sum of PFAS Compounds	1,350	41,000	1.4	0.70		479.94		7.41		351.30		10.32		369.46		6.76		351.84		7.34		37.35		1.01		22.34		0.70	
Other PFAS Compounds Not on APS List																													
11-chloroicosafuoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	NC	NC	NC	NC																									
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	NC	NC	NC	NC																									
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	NC	NC	NC	NC																									
Hexafluoropropylene oxide dimer acid (GenX)	NC	NC	NC	NC																									
N-ethylperfluoro-1-octanesulfonamidoacetic acid (NetFOSAA)	NC	NC	NC	NC		< 0.602	U	< 0.00173	U	< 2.2	U	< 0.00182	U	< 0.581	U	< 0.00175	U	< 2.17	U	< 0.00185	U	4.36	F	< 0.00172	U	< 2.39	U	< 0.00186	U
N-methylperfluoro-1-octanesulfonamidoacetic acid (NMeFOSAA)	NC	NC	NC	NC		< 0.602	U	< 0.00173	U	< 2.2	U	< 0.00182	U	< 0.581	U	< 0.00175	U	< 2.17	U	< 0.00185	U	6.74	U	< 0.00172	U	< 2.39	U	< 0.00186	U
Perfluorobutanoic acid (PFBA)	NC	NC	NC	NC		1.09		0.0424		< 2.2	U	0.0149		0.881		0.0396		< 2.17	U	0.0332		0.778		0.0315		< 1.19	U	0.00878	
Perfluorobutanesulfonic acid (PFBS)	NC	NC	NC	NC		0.496		0.0151		< 1.1	U	0.00376		0.681		0.0272		1.23		0.0339		< 0.278	U	< 0.00172	U	1.23		< 0.00186	U
Perfluorodecanoic acid (PFDA)	NC	NC	NC	NC		18.8		0.23		2.78		0.0503		8.1		0.148		5.04		0.0435		0.742		0.0106		< 1.19		< 0.00186	U
Perfluorododecanoic acid (PFDoA)	NC	NC	NC	NC		1.83	U	< 0.00173	U	< 2.2	U	< 0.00182	U	1.05		< 0.00175	U	< 2.17	U	< 0.00185	U	< 0.278	U	< 0.00172	U	< 2.39	U	< 0.00186	U
Perfluorohexanoic acid (PFHxA)	NC	NC	NC	NC		3.57		0.13		< 2.2	U	0.0559		2.82		0.128		4.44		0.157		1.26		0.0493		< 2.39		0.00973	
Perfluoropentanoic Acid (PFPeA)	NC	NC	NC	NC		3.23		0.116		< 2.2	U	0.0329		4.08		0.182		4.88		0.173		2.16		0.0832		< 2.39		0.0177	
Perfluorotetradecanoic acid (PFTA)	NC	NC	NC	NC		< 0.602	U	< 0.00173	U	< 2.2	U	< 0.00182	U	< 0.581	U	< 0.00175	U	< 2.17	U	< 0.00185	U	< 0.278	U	< 0.00172	U	< 2.39	U	< 0.00186	U
Perfluorotridecanoic Acid (PFTriA)	NC	NC	NC	NC		1.9		< 0.00173	U	< 2.2	U	< 0.00182	U	2.46		< 0.00175	U	< 2.17	U	< 0.00185	U	< 0.278	U	< 0.00172	U	< 2.39	U	< 0.00186	U
Perfluoropentanesulfonic Acid (PFPeS)	NC	NC	NC	NC		< 0.602	U	0.0416		< 2.2	U	0.0249		1.28		0.0754		< 4.34	U	0.146		< 0.278	U	0.00263		< 4.78	U	< 0.00186	U
Perfluoroheptanesulfonic Acid (PFHpS)	NC	NC	NC	NC		1.86		0.0972		< 2.2	U	0.0541		2.69		0.166		3.92		0.213		< 0.278	U	0.00693		< 2.39		0.00686	

Table 4
Summary of Groundwater Analytical Results

Town of Canton
4 Barbourtown road

Parameter	RSR Criteria	Units	Eastern Field																					
	GA-PMC		GZ-2		GZ-2I		GZ-2D		GZ-3		GZ-4		GZ-4I		GZ-4D		GZ-5		GZ-6		GZ-7		GZ-7I	
CT DEEP Additional Polluting Substances (APS) for PFAS			8/14/2020		1/13/2021		1/13/2021		8/14/2020		8/14/2020		1/14/2021		1/14/2021		1/12/2021		1/12/2021		1/12/2021		1/12/2021	
Perfluorooctanoic acid (PFOA)	SUM of - 5 Compounds	ng/L	810		280		2	J	14		260		4.5		15		4.2		< 1.0	U	2.6	J	28	
Perfluorooctanesulfonic acid (PFOS)		ng/L	7,800		58		6.5		68		820		8.2		32		11		< 1.0	U	14		20	
Perfluorononanoic acid (PFNA)		ng/L	2,900		42		< 1.0	U	24		300		3.2	J	19		1.8	J	< 1.0	U	< 1.0	U	4.5	
Perfluoroheptanoic acid (PFHpA)		ng/L	1,100		370		3.9	J	21		320		6.5		15		< 1.1	U	< 1.0	U	1.2	J	31	
Perfluorohexanesulfonic acid (PFHxS)		ng/L	4,200		180		2.2	J	33		900		18		21		< 1.1	U	< 1.0	U	15		56	
Sum of PFAS Compounds	70	ng/L	16,810		930		15		160		2,600		40		102		17		0		33		140	
Other PFAS Compounds Not on APS List																								
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	NC	ng/L	< 7.5	U	< 2.1	U	< 2.1	U	< 7.7	U	< 7.7	U	< 2.0	U	< 1.9	U	< 2.1	U	< 2.1	U	< 2.0	U	< 2.1	U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	NC	ng/L	< 7.5	U	< 2.1	U	< 2.1	U	< 7.7	U	< 7.7	U	< 2.0	U	< 1.9	U	< 2.1	U	< 2.1	U	< 2.0	U	< 2.1	U
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	NC	ng/L	< 7.5	U	< 2.1	U	< 2.1	U	< 7.7	U	< 7.7	U	< 2.0	U	< 1.9	U	< 2.1	U	< 2.1	U	< 2.0	U	< 2.1	U
Hexafluoropropylene oxide dimer acid (GenX)	NC	ng/L	< 7.5	U	< 2.1	U	< 2.1	U	< 7.7	U	< 7.7	U	< 2.0	U	< 1.9	U	< 2.1	U	< 2.1	U	< 2.0	U	< 2.1	U
N-ethylperfluoro-1-octanesulfonamidoacetic acid (NetFOSAA)	NC	ng/L	< 7.5	U	< 2.1	U	< 2.1	U	< 7.7	U	< 7.7	U	< 2.0	U	< 1.9	U	< 2.1	U	< 2.1	U	< 2.0	U	< 2.1	U
N-methylperfluoro-1-octanesulfonamidoacetic acid (NMeFOSAA)	NC	ng/L	< 7.5	U	< 2.1	U	< 2.1	U	< 7.7	U	< 7.7	U	< 2.0	U	< 1.9	U	< 2.1	U	< 2.1	U	< 2.0	U	< 2.1	U
Perfluorobutanesulfonic acid (PFBS)	NC	ng/L	200		12		< 1.0	U	2.30	J	58.00		1.9	J	2.6	J	< 1.1	U	< 1.0	U	3.5	J	4.2	
Perfluorodecanoic acid (PFDA)	NC	ng/L	220		< 1.0	U	< 1.0	U	1.40	J	3.50	J	< 1.0	U	< 0.97	U	2.3	J	< 1.0	U	< 1.0	U	< 1.1	U
Perfluorododecanoic acid (PFDoA)	NC	ng/L	1.00	J	< 1.0	U	< 1.0	U	< 3.8	U	< 3.8	U	< 1.0	U	< 0.97	U	< 1.1	U	< 1.0	U	< 1.0	U	< 1.1	U
Perfluorohexanoic acid (PFHxA)	NC	ng/L	1,200		260		< 1.0	U	29		350		8.6		16		< 1.1	U	< 1.0	U	1.5	J	27	
Perfluorotetradecanoic acid (PFTA)	NC	ng/L	< 3.8	U	< 1.0	U	< 1.0	U	< 3.8	U	< 3.8	U	< 1.0	U	< 0.97	U	< 1.1	U	< 1.0	U	< 1.0		< 1.1	U
Perfluorotridecanoic Acid (PFTriA)	NC	ng/L	< 3.8	U	< 1.0	U	< 1.0	U	< 3.8	U	< 3.8	U	< 1.0	U	< 0.97	U	< 1.1	U	< 1.0	U	< 1.0	U	< 1.1	U
Perfluoroundecanoic Acid (PFUnA)	NC	ng/L	110		< 1.0	U	< 1.0	U	< 3.8	U	1	J	< 1.0	U	< 0.97	U	< 1.1	U	< 1.0	U	< 1.0	U	< 1.1	U

Parameter	RSR Criteria	Units	Off-Site Wells East of Eastern Field								Southeastern Field						Southern Field	
	GA-PMC		GZ-8		GZ-8I		GZ-11		GZ-11I		GZ-9		GZ-9I		GZ-10		GZ-1	
CT DEEP Additional Polluting Substances (APS) for PFAS			1/14/2021		1/14/2021		1/14/2021		1/14/2021		1/13/2021		1/13/2021		1/12/2021		8/14/2020	
Perfluorooctanoic acid (PFOA)	SUM of - 5 Compounds	ng/L	< 1.0	U	2.8	J	< 0.99	U	2.7	J	2.5	J	2.4	J	3.7	J	< 3.8	U
Perfluorooctanesulfonic acid (PFOS)		ng/L	< 1.0	U	1.2	J	< 0.99	U	3.3	J	5.4		1.5	J	3	J	1.50	J
Perfluorononanoic acid (PFNA)		ng/L	< 1.0	U	< 0.97	U	< 0.99	U	< 1.0	U	1.4	J	< 0.97	U	10		1.40	J
Perfluoroheptanoic acid (PFHpA)		ng/L	2.7	J	4.3		< 0.99	U	6.7		1.3	J	1.4	J	4	J	< 3.8	U
Perfluorohexanesulfonic acid (PFHxS)		ng/L	4.7		5.8		1.8	J	12		< 1.1	U	< 0.97	U	5.4		< 3.8	U
Sum of PFAS Compounds	70	ng/L	7		14		2		25		11		5		26		3	
Other PFAS Compounds Not on APS List																		
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3OUdS)	NC	ng/L	< 2.0	U	< 1.9	U	< 2.0	U	< 2.0	U	< 2.1	U	< 1.97	U	< 2.1	U	< 7.5	U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	NC	ng/L	< 2.0	U	< 1.9	U	< 2.0	U	< 2.0	U	< 2.1	U	< 1.97	U	< 2.1	U	< 7.5	U
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	NC	ng/L	< 2.0	U	< 1.9	U	< 2.0	U	< 2.0	U	< 2.1	U	< 1.97	U	< 2.1	U	< 7.5	U
Hexafluoropropylene oxide dimer acid (GenX)	NC	ng/L	< 2.0	U	< 1.9	U	< 2.0	U	< 2.0	U	< 2.1	U	< 1.97	U	< 2.1	U	< 7.5	U
N-ethylperfluoro-1-octanesulfonamidoacetic acid (NetFOSAA)	NC	ng/L	< 2.0	U	< 1.9	U	< 2.0	U	< 2.0	U	< 2.1	U	< 1.97	U	< 2.1	U	< 7.5	U
N-methylperfluoro-1-octanesulfonamidoacetic acid (NMeFOSAA)	NC	ng/L	< 2.0	U	< 1.9	U	< 2.0	U	< 2.0	U	< 2.1	U	< 1.97	U	< 2.1	U	< 7.5	U
Perfluorobutanesulfonic acid (PFBS)	NC	ng/L	< 1.0	U	< 0.97	U	< 0.99	U	1.3	J	1.5	J	< 0.97	U	1.2	J	< 3.8	U
Perfluorodecanoic acid (PFDA)	NC	ng/L	< 1.0	U	< 0.97	U	< 0.99	U	< 1.0	U	< 1.1	U	< 0.97	U	< 1.1	U	4.10	
Perfluorododecanoic acid (PFDoA)	NC	ng/L	< 1.0	U	< 0.97	U	< 0.99	U	< 1.0	U	< 1.1	U	< 0.97	U	< 1.1	U	< 3.8	U
Perfluorohexanoic acid (PFHxA)	NC	ng/L	2.9	J	5.2		< 0.99	U	8.5		1.5	J	1.5	J	4.9		< 3.8	U
Perfluorotetradecanoic acid (PFTA)	NC	ng/L	< 1.0	U	< 0.97	U	< 0.99	U	< 1.0	U	< 1.1	U	< 0.97	U	< 1.1	U	< 3.8	U
Perfluorotridecanoic Acid (PFTriA)	NC	ng/L	< 1.0	U	< 0.97	U	< 0.99	U	< 1.0	U	< 1.1	U	< 0.97	U	< 1.1	U	< 3.8	U
Perfluoroundecanoic Acid (PFUnA)	NC	ng/L	< 1.0	U	< 0.97	U	< 0.99	U	< 1.0	U	< 1.1	U	< 0.97	U	< 1.1	U	< 3.8	U

Notes:

1. GWPC: Groundwater Protection Criteria
2. Bold cells indicate exceedance of GWPC
3. J- Estimated value
4. U- Not detected, below Method Detection Limit
5. ng/L - nanograms per liter
6. NC-No Criteria

Table 5
Summary of Surface Water Analytical Results

Town of Canton
4 Barbourtown road
Canton, CT

Parameter	RSR Criteria	Units	SW River Samples					
	SWPC		S-1		S-3		S-5	
			1/15/2021	1/15/2021	1/15/2021	1/15/2021	1/15/2021	
CT DEEP Additional Polluting Substances (APS) for PFAS								
Perfluorooctanoic acid (PFOA)	SUM of - 5 Compounds	ng/L	< 0.91	U	< 0.86	U	< 0.94	U
Perfluorooctanesulfonic acid (PFOS)		ng/L	< 0.91	U	1.4	J	< 0.94	U
Perfluorononanoic acid (PFNA)		ng/L	< 0.91	U	< 0.86	U	< 0.94	U
Perfluoroheptanoic acid (PFHpA)		ng/L	< 0.91	U	< 0.86	U	< 0.94	U
Perfluorohexanesulfonic acid (PFHxS)		ng/L	< 0.91	U	< 0.86	U	< 0.94	U
Sum of PFAS Compounds	11	ng/L	0	0	1.4		0	
Other PFAS Compounds Not on APS List								
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	NC	ng/L	< 1.8	U	< 1.7	U	< 1.9	U
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	NC	ng/L	< 1.8	U	< 1.7	U	< 1.9	U
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	NC	ng/L	< 1.8	U	< 1.7	U	< 1.9	U
Hexafluoropropylene oxide dimer acid (GenX)	NC	ng/L	< 1.8	U	< 1.7	U	< 1.9	U
N-ethylperfluoro-1-octanesulfonamidoacetic acid (NetFOSAA)	NC	ng/L	< 1.8	U	< 1.7	U	< 1.9	U
N-methylperfluoro-1-octanesulfonamidoacetic acid (NMeFOSAA)	NC	ng/L	< 1.8	U	< 1.7	U	< 1.9	U
Perfluorobutanesulfonic acid (PFBS)	NC	ng/L	< 0.91	U	< 0.86	U	< 0.94	U
Perfluorodecanoic acid (PFDA)	NC	ng/L	< 0.91	U	< 0.86	U	< 0.94	U
Perfluorododecanoic acid (PFDoA)	NC	ng/L	< 0.91	U	< 0.86	U	< 0.94	U
Perfluorohexanoic acid (PFHxA)	NC	ng/L	< 0.91	U	< 0.86	U	< 0.94	U
Perfluorotetradecanoic acid (PFTA)	NC	ng/L	< 0.91	U	< 0.86	U	< 0.94	U
Perfluorotridecanoic Acid (PFTriA)	NC	ng/L	< 0.91	U	< 0.86	U	< 0.94	U
Perfluoroundecanoic Acid (PFUnA)	NC	ng/L	< 0.91	U	< 0.86	U	< 0.94	U

Notes:

1. No Connecticut APS is established to date. GZA has adopted Michigan's surface water criteria for comparison purposes.
2. Bold cells indicate exceedance of Michigan's surface water criteria
3. J- Estimated value
4. U- Not detected, below Method Detection Limit
5. ng/L - nanograms per liter
6. NC-No Criteria

Table 6
Hydraulic Conductivity and Screening Summary

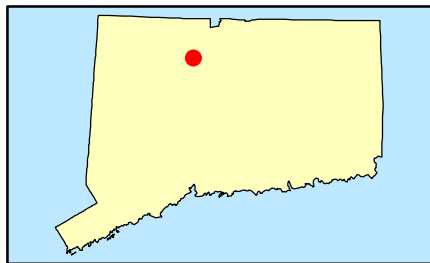
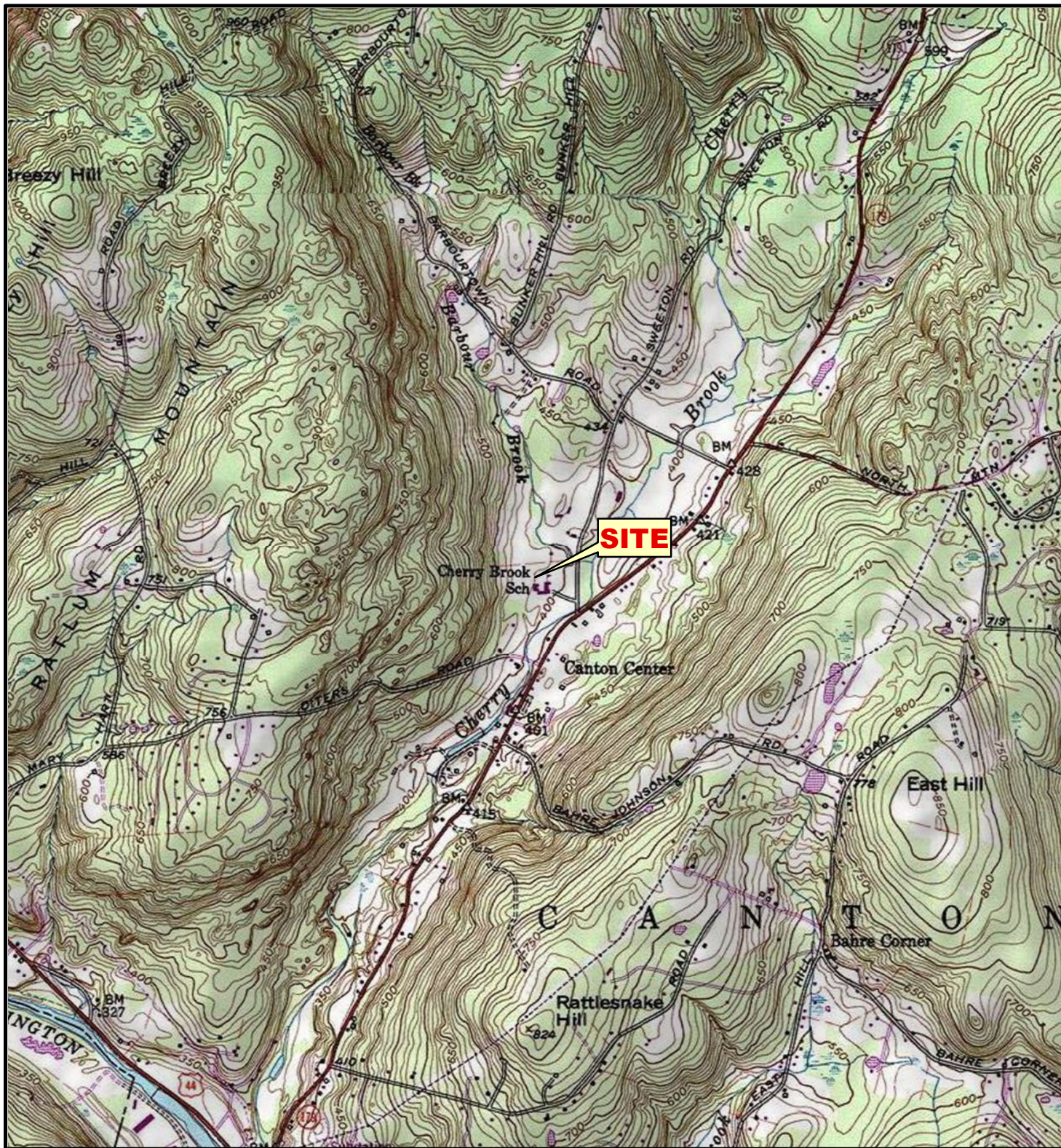
Town of Canton
4 Barbourtown road
Canton, CT

Well ID	Media Well Screened In	Top of Screen Depth	Bottom of Screen Depth	Depth to Top of Bedrock	Difference TOC and Grade	Static Water Level TOC	Static Water Level Grade	Casing Radius	Borehole Radius	Borehole Radius	Screen Length	Screen Effective Length	Effective Well Radius	Effective Screen Radius	Effective Screen Radius	Kv/Kh Ratio	Aquifer Thickness (b)	Initial Displacement	Static Water Column Height	Slug Method	Test 1 (Slug In)	Test 2 (Slug Out)	Harm_Kh
Units		FT BSG	FT BSG		FT	FT TOC	FT BSG	in	in	ft	ft	ft	in	in	ft	-	ft	ft	FT BSG	-	ft/day	ft/day	ft/day
GZ-1	OB	7	20	--	0.63	6.724	7.35	4	4	0.17	13.5	13.5	2	1	0.0833	1	12.65	0.469	12.65	Slug	0.53	4.07	2.30
GZ-2	OB	4	17.5	--	0.98	3.63	4.61	4	4	0.17	13.5	13.5	2	1	0.0833	1	12.89	0.765	12.89	Slug	3.96	1.45	2.70
GZ-2D	BR	39.5	44.5	WBR = 23' BR = 30'	0.67	4.95	5.62	6	6	0.25	5	5	3	1	0.0833	1	5	2.044	38.88	Pnuematic	2.62	2.71	2.67
GZ-2I	OB/WBR	20	25	WBR = 23'	1.04	4.452	5.49	6	6	0.25	5	5	3	1	0.0833	1	5	2.102	19.51	Pnuematic	43.75	32.76	38.26
GZ-3	OB	4.3	19.3	--	0.9	3.62	4.52	4	4	0.17	13.5	13.5	2	1	0.0833	1	14.78	1.491	14.78	Slug	0.36	0.37	0.37
GZ-4	OB	4.5	14.5	--	0.38	3.492	3.87	4	4	0.17	13.5	13.5	2	1	0.0833	1	10	1.491	10.63	Slug	0.44	0.46	0.45
GZ-4D	WBR/BR	29	34	WBR=21' BR=32.5'	0.25	3.418	3.67	6	6	0.25	5	5	3	1	0.0833	1	5	2.005	30.33	Pnuematic	2.85	2.79	2.82
GZ-4I	OB	16	21	--	0.23	3.457	3.69	6	6	0.25	5	5	3	1	0.0833	1	5	1.984	17.31	Pnuematic	0.36	0.39	0.38
GZ-5	OB	5	15	--	0.6	7.42	8.02	6	6	0.25	5	5	3	1	0.0833	1	6.98	0.579	6.98	Slug		21.55	21.55
GZ-6	OB	4	14	--	0.29	4.37	4.66	6	6	0.25	5	5	3	1	0.0833	1	9.34	0.579	9.34	Slug		25.64	25.64
GZ-7	OB	4	14	--	0.78	3.664	4.44	6	6	0.25	5	5	3	1	0.0833	1	9.56	1.034	9.56	Slug	2.16	3.94	3.05
GZ-7I	OB/BR	16	21	BR=20'	0.21	4.377	4.59	6	6	0.25	5	5	3	1	0.0833	1	5	2.121	16.41	Pnuematic	35.61	34.11	34.86
GZ-8	OB	3	13	--	-2.63	4.605	1.98	6	6	0.25	5	5	3	1	0.0833	1	10	1.329	11.03	Slug	0.35	0.46	0.41
GZ-8I	BR	23.5	28.5	BR=18.5'	-1.69	3.468	1.78	6	6	0.25	5	5	3	1	0.0833	1	5	1.986	26.72	Pnuematic	3.70	3.54	3.62
GZ-9	OB	3.5	13.5	--	0.34	5.1	5.44	6	6	0.25	5	5	3	1	0.0833	1	8.06	1.491	8.06	Slug	0.50	0.51	0.51
GZ-9I	OB	21	26	WBR=26' BR=29'	0.42	5.01	5.43	6	6	0.25	5	5	3	1	0.0833	1	5	2.25	20.57	Pnuematic	6.46	6.48	6.47
GZ-10	OB/WBR	3	13	WBR=9'	-2.64	6	3.36	6	6	0.25	5	5	3	1	0.0833	1	9.64	1.424	9.64	Slug	1.87	2.18	2.03
GZ-11	OB	3.5	13.5	--	0.78	3.244	4.02	6	6	0.25	5	5	3	1	0.0833	1	9.48	1.424	9.48	Slug	1.84	1.65	1.75
GZ-11I	BR	19.5	24.5	BR=14.5'	0.35	3.82	4.17	6	6	0.25	5	5	3	1	0.0833	1	5	1.982	20.33	Pnuematic	9.39	10.13	9.76

	Average K/unit	Geomean/unit
Soil/OB	5.46	1.84
OB/WBR	25.05	13.93
BR	4.72	4.04

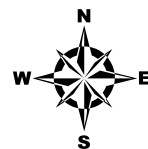


FIGURES



SOURCE : USGS TOPOGRAPHIC QUADRANGLES SCANNED BY THE NATIONAL GEOGRAPHIC SOCIETY & I-CUBED, COPYRIGHT 2011

Data Supplied by :



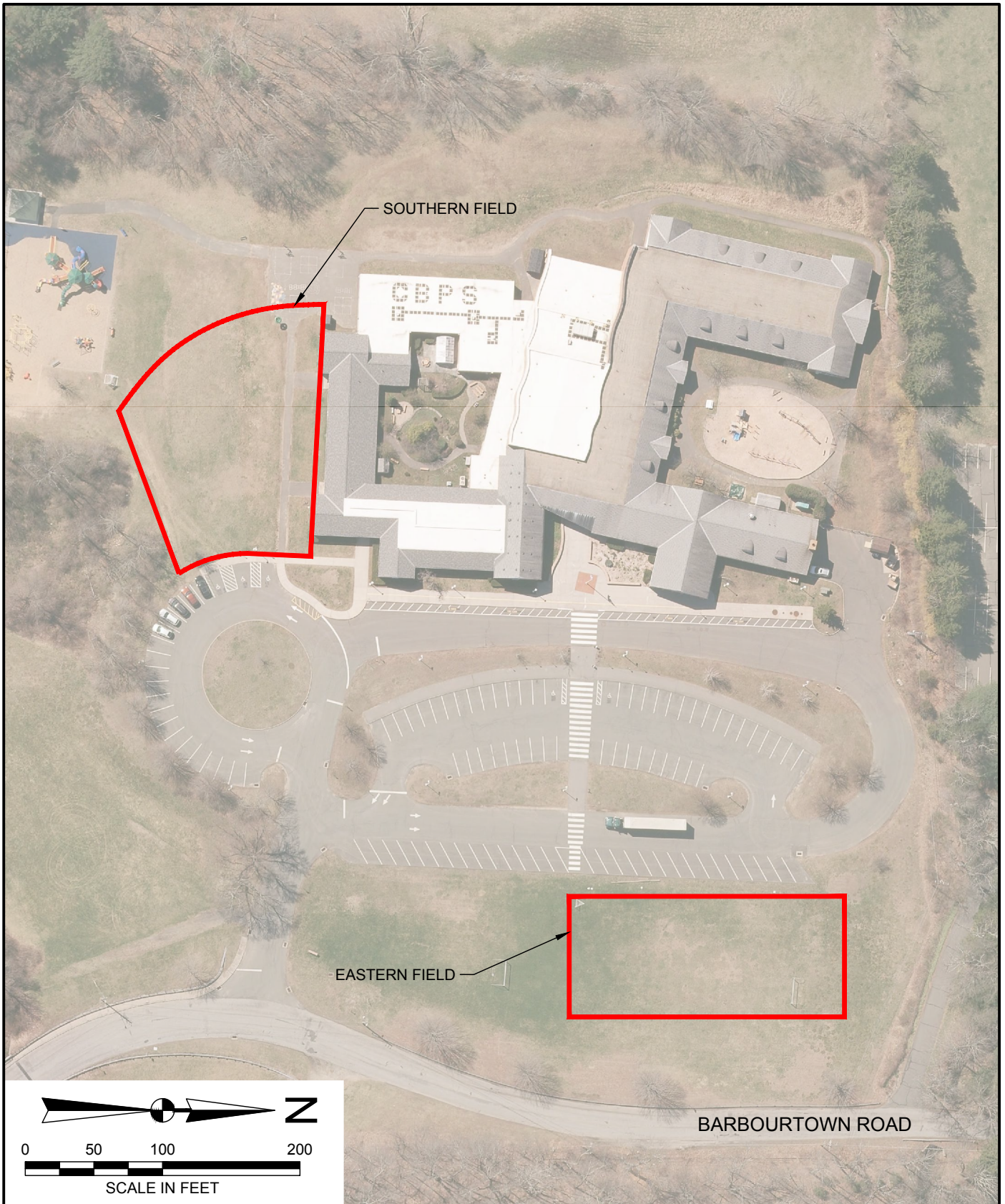
PROJ. MGR.: RJD
DESIGNED BY: RJD
REVIEWED BY: RJD
OPERATOR: MJT
DATE: 12-10-2019

SITE LOCUS

CHERRY BROOK SCHOOL
4 BARBOURTOWN RD
CANTON, CONNECTICUT

JOB NO.
05.0046589.00

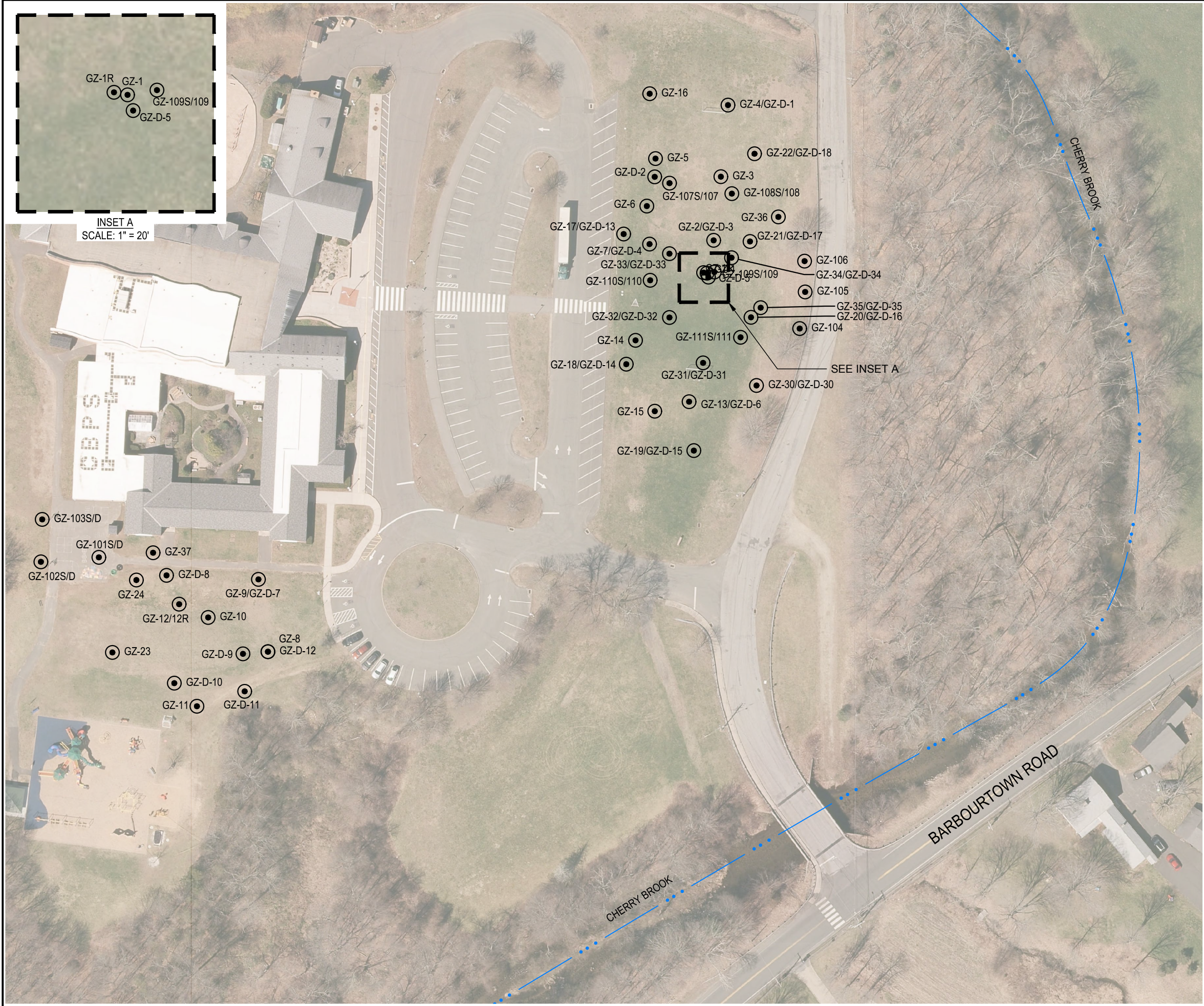
FIGURE NO.
1



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CHERRY BROOK PRIMARY SCHOOL		PREPARED BY:		TOWN OF CANTON	
		GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com			
AREAS OF AFFF APPLICATION		PROJ MGR:	REVIEWED BY:	CHECKED BY:	FIGURE 2 SHEET NO. 1 OF 1
		DESIGNED BY:	DRAWN BY:	SCALE: AS SHOWN	
		DATE: 6-1-2021	PROJECT NO. 05.0046589.02	REVISION NO.	

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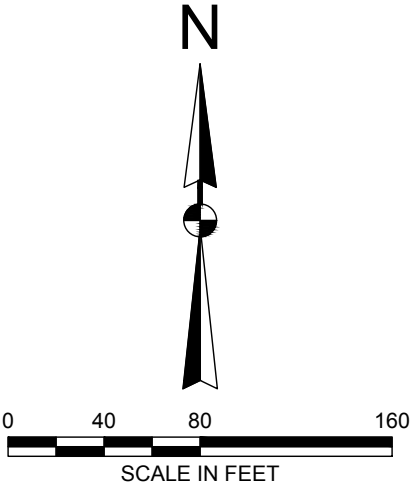


LEGEND:

SOIL BORING

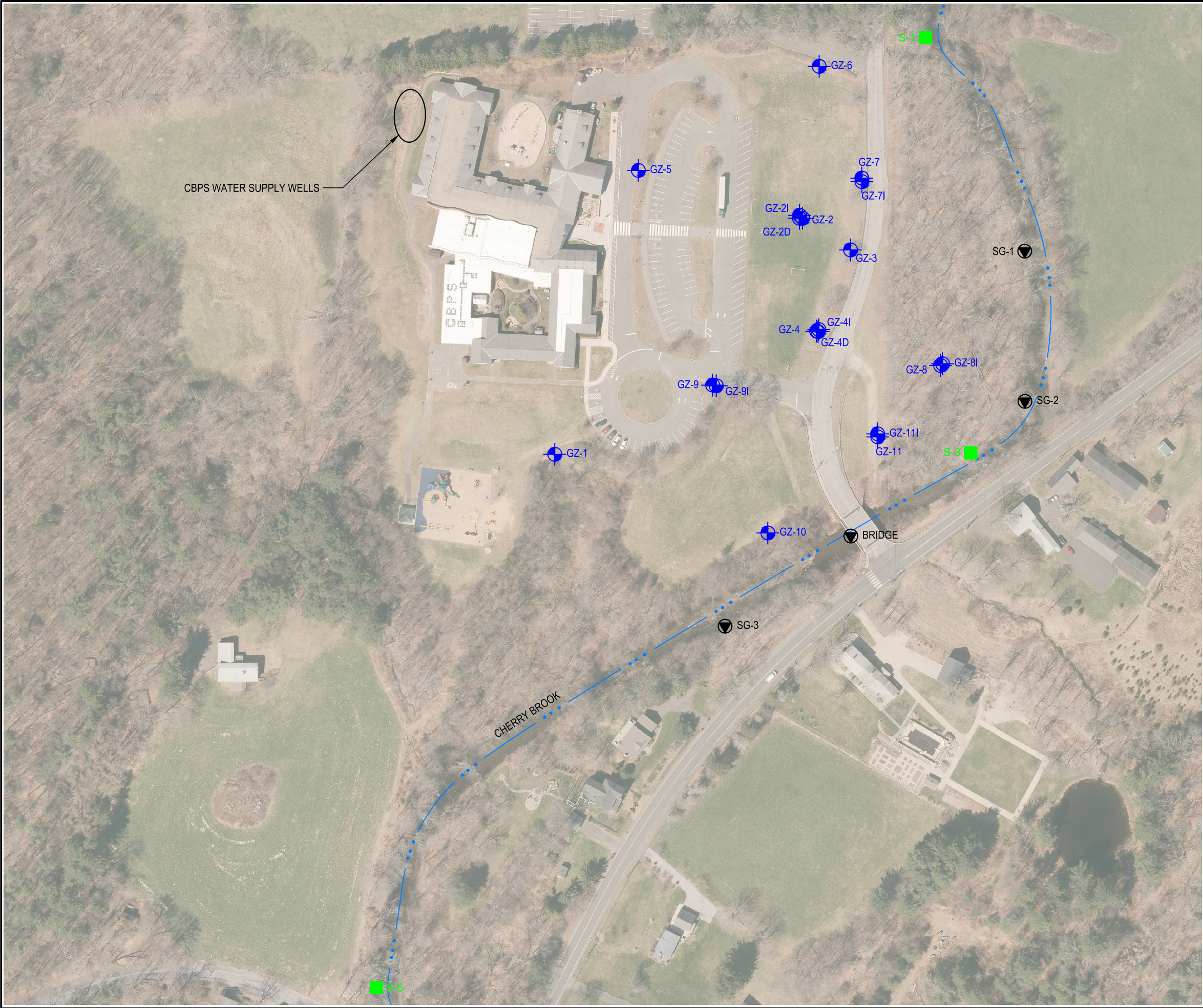
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3. 2016 AERIAL PHOTO OBTAINED FROM CT ECO ONLINE DATABASE.



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SOIL BORING LOCATIONS			
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PROJ MGR: RJD	REVIEWED BY: TWL	CHECKED BY: RJD	FIGURE 3 SHEET NO. 1 OF 1
DESIGNED BY: TWL	DRAWN BY: MJT	SCALE: AS SHOWN	
DATE: 6-1-2021	PROJECT NO. 05.0046589.02	REVISION NO.	

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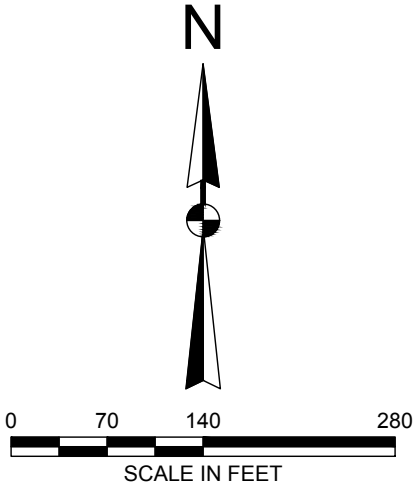


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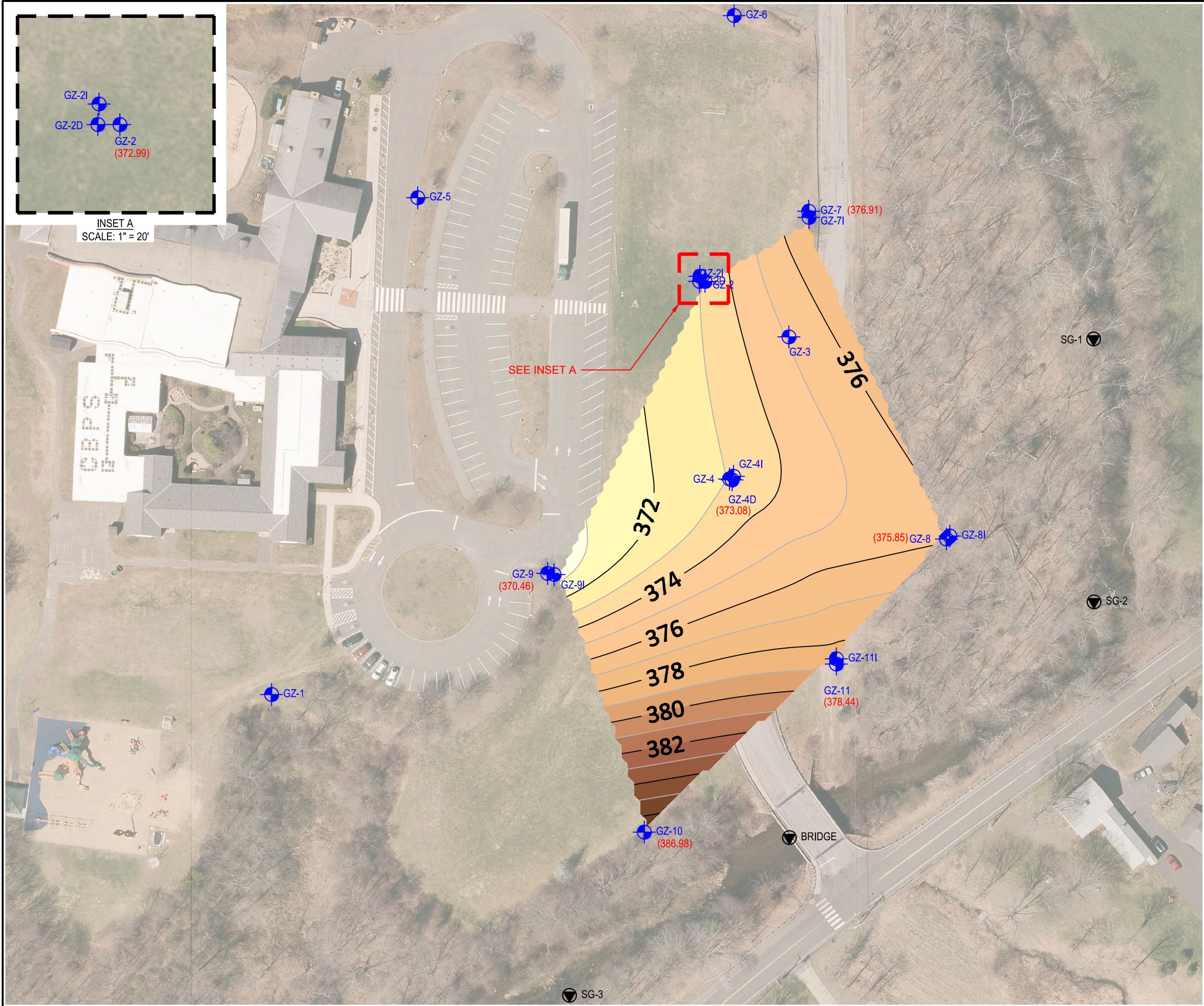
- MONITORING WELL
- STAFF GAUGE
- SURFACE WATER SAMPLE LOCATION

NOTES:

- THE PURPOSE OF THIS DRAWING IS TO LOCATE, DESCRIBE, AND REPRESENT THE POSITIONS OF MONITORING WELLS, STAFF GAUGES, AND SURFACE WATER SAMPLES IN RELATION TO THE SUBJECT SITE. THIS DRAWING IS NOT CONSIDERED A LAND SURVEY.
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CHERRY BROOK PRIMARY SCHOOL			
MONITORING WELL AND SURFACE WATER LOCATIONS			
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PROJ MGR: RJD	REVIEWED BY: TWL	CHECKED BY: RJD	FIGURE 4 SHEET NO. 1 OF 1
DESIGNED BY: TWL	DRAWN BY: MJT	SCALE: AS SHOWN	
DATE: 6-1-2021	PROJECT NO. 05.0046589.02	REVISION NO.	



LEGEND:



MONITORING WELL



STAFF GAUGE

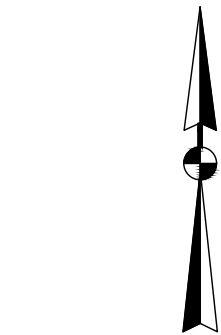
(376.91)

BEDROCK ELEVATION IN FEET

NOTES:

1. THE PURPOSE OF THIS DRAWING IS TO LOCATE, DESCRIBE, AND REPRESENT THE POSITIONS OF MONITORING WELLS IN RELATION TO THE SUBJECT SITE. THIS DRAWING IS NOT CONSIDERED A LAND SURVEY.
2. THE LOCATION OF THE EXPLORATIONS WERE SURVEYED BY ALFRED BENESCH & COMPANY OF GLASTONBURY, CONNECTICUT. LOCATIONS ARE IN NORTHERLY AND EASTERLY COORDINATES AND SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.
3. LOCATION, ELEVATIONS, DEPTHS AND/OR CONTOURS OF BEDROCK ARE BASED ON DATA FROM WIDELY SPACED EXPLORATIONS AND MAY NOT REFLECT ACTUAL SUBSURFACE CONDITIONS.
4. 2016 AERIAL PHOTO OBTAINED FROM CT ECO ONLINE DATABASE.

N



0 40 80 160

SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

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CHERRY BROOK PRIMARY SCHOOL

BEDROCK SURFACE CONTOURS

PREPARED BY:

GZA GeoEnvironmental, Inc.
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PREPARED FOR:

TOWN OF CANTON

PROJ MGR:

RJD

REVIEWED BY:

TWL

CHECKED BY:

RJD

FIGURE

DESIGNED BY:

TWL

DRAWN BY:

MJT

SCALE:

AS SHOWN

5

DATE:

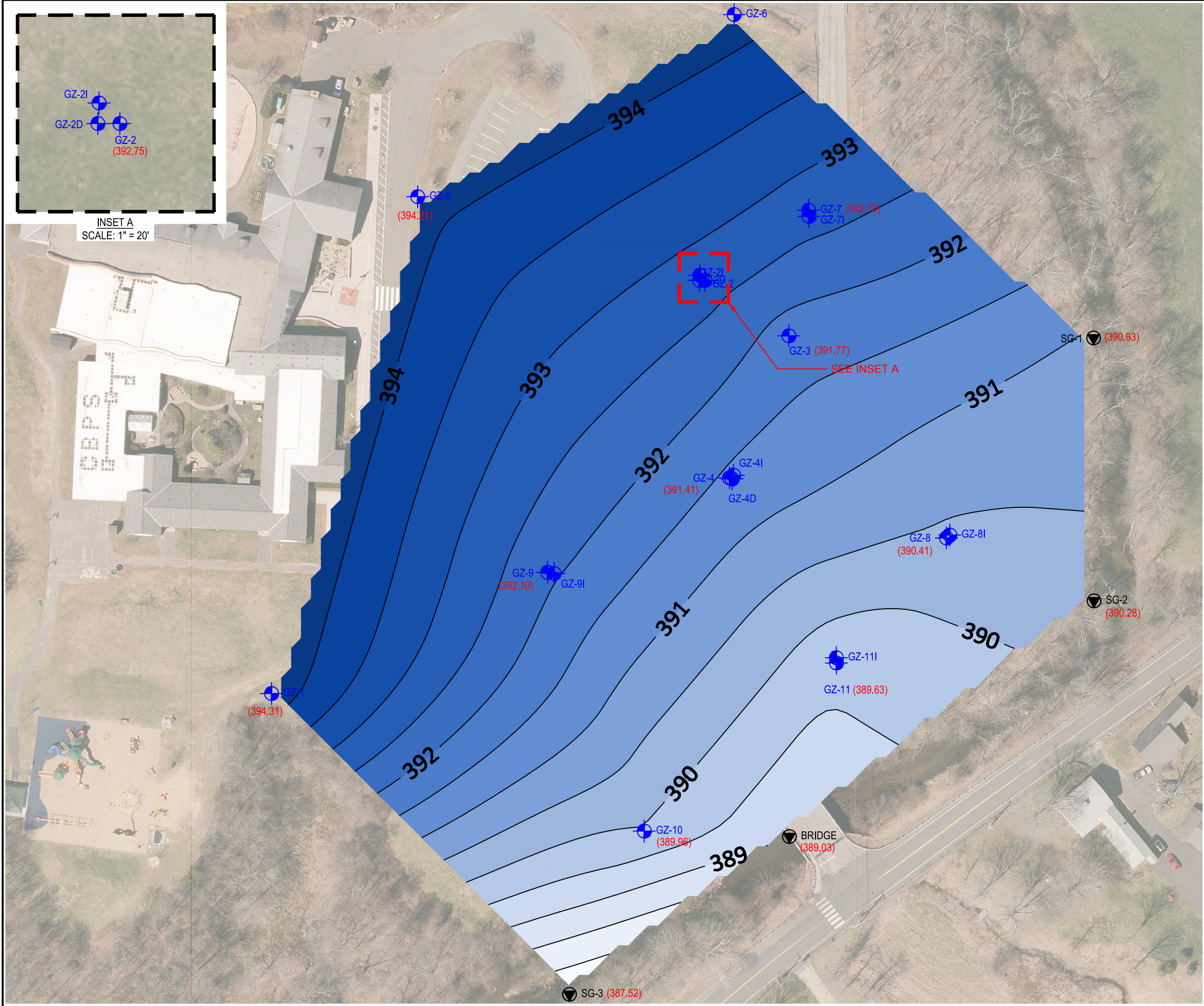
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LEGEND:



MONITORING WELL



STAFF GAUGE

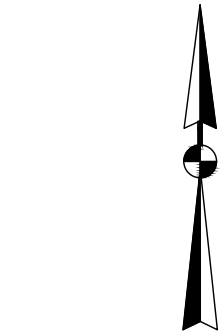
(392.73)

GROUNDWATER ELEVATION IN FEET

NOTES:

1. THE PURPOSE OF THIS DRAWING IS TO LOCATE, DESCRIBE, AND REPRESENT THE POSITIONS OF MONITORING WELLS IN RELATION TO THE SUBJECT SITE. THIS DRAWING IS NOT CONSIDERED A LAND SURVEY.
2. THE LOCATION OF THE EXPLORATIONS WERE SURVEYED BY ALFRED BENESCH & COMPANY OF GLASTONBURY, CONNECTICUT. LOCATIONS ARE IN NORTHERLY AND EASTERLY COORDINATES AND SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.
3. GROUNDWATER ELEVATIONS WERE MEASURED BY GZA PERSONNEL ON JANUARY 13, 2021. GROUNDWATER ELEVATIONS DETERMINED RELATIVE TO AN ARBITRARY VERTICAL DATUM.
4. LOCATION, ELEVATIONS, DEPTHS AND/OR CONTOURS OF GROUNDWATER ARE BASED ON DATA FROM WIDELY SPACED EXPLORATIONS AND MAY NOT REFLECT ACTUAL SUBSURFACE CONDITIONS.
5. 2016 AERIAL PHOTO OBTAINED FROM CT ECO ONLINE DATABASE.

N



0 40 80 160

SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

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CHERRY BROOK PRIMARY SCHOOL

WATER TABLE GROUNDWATER CONTOURS

PREPARED BY:

GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:

TOWN OF CANTON

PROJ MGR:

RJD

REVIEWED BY:

TWL

CHECKED BY:

RJD

FIGURE

DESIGNED BY:

TWL

DRAWN BY:

MJT

SCALE:

AS SHOWN

6A

DATE:

6-1-2021

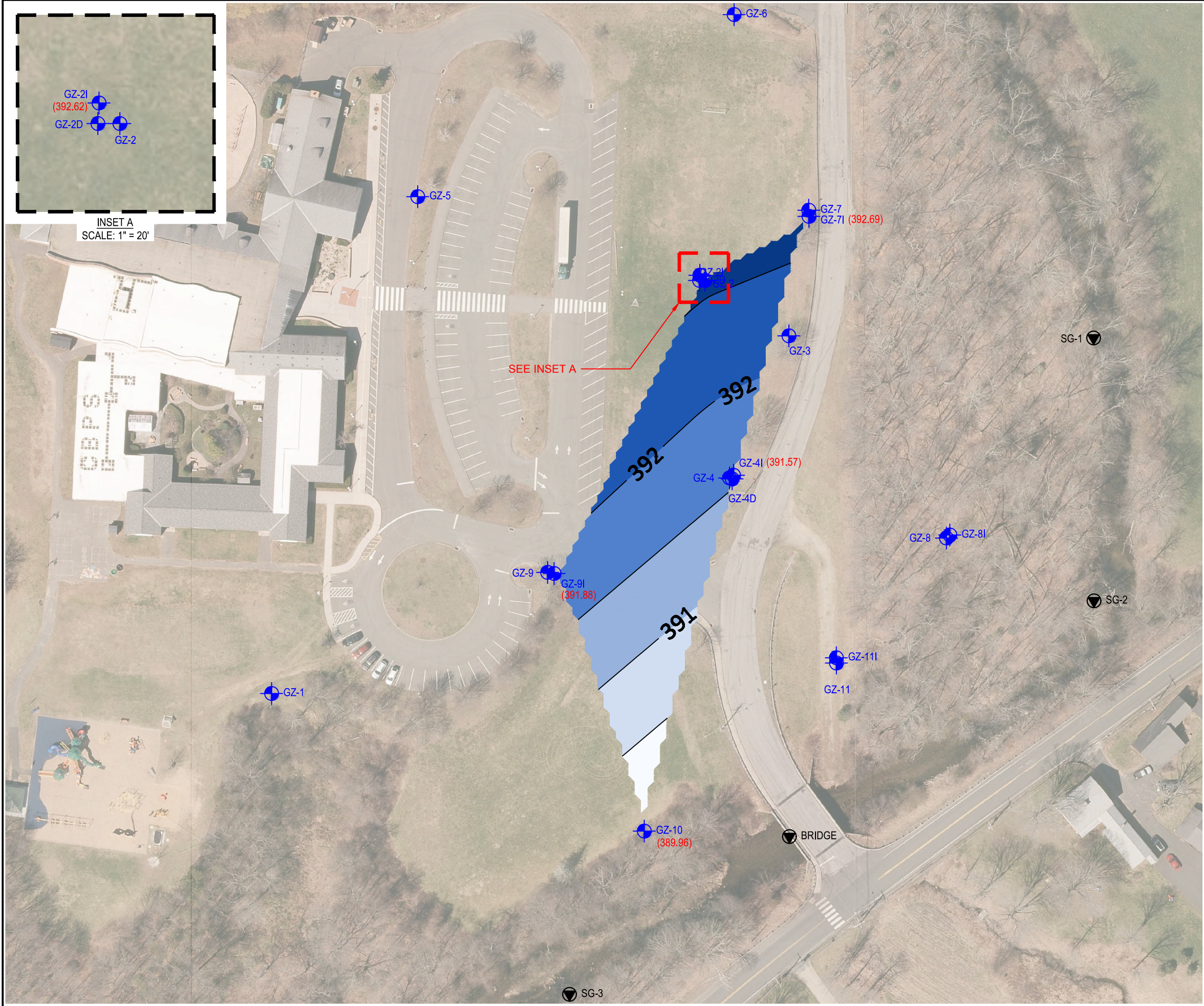
PROJECT NO.

05.0046589.02

REVISION NO.

SHEET NO. 1 OF 1

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LEGEND:



MONITORING WELL



STAFF GAUGE

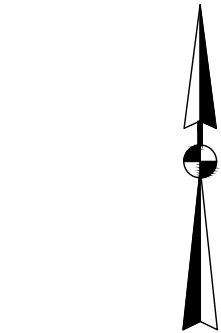
(392.69)

INTERMEDIATE GROUNDWATER
ELEVATION IN FEET

NOTES:

1. THE PURPOSE OF THIS DRAWING IS TO LOCATE, DESCRIBE, AND REPRESENT THE POSITIONS OF MONITORING WELLS IN RELATION TO THE SUBJECT SITE. THIS DRAWING IS NOT CONSIDERED A LAND SURVEY.
2. THE LOCATION OF THE EXPLORATIONS WERE SURVEYED BY ALFRED BENESCH & COMPANY OF GLASTONBURY, CONNECTICUT. LOCATIONS ARE IN NORTHERLY AND EASTERLY COORDINATES AND SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.
3. GROUNDWATER ELEVATIONS WERE MEASURED BY GZA PERSONNEL ON JANUARY 13, 2021. GROUNDWATER ELEVATIONS DETERMINED RELATIVE TO AN ARBITRARY VERTICAL DATUM.
4. LOCATION, ELEVATIONS, DEPTHS AND/OR CONTOURS OF GROUNDWATER ARE BASED ON DATA FROM WIDELY SPACED EXPLORATIONS AND MAY NOT REFLECT ACTUAL SUBSURFACE CONDITIONS.
5. 2016 AERIAL PHOTO OBTAINED FROM CT ECO ONLINE DATABASE.

N



0 40 80 160

SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

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CHERRY BROOK PRIMARY SCHOOL

DEEPER OVERBURDEN GROUNDWATER CONTOURS

PREPARED BY:

GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:

TOWN OF CANTON

PROJ MGR:

RJD

REVIEWED BY:

TWL

CHECKED BY:

RJD

FIGURE

DESIGNED BY:

TWL

DRAWN BY:

MJT

SCALE:

AS SHOWN

6B

DATE:

6-1-2021

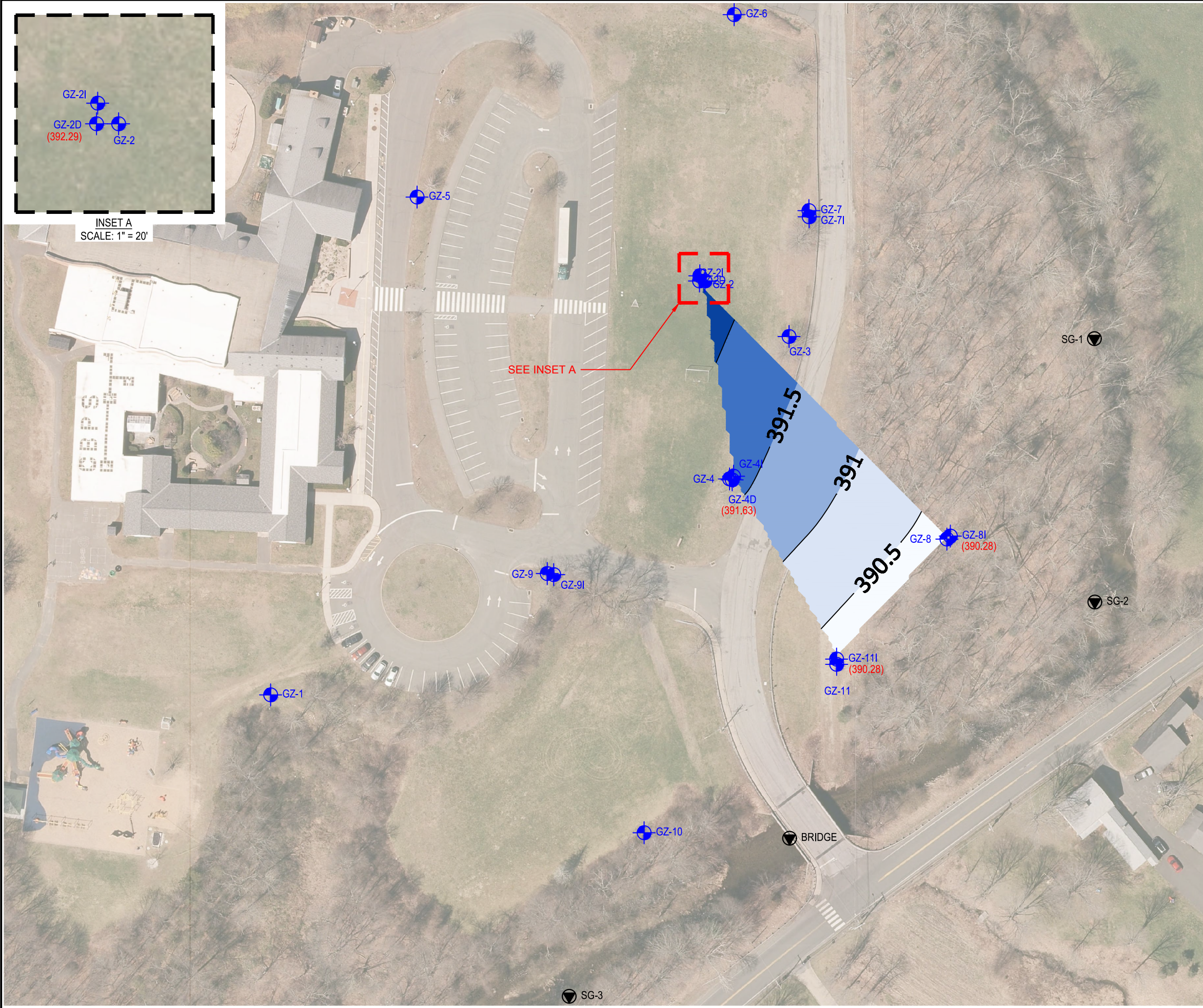
PROJECT NO.

05.0046589.02

REVISION NO.

SHEET NO. 1 OF 1

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LEGEND:



MONITORING WELL



STAFF GAUGE

(390.28)

BEDROCK GROUNDWATER
ELEVATION IN FEET

NOTES:

1. THE PURPOSE OF THIS DRAWING IS TO LOCATE, DESCRIBE, AND REPRESENT THE POSITIONS OF MONITORING WELLS IN RELATION TO THE SUBJECT SITE. THIS DRAWING IS NOT CONSIDERED A LAND SURVEY.
2. THE LOCATION OF THE EXPLORATIONS WERE SURVEYED BY ALFRED BENESCH & COMPANY OF GLASTONBURY, CONNECTICUT. LOCATIONS ARE IN NORTHERLY AND EASTERLY COORDINATES AND SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.
3. BEDROCK GROUNDWATER ELEVATIONS WERE MEASURED BY GZA PERSONNEL ON JANUARY 13, 2021. GROUNDWATER ELEVATIONS DETERMINED RELATIVE TO AN ARBITRARY VERTICAL DATUM.
4. LOCATION, ELEVATIONS, DEPTHS AND/OR CONTOURS OF GROUNDWATER ARE BASED ON DATA FROM WIDELY SPACED EXPLORATIONS AND MAY NOT REFLECT ACTUAL SUBSURFACE CONDITIONS.
5. 2016 AERIAL PHOTO OBTAINED FROM CT ECO ONLINE DATABASE.

N



0 40 80 160

SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

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CHERRY BROOK PRIMARY SCHOOL

BEDROCK GROUNDWATER CONTOURS

PREPARED BY:

GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:

TOWN OF CANTON

PROJ MGR:

RJD

REVIEWED BY:

TWL

CHECKED BY:

RJD

FIGURE

DESIGNED BY:

TWL

DRAWN BY:

MJT

SCALE:

AS SHOWN

6C

DATE:

6-1-2021

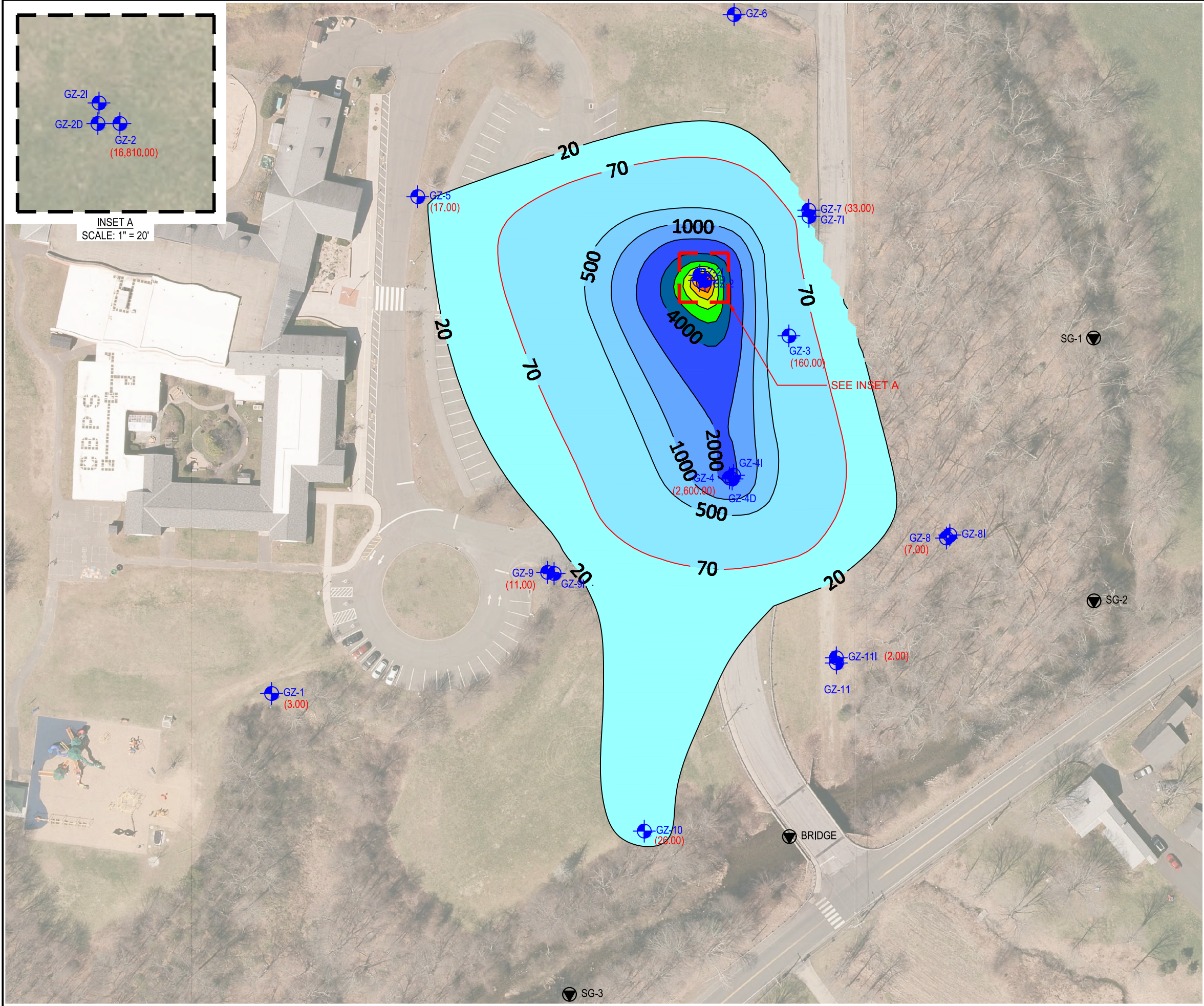
PROJECT NO.

05.0046589.02

REVISION NO.

SHEET NO. 1 OF 1

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LEGEND:



MONITORING WELL



STAFF GAUGE

(33.00)

WATER TABLE PFAS CONCENTRATION

NOTES:

1. COLORED CONTOURS REPRESENT THE SUM OF 5-PFAS COMPOUNDS DETECTED IN GROUNDWATER IN NANOGRAMS PER LITER (NG/L). VALUES EXCEEDING 70 NG/L ARE GREATER THAN THE GWPC.
2. THE PURPOSE OF THIS DRAWING IS TO LOCATE, DESCRIBE, AND REPRESENT THE POSITIONS OF MONITORING WELLS IN RELATION TO THE SUBJECT SITE. THIS DRAWING IS NOT CONSIDERED A LAND SURVEY.
3. THE LOCATION OF THE EXPLORATIONS WERE SURVEYED BY ALFRED BENESCH & COMPANY OF GLASTONBURY, CONNECTICUT. LOCATIONS ARE IN NORTHERLY AND EASTERLY COORDINATES AND SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.
4. 2016 AERIAL PHOTO OBTAINED FROM CT ECO ONLINE DATABASE.

N



0 40 80 160

SCALE IN FEET

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CHERRY BROOK PRIMARY SCHOOL

WATER TABLE PFAS CONCENTRATIONS

PREPARED BY:

GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:

TOWN OF CANTON

PROJ MGR:

RJD

REVIEWED BY:

TWL

CHECKED BY:

RJD

FIGURE

DESIGNED BY:

TWL

DRAWN BY:

MJT

SCALE:

AS SHOWN

7

DATE:

6-1-2021

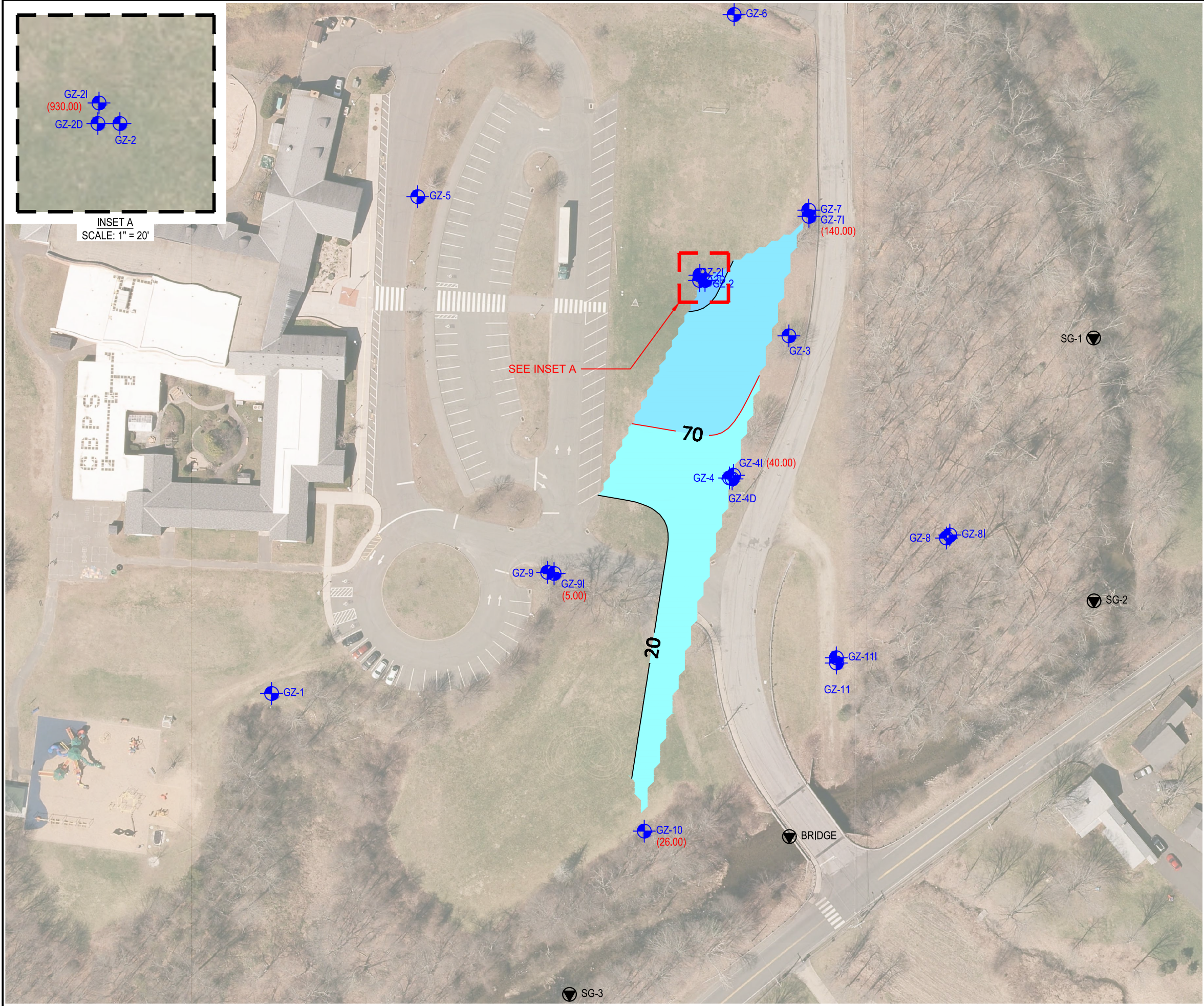
PROJECT NO.

05.0046589.02

REVISION NO.

SHEET NO. 1 OF 1

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LEGEND:



MONITORING WELL



STAFF GAUGE

(40.00)

INTERMEDIATE PFAS CONCENTRATION

NOTES:

1. COLORED CONTOURS REPRESENT THE SUM OF 5-PFAS COMPOUNDS DETECTED IN GROUNDWATER IN NANOGRAMS PER LITER (NG/L). VALUES EXCEEDING 70 NG/L ARE GREATER THAN THE GWPC.
2. THE PURPOSE OF THIS DRAWING IS TO LOCATE, DESCRIBE, AND REPRESENT THE POSITIONS OF MONITORING WELLS IN RELATION TO THE SUBJECT SITE. THIS DRAWING IS NOT CONSIDERED A LAND SURVEY.
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4. 2016 AERIAL PHOTO OBTAINED FROM CT ECO ONLINE DATABASE.

N



0 40 80 160

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CHERRY BROOK PRIMARY SCHOOL

INTERMEDIATE PFAS CONCENTRATIONS

PREPARED BY:

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Engineers and Scientists
www.gza.com

PREPARED FOR:

TOWN OF CANTON

PROJ MGR:

RJD

REVIEWED BY:

TWL

CHECKED BY:

RJD

FIGURE

DESIGNED BY:

TWL

DRAWN BY:

MJT

SCALE:

AS SHOWN

8

DATE:

6-1-2021

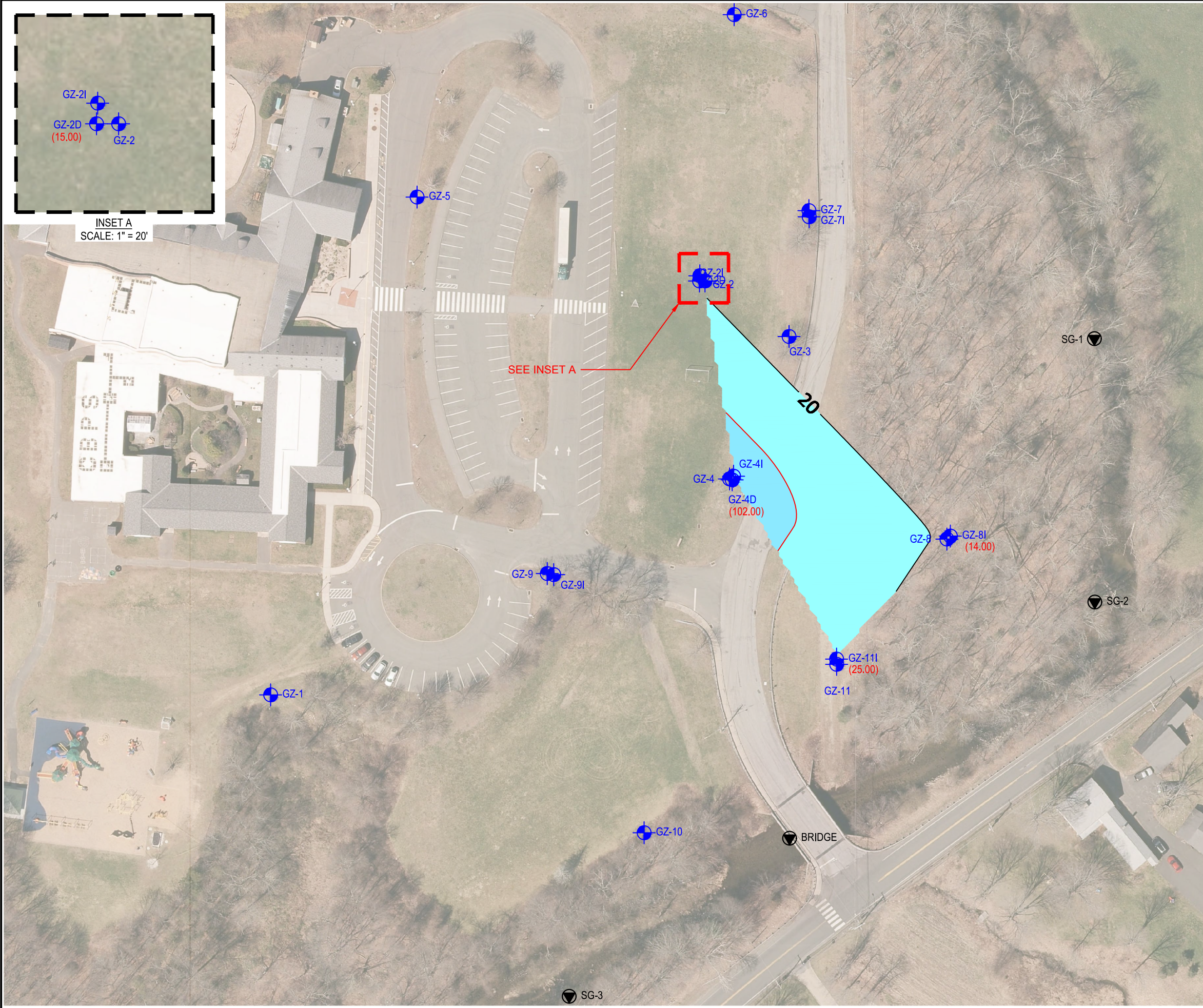
PROJECT NO.

05.0046589.02

REVISION NO.

SHEET NO. 1 OF 1

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LEGEND:



MONITORING WELL



STAFF GAUGE

(14.00)

BEDROCK PFAS CONCENTRATION

NOTES:

1. COLORED CONTOURS REPRESENT THE SUM OF 5-PFAS COMPOUNDS DETECTED IN GROUNDWATER IN NANOGRAMS PER LITER (NG/L). VALUES EXCEEDING 70 NG/L ARE GREATER THAN THE GWPC.
2. THE PURPOSE OF THIS DRAWING IS TO LOCATE, DESCRIBE, AND REPRESENT THE POSITIONS OF MONITORING WELLS IN RELATION TO THE SUBJECT SITE. THIS DRAWING IS NOT CONSIDERED A LAND SURVEY.
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4. 2016 AERIAL PHOTO OBTAINED FROM CT ECO ONLINE DATABASE.

N



0 40 80 160

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CHERRY BROOK PRIMARY SCHOOL

BEDROCK PFAS CONCENTRATIONS

PREPARED BY:

GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:

TOWN OF CANTON

PROJ MGR:

RJD

REVIEWED BY:

TWL

CHECKED BY:

RJD

FIGURE

DESIGNED BY:

TWL

DRAWN BY:

MJT

SCALE:

AS SHOWN

9

DATE:

6-1-2021

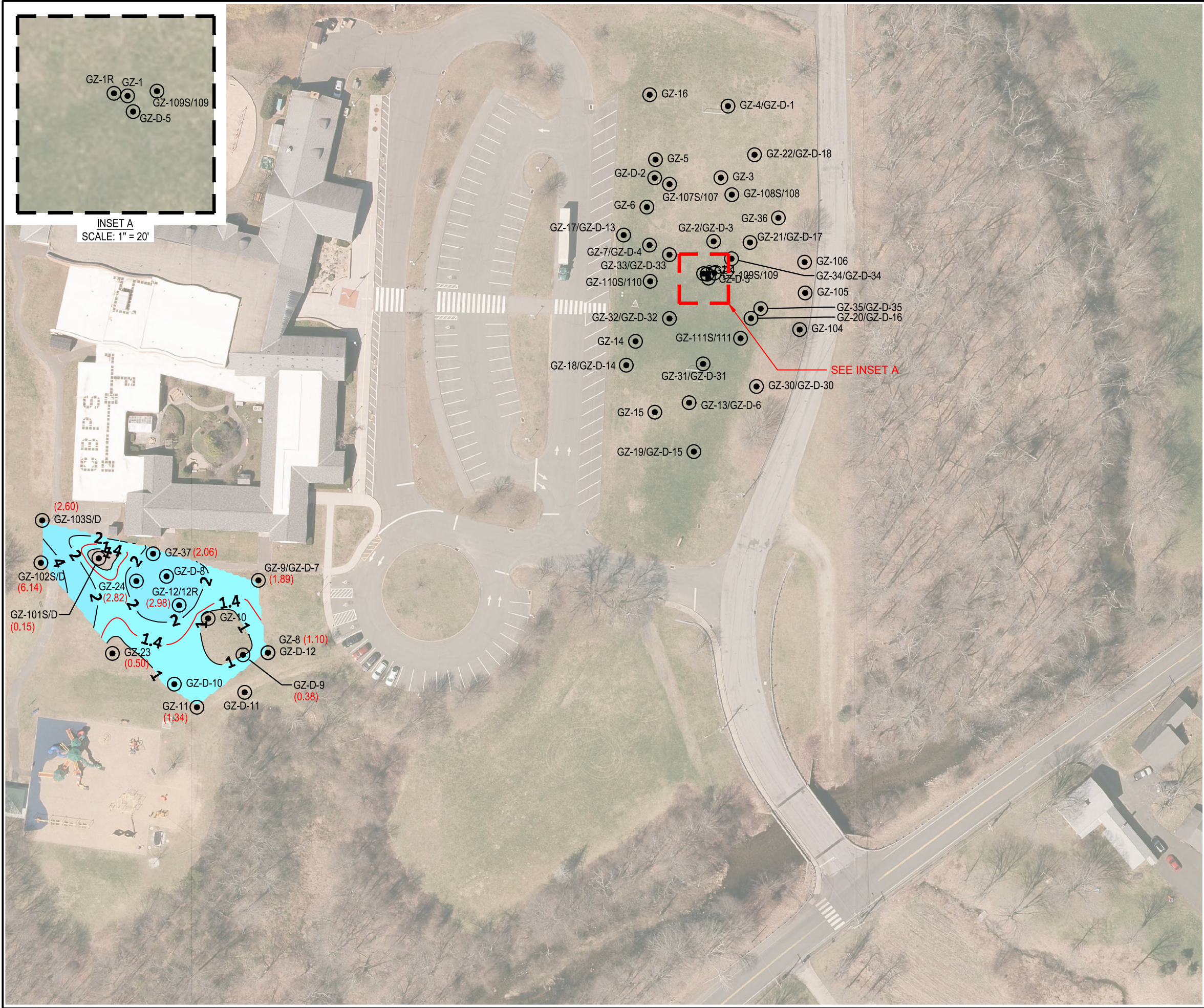
PROJECT NO.

05.0046589.02

REVISION NO.

SHEET NO. 1 OF 1

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LEGEND:



SOIL BORING

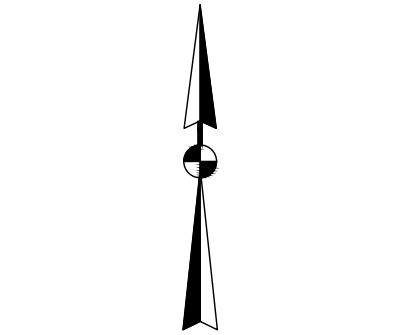
(1.89)

SHALLOW TOTAL PFAS CONCENTRATION

NOTES:


1. COLORED CONTOURS REPRESENT THE SUM OF 5-PFAS COMPOUNDS DETECTED IN SOIL IN PARTS PER BILLION (UG/KG). VALUES EXCEEDING 1.4 UG/KG ARE GREATER THAN THE GA-PMC
2. THE PURPOSE OF THIS DRAWING IS TO LOCATE, DESCRIBE, AND REPRESENT THE POSITIONS OF MONITORING WELLS IN RELATION TO THE SUBJECT SITE. THIS DRAWING IS NOT CONSIDERED A LAND SURVEY.
3. THE LOCATION OF THE EXPLORATIONS WERE SURVEYED BY ALFRED BENESCH & COMPANY OF GLASTONBURY, CONNECTICUT. LOCATIONS ARE IN NORTHERLY AND EASTERLY COORDINATES AND SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.
4. 2016 AERIAL PHOTO OBTAINED FROM CT ECO ONLINE DATABASE.

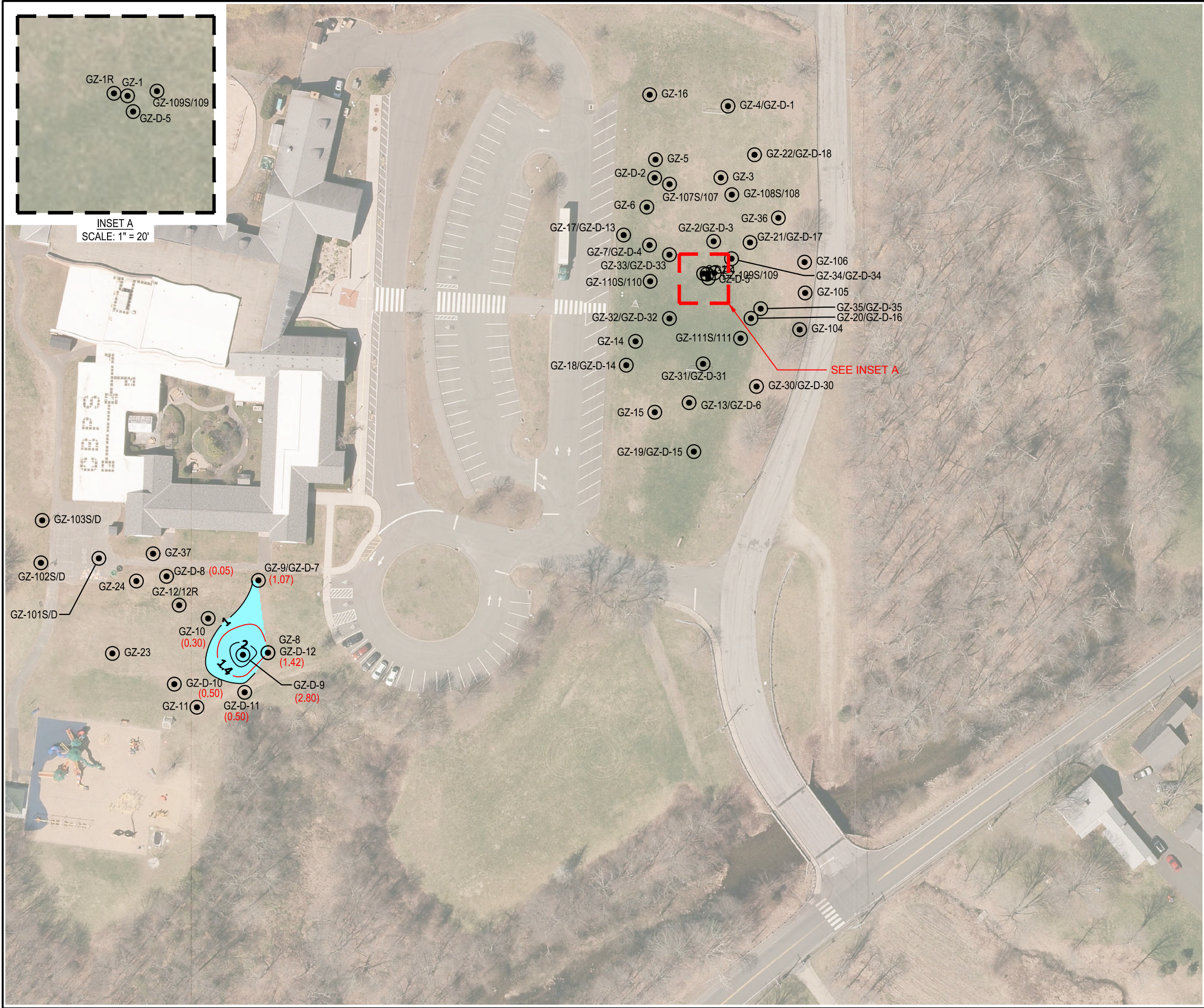
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0 40 80 160

SCALE IN FEET

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CHERRY BROOK PRIMARY SCHOOL			
SOUTHERN FIELD AREA SHALLOW TOTAL PFAS CONCENTRATIONS			
PREPARED BY:  GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: TOWN OF CANTON	
PROJ MGR: RJD	REVIEWED BY: TWL	CHECKED BY: RJD	FIGURE 10 SHEET NO. 1 OF 1
DESIGNED BY: TWL	DRAWN BY: MJT	SCALE: AS SHOWN	
DATE: 6-1-2021	PROJECT NO. 05.0046589.02	REVISION NO.	



LEGEND:



SOIL BORING

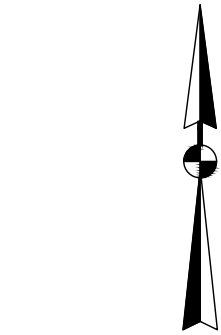
(0.05)

DEEP TOTAL PFAS CONCENTRATION

NOTES:

1. COLORED CONTOURS REPRESENT THE SUM OF 5-PFAS COMPOUNDS DETECTED IN SOIL IN PARTS PER BILLION (UG/KG). VALUES EXCEEDING 1.4 UG/KG ARE GREATER THAN THE GA-PMC
2. THE PURPOSE OF THIS DRAWING IS TO LOCATE, DESCRIBE, AND REPRESENT THE POSITIONS OF MONITORING WELLS IN RELATION TO THE SUBJECT SITE. THIS DRAWING IS NOT CONSIDERED A LAND SURVEY.
3. THE LOCATION OF THE EXPLORATIONS WERE SURVEYED BY ALFRED BENESCH & COMPANY OF GLASTONBURY, CONNECTICUT. LOCATIONS ARE IN NORTHERLY AND EASTERLY COORDINATES AND SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.
4. 2016 AERIAL PHOTO OBTAINED FROM CT ECO ONLINE DATABASE.

N



0 40 80 160

SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

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CHERRY BROOK PRIMARY SCHOOL

SOUTHERN FIELD AREA
DEEP TOTAL PFAS CONCENTRATIONS

PREPARED BY:

GZA GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:

TOWN OF CANTON

PROJ MGR:

RJD

REVIEWED BY:

TWL

CHECKED BY:

RJD

FIGURE

DESIGNED BY:

TWL

DRAWN BY:

MJT

SCALE:

AS SHOWN

11

DATE:

6-1-2021

PROJECT NO.

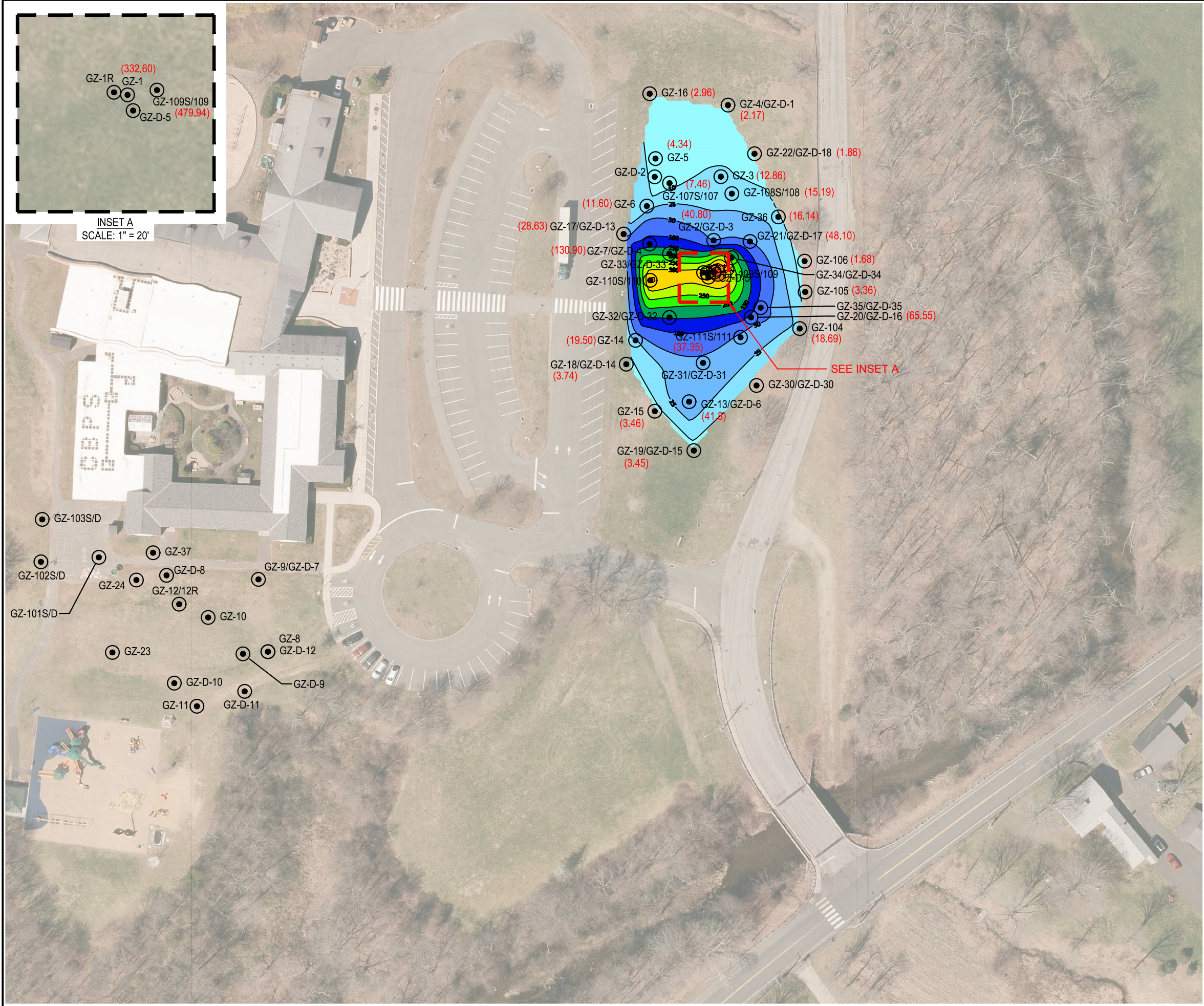
REVISION NO.

05.0046589.02

SHEET NO.

1 OF 1

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LEGEND:



SOIL BORING

(15.19)

SHALLOW TOTAL PFAS CONCENTRATION

NOTES:

1. COLORED CONTOURS REPRESENT THE SUM OF 5-PFAS COMPOUNDS DETECTED IN SOIL IN PARTS PER BILLION (UG/KG). VALUES EXCEEDING 1.4 UG/KG ARE GREATER THAN THE GA-PMC
2. THE PURPOSE OF THIS DRAWING IS TO LOCATE, DESCRIBE, AND REPRESENT THE POSITIONS OF MONITORING WELLS IN RELATION TO THE SUBJECT SITE. THIS DRAWING IS NOT CONSIDERED A LAND SURVEY.
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4. 2016 AERIAL PHOTO OBTAINED FROM CT ECO ONLINE DATABASE.

N


0 40 80 160
SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

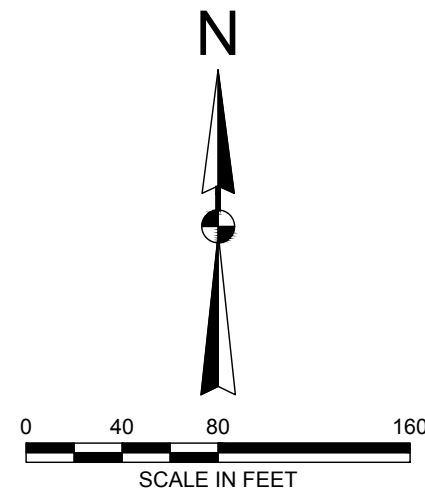
CHERRY BROOK PRIMARY SCHOOL


EASTERN FIELD AREA
SHALLOW TOTAL PFAS CONCENTRATIONS

PREPARED BY:  GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: TOWN OF CANTON	
PROJ MGR: RJD	REVIEWED BY: TWL	CHECKED BY: RJD	FIGURE 12 SHEET NO. 1 OF 1
DESIGNED BY: TWL	DRAWN BY: MJT	SCALE: AS SHOWN	
DATE: 6-1-2021	PROJECT NO. 05.0046589.02	REVISION NO.	

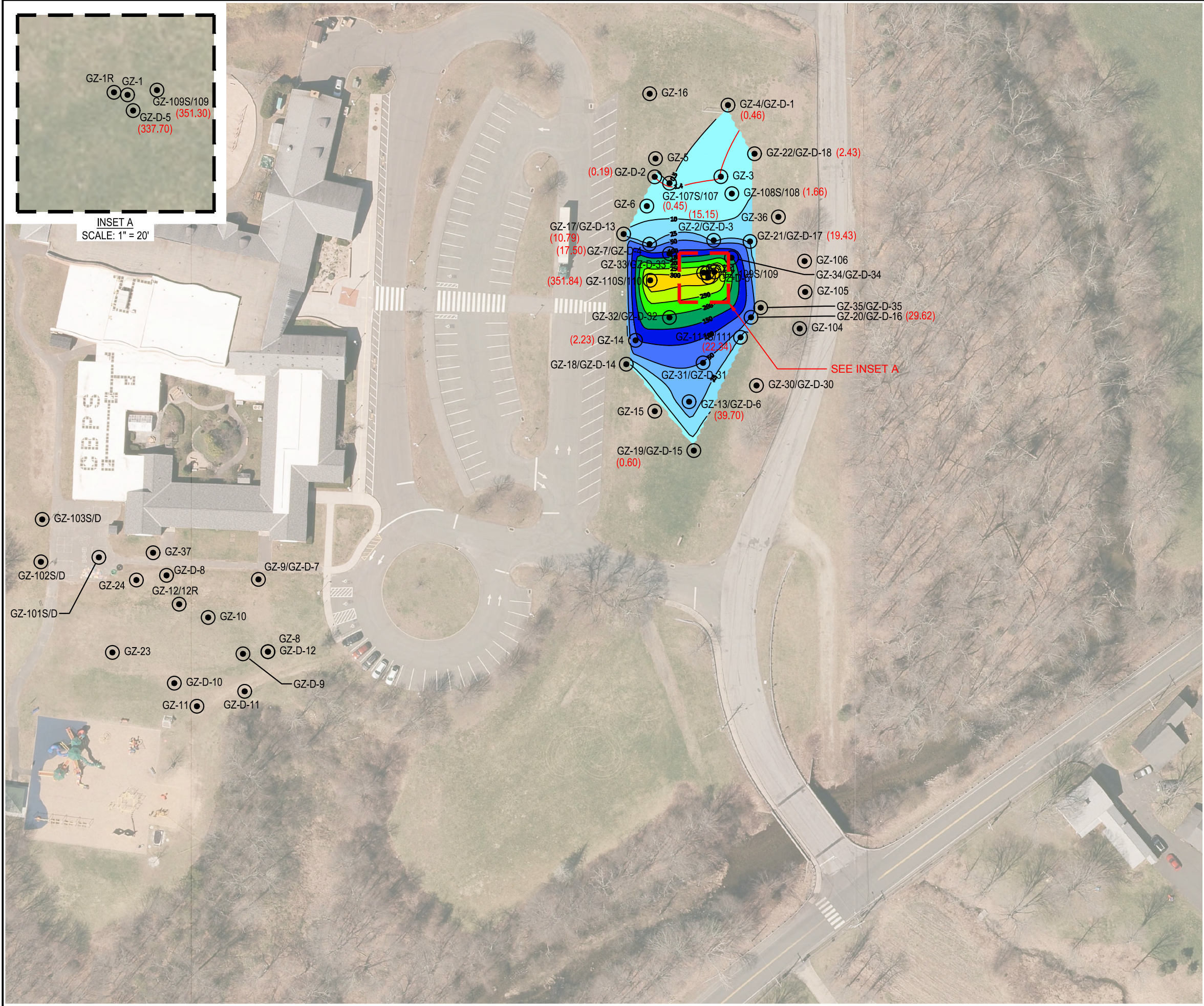
SHALLOW SPLP PFAS CONCENTRATION

1. COLORED CONTOURS REPRESENT THE SUM OF 5-PFAS COMPOUNDS DETECTED IN SOIL IN PARTS PER BILLION (UG/L). VALUES EXCEEDING 0.7 UG/L ARE GREATER THAN THE ALTERNATIVE GA-PMC.
2. THE PURPOSE OF THIS DRAWING IS TO LOCATE, DESCRIBE, AND REPRESENT THE POSITIONS OF MONITORING WELLS IN RELATION TO THE SUBJECT SITE. THIS DRAWING IS NOT CONSIDERED A LAND SURVEY.
3. THE LOCATION OF THE EXPLORATIONS WERE SURVEYED BY ALFRED BENESCH & COMPANY OF GLASTONBURY, CONNECTICUT. LOCATIONS ARE IN NORTHERLY AND EASTERLY COORDINATES AND SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.
4. 2016 AERIAL PHOTO OBTAINED FROM CT ECO ONLINE DATABASE.



NO.	ISSUE/DESCRIPTION			BY	DATE
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CHERRY BROOK PRIMARY SCHOOL					
EASTERN FIELD AREA SHALLOW SPLP PFAS CONCENTRATIONS					
PREPARED BY:  GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com			PREPARED FOR: TOWN OF CANTON		
PROJ MGR: RJD	REVIEWED BY: TWL	CHECKED BY: RJD	FIGURE 13 SHEET NO. 1 OF 1		
DESIGNED BY: TWL	DRAWN BY: MJT	SCALE: AS SHOWN			
DATE: 6-1-2021	PROJECT NO. 05.0046589.02	REVISION NO.			

© 2020 - GZA GeoEnvironmental, Inc. GZA-J:_46,500-46,999\46589.H89 TOWN OF CANTON\46589-02.RJD\CAD\FIGURES\B-FIGS-SURFER.DWG 14 EAST DEEP TOTAL JUNE 14, 2021 MICHAEL TUMOLO



LEGEND:



SOIL BORING

(1.66)

DEEP TOTAL PFAS CONCENTRATION

NOTES:

1. COLORED CONTOURS REPRESENT THE SUM OF 5-PFAS COMPOUNDS DETECTED IN SOIL IN PARTS PER BILLION (UG/KG). VALUES EXCEEDING 1.4 UG/KG ARE GREATER THAN THE GA-PMC
2. THE PURPOSE OF THIS DRAWING IS TO LOCATE, DESCRIBE, AND REPRESENT THE POSITIONS OF MONITORING WELLS IN RELATION TO THE SUBJECT SITE. THIS DRAWING IS NOT CONSIDERED A LAND SURVEY.
3. THE LOCATION OF THE EXPLORATIONS WERE SURVEYED BY ALFRED BENESCH & COMPANY OF GLASTONBURY, CONNECTICUT. LOCATIONS ARE IN NORTHERLY AND EASTERLY COORDINATES AND SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.
4. 2016 AERIAL PHOTO OBTAINED FROM CT ECO ONLINE DATABASE.

N

0 40 80 160
SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

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CHERRY BROOK PRIMARY SCHOOL

EASTERN FIELD AREA
DEEP TOTAL PFAS CONCENTRATIONS

PREPARED BY:

 **GZA** GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:

TOWN OF CANTON

PROJ MGR:

RJD

REVIEWED BY:

TWL

CHECKED BY:

RJD

FIGURE

DESIGNED BY:

TWL

DRAWN BY:

MJT

SCALE:

AS SHOWN

14

DATE:

6-1-2021

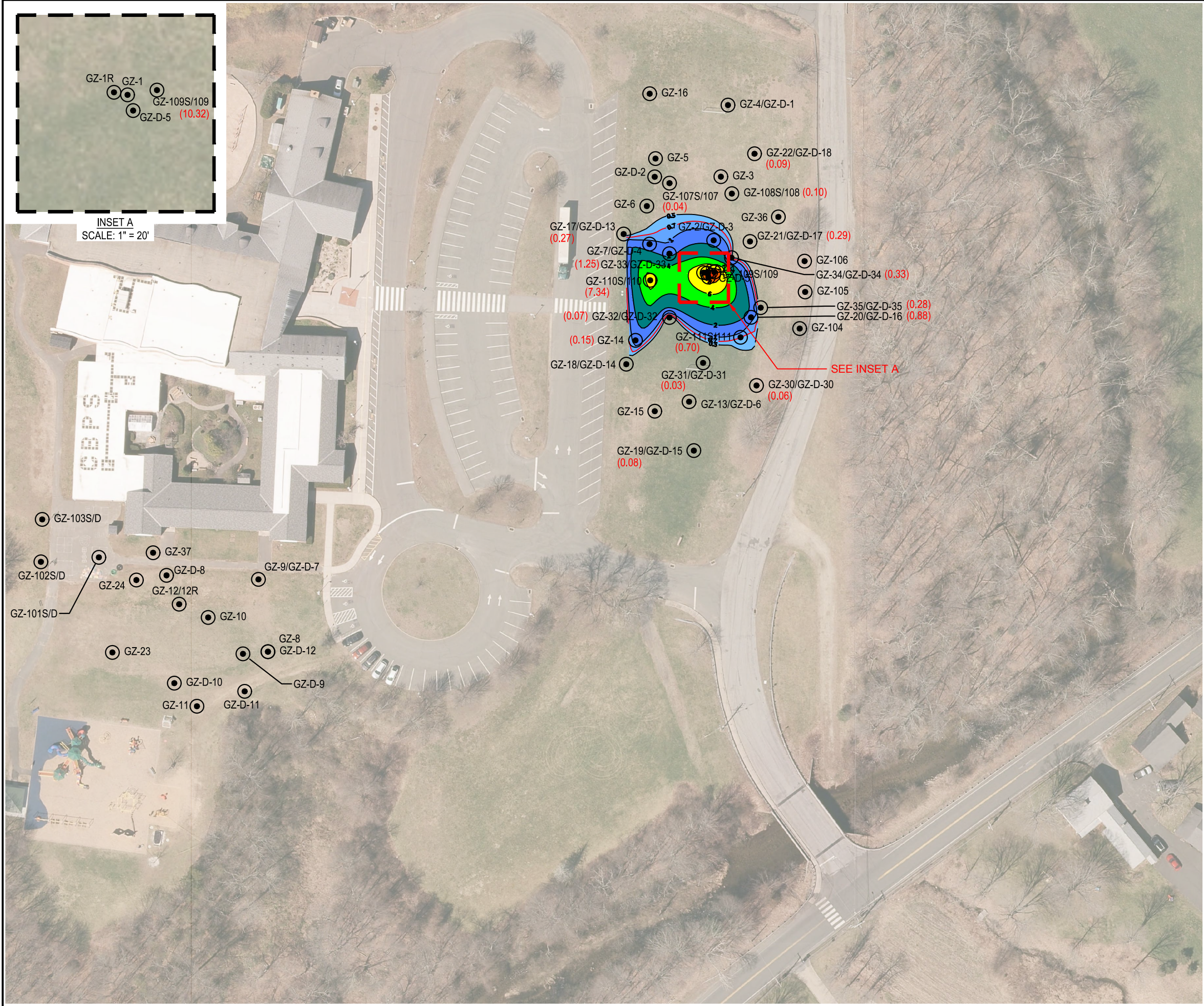
PROJECT NO.

REVISION NO.

05.0046589.02

SHEET NO. 1 OF 1

© 2020 - GZA GeoEnvironmental, Inc. GZA-J:_46,500-46,999\46589.H89 TOWN OF CANTON\46589-02.RJD\CAD\FIGURES\B-FIGS-SURFER.DWG 15 EAST DEEP SPLP JUNE 14, 2021 MICHAEL TUNOLO



LEGEND:



SOIL BORING

(0.33)

DEEP SPLP PFAS CONCENTRATION

NOTES:

1. COLORED CONTOURS REPRESENT THE SUM OF 5-PFAS COMPOUNDS DETECTED IN SOIL IN PARTS PER BILLION (UG/L). VALUES EXCEEDING 0.7 UG/L ARE GREATER THAN THE ALTERNATIVE GA-PMC.
2. THE PURPOSE OF THIS DRAWING IS TO LOCATE, DESCRIBE, AND REPRESENT THE POSITIONS OF MONITORING WELLS IN RELATION TO THE SUBJECT SITE. THIS DRAWING IS NOT CONSIDERED A LAND SURVEY.
2. THE LOCATION OF THE EXPLORATIONS WERE SURVEYED BY ALFRED BENESCH & COMPANY OF GLASTONBURY, CONNECTICUT. LOCATIONS ARE IN NORTHERLY AND EASTERLY COORDINATES AND SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.
3. 2016 AERIAL PHOTO OBTAINED FROM CT ECO ONLINE DATABASE.

N

0 40 80 160
SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

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CHERRY BROOK PRIMARY SCHOOL

EASTERN FIELD AREA
DEEP SPLP PFAS CONCENTRATIONS

PREPARED BY:

 **GZA** GeoEnvironmental, Inc.
Engineers and Scientists
www.gza.com

PREPARED FOR:

TOWN OF CANTON

PROJ MGR:

RJD

REVIEWED BY:

TWL

CHECKED BY:

RJD

FIGURE

DESIGNED BY:

TWL

DRAWN BY:

MJT

SCALE:

AS SHOWN

15

DATE:

6-1-2021

PROJECT NO.

REVISION NO.

05.0046589.02

SHEET NO. 1 OF 1

© 2020 - GZA GeoEnvironmental, Inc. GZA-J:_46,500-46,999\46589.H89 TOWN OF CANTON\46589-02.RJD\CAD\FIGURES\B-FIGS-SURFER.DWG 16 LIMIT EAST SPLP JUNE 14, 2021 MICHAEL TUMOLO

EAST FIELD AREA
SHALLOW EXCAVATION
0 - 3' BGS

LIMIT OF EXCAVATION
14,029 SF @ 3'
1,560 CUBIC YARDS

EAST FIELD AREA
DEEP EXCAVATION
3 - 6' BGS

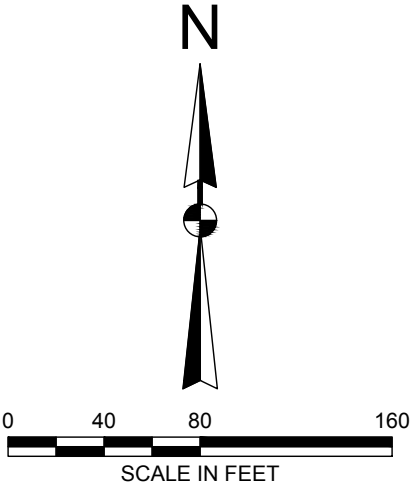
LIMIT OF EXCAVATION
9,588 SF @ 3'
1,065 CUBIC YARDS


LEGEND:

— LIMIT OF EXCAVATION

NOTES:

1. 2016 AERIAL PHOTO OBTAINED FROM CT ECO ONLINE DATABASE.



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CHERRY BROOK PRIMARY SCHOOL			
LIMIT OF EXCAVATION			
PREPARED BY:  GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com		PREPARED FOR: TOWN OF CANTON	
PROJ MGR: RJD	REVIEWED BY: TWL	CHECKED BY: RJD	FIGURE 16 SHEET NO. 1 OF 1
DESIGNED BY: TWL	DRAWN BY: MJT	SCALE: AS SHOWN	
DATE: 6-1-2021	PROJECT NO. 05.0046589.02	REVISION NO.	



APPENDIX A REPORT LIMITATIONS



USE OF REPORT

1. GZA GeoEnvironmental, Inc. (GZA) prepared this report on behalf of, and for the exclusive use of our Client for the stated purpose(s) and location(s) identified in the Proposal for Services and/or Report. Use of this report, in whole or in part, at other locations, or for other purposes, may lead to inappropriate conclusions; and we do not accept any responsibility for the consequences of such use(s). Further, reliance by any party not expressly identified in the agreement, for any use, without our prior written permission, shall be at that party's sole risk, and without any liability to GZA.

STANDARD OF CARE

2. GZA's findings and conclusions are based on the work conducted as part of the Scope of Services set forth in the Proposal for Services and/or Report and reflect our professional judgment. These findings and conclusions must be considered not as scientific or engineering certainties, but rather as our professional opinions concerning the limited data gathered during the course of our work. Conditions other than described in this report may be found at the subject location(s).
3. GZA's services were performed using the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services, at the same time, under similar conditions, at the same or a similar property. No warranty, expressed or implied, is made. Specifically, GZA does not and cannot represent that the Site contains no hazardous material, oil, or other latent condition beyond that observed by GZA during its study. Additionally, GZA makes no warranty that any response action or recommended action will achieve all of its objectives or that the findings of this study will be upheld by a local, state or federal agency.
4. In conducting our work, GZA relied upon certain information made available by public agencies, Client and/or others. GZA did not attempt to independently verify the accuracy or completeness of that information. Inconsistencies in this information which we have noted, if any, are discussed in the Report.

SUBSURFACE CONDITIONS

5. The generalized soil profile(s) provided in our Report are based on widely-spaced subsurface explorations and are intended only to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and were based on our assessment of subsurface conditions. The composition of strata, and the transitions between strata, may be more variable and more complex than indicated. For more specific information on soil conditions at a specific location refer to the exploration logs. The nature and extent of variations between these explorations may not become evident until further exploration or construction. If variations or other latent conditions then become evident, it will be necessary to reevaluate the conclusions and recommendations of this report.
6. Water level readings have been made, as described in this Report, in and monitoring wells at the specified times and under the stated conditions. These data have been reviewed and interpretations have been made in this report. Fluctuations in the level of the groundwater however occur due to temporal or spatial variations in areal recharge rates, soil heterogeneities, the presence of subsurface utilities, and/or natural or artificially induced perturbations. The observed water table may be other than indicated in the Report.

COMPLIANCE WITH CODES AND REGULATIONS

7. We used reasonable care in identifying and interpreting applicable codes and regulations necessary to execute our scope of work. These codes and regulations are subject to various, and possibly contradictory, interpretations. Interpretations and compliance with codes and regulations by other parties is beyond our control.

**SCREENING AND ANALYTICAL TESTING**

8. GZA collected environmental samples at the locations identified in the Report. These samples were analyzed for the specific parameters identified in the report. Additional constituents, for which analyses were not conducted, may be present in soil, groundwater, surface water, sediment and/or air. Future Site activities and uses may result in a requirement for additional testing.
9. Our interpretation of field screening and laboratory data is presented in the Report. Unless otherwise noted, we relied upon the laboratory's QA/QC program to validate these data.
10. Variations in the types and concentrations of contaminants observed at a given location or time may occur due to release mechanisms, disposal practices, changes in flow paths, and/or the influence of various physical, chemical, biological or radiological processes. Subsequently observed concentrations may be other than indicated in the Report.

INTERPRETATION OF DATA

11. Our opinions are based on available information as described in the Report, and on our professional judgment. Additional observations made over time, and/or space, may not support the opinions provided in the Report.

ADDITIONAL INFORMATION

12. In the event that the Client or others authorized to use this report obtain additional information on environmental or hazardous waste issues at the Site not contained in this report, such information shall be brought to GZA's attention forthwith. GZA will evaluate such information and, on the basis of this evaluation, may modify the conclusions stated in this report.

ADDITIONAL SERVICES

13. GZA recommends that we be retained to provide services during any future investigations, design, implementation activities, construction, and/or property development/ redevelopment at the Site. This will allow us the opportunity to: i) observe conditions and compliance with our design concepts and opinions; ii) allow for changes in the event that conditions are other than anticipated; iii) provide modifications to our design; and iv) assess the consequences of changes in technologies and/or regulations.



APPENDIX B SOIL BORING LOGS

SHALLOW SOIL SAMPLE FIELD LOG

GZA GeoEnvironmental, Inc. 95 Glastonbury Blvd., 3rd floor Glastonbury, CT 06033 Phone: (860) 286-8900			<div style="text-align: center;"><u>PROJECT</u></div> Project Name: <u>Town of Canton</u> Location: <u>Canton, CT</u>				Date: <u>4/1/2021</u> Page 1 of 1 File No. <u>05.0046589.00</u> GZA Staff/Sampler: <u>T. Lucas</u>		
Air Temperature (°F): <u>30's F</u> Weather Conditions: <u>Partly Cloudy</u>			<div style="text-align: center;">SAMPLING EQUIPMENT</div> Sample Method/Device: <u>Hand Auger</u> <div style="display: flex; justify-content: space-around; font-size: small;"> Grab Hand Auger Hand Core/Borer Dredge Other </div>				PID: Calibration Standard: <u>100 ppm</u> Source lamp: <u>10.6 eV</u> Instrument Reading (start): Instrument Reading (finish):		
Sample ID	Time	Sample Depth (FT)	OVM Reading (PPM)	Odor	Ground Cover (asphlt/cnc.gras)	Cover Thickness (ft)	Sample Description		
GZ-101S	0850	0-2	NM	None	Asphalt	1.5"	Brown, fine to medium SAND and GRAVEL, some fine Gravel, little ???		
GZ-101D	0945	2-3.7	NM	None	Asphalt	1.5"	GRAVEL and brown, fine to medium SAND, some fine Gravel, little ???		
GZ-102S	1010	0-2	NM	None	Asphalt	NA	Brown, fine to medium SAND, little to some Silt, little Gravel, ???		
GZ-103S	1030	0-2	NM	None	Asphalt	NA	Brown, fine to medium SAND, little to some Silt, little Gravel, ???		
GZ-104S	1120	0-2	NM	None	Asphalt	NA	Brown, fine to medium SAND, little to some Silt, little Gravel, ???		
GZ-105S	1150	0-2	NM	None	Asphalt	NA	Brown, fine to medium SAND, little to some Silt, little Gravel, ???		
GZ-106S	1135	0-2	NM	None	Asphalt	NA	Brown, fine to medium SAND, little to some Silt, little Gravel, ???		
GZ-107S	1210	0-2	NM	None	Asphalt	NA	Brown, fine to medium SAND, little to some Silt, little Gravel, ???		
GZ-108S	1310	0-2	NM	None	Asphalt	NA	Brown, fine to medium SAND, some Gravel, little Silt		
GZ-109S	1337	0-2	NM	None	Asphalt	NA	Brown, fine to medium SAND, some Gravel, little Silt		
GZ-110S	1352	0-2	NM	None	Asphalt	NA	Brown, fine to medium SAND, some Gravel, little Silt		
GZ-111S	1352	0-2	NM	None	Grass	NA	Brown, fine to medium SAND, little Silt, little Gravel, trace ??		
SOIL CONDITIONS				DENSITY		ABBREVIATIONS		ORGANIC MATERIALS	
Fines (silts & clay)	Too fine to see.	TRACE (TR.)	0-10%	Sand	Silt/Clay	V - Very	F - Fine	Organic Silt: Dark gray to black, light weight, often H2S odor.	
Fine sand.	Finest visible particles.	LITTLE (L.)	10-20%	V. Loose	V. Soft	GR - Gray	M - Medium	Humus: Decomposed root/twig/leaf litter - forest areas.	
Med. Sand	1/64"-1/16" (granular sugar).	SOME (S.)	20-35%	Loose	Soft	BN - Brown	C - Coarse	Root Mat: Living root fiber structures, found in marshes.	
C. Sand	1/6"-1/4" (rock salt).	AND	35-50%	M. Dense	M. Stiff	YEL - Yellow	F/M - Fine to Medium	Peat: Fossiliferous root mat - decomposed fiber structure.	
Fine gravel	1/4"-3/4" (pea to grape).			Dense	Stiff	RD - Red	F/C - Fine to Coarse	Note: e.g. logs, branches, roots, shells, black streaks, H2S odor.	

SHALLOW SOIL SAMPLE FIELD LOG

GZA GeoEnvironmental, Inc. 95 Glastonbury Blvd., 3rd floor Glastonbury, CT 06033 Phone: (860) 286-8900			PROJECT				Date: <u>4/14/2021</u> Page 1 of 1	
			Project Name: <u>Town of Canton</u>				File No. <u>05.0046589.02</u>	
			Location: <u>Canton, CT</u>				GZA Staff/Sampler: <u>TWL</u>	
Air Temperature (°F): <u>70's</u>			SAMPLING EQUIPMENT				PID: _____	
Weather Conditions: <u>Partly Cloudy</u>			CES Drilling Foreman: <u>Brock Dehlinger</u>				Calibration Standard: <u>100 ppm</u> Source lamp: <u>10.6 eV</u>	
			Sample Method/Device: <u>DP-2" OD</u>				Instrument Reading (start): <u>100</u>	
			Grab	Hand Auger	Hand Core/Borer	Dredge	Other	
			Instrument Reading (finish): <u>99.9</u>					
Sample ID	Time	Sample Depth (FT)	OVM Reading (PPM)	Odor	Ground Cover (asphlt/cnc.gras)	Cover Thickness (ft)	Sample Description	
GZ-107	815	0-2	ND	None	Grass	NA	Brown, fine to medium SAND, little Silt, trace fine Gravel, trace Roots, dry	
GZ-107	827	2-4	ND	None	Grass	NA	Brown, fine to medium SAND, little Silt, little Gravel, Boulder debris @ 2.5', 3.2 fbg, 3.7 fbg, dry	
GZ-107	838	4-6	ND	None	Grass	NA	Brown, fine to medium SAND, some Gravel, little Silt, trace fine Gravel, Cracked Cobble @ 5.2 fbg, moist @ 5.4 fbg, wet @ 5.7'	
GZ-108	843	0-2	ND	None	Grass	NA	Brown, fine to medium SAND, little Silt, little Gravel, trace fine Gravel, trace Roots, dry	
GZ-108	845	2-4	ND	None	Grass	NA	Brown, fine to medium SAND, little Silt, little Gravel, crushed Cobble @ 4.5, 5.5 fbg, moist @ 5', wet	
GZ-108	855	4-6	ND	None	Grass	NA	Brown, fine to medium SAND and GRAVEL, little Silt, 1.5-2 fbg, Boulder, trace Roots, dry	
GZ-110	900	0-2	ND	None	Grass	NA	Brown, fine to medium SAND, some Gravel, little Silt, Crushed Cobble @ 2.8 fbg, dry	
GZ-110	904	2-4	ND	None	Grass	NA	Brown, fine to medium SAND, little Gravel, little Silt, trace fine Gravel, Boulder from 5.5-6 fbg, moist @ 5.3 fbg	
GZ-110	908	4-6	ND	None	Grass	NA	Brown, fine to medium SAND, some Gravel, little Silt, Crushed Cobble @ 2.8 fbg, dry	
GZ-109	913	0-2	ND	None	Grass	NA	Brown, fine to medium SAND, little Silt, little Gravel, trace Roots, dry	
GZ-109	920	2-4	ND	None	Grass	NA	Brown, fine to medium SAND, little Silt, little Gravel, Cobbles @ 2.5, 3.1, 3.7 fbg, dry	
GZ-109	931	4-6	ND	None	Grass	NA	Brown, fine to medium SAND and GRAVEL, little Silt, little fine Gravel, Cobble @ 4.2, 4.9 fbg, boulder from 5.3-5.8 fbg, moist @ 4.8, wet 5.3	
GZ-111	936	0-2	ND	None	Grass	NA	Brown, fine to medium SAND, little Silt trace Roots, dry	
GZ-111	944	2-4	ND	None	Grass	NA	Brown, fine to medium SAND, little Silt, Gravel, Cobble @ 3.8 fbg, dry	
GZ-111	1000	4-6	ND	None	Grass	NA	Brown, fine to medium SAND, little Gravel, little Silt, boulder from 5.2-5.6 fbg, and 5.6-6 fbg, moist @ 4.4, wet @ 4.7	
SOIL CONDITIONS				DENSITY		ABBREVIATIONS		ORGANIC MATERIALS
Fines (silts & clay)	Too fine to see.	TRACE (TR.)	0-10%	Sand	Silt/Clay	V - Very	F - Fine	Organic Silt: Dark gray to black, light weight, often H2S odor.
Fine sand.	Finest visible particles.	LITTLE (L.)	10-20%	V. Loose	V. Soft	GR - Gray	M - Medium	Humus: Decomposed root/twig/leaf litter - forest areas.
Med. Sand	1/64"-1/16" (granular sugar).	SOME (S.)	20-35%	Loose	Soft	BN - Brown	C - Coarse	Root Mat: Living root fiber structures, found in marshes.
C. Sand	1/6"-1/4" (rock salt).	AND	35-50%	M. Dense	M. Stiff	YEL - Yellow	F/M - Fine to Medium	Peat: Fossiliferous root mat - decomposed fiber structure.
Fine gravel	1/4"-3/4" (pea to grape).			Dense	Stiff	RD - Red	F/C - Fine to Coarse	Note: e.g. logs, branches, roots, shells, black streaks, H2S odor.



APPENDIX C

SOIL LABORATORY ANALYTICAL RESULTS

JOB: L2116799 REPORT STYLE: Data Usability Report
0010: Alpha Analytical Report Cover Page - OK
0015: Sample Cross Reference Summary - OK
0060: Case Narrative - OK
0180: Semivolatiles Cover Page - OK
0190: Semivolatiles Sample Results - OK
0200: Semivolatiles Method Blank Report - OK
0210: Semivolatiles LCS Report - OK
0230: Semivolatiles Matrix Spike Report - OK
0240: Semivolatiles Duplicate Report - OK
1180: Inorganics Cover Page - OK
1200: Wet Chemistry Sample Results - OK
1210: Wet Chemistry Method Blank Report - OK
1220: Wet Chemistry LCS Report - OK
1240: Wet Chemistry Matrix Spike Report - OK
1250: Wet Chemistry Duplicate Report - OK
5100: Sample Receipt & Container Information Report - OK
5150: PFAS Parameter Summary - OK
5200: Glossary - OK
5400: References - OK

No results found for sample L2116799-01 for product A2-SPLP-537-ISOTOPE
No results found for sample L2116799-02 for product A2-SPLP-537-ISOTOPE
No results found for sample L2116799-03 for product A2-SPLP-537-ISOTOPE
No results found for sample L2116799-04 for product A2-SPLP-537-ISOTOPE
No results found for sample L2116799-05 for product A2-SPLP-537-ISOTOPE
No results found for sample L2116799-06 for product A2-SPLP-537-ISOTOPE
No results found for sample L2116799-07 for product A2-SPLP-537-ISOTOPE
No results found for sample L2116799-08 for product A2-SPLP-537-ISOTOPE
No results found for sample L2116799-09 for product A2-SPLP-537-ISOTOPE
No results found for sample L2116799-10 for product A2-SPLP-537-ISOTOPE
No results found for sample L2116799-11 for product A2-SPLP-537-ISOTOPE
No results found for sample L2116799-12 for product A2-SPLP-537-ISOTOPE



ANALYTICAL REPORT

Lab Number:	L2116799
Client:	GZA GeoEnvironmental, Inc. 95 Glastonbury Blvd. 3rd Floor Glastonbury, CT 06033
ATTN:	Richard Desrosiers
Phone:	(860) 858-3130
Project Name:	TOWN OF CANTON
Project Number:	05.0046589.02
Report Date:	04/16/21

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Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2116799

Report Date: 04/16/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2116799-01	GZ-101S(0-1')	SOIL	CANTON, CT	04/02/21 08:50	04/02/21
L2116799-02	GZ-101D(2-3.7')	SOIL	CANTON, CT	04/02/21 09:45	04/02/21
L2116799-03	GZ-102S(0-2')	SOIL	CANTON, CT	04/02/21 10:10	04/02/21
L2116799-04	GZ-103S(0-2')	SOIL	CANTON, CT	04/02/21 10:30	04/02/21
L2116799-05	GZ-104S(0-2')	SOIL	CANTON, CT	04/02/21 11:20	04/02/21
L2116799-06	GZ-105S(0-2')	SOIL	CANTON, CT	04/02/21 11:35	04/02/21
L2116799-07	GZ-106S(0-2')	SOIL	CANTON, CT	04/02/21 11:50	04/02/21
L2116799-08	GZ-107S(0-2')	SOIL	CANTON, CT	04/02/21 12:10	04/02/21
L2116799-09	GZ-108S(0-2')	SOIL	CANTON, CT	04/02/21 13:10	04/02/21
L2116799-10	GZ-109S(0-2')	SOIL	CANTON, CT	04/02/21 13:37	04/02/21
L2116799-11	GZ-110S(0-2')	SOIL	CANTON, CT	04/02/21 13:52	04/02/21
L2116799-12	GZ-111S(0-2')	SOIL	CANTON, CT	04/02/21 14:10	04/02/21
L2116799-13	FB-040221	WATER	CANTON, CT	04/02/21 14:20	04/02/21
L2116799-14	EB-040221	WATER	CANTON, CT	04/02/21 14:30	04/02/21

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

Case Narrative

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

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

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

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

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

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

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

Case Narrative (continued)

Report Submission

April 16, 2021: This is a preliminary report.

Sample Receipt

L2117699: Containers for TOC analysis were not received. TOC aliquots were taken from the plastic jars received for 537 analysis.

Perfluorinated Alkyl Acids by Isotope Dilution

L2116799-01, -02, -03R, -03R2, -04R, -04R2, -05R, -05, -06, -07, -08, -09, -10R, -10RE, -11RE, -11R, and -12R: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

L2116799-03R and -12R: Sample was re-extracted at a lesser sample amount due to d3-NMeFOSAA recovering <10%. Re-extraction confirmed matrix effects with lower recoveries than original re-analysis therefore re-analysis is reported.

L2116799-03, -04R, -05, -06, -07, -08, -09, 10R, -11R, and -12R: The MeOH fraction of the extraction is reported for Perfluorooctanesulfonamide (FOSA) due to better extraction efficiency of the M8FOSA Surrogate (Extracted Internal Standard).

L2116799-03R2, -04R2, -05R, -06R, -08R, and -09R: The sample was re-analyzed due to QC failures in the original analysis related to PFNA only. The results of the re-analysis are reported.

L2116799-04R, -10R, -11R, and -12R: The sample was re-analyzed due to QC failures in the original analysis. The results of the re-analysis are reported.

L2116799-10R, -11R, and -12R: The sample was re-extracted on dilution within the method required holding time in order to quantify the results within the calibration range. The result(s) should be considered estimated, and are qualified with an E flag, for any compound(s) that exceeded the calibration range in the initial analysis. The re-extraction was performed only for the compound(s) that exceeded the calibration range.

WG1482607-1R, WG1482607-2, WG1485008-1, and WG1485008-2: Extracted Internal Standard recoveries

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
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Case Narrative (continued)

were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

WG1482607-1R and WG1482809-2: The sample was re-analyzed due to QC failures in the original analysis. The results of the re-analysis are reported.

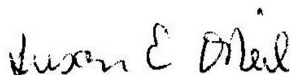
The WG1482809-2 LCS recovery, associated with L2116799-01, -02, -03, -03R2, -03R, -04, -04R, -04R2, -05, -05R, -06, -06R, -07, -08R, -08, -09R, and -09, is above the acceptance criteria for perfluorononanoic acid (pfna) (132%); however, the associated samples are non-detect to the RL for this target analyte. The results of the original analysis are reported.

Total Organic Carbon

The WG1483543-3 Laboratory Duplicate RPD for total organic carbon (rep2) (57%), performed on L2116799-01, is outside the acceptance criteria. The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

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:



Susan O'Neil

Title: Technical Director/Representative

Date: 04/16/21

ORGANICS

SEMIVOLATILES

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-01
Client ID: GZ-101S(0-1')
Sample Location: CANTON, CT

Date Collected: 04/02/21 08:50
Date Received: 04/02/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/10/21 18:42
Analyst: SG
Percent Solids: 83%

Extraction Method: ALPHA 23528
Extraction Date: 04/06/21 11:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.584	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.584	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.292	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.17	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.584	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.17	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.292	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.292	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.292	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.584	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.584	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.292	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.292	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.292	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.584	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.17	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.584	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.584	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.584	--	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.584	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.584	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.584	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.584	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.584	--	1

Project Name: TOWN OF CANTON

Lab Number: L2116799

Project Number: 05.0046589.02

Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-01

Date Collected: 04/02/21 08:50

Client ID: GZ-101S(0-1')

Date Received: 04/02/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	106		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	72		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	98		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	134		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	80		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	94		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	123		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	99		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	196	Q	20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	86		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	109		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	106		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	238	Q	19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	63		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	114		61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	74		10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	73		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	138		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	134		24-159

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-02
Client ID: GZ-101D(2-3.7")
Sample Location: CANTON, CT

Date Collected: 04/02/21 09:45
Date Received: 04/02/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/10/21 18:59
Analyst: SG
Percent Solids: 87%

Extraction Method: ALPHA 23528
Extraction Date: 04/06/21 11:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.556	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.556	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.278	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.11	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.556	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.11	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.278	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.278	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.278	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.556	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.556	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.278	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.278	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.278	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.556	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.11	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.556	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.556	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.556	--	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.556	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.556	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.556	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.556	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.556	--	1

Project Name: TOWN OF CANTON**Lab Number:** L2116799**Project Number:** 05.0046589.02**Report Date:** 04/16/21**SAMPLE RESULTS**

Lab ID: L2116799-02

Date Collected: 04/02/21 09:45

Client ID: GZ-101D(2-3.7')

Date Received: 04/02/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	100		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	67		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	90		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	131		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	79		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	90		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	115		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	95		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	187	Q	20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	84		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	101		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	97		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	220	Q	19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	104		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	109		61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	60		10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	110		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	129		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	136		24-159

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-03
Client ID: GZ-102S(0-2')
Sample Location: CANTON, CT

Date Collected: 04/02/21 10:10
Date Received: 04/02/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/14/21 12:55
Analyst: HT
Percent Solids: 80%

Extraction Method: ALPHA 23528
Extraction Date: 04/06/21 11:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.581	--	1
Surrogate (Extracted Internal Standard)			% Recovery	Qualifier	Acceptance Criteria	
Perfluoro[13C8]Octanesulfonamide (M8FOSA)			89		10-117	

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-03 R2
 Client ID: GZ-102S(0-2')
 Sample Location: CANTON, CT

Date Collected: 04/02/21 10:10
 Date Received: 04/02/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 134,LCMSMS-ID
 Analytical Date: 04/15/21 17:12
 Analyst: RS
 Percent Solids: 80%

Extraction Method: ALPHA 23528
 Extraction Date: 04/06/21 11:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorononanoic Acid (PFNA)	0.408		ng/g	0.291	--	1
Surrogate (Extracted Internal Standard)	% Recovery		Qualifier	Acceptance Criteria		
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	51		Q	72-140		

Project Name: TOWN OF CANTON**Lab Number:** L2116799**Project Number:** 05.0046589.02**Report Date:** 04/16/21**SAMPLE RESULTS**

Lab ID: L2116799-03 R

Date Collected: 04/02/21 10:10

Client ID: GZ-102S(0-2')

Date Received: 04/02/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 04/06/21 11:54

Analytical Date: 04/11/21 15:02

Analyst: SG

Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.581	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.581	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.291	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.16	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.581	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.16	--	1
Perfluoroheptanoic Acid (PFHpA)	0.446		ng/g	0.291	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.291	--	1
Perfluorooctanoic Acid (PFOA)	1.76		ng/g	0.291	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.581	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.581	--	1
Perfluorooctanesulfonic Acid (PFOS)	3.53		ng/g	0.291	--	1
Perfluorodecanoic Acid (PFDA)	0.482		ng/g	0.291	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.581	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.16	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.581	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.581	--	1
Perfluorodecanesulfonic Acid (PFDS)	1.10		ng/g	0.581	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.581	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.581	--	1
Perfluorotridecanoic Acid (PFTTrDA)	ND		ng/g	0.581	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.581	--	1

Project Name: TOWN OF CANTON

Lab Number: L2116799

Project Number: 05.0046589.02

Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-03 R

Date Collected: 04/02/21 10:10

Client ID: GZ-102S(0-2')

Date Received: 04/02/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	46	Q	61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	35	Q	58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	57	Q	74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	65		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	40	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	47	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	73	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	49	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	96		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	42	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	62	Q	79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	52	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	89		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	9	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	52	Q	61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	21	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	55		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	25		24-159

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-04
Client ID: GZ-103S(0-2')
Sample Location: CANTON, CT

Date Collected: 04/02/21 10:30
Date Received: 04/02/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/13/21 04:02
Analyst: HT
Percent Solids: 81%

Extraction Method: ALPHA 23528
Extraction Date: 04/06/21 11:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.591	--	1
Surrogate (Extracted Internal Standard)			% Recovery	Qualifier	Acceptance Criteria	
Perfluoro[13C8]Octanesulfonamide (M8FOSA)			70		10-117	

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-04 R2
 Client ID: GZ-103S(0-2')
 Sample Location: CANTON, CT

Date Collected: 04/02/21 10:30
 Date Received: 04/02/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 134,LCMSMS-ID
 Analytical Date: 04/15/21 17:29
 Analyst: RS
 Percent Solids: 81%

Extraction Method: ALPHA 23528
 Extraction Date: 04/06/21 11:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.295	--	1
Surrogate (Extracted Internal Standard)			% Recovery	Qualifier	Acceptance Criteria	
Perfluoro[13C9]Nonanoic Acid (M9PFNA)			66	Q	72-140	

Project Name: TOWN OF CANTON**Lab Number:** L2116799**Project Number:** 05.0046589.02**Report Date:** 04/16/21**SAMPLE RESULTS**

Lab ID: L2116799-04 R

Date Collected: 04/02/21 10:30

Client ID: GZ-103S(0-2')

Date Received: 04/02/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 04/06/21 11:54

Analytical Date: 04/11/21 15:19

Analyst: SG

Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.591	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.591	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.295	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.18	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.591	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.18	--	1
Perfluoroheptanoic Acid (PFHpA)	0.323		ng/g	0.295	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.295	--	1
Perfluorooctanoic Acid (PFOA)	1.15		ng/g	0.295	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.591	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.591	--	1
Perfluorooctanesulfonic Acid (PFOS)	1.13	F	ng/g	0.295	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.295	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.591	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.18	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.591	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.591	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.591	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.591	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.591	--	1
Perfluorotridecanoic Acid (PFTTrDA)	ND		ng/g	0.591	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.591	--	1

Project Name: TOWN OF CANTON**Lab Number:** L2116799**Project Number:** 05.0046589.02**Report Date:** 04/16/21**SAMPLE RESULTS**

Lab ID: L2116799-04 R

Date Collected: 04/02/21 10:30

Client ID: GZ-103S(0-2')

Date Received: 04/02/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	45	Q	61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	34	Q	58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	76		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	98		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	44	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	54	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	94		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	58	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	137		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	56	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	84		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	66	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	136		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	22	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	68		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	24	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	84		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	31		24-159

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-05
Client ID: GZ-104S(0-2')
Sample Location: CANTON, CT

Date Collected: 04/02/21 11:20
Date Received: 04/02/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/10/21 20:05
Analyst: SG
Percent Solids: 61%

Extraction Method: ALPHA 23528
Extraction Date: 04/06/21 11:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	1.43		ng/g	0.734	--	1
Perfluoropentanoic Acid (PFPeA)	3.39		ng/g	0.734	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.367	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.47	--	1
Perfluorohexanoic Acid (PFHxA)	3.33		ng/g	0.734	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.47	--	1
Perfluoroheptanoic Acid (PFHpA)	2.18		ng/g	0.367	--	1
Perfluorohexanesulfonic Acid (PFHxS)	3.26		ng/g	0.367	--	1
Perfluorooctanoic Acid (PFOA)	3.65		ng/g	0.367	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.734	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.734	--	1
Perfluorooctanesulfonic Acid (PFOS)	8.08		ng/g	0.367	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.367	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.734	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.47	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.734	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.734	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.734	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.734	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.734	--	1
Perfluorotridecanoic Acid (PFTTrDA)	ND		ng/g	0.734	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.734	--	1

Project Name: TOWN OF CANTON**Lab Number:** L2116799**Project Number:** 05.0046589.02**Report Date:** 04/16/21**SAMPLE RESULTS**

Lab ID: L2116799-05

Date Collected: 04/02/21 11:20

Client ID: GZ-104S(0-2')

Date Received: 04/02/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	68		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	46	Q	58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	72	Q	74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	95		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	57	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	65	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	89		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	66	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	136		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	60	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	84		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	74	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	154		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	14	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	80		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	26	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	92		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	70		24-159

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-05
Client ID: GZ-104S(0-2')
Sample Location: CANTON, CT

Date Collected: 04/02/21 11:20
Date Received: 04/02/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/13/21 04:09
Analyst: HT
Percent Solids: 61%

Extraction Method: ALPHA 23528
Extraction Date: 04/06/21 11:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.734	--	1
Surrogate (Extracted Internal Standard)			% Recovery	Qualifier	Acceptance Criteria	
Perfluoro[13C8]Octanesulfonamide (M8FOSA)			78		10-117	

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-05 R
 Client ID: GZ-104S(0-2')
 Sample Location: CANTON, CT

Date Collected: 04/02/21 11:20
 Date Received: 04/02/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 134,LCMSMS-ID
 Analytical Date: 04/15/21 17:45
 Analyst: RS
 Percent Solids: 61%

Extraction Method: ALPHA 23528
 Extraction Date: 04/06/21 11:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorononanoic Acid (PFNA)	1.52		ng/g	0.367	--	1
Surrogate (Extracted Internal Standard)	% Recovery		Qualifier	Acceptance Criteria		
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	71		Q	72-140		

Project Name: TOWN OF CANTON**Lab Number:** L2116799**Project Number:** 05.0046589.02**Report Date:** 04/16/21**SAMPLE RESULTS****Lab ID:** L2116799-06**Date Collected:** 04/02/21 11:35**Client ID:** GZ-105S(0-2')**Date Received:** 04/02/21**Sample Location:** CANTON, CT**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil**Extraction Method:** ALPHA 23528**Analytical Method:** 134,LCMSMS-ID**Extraction Date:** 04/06/21 11:54**Analytical Date:** 04/10/21 20:22**Analyst:** SG**Percent Solids:** 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.549	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.549	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.275	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.10	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.549	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.10	--	1
Perfluoroheptanoic Acid (PFHpA)	0.446		ng/g	0.275	--	1
Perfluorohexanesulfonic Acid (PFHxS)	0.726		ng/g	0.275	--	1
Perfluorooctanoic Acid (PFOA)	0.911		ng/g	0.275	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.549	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.549	--	1
Perfluorooctanesulfonic Acid (PFOS)	0.947		ng/g	0.275	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.275	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.549	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.10	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.549	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.549	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.549	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.549	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.549	--	1
Perfluorotridecanoic Acid (PFTTrDA)	ND		ng/g	0.549	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.549	--	1

Project Name: TOWN OF CANTON**Lab Number:** L2116799**Project Number:** 05.0046589.02**Report Date:** 04/16/21**SAMPLE RESULTS**

Lab ID: L2116799-06

Date Collected: 04/02/21 11:35

Client ID: GZ-105S(0-2')

Date Received: 04/02/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	67		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	47	Q	58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	73	Q	74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	104		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	54	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	63	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	90		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	66	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	162	Q	20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	59	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	84		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	70	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	178	Q	19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	21	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	80		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	30	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	89		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	71		24-159

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-06
Client ID: GZ-105S(0-2')
Sample Location: CANTON, CT

Date Collected: 04/02/21 11:35
Date Received: 04/02/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/13/21 04:16
Analyst: HT
Percent Solids: 80%

Extraction Method: ALPHA 23528
Extraction Date: 04/06/21 11:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.549	--	1
Surrogate (Extracted Internal Standard)			% Recovery	Qualifier	Acceptance Criteria	
Perfluoro[13C8]Octanesulfonamide (M8FOSA)			73		10-117	

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-06 R
 Client ID: GZ-105S(0-2')
 Sample Location: CANTON, CT

Date Collected: 04/02/21 11:35
 Date Received: 04/02/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 134,LCMSMS-ID
 Analytical Date: 04/15/21 18:02
 Analyst: RS
 Percent Solids: 80%

Extraction Method: ALPHA 23528
 Extraction Date: 04/06/21 11:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorononanoic Acid (PFNA)	0.333		ng/g	0.275	--	1
Surrogate (Extracted Internal Standard)	% Recovery		Qualifier	Acceptance Criteria		
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	73			72-140		

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-07
Client ID: GZ-106S(0-2')
Sample Location: CANTON, CT

Date Collected: 04/02/21 11:50
Date Received: 04/02/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/10/21 20:38
Analyst: SG
Percent Solids: 63%

Extraction Method: ALPHA 23528
Extraction Date: 04/06/21 11:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.757	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.757	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.378	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.51	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.757	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.51	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.378	--	1
Perfluorohexanesulfonic Acid (PFHxS)	0.653		ng/g	0.378	--	1
Perfluorooctanoic Acid (PFOA)	0.553		ng/g	0.378	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.757	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.757	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.378	--	1
Perfluorooctanesulfonic Acid (PFOS)	0.474		ng/g	0.378	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.378	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.757	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.51	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.757	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.757	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.757	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.757	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.757	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.757	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.757	--	1

Project Name: TOWN OF CANTON

Lab Number: L2116799

Project Number: 05.0046589.02

Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-07

Date Collected: 04/02/21 11:50

Client ID: GZ-106S(0-2')

Date Received: 04/02/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	76		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	51	Q	58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	77		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	110		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	59	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	69	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	97		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	72	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	150		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	62	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	85		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	70	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	165		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	23	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	69		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	28	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	84		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	51		24-159

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-07
Client ID: GZ-106S(0-2')
Sample Location: CANTON, CT

Date Collected: 04/02/21 11:50
Date Received: 04/02/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/13/21 04:24
Analyst: HT
Percent Solids: 63%

Extraction Method: ALPHA 23528
Extraction Date: 04/06/21 11:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.757	--	1
Surrogate (Extracted Internal Standard)			% Recovery	Qualifier	Acceptance Criteria	
Perfluoro[13C8]Octanesulfonamide (M8FOSA)			74		10-117	

Project Name: TOWN OF CANTON**Lab Number:** L2116799**Project Number:** 05.0046589.02**Report Date:** 04/16/21**SAMPLE RESULTS**

Lab ID: L2116799-08

Date Collected: 04/02/21 12:10

Client ID: GZ-107S(0-2')

Date Received: 04/02/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 04/06/21 11:54

Analytical Date: 04/10/21 20:55

Analyst: SG

Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.547	--	1
Perfluoropentanoic Acid (PFPeA)	0.547		ng/g	0.547	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.273	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.09	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.547	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.09	--	1
Perfluoroheptanoic Acid (PFHpA)	0.342		ng/g	0.273	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.273	--	1
Perfluorooctanoic Acid (PFOA)	0.855		ng/g	0.273	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.547	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.547	--	1
Perfluorooctanesulfonic Acid (PFOS)	4.16		ng/g	0.273	--	1
Perfluorodecanoic Acid (PFDA)	1.03		ng/g	0.273	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.547	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.09	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.547	--	1
Perfluoroundecanoic Acid (PFUnA)	1.02		ng/g	0.547	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.547	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.547	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.547	--	1
Perfluorotridecanoic Acid (PFTTrDA)	ND		ng/g	0.547	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.547	--	1

Project Name: TOWN OF CANTON**Lab Number:** L2116799**Project Number:** 05.0046589.02**Report Date:** 04/16/21**SAMPLE RESULTS**

Lab ID: L2116799-08

Date Collected: 04/02/21 12:10

Client ID: GZ-107S(0-2')

Date Received: 04/02/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	76		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	53	Q	58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	86		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	114		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	62	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	73		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	110		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	76		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	165	Q	20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	67	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	97		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	83		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	196	Q	19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	14	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	87		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	29	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	108		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	94		24-159

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-08
Client ID: GZ-107S(0-2')
Sample Location: CANTON, CT

Date Collected: 04/02/21 12:10
Date Received: 04/02/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/13/21 04:31
Analyst: HT
Percent Solids: 87%

Extraction Method: ALPHA 23528
Extraction Date: 04/06/21 11:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.547	--	1
Surrogate (Extracted Internal Standard)			% Recovery	Qualifier	Acceptance Criteria	
Perfluoro[13C8]Octanesulfonamide (M8FOSA)			80		10-117	

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-08 R
 Client ID: GZ-107S(0-2')
 Sample Location: CANTON, CT

Date Collected: 04/02/21 12:10
 Date Received: 04/02/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 134,LCMSMS-ID
 Analytical Date: 04/15/21 18:18
 Analyst: RS
 Percent Solids: 87%

Extraction Method: ALPHA 23528
 Extraction Date: 04/06/21 11:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorononanoic Acid (PFNA)	2.10		ng/g	0.273	--	1
Surrogate (Extracted Internal Standard)	% Recovery		Qualifier	Acceptance Criteria		
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	81			72-140		

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-09
Client ID: GZ-108S(0-2')
Sample Location: CANTON, CT

Date Collected: 04/02/21 13:10
Date Received: 04/02/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/10/21 21:11
Analyst: SG
Percent Solids: 87%

Extraction Method: ALPHA 23528
Extraction Date: 04/06/21 11:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.520	--	1
Perfluoropentanoic Acid (PFPeA)	0.628		ng/g	0.520	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.260	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.04	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.520	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.04	--	1
Perfluoroheptanoic Acid (PFHpA)	0.544		ng/g	0.260	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.260	--	1
Perfluorooctanoic Acid (PFOA)	1.12		ng/g	0.260	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.520	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.520	--	1
Perfluorooctanesulfonic Acid (PFOS)	10.6		ng/g	0.260	--	1
Perfluorodecanoic Acid (PFDA)	0.632		ng/g	0.260	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.520	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.04	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.520	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.520	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.520	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.520	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.520	--	1
Perfluorotridecanoic Acid (PFTTrDA)	ND		ng/g	0.520	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.520	--	1

Project Name: TOWN OF CANTON**Lab Number:** L2116799**Project Number:** 05.0046589.02**Report Date:** 04/16/21**SAMPLE RESULTS**

Lab ID: L2116799-09

Date Collected: 04/02/21 13:10

Client ID: GZ-108S(0-2')

Date Received: 04/02/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	80		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	56	Q	58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	84		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	110		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	67		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	77		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	108		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	81		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	158	Q	20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	72		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	98		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	88		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	191	Q	19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	16	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	93		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	28	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	115		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	103		24-159

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-09
 Client ID: GZ-108S(0-2')
 Sample Location: CANTON, CT

Date Collected: 04/02/21 13:10
 Date Received: 04/02/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 134,LCMSMS-ID
 Analytical Date: 04/13/21 04:38
 Analyst: HT
 Percent Solids: 87%

Extraction Method: ALPHA 23528
 Extraction Date: 04/06/21 11:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.520	--	1
Surrogate (Extracted Internal Standard)			% Recovery	Qualifier	Acceptance Criteria	
Perfluoro[13C8]Octanesulfonamide (M8FOSA)			83		10-117	

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-09 R
 Client ID: GZ-108S(0-2')
 Sample Location: CANTON, CT

Date Collected: 04/02/21 13:10
 Date Received: 04/02/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 134,LCMSMS-ID
 Analytical Date: 04/15/21 18:35
 Analyst: RS
 Percent Solids: 87%

Extraction Method: ALPHA 23528
 Extraction Date: 04/06/21 11:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorononanoic Acid (PFNA)	2.93		ng/g	0.260	--	1
Surrogate (Extracted Internal Standard)	% Recovery		Qualifier	Acceptance Criteria		
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	86			72-140		

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-10
Client ID: GZ-109S(0-2')
Sample Location: CANTON, CT

Date Collected: 04/02/21 13:37
Date Received: 04/02/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/14/21 00:46
Analyst: HT
Percent Solids: 81%

Extraction Method: ALPHA 23528
Extraction Date: 04/06/21 11:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorooctanesulfonamide (FOSA)	8.05	F	ng/g	0.602	--	1
Surrogate (Extracted Internal Standard)	% Recovery		Qualifier	Acceptance Criteria		
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	99			10-117		

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-10 RE
 Client ID: GZ-109S(0-2')
 Sample Location: CANTON, CT

Date Collected: 04/02/21 13:37
 Date Received: 04/02/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 134,LCMSMS-ID
 Analytical Date: 04/13/21 23:40
 Analyst: SG
 Percent Solids: 81%

Extraction Method: ALPHA 23528
 Extraction Date: 04/12/21 09:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorooctanesulfonic Acid (PFOS)	423		ng/g	0.985	--	1
Surrogate (Extracted Internal Standard)	% Recovery		Qualifier	Acceptance Criteria		
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	66		Q	79-136		

Project Name: TOWN OF CANTON**Lab Number:** L2116799**Project Number:** 05.0046589.02**Report Date:** 04/16/21**SAMPLE RESULTS**

Lab ID: L2116799-10 R

Date Collected: 04/02/21 13:37

Client ID: GZ-109S(0-2')

Date Received: 04/02/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 04/06/21 11:54

Analytical Date: 04/11/21 15:35

Analyst: SG

Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	1.09		ng/g	0.602	--	1
Perfluoropentanoic Acid (PFPeA)	3.23		ng/g	0.602	--	1
Perfluorobutanesulfonic Acid (PFBS)	0.496		ng/g	0.301	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.20	--	1
Perfluorohexanoic Acid (PFHxA)	3.57		ng/g	0.602	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.20	--	1
Perfluoroheptanoic Acid (PFHpA)	3.28		ng/g	0.301	--	1
Perfluorohexanesulfonic Acid (PFHxS)	21.5		ng/g	0.301	--	1
Perfluorooctanoic Acid (PFOA)	6.06		ng/g	0.301	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	2.00		ng/g	0.602	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	1.86		ng/g	0.602	--	1
Perfluorononanoic Acid (PFNA)	26.1		ng/g	0.301	--	1
Perfluorooctanesulfonic Acid (PFOS)	396	E	ng/g	0.301	--	1
Perfluorodecanoic Acid (PFDA)	15.8		ng/g	0.301	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	10.0		ng/g	0.602	--	1
Perfluorononanesulfonic Acid (PFNS)	3.26		ng/g	1.20	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.602	--	1
Perfluoroundecanoic Acid (PFUnA)	12.6		ng/g	0.602	--	1
Perfluorodecanesulfonic Acid (PFDS)	2.92		ng/g	0.602	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.602	--	1
Perfluorododecanoic Acid (PFDoA)	1.83		ng/g	0.602	--	1
Perfluorotridecanoic Acid (PFTrDA)	1.90		ng/g	0.602	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.602	--	1

Project Name: TOWN OF CANTON**Lab Number:** L2116799**Project Number:** 05.0046589.02**Report Date:** 04/16/21**SAMPLE RESULTS**

Lab ID: L2116799-10 R

Date Collected: 04/02/21 13:37

Client ID: GZ-109S(0-2')

Date Received: 04/02/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	41	Q	61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	32	Q	58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	117		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	132		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	42	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	53	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	146	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	58	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	194	Q	20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	47	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	79		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	65	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	222	Q	19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	17	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	72		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	27	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	85		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	64		24-159

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-11
Client ID: GZ-110S(0-2')
Sample Location: CANTON, CT

Date Collected: 04/02/21 13:52
Date Received: 04/02/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/14/21 00:53
Analyst: HT
Percent Solids: 81%

Extraction Method: ALPHA 23528
Extraction Date: 04/06/21 11:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorooctanesulfonamide (FOSA)	2.84	F	ng/g	0.581	--	1
Surrogate (Extracted Internal Standard)	% Recovery		Qualifier	Acceptance Criteria		
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	99			10-117		

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-11 RE
 Client ID: GZ-110S(0-2')
 Sample Location: CANTON, CT

Date Collected: 04/02/21 13:52
 Date Received: 04/02/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 134,LCMSMS-ID
 Analytical Date: 04/13/21 23:57
 Analyst: SG
 Percent Solids: 81%

Extraction Method: ALPHA 23528
 Extraction Date: 04/12/21 09:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorooctanesulfonic Acid (PFOS)	323		ng/g	0.962	--	1
Surrogate (Extracted Internal Standard)	% Recovery		Qualifier	Acceptance Criteria		
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	65		Q	79-136		

Project Name: TOWN OF CANTON**Lab Number:** L2116799**Project Number:** 05.0046589.02**Report Date:** 04/16/21**SAMPLE RESULTS**

Lab ID: L2116799-11 R

Date Collected: 04/02/21 13:52

Client ID: GZ-110S(0-2')

Date Received: 04/02/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 04/06/21 11:54

Analytical Date: 04/11/21 15:52

Analyst: SG

Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.881		ng/g	0.581	--	1
Perfluoropentanoic Acid (PFPeA)	4.08		ng/g	0.581	--	1
Perfluorobutanesulfonic Acid (PFBS)	0.681		ng/g	0.290	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.16	--	1
Perfluorohexanoic Acid (PFHxA)	2.82		ng/g	0.581	--	1
Perfluoropentanesulfonic Acid (PFPeS)	1.28		ng/g	1.16	--	1
Perfluoroheptanoic Acid (PFHpA)	2.70		ng/g	0.290	--	1
Perfluorohexanesulfonic Acid (PFHxS)	21.5		ng/g	0.290	--	1
Perfluorooctanoic Acid (PFOA)	4.06		ng/g	0.290	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	6.75		ng/g	0.581	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	2.69		ng/g	0.581	--	1
Perfluorononanoic Acid (PFNA)	18.2		ng/g	0.290	--	1
Perfluorooctanesulfonic Acid (PFOS)	271	E	ng/g	0.290	--	1
Perfluorodecanoic Acid (PFDA)	8.10		ng/g	0.290	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	2.76		ng/g	0.581	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.16	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.581	--	1
Perfluoroundecanoic Acid (PFUnA)	6.83		ng/g	0.581	--	1
Perfluorodecanesulfonic Acid (PFDS)	0.996		ng/g	0.581	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.581	--	1
Perfluorododecanoic Acid (PFDoA)	1.05		ng/g	0.581	--	1
Perfluorotridecanoic Acid (PFTrDA)	2.46		ng/g	0.581	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.581	--	1

Project Name: TOWN OF CANTON**Lab Number:** L2116799**Project Number:** 05.0046589.02**Report Date:** 04/16/21**SAMPLE RESULTS**

Lab ID: L2116799-11 R

Date Collected: 04/02/21 13:52

Client ID: GZ-110S(0-2')

Date Received: 04/02/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	55	Q	61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	44	Q	58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	124		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	161		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	58	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	70	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	150	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	77		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	257	Q	20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	62	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	92		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	81		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	281	Q	19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	11	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	93		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	27	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	103		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	73		24-159

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-12
Client ID: GZ-111S(0-2')
Sample Location: CANTON, CT

Date Collected: 04/02/21 14:10
Date Received: 04/02/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/14/21 13:03
Analyst: HT
Percent Solids: 84%

Extraction Method: ALPHA 23528
Extraction Date: 04/06/21 11:54

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.555	--	1
Surrogate (Extracted Internal Standard)			% Recovery	Qualifier	Acceptance Criteria	
Perfluoro[13C8]Octanesulfonamide (M8FOSA)			78		10-117	

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-12 RE
 Client ID: GZ-111S(0-2')
 Sample Location: CANTON, CT

Date Collected: 04/02/21 14:10
 Date Received: 04/02/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 134,LCMSMS-ID
 Analytical Date: 04/13/21 23:33
 Analyst: HT
 Percent Solids: 84%

Extraction Method: ALPHA 23528
 Extraction Date: 04/12/21 09:25

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	1.68	--	1
Surrogate (Extracted Internal Standard)			% Recovery	Qualifier	Acceptance Criteria	
Perfluoro[13C8]Octanesulfonamide (M8FOSA)			96		10-117	

Project Name: TOWN OF CANTON**Lab Number:** L2116799**Project Number:** 05.0046589.02**Report Date:** 04/16/21**SAMPLE RESULTS**

Lab ID: L2116799-12 R

Date Collected: 04/02/21 14:10

Client ID: GZ-111S(0-2')

Date Received: 04/02/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 04/06/21 11:54

Analytical Date: 04/11/21 16:25

Analyst: SG

Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	0.778		ng/g	0.555	--	1
Perfluoropentanoic Acid (PFPeA)	2.16		ng/g	0.555	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.278	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.11	--	1
Perfluorohexanoic Acid (PFHxA)	1.26		ng/g	0.555	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.11	--	1
Perfluoroheptanoic Acid (PFHpA)	1.73		ng/g	0.278	--	1
Perfluorohexanesulfonic Acid (PFHxS)	2.29		ng/g	0.278	--	1
Perfluorooctanoic Acid (PFOA)	2.23		ng/g	0.278	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.555	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.555	--	1
Perfluorononanoic Acid (PFNA)	15.1		ng/g	0.278	--	1
Perfluorooctanesulfonic Acid (PFOS)	16.0		ng/g	0.278	--	1
Perfluorodecanoic Acid (PFDA)	0.742		ng/g	0.278	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.555	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.11	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	6.74		ng/g	0.555	--	1
Perfluoroundecanoic Acid (PFUnA)	4.44		ng/g	0.555	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.555	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	4.36	F	ng/g	0.555	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.555	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.555	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.555	--	1

Project Name: TOWN OF CANTON

Lab Number: L2116799

Project Number: 05.0046589.02

Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-12 R

Date Collected: 04/02/21 14:10

Client ID: GZ-111S(0-2')

Date Received: 04/02/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	41	Q	61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	30	Q	58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	64	Q	74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	51		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	37	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	43	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	80		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	47	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	85		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	40	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	74	Q	79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	48	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	102		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	7	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	52	Q	61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	13	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	60		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	49		24-159

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-13
Client ID: FB-040221
Sample Location: CANTON, CT

Date Collected: 04/02/21 14:20
Date Received: 04/02/21
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/13/21 07:12
Analyst: RS

Extraction Method: ALPHA 23528
Extraction Date: 04/05/21 16:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.89	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.89	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.89	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.89	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.89	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.89	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.89	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.89	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.89	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.89	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.89	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.89	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.89	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.89	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.89	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.89	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.89	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.89	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.89	--	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.89	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.89	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.89	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.89	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.89	--	1

Project Name: TOWN OF CANTON**Lab Number:** L2116799**Project Number:** 05.0046589.02**Report Date:** 04/16/21**SAMPLE RESULTS**

Lab ID: L2116799-13

Date Collected: 04/02/21 14:20

Client ID: FB-040221

Date Received: 04/02/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	96		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	71		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	87		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	62		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	78		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	90		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	105		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	93		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	107		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	80		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	92		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	86		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	131		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	57		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	90		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	60		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	72		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	103		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	100		22-136

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-14
Client ID: EB-040221
Sample Location: CANTON, CT

Date Collected: 04/02/21 14:30
Date Received: 04/02/21
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/13/21 07:28
Analyst: RS

Extraction Method: ALPHA 23528
Extraction Date: 04/05/21 16:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.86	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.86	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.86	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.86	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.86	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.86	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.86	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.86	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.86	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.86	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.86	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.86	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.86	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.86	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.86	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.86	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.86	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.86	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.86	--	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.86	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.86	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.86	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.86	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.86	--	1

Project Name: TOWN OF CANTON**Lab Number:** L2116799**Project Number:** 05.0046589.02**Report Date:** 04/16/21**SAMPLE RESULTS****Lab ID:** L2116799-14**Date Collected:** 04/02/21 14:30**Client ID:** EB-040221**Date Received:** 04/02/21**Sample Location:** CANTON, CT**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	94		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	68		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	87		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	68		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	75		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	86		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	105		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	90		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	116		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	78		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	96		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	89		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	145		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	66		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	97		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	61		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	81		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	103		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	101		22-136

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/14/21 20:00
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 04/05/21 16:10

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 13-14 Batch: WG1482607-1 R					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.00	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	--
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	--
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/14/21 20:00
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 04/05/21 16:10

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 13-14 Batch: WG1482607-1 R					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	96		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	69		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	91		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	117		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	76		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	90		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	108		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	94		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	180	Q	14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	77		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	100		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	94		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	204	Q	10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	84		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	107		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	64		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	102		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	125		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	115		22-136

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/07/21 09:11
Analyst: HT

Extraction Method: ALPHA 23528
Extraction Date: 04/06/21 11:54

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-12 Batch: WG1482809-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.500	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.500	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.250	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.500	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.250	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.250	--
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.250	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.500	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.500	--
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.250	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.250	--
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.250	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.500	--
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.500	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.500	--
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.500	--
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.500	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.500	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.500	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.500	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.500	--

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/07/21 09:11
Analyst: HT

Extraction Method: ALPHA 23528
Extraction Date: 04/06/21 11:54

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-12 Batch: WG1482809-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	98		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	74		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	96		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	59		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	79		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	91		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	113		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	97		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	101		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	80		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	108		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	95		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	130		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	72		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	107		61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	28		10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	88		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	114		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	121		24-159

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/13/21 03:47
Analyst: HT

Extraction Method: ALPHA 23528
Extraction Date: 04/06/21 11:54

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-12 Batch: WG1482809-1					
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.500	--

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	93		10-117

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/13/21 22:50
Analyst: SG

Extraction Method: ALPHA 23528
Extraction Date: 04/12/21 09:25

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 10-12 Batch: WG1485008-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.500	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.500	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.250	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.500	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.250	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.250	--
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.250	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.500	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.500	--
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.250	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.250	--
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.250	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.500	--
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.500	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.500	--
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.500	--
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.500	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.500	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.500	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.500	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.500	--

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID
 Analytical Date: 04/13/21 22:50
 Analyst: SG

Extraction Method: ALPHA 23528
 Extraction Date: 04/12/21 09:25

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 10-12 Batch: WG1485008-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	93		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	65		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	86		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	119		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	75		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	86		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	105		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	91		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	168	Q	20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	77		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	98		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	90		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	190	Q	19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	83		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	101		61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	34		10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	90		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	115		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	101		24-159

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/13/21 23:11
Analyst: HT

Extraction Method: ALPHA 23528
Extraction Date: 04/12/21 09:25

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 10-12 Batch: WG1485008-1					
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.500	--

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	112		10-117

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2116799

Report Date: 04/16/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 13-14 Batch: WG1482607-2								
Perfluorobutanoic Acid (PFBA)	117		-		67-148	-		30
Perfluoropentanoic Acid (PFPeA)	120		-		63-161	-		30
Perfluorobutanesulfonic Acid (PFBS)	127		-		65-157	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	131		-		37-219	-		30
Perfluorohexanoic Acid (PFHxA)	121		-		69-168	-		30
Perfluoropentanesulfonic Acid (PFPeS)	103		-		52-156	-		30
Perfluoroheptanoic Acid (PFHpA)	118		-		58-159	-		30
Perfluorohexanesulfonic Acid (PFHxS)	111		-		69-177	-		30
Perfluorooctanoic Acid (PFOA)	126		-		63-159	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	130		-		49-187	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	122		-		61-179	-		30
Perfluorononanoic Acid (PFNA)	135		-		68-171	-		30
Perfluorooctanesulfonic Acid (PFOS)	124		-		52-151	-		30
Perfluorodecanoic Acid (PFDA)	123		-		63-171	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	125		-		56-173	-		30
Perfluorononanesulfonic Acid (PFNS)	124		-		48-150	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	122		-		60-166	-		30
Perfluoroundecanoic Acid (PFUnA)	129		-		60-153	-		30
Perfluorodecanesulfonic Acid (PFDS)	128		-		38-156	-		30
Perfluorooctanesulfonamide (FOSA)	117		-		46-170	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	111		-		45-170	-		30
Perfluorododecanoic Acid (PFDoA)	120		-		67-153	-		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: TOWN OF CANTON

Lab Number: L2116799

Project Number: 05.0046589.02

Report Date: 04/16/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 13-14 Batch: WG1482607-2								
Perfluorotridecanoic Acid (PFTTrDA)	109		-		48-158	-		30
Perfluorotetradecanoic Acid (PFTA)	122		-		59-182	-		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	96				58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	68				62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	89				70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	108				12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	79				57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	92				60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	109				71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	90				62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	164	Q			14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	84				59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	100				69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	92				62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	175	Q			10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	83				24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	101				55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	65				10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	92				27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	99				48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	79				22-136

Lab Control Sample Analysis **Batch Quality Control**

Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2116799

Report Date: 04/16/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-12 Batch: WG1482809-2								
Perfluorobutanoic Acid (PFBA)	113		-		71-135	-		30
Perfluoropentanoic Acid (PFPeA)	117		-		69-132	-		30
Perfluorobutanesulfonic Acid (PFBS)	117		-		72-128	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	117		-		62-145	-		30
Perfluorohexanoic Acid (PFHxA)	114		-		70-132	-		30
Perfluoropentanesulfonic Acid (PFPeS)	98		-		73-123	-		30
Perfluoroheptanoic Acid (PFHpA)	108		-		71-131	-		30
Perfluorohexanesulfonic Acid (PFHxS)	106		-		67-130	-		30
Perfluorooctanoic Acid (PFOA)	113		-		69-133	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	126		-		64-140	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	107		-		70-132	-		30
Perfluorononanoic Acid (PFNA)	132	Q	-		72-129	-		30
Perfluorooctanesulfonic Acid (PFOS)	110		-		68-136	-		30
Perfluorodecanoic Acid (PFDA)	115		-		69-133	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	118		-		65-137	-		30
Perfluorononanesulfonic Acid (PFNS)	113		-		69-125	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	126		-		63-144	-		30
Perfluoroundecanoic Acid (PFUnA)	122		-		64-136	-		30
Perfluorodecanesulfonic Acid (PFDS)	129		-		59-134	-		30
Perfluorooctanesulfonamide (FOSA)	111		-		67-137	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	111		-		61-139	-		30
Perfluorododecanoic Acid (PFDoA)	99		-		69-135	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOWN OF CANTON

Lab Number: L2116799

Project Number: 05.0046589.02

Report Date: 04/16/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-12 Batch: WG1482809-2								
Perfluorotridecanoic Acid (PFTTrDA)	112		-		66-139	-		30
Perfluorotetradecanoic Acid (PFTA)	107		-		69-133	-		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	100				61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	74				58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	95				74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	70				14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	80				66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	96				71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	113				78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	99				75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	114				20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	82				72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	107				79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	101				75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	143				19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	84				31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	106				61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	25				10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	101				34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	121				54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	132				24-159

Lab Control Sample Analysis**Batch Quality Control****Project Name:** TOWN OF CANTON**Lab Number:** L2116799**Project Number:** 05.0046589.02**Report Date:** 04/16/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-12 Batch: WG1482809-2								
Perfluorooctanesulfonamide (FOSA)	94		-		67-137	-		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	97				10-117

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2116799

Report Date: 04/16/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-12 Batch: WG1482809-2								
Perfluorobutanoic Acid (PFBA)	96		-		71-135	-		30
Perfluoropentanoic Acid (PFPeA)	93		-		69-132	-		30
Perfluorobutanesulfonic Acid (PFBS)	96		-		72-128	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	98		-		62-145	-		30
Perfluorohexanoic Acid (PFHxA)	95		-		70-132	-		30
Perfluoropentanesulfonic Acid (PFPeS)	98		-		73-123	-		30
Perfluoroheptanoic Acid (PFHpA)	94		-		71-131	-		30
Perfluorohexanesulfonic Acid (PFHxS)	98		-		67-130	-		30
Perfluorooctanoic Acid (PFOA)	95		-		69-133	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	114		-		64-140	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	85		-		70-132	-		30
Perfluorononanoic Acid (PFNA)	92		-		72-129	-		30
Perfluorooctanesulfonic Acid (PFOS)	94		-		68-136	-		30
Perfluorodecanoic Acid (PFDA)	96		-		69-133	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	104		-		65-137	-		30
Perfluorononanesulfonic Acid (PFNS)	92		-		69-125	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	104		-		63-144	-		30
Perfluoroundecanoic Acid (PFUnA)	94		-		64-136	-		30
Perfluorodecanesulfonic Acid (PFDS)	103		-		59-134	-		30
Perfluorooctanesulfonamide (FOSA)	106		-		67-137	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	112		-		61-139	-		30
Perfluorododecanoic Acid (PFDoA)	96		-		69-135	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOWN OF CANTON

Lab Number: L2116799

Project Number: 05.0046589.02

Report Date: 04/16/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-12 Batch: WG1482809-2								
Perfluorotridecanoic Acid (PFTTrDA)	101		-		66-139	-		30
Perfluorotetradecanoic Acid (PFTA)	95		-		69-133	-		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	102				61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	113				58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	120				74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	105				14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	111				66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	104				71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	115				78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	106				75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	84				20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	103				72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	110				79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	106				75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	90				19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	69				31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	111				61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	25				10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	74				34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	102				54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	106				24-159

Lab Control Sample Analysis Batch Quality Control

Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2116799

Report Date: 04/16/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 10-12 Batch: WG1485008-2								
Perfluorobutanoic Acid (PFBA)	104		-		71-135	-		30
Perfluoropentanoic Acid (PFPeA)	109		-		69-132	-		30
Perfluorobutanesulfonic Acid (PFBS)	114		-		72-128	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	118		-		62-145	-		30
Perfluorohexanoic Acid (PFHxA)	109		-		70-132	-		30
Perfluoropentanesulfonic Acid (PFPeS)	91		-		73-123	-		30
Perfluoroheptanoic Acid (PFHpA)	107		-		71-131	-		30
Perfluorohexanesulfonic Acid (PFHxS)	96		-		67-130	-		30
Perfluorooctanoic Acid (PFOA)	110		-		69-133	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	116		-		64-140	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	111		-		70-132	-		30
Perfluorononanoic Acid (PFNA)	123		-		72-129	-		30
Perfluorooctanesulfonic Acid (PFOS)	108		-		68-136	-		30
Perfluorodecanoic Acid (PFDA)	112		-		69-133	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	113		-		65-137	-		30
Perfluorononanesulfonic Acid (PFNS)	113		-		69-125	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	110		-		63-144	-		30
Perfluoroundecanoic Acid (PFUnA)	122		-		64-136	-		30
Perfluorodecanesulfonic Acid (PFDS)	121		-		59-134	-		30
Perfluorooctanesulfonamide (FOSA)	104		-		67-137	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	94		-		61-139	-		30
Perfluorododecanoic Acid (PFDoA)	106		-		69-135	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOWN OF CANTON

Lab Number: L2116799

Project Number: 05.0046589.02

Report Date: 04/16/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 10-12 Batch: WG1485008-2								
Perfluorotridecanoic Acid (PFTTrDA)	114		-		66-139	-		30
Perfluorotetradecanoic Acid (PFTA)	105		-		69-133	-		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	91				61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	63				58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	86				74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	118				14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	72				66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	82				71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	106				78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	86				75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	172	Q			20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	75				72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	95				79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	93				75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	197	Q			19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	88				31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	99				61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	14				10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	95				34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	107				54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	114				24-159

Lab Control Sample Analysis**Batch Quality Control****Project Name:** TOWN OF CANTON**Lab Number:** L2116799**Project Number:** 05.0046589.02**Report Date:** 04/16/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 10-12 Batch: WG1485008-2								
Perfluorooctanesulfonamide (FOSA)	95		-		67-137	-		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	108				10-117

Matrix Spike Analysis **Batch Quality Control**

Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2116799

Report Date: 04/16/21

<i>Parameter</i>	<i>Native Sample</i>	<i>MS Added</i>	<i>MS Found</i>	<i>MS %Recovery</i>	<i>Qual</i>	<i>MSD Found</i>	<i>MSD %Recovery</i>	<i>Qual</i>	<i>Recovery Limits</i>	<i>RPD</i>	<i>Qual</i>	<i>RPD Limits</i>
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 13-14 QC Batch ID: WG1482607-3 QC Sample: L2116428-01 Client ID: MS Sample												
Perfluorobutanoic Acid (PFBA)	ND	36.2	42.0	116	-	-	-	-	67-148	-	-	30
Perfluoropentanoic Acid (PFPeA)	ND	36.2	43.1	119	-	-	-	-	63-161	-	-	30
Perfluorobutanesulfonic Acid (PFBS)	ND	32.2	41.0	127	-	-	-	-	65-157	-	-	30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	33.9	42.7	126	-	-	-	-	37-219	-	-	30
Perfluorohexanoic Acid (PFHxA)	ND	36.2	42.7	118	-	-	-	-	69-168	-	-	30
Perfluoropentanesulfonic Acid (PFPeS)	ND	34.1	35.2	103	-	-	-	-	52-156	-	-	30
Perfluoroheptanoic Acid (PFHpA)	ND	36.2	42.1	116	-	-	-	-	58-159	-	-	30
Perfluorohexanesulfonic Acid (PFHxS)	ND	33.1	36.7	111	-	-	-	-	69-177	-	-	30
Perfluorooctanoic Acid (PFOA)	ND	36.2	45.4	125	-	-	-	-	63-159	-	-	30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	34.5	43.4	126	-	-	-	-	49-187	-	-	30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	34.5	42.7	124	-	-	-	-	61-179	-	-	30
Perfluorononanoic Acid (PFNA)	ND	36.2	47.6	131	-	-	-	-	68-171	-	-	30
Perfluorooctanesulfonic Acid (PFOS)	ND	33.6	40.9	122	-	-	-	-	52-151	-	-	30
Perfluorodecanoic Acid (PFDA)	ND	36.2	46.4	128	-	-	-	-	63-171	-	-	30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	34.8	43.1	124	-	-	-	-	56-173	-	-	30
Perfluorononanesulfonic Acid (PFNS)	ND	34.9	42.5	122	-	-	-	-	48-150	-	-	30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	36.2	48.2	129	-	-	-	-	60-166	-	-	30
Perfluoroundecanoic Acid (PFUnA)	ND	36.2	44.9	124	-	-	-	-	60-153	-	-	30
Perfluorodecanesulfonic Acid (PFDS)	ND	35	46.7	134	-	-	-	-	38-156	-	-	30
Perfluorooctanesulfonamide (FOSA)	ND	36.2	42.9	118	-	-	-	-	46-170	-	-	30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	36.2	37.7	101	-	-	-	-	45-170	-	-	30
Perfluorododecanoic Acid (PFDoA)	ND	36.2	40.9	113	-	-	-	-	67-153	-	-	30

Matrix Spike Analysis

Batch Quality Control

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 13-14 QC Batch ID: WG1482607-3 QC Sample: L2116428-01 Client ID: MS Sample												
Perfluorotridecanoic Acid (PFTTrDA)	ND	36.2	45.5	125		-	-		48-158	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	36.2	45.0	124		-	-		59-182	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	725	1100F	152		-	-		57-162	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	34.2	39.6	116		-	-		69-143	-		30
Perfluorohexadecanoic Acid (PFHxDA)	ND	36.2	51.8	143		-	-		40-167	-		30
Perfluorooctadecanoic Acid (PFODA)	ND	36.2	73.8	204	Q	-	-		10-119	-		30

Surrogate (Extracted Internal Standard)	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	146				10-162
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	71				12-142
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	124				14-147
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	73				10-165
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	81				27-126
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	70				24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	97				55-137
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	89				62-124
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	73				57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	84				60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	106				71-134
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	108				48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	106				22-136
Perfluoro[13C2]Hexadecanoic Acid (M2PFHxDA)	62				10-206

Matrix Spike Analysis**Batch Quality Control****Project Name:** TOWN OF CANTON**Project Number:** 05.0046589.02**Lab Number:** L2116799**Report Date:** 04/16/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 13-14 QC Batch ID: WG1482607-3 QC Sample: L2116428-01 Client ID: MS Sample												

Surrogate (Extracted Internal Standard)	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
Perfluoro[13C4]Butanoic Acid (MPFBA)	85				58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	67				62-163
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	39				10-112
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	97				69-131
Perfluoro[13C8]Octanoic Acid (M8PFOA)	89				62-129
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	81				59-139
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	88				70-131

Matrix Spike Analysis

Batch Quality Control

Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2116799

Report Date: 04/16/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-12 QC Batch ID: WG1482809-3 WG1482809-4 QC Sample: L2116932-02 Client ID: MS Sample												
Perfluorobutanoic Acid (PFBA)	ND	5.46	6.09	111		5.69	111		71-135	7		30
Perfluoropentanoic Acid (PFPeA)	ND	5.46	6.30	115		5.90	116		69-132	7		30
Perfluorobutanesulfonic Acid (PFBS)	ND	4.85	5.72	118		5.43	120		72-128	5		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	5.11	5.90	115		5.79	121		62-145	2		30
Perfluorohexanoic Acid (PFHxA)	ND	5.46	6.03	110		5.70	112		70-132	6		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	5.14	5.04	98		4.86	101		73-123	4		30
Perfluoroheptanoic Acid (PFHpA)	ND	5.46	5.99	110		5.71	112		71-131	5		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	4.99	5.19	104		4.99	107		67-130	4		30
Perfluorooctanoic Acid (PFOA)	ND	5.46	6.05	111		5.95	117		69-133	2		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	5.2	6.36	122		5.80	119		64-140	9		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	5.2	5.90	113		7.44	153	Q	70-132	23		30
Perfluorononanoic Acid (PFNA)	ND	5.46	7.00	128		6.68	131	Q	72-129	5		30
Perfluorooctanesulfonic Acid (PFOS)	ND	5.07	5.80	114		5.67	120		68-136	2		30
Perfluorodecanoic Acid (PFDA)	ND	5.46	6.45	118		5.91	116		69-133	9		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	5.24	6.14	117		6.00	122		65-137	2		30
Perfluorononanesulfonic Acid (PFNS)	ND	5.26	6.10	116		7.78	158	Q	69-125	24		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	5.46	6.52	119		7.64	150	Q	63-144	16		30
Perfluoroundecanoic Acid (PFUnA)	ND	5.46	6.56	120		5.99	117		64-136	9		30
Perfluorodecanesulfonic Acid (PFDS)	ND	5.27	6.70	127		8.92	181	Q	59-134	28		30
Perfluorooctanesulfonamide (FOSA)	ND	5.46	5.86	107		5.54	108		67-137	6		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	5.46	6.04	111		5.81	114		61-139	4		30
Perfluorododecanoic Acid (PFDoA)	ND	5.46	5.65	103		4.77	93		69-135	17		30

Matrix Spike Analysis

Batch Quality Control

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-12 QC Batch ID: WG1482809-3 WG1482809-4 QC Sample: L2116932-02 Client ID: MS Sample												
Perfluorotridecanoic Acid (PFTTrDA)	ND	5.46	5.98	109		4.12	81		66-139	37	Q	30
Perfluorotetradecanoic Acid (PFTTA)	ND	5.46	6.25	114		5.16	101		69-133	19		30

Surrogate (Extracted Internal Standard)	MS % Recovery	Qualifier	MSD % Recovery	Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	146		181	Q	19-175
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	52		64		14-167
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	124		195	Q	20-154
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	72		92		34-137
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	65		68		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	99		112		61-155
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	91		98		75-130
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	71		72		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	83		89		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	102		152	Q	78-139
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	115		136		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	101		133		24-159
Perfluoro[13C4]Butanoic Acid (MPFBA)	91		96		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	68		71		58-150
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	19		39		10-117
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	95		105		79-136
Perfluoro[13C8]Octanoic Acid (M8PFOA)	88		90		75-130
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	73		76		72-140
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	88		132		74-139

Matrix Spike Analysis**Batch Quality Control****Project Name:** TOWN OF CANTON**Project Number:** 05.0046589.02**Lab Number:** L2116799**Report Date:** 04/16/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-12 QC Batch ID: WG1482809-5 WG1482809-6 QC Sample: L2116648-04 Client ID: MS Sample												
Perfluorobutanoic Acid (PFBA)	ND	5.69	6.25	110		6.36	111		71-135	2		30
Perfluoropentanoic Acid (PFPeA)	ND	5.69	6.50	114		6.57	114		69-132	1		30
Perfluorobutanesulfonic Acid (PFBS)	ND	5.05	6.01	119		6.17	121		72-128	3		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	5.32	6.39	120		6.86	127		62-145	7		30
Perfluorohexanoic Acid (PFHxA)	ND	5.69	6.49	114		6.63	115		70-132	2		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	5.35	4.91	92		5.03	93		73-123	2		30
Perfluoroheptanoic Acid (PFHpA)	ND	5.69	6.43	113		6.64	115		71-131	3		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	5.2	5.46	105		5.50	105		67-130	1		30
Perfluorooctanoic Acid (PFOA)	ND	5.69	6.64	117		6.79	118		69-133	2		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	3.50	5.41	8.99	101		6.62	57	Q	64-140	30		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	5.41	6.05	112		6.22	114		70-132	3		30
Perfluorononanoic Acid (PFNA)	ND	5.69	7.56	133	Q	7.50	130	Q	72-129	1		30
Perfluorooctanesulfonic Acid (PFOS)	ND	5.28	5.91	112		6.11	114		68-136	3		30
Perfluorodecanoic Acid (PFDA)	ND	5.69	6.47	114		6.66	116		69-133	3		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	5.46	6.02	110		5.99	108		65-137	0		30
Perfluorononanesulfonic Acid (PFNS)	ND	5.47	6.25	114		6.60	119		69-125	5		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	5.69	6.83	120		8.42	146	Q	63-144	21		30
Perfluoroundecanoic Acid (PFUnA)	ND	5.69	7.50	132		7.29	127		64-136	3		30
Perfluorodecanesulfonic Acid (PFDS)	ND	5.48	7.12	130		7.03	127		59-134	1		30
Perfluorooctanesulfonamide (FOSA)	ND	5.69	5.48	96		5.36	93		67-137	2		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	5.69	5.79	102		5.82	101		61-139	1		30
Perfluorododecanoic Acid (PFDoA)	ND	5.69	6.06	107		5.96	104		69-135	2		30

Matrix Spike Analysis**Batch Quality Control****Project Name:** TOWN OF CANTON**Project Number:** 05.0046589.02**Lab Number:** L2116799**Report Date:** 04/16/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-12 QC Batch ID: WG1482809-5 WG1482809-6 QC Sample: L2116648-04 Client ID: MS Sample												
Perfluorotridecanoic Acid (PFTTrDA)	ND	5.69	7.05	124		7.28	127		66-139	3		30
Perfluorotetradecanoic Acid (PFTTA)	ND	5.69	6.52	115		6.81	118		69-133	4		30

Surrogate (Extracted Internal Standard)	MS % Recovery	Qualifier	MSD % Recovery	Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	225	Q	220	Q	19-175
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	130		131		14-167
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	186	Q	184	Q	20-154
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	82		106		34-137
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	78		77		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	97		110		61-155
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	95		101		75-130
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	75		76		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	88		88		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	108		111		78-139
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	120		131		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	122		125		24-159
Perfluoro[13C4]Butanoic Acid (MPFBA)	92		97		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	62		65		58-150
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	81		86		10-117
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	100		102		79-136
Perfluoro[13C8]Octanoic Acid (M8PFOA)	94		92		75-130
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	78		80		72-140
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	87		88		74-139

Matrix Spike Analysis **Batch Quality Control**

Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2116799

Report Date: 04/16/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 10-12 QC Batch ID: WG1485008-3 QC Sample: L2117572-01 Client ID: MS Sample												
Perfluorobutanoic Acid (PFBA)	ND	6.34	6.68	104	-	-	-	-	71-135	-	-	30
Perfluoropentanoic Acid (PFPeA)	ND	6.34	6.93	108	-	-	-	-	69-132	-	-	30
Perfluorobutanesulfonic Acid (PFBS)	ND	5.63	6.38	113	-	-	-	-	72-128	-	-	30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	5.93	6.70	113	-	-	-	-	62-145	-	-	30
Perfluorohexanoic Acid (PFHxA)	ND	6.34	6.92	108	-	-	-	-	70-132	-	-	30
Perfluoropentanesulfonic Acid (PFPeS)	ND	5.96	5.37	90	-	-	-	-	73-123	-	-	30
Perfluoroheptanoic Acid (PFHpA)	ND	6.34	6.65	104	-	-	-	-	71-131	-	-	30
Perfluorohexanesulfonic Acid (PFHxS)	ND	5.79	5.74	99	-	-	-	-	67-130	-	-	30
Perfluorooctanoic Acid (PFOA)	1.76	6.34	8.82	111	-	-	-	-	69-133	-	-	30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	6.03	6.67	111	-	-	-	-	64-140	-	-	30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	6.03	6.65	110	-	-	-	-	70-132	-	-	30
Perfluorononanoic Acid (PFNA)	ND	6.34	7.91	122	-	-	-	-	72-129	-	-	30
Perfluorooctanesulfonic Acid (PFOS)	ND	5.88	6.56	107	-	-	-	-	68-136	-	-	30
Perfluorodecanoic Acid (PFDA)	ND	6.34	7.22	112	-	-	-	-	69-133	-	-	30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	6.08	6.52	107	-	-	-	-	65-137	-	-	30
Perfluorononanesulfonic Acid (PFNS)	ND	6.1	6.85	112	-	-	-	-	69-125	-	-	30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	6.34	7.50	118	-	-	-	-	63-144	-	-	30
Perfluoroundecanoic Acid (PFUnA)	ND	6.34	7.48	117	-	-	-	-	64-136	-	-	30
Perfluorodecanesulfonic Acid (PFDS)	ND	6.11	6.72	110	-	-	-	-	59-134	-	-	30
Perfluorooctanesulfonamide (FOSA)	ND	6.34	5.41	85	-	-	-	-	67-137	-	-	30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	6.34	6.57	104	-	-	-	-	61-139	-	-	30
Perfluorododecanoic Acid (PFDoA)	ND	6.34	6.74	106	-	-	-	-	69-135	-	-	30

Matrix Spike Analysis

Batch Quality Control

Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2116799

Report Date: 04/16/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 10-12 QC Batch ID: WG1485008-3 QC Sample: L2117572-01 Client ID: MS Sample												
Perfluorotridecanoic Acid (PFTTrDA)	ND	6.34	6.21	98		-	-		66-139	-		30
Perfluorotetradecanoic Acid (PFTTA)	ND	6.34	7.36	116		-	-		69-133	-		30

Surrogate (Extracted Internal Standard)	MS % Recovery	Qualifier	MSD % Recovery	Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	182	Q			19-175
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	111				14-167
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	161	Q			20-154
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	48				34-137
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	48				31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	85				61-155
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	78				75-130
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	62	Q			66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	72				71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	95				78-139
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	93				54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	40				24-159
Perfluoro[13C4]Butanoic Acid (MPFBA)	76				61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	53	Q			58-150
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	78				10-117
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	86				79-136
Perfluoro[13C8]Octanoic Acid (M8PFOA)	74	Q			75-130
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	66	Q			72-140
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	79				74-139

Lab Duplicate Analysis Batch Quality Control

Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2116799

Report Date: 04/16/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 13-14 QC Batch ID: WG1482607-4 QC Sample: L2116428-02 Client ID: DUP Sample						
Perfluorobutanoic Acid (PFBA)	ND	ND	ng/l	NC		30
Perfluoropentanoic Acid (PFPeA)	ND	ND	ng/l	NC		30
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ng/l	NC		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	ND	ng/l	NC		30
Perfluorohexanoic Acid (PFHxA)	ND	ND	ng/l	NC		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	ND	ND	ng/l	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	ND	ND	ng/l	NC		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	ND	ng/l	NC		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	ND	ng/l	NC		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	ND	ND	ng/l	NC		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/l	NC		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	ND	ng/l	NC		30
Perfluorononanesulfonic Acid (PFNS)	ND	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/l	NC		30
Perfluorodecanesulfonic Acid (PFDS)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonamide (FOSA)	ND	ND	ng/l	NC		30

Lab Duplicate Analysis Batch Quality Control

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 13-14 QC Batch ID: WG1482607-4 QC Sample: L2116428-02 Client ID: DUP Sample						
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/l	NC		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/l	NC		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	ND	ng/l	NC		30
Perfluorohexadecanoic Acid (PFHxDA)	ND	ND	ng/l	NC		30
Perfluorooctadecanoic Acid (PFODA)	ND	ND	ng/l	NC		30

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	84		81		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	67		66		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	90		89		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	66		61		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	74		68		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	86		81		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	108		105		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	90		87		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	120		106		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	79		73		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	95		87		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	88		81		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	139		120		10-162

Lab Duplicate Analysis Batch Quality Control

Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2116799

Report Date: 04/16/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 13-14 QC Batch ID: WG1482607-4 QC Sample: L2116428-02 Client ID: DUP Sample						

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	65		68		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	101		88		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	28		21		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	79		69		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	112		96		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	126		99		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	102		77		10-165
Perfluoro[13C2]Hexadecanoic Acid (M2PFHxDA)	71		63		10-206

Lab Duplicate Analysis Batch Quality Control

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 10-12 QC Batch ID: WG1485008-4 QC Sample: L2117572-03 Client ID: DUP Sample						
Perfluorobutanoic Acid (PFBA)	ND	ND	ng/g	NC		30
Perfluoropentanoic Acid (PFPeA)	ND	ND	ng/g	NC		30
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ng/g	NC		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	ND	ng/g	NC		30
Perfluorohexanoic Acid (PFHxA)	ND	ND	ng/g	NC		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	ND	ng/g	NC		30
Perfluoroheptanoic Acid (PFHpA)	ND	ND	ng/g	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ng/g	NC		30
Perfluorooctanoic Acid (PFOA)	0.487	0.421	ng/g	15		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	ND	ng/g	NC		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	ND	ng/g	NC		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/g	NC		30
Perfluorooctanesulfonic Acid (PFOS)	ND	ND	ng/g	NC		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/g	NC		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	ND	ng/g	NC		30
Perfluorononanesulfonic Acid (PFNS)	ND	ND	ng/g	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/g	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/g	NC		30
Perfluorodecanesulfonic Acid (PFDS)	ND	ND	ng/g	NC		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/g	NC		30

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L2116799
Report Date: 04/16/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 10-12 QC Batch ID: WG1485008-4 QC Sample: L2117572-03 Client ID: DUP Sample						
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/g	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/g	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/g	NC		30
PFOA/PFOS, Total	0.487	0.421	ng/g	15		30
PFAS, Total (5)	0.487	0.421	ng/g	15		30

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	54	Q	59	Q	61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	42	Q	45	Q	58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	74		77		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	103		108		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	51	Q	55	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	64	Q	67	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	90		93		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	69	Q	72	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	154		155	Q	20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	61	Q	61	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	81		85		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	74	Q	76		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	172		173		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	36		37		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	83		84		61-155
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	41		43		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	88		91		54-150

Lab Duplicate Analysis **Batch Quality Control**

Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2116799

Report Date: 04/16/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 10-12 QC Batch ID: WG1485008-4 QC Sample: L2117572-03 Client ID: DUP Sample						

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	49		48		24-159

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 10-12 QC Batch ID: WG1485008-4 QC Sample: L2117572-03 Client ID: DUP Sample

Perfluorooctanesulfonamide (FOSA)	ND	ND	ng/g	NC	30
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Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	79		80		10-117

INORGANICS & MISCELLANEOUS

Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2116799

Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-01

Client ID: GZ-101S(0-1')

Sample Location: CANTON, CT

Date Collected: 04/02/21 08:50

Date Received: 04/02/21

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	0.164		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Rep2)	0.141		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Average)	0.152		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
General Chemistry - Mansfield Lab										
Solids, Total	83.1		%	0.100	--	1	-	04/05/21 14:10	121,2540G	MC



Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2116799

Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-02

Client ID: GZ-101D(2-3.7')

Sample Location: CANTON, CT

Date Collected: 04/02/21 09:45

Date Received: 04/02/21

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	0.232		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Rep2)	0.290		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Average)	0.261		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
General Chemistry - Mansfield Lab										
Solids, Total	86.6		%	0.100	--	1	-	04/05/21 14:10	121,2540G	MC



Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2116799

Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-03

Client ID: GZ-102S(0-2')

Sample Location: CANTON, CT

Date Collected: 04/02/21 10:10

Date Received: 04/02/21

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	2.00		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Rep2)	1.98		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Average)	1.99		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
General Chemistry - Mansfield Lab										
Solids, Total	80.2		%	0.100	--	1	-	04/05/21 14:10	121,2540G	MC



Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2116799

Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-04

Client ID: GZ-103S(0-2')

Sample Location: CANTON, CT

Date Collected: 04/02/21 10:30

Date Received: 04/02/21

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	1.82		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Rep2)	1.73		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Average)	1.77		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
General Chemistry - Mansfield Lab										
Solids, Total	80.8		%	0.100	--	1	-	04/05/21 14:10	121,2540G	MC



Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2116799

Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-05

Client ID: GZ-104S(0-2')

Sample Location: CANTON, CT

Date Collected: 04/02/21 11:20

Date Received: 04/02/21

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	3.44		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Rep2)	2.95		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Average)	3.19		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
General Chemistry - Mansfield Lab										
Solids, Total	60.7		%	0.100	--	1	-	04/05/21 14:10	121,2540G	MC



Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2116799
Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-06
Client ID: GZ-105S(0-2')
Sample Location: CANTON, CT

Date Collected: 04/02/21 11:35
Date Received: 04/02/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	2.14		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Rep2)	2.27		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Average)	2.20		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
General Chemistry - Mansfield Lab										
Solids, Total	79.5		%	0.100	--	1	-	04/05/21 14:10	121,2540G	MC



Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2116799

Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-07

Client ID: GZ-106S(0-2')

Sample Location: CANTON, CT

Date Collected: 04/02/21 11:50

Date Received: 04/02/21

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	1.52		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Rep2)	1.46		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Average)	1.49		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
General Chemistry - Mansfield Lab										
Solids, Total	62.9		%	0.100	--	1	-	04/05/21 14:10	121,2540G	MC



Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2116799

Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-08

Client ID: GZ-107S(0-2')

Sample Location: CANTON, CT

Date Collected: 04/02/21 12:10

Date Received: 04/02/21

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	0.784		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Rep2)	0.606		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Average)	0.695		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
General Chemistry - Mansfield Lab										
Solids, Total	86.7		%	0.100	--	1	-	04/05/21 14:10	121,2540G	MC



Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2116799

Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-09

Client ID: GZ-108S(0-2')

Sample Location: CANTON, CT

Date Collected: 04/02/21 13:10

Date Received: 04/02/21

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	1.05		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Rep2)	1.06		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Average)	1.05		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
General Chemistry - Mansfield Lab										
Solids, Total	86.7		%	0.100	--	1	-	04/05/21 14:10	121,2540G	MC



Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2116799

Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-10

Client ID: GZ-109S(0-2')

Sample Location: CANTON, CT

Date Collected: 04/02/21 13:37

Date Received: 04/02/21

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	1.62		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Rep2)	1.68		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Average)	1.65		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
General Chemistry - Mansfield Lab										
Solids, Total	80.6		%	0.100	--	1	-	04/05/21 14:10	121,2540G	MC



Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2116799

Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-11

Client ID: GZ-110S(0-2')

Sample Location: CANTON, CT

Date Collected: 04/02/21 13:52

Date Received: 04/02/21

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	1.34		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Rep2)	1.25		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Average)	1.29		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
General Chemistry - Mansfield Lab										
Solids, Total	81.2		%	0.100	--	1	-	04/05/21 14:10	121,2540G	MC



Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2116799

Report Date: 04/16/21

SAMPLE RESULTS

Lab ID: L2116799-12

Client ID: GZ-111S(0-2')

Sample Location: CANTON, CT

Date Collected: 04/02/21 14:10

Date Received: 04/02/21

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	1.05		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Rep2)	1.09		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Average)	1.07		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
General Chemistry - Mansfield Lab										
Solids, Total	83.6		%	0.100	--	1	-	04/05/21 14:10	121,2540G	MC



Project Name: TOWN OF CANTON

Lab Number: L2116799

Project Number: 05.0046589.02

Report Date: 04/16/21

Method Blank Analysis

Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab for sample(s): 01-12 Batch: WG1483543-1										
Total Organic Carbon (Rep1)	ND		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Rep2)	ND		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM
Total Organic Carbon (Average)	ND		%	0.010	--	1	-	04/15/21 08:32	1,9060A	SM

Lab Control Sample Analysis Batch Quality Control

Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2116799

Report Date: 04/16/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Organic Carbon - Mansfield Lab Associated sample(s): 01-12 Batch: WG1483543-2								
Total Organic Carbon (Rep1)	110		-		75-125	-		25
Total Organic Carbon (Rep2)	107		-		75-125	-		25
Total Organic Carbon (Average)	108		-		75-125	-		25

Matrix Spike Analysis

Batch Quality Control

Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2116799

Report Date: 04/16/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Organic Carbon - Mansfield Lab Associated sample(s): 01-12 QC Batch ID: WG1483543-4 QC Sample: L2116799-01 Client ID: GZ-101S(0-1')												
Total Organic Carbon (Rep1)	0.164	1.38	1.57	102		-	-		75-125	-		25
Total Organic Carbon (Rep2)	0.141	1.39	1.61	105		-	-		75-125	-		25
Total Organic Carbon - Mansfield Lab Associated sample(s): 01-12 QC Batch ID: WG1483543-5 QC Sample: L2116799-03 Client ID: GZ-102S(0-2')												
Total Organic Carbon (Rep1)	2.00	1.59	3.42	89		-	-		75-125	-		25
Total Organic Carbon (Rep2)	1.98	1.58	3.84	118		-	-		75-125	-		25

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Duplicate Analysis

Batch Quality Control

Lab Number: L2116799
Report Date: 04/16/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-12 QC Batch ID: WG1482573-1 QC Sample: L2116799-01 Client ID: GZ-101S(0-1')						
Solids, Total	83.1	83.0	%	0		10
Total Organic Carbon - Mansfield Lab Associated sample(s): 01-12 QC Batch ID: WG1483543-3 QC Sample: L2116799-01 Client ID: GZ-101S(0-1')						
Total Organic Carbon (Rep1)	0.164	0.161	%	2		25
Total Organic Carbon (Rep2)	0.141	0.254	%	57	Q	25
Total Organic Carbon (Average)	0.152	0.208	%	31	Q	25

Project Name: TOWN OF CANTON**Lab Number:** L2116799**Project Number:** 05.0046589.02**Report Date:** 04/16/21**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2116799-01A	Plastic 8oz unpreserved	A	NA		3.8	Y	Absent		A2-537-ISOTOPE(14),A2-TOC-9060-2REPS(28)
L2116799-01B	Plastic 2oz unpreserved for TS	A	NA		3.8	Y	Absent		A2-TS(7)
L2116799-01X	Plastic 250ml unpreserved Extracts	NA	NA			Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2116799-01X9	Tumble Vessel	NA	NA			Y	Absent		-
L2116799-02A	Plastic 8oz unpreserved	A	NA		3.8	Y	Absent		A2-537-ISOTOPE(14),A2-TOC-9060-2REPS(28)
L2116799-02B	Plastic 2oz unpreserved for TS	A	NA		3.8	Y	Absent		A2-TS(7)
L2116799-02X	Plastic 250ml unpreserved Extracts	NA	NA			Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2116799-02X9	Tumble Vessel	NA	NA			Y	Absent		-
L2116799-03A	Plastic 8oz unpreserved	A	NA		3.8	Y	Absent		A2-537-ISOTOPE(14),A2-TOC-9060-2REPS(28)
L2116799-03B	Plastic 2oz unpreserved for TS	A	NA		3.8	Y	Absent		A2-TS(7)
L2116799-03X	Plastic 250ml unpreserved Extracts	NA	NA			Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2116799-03X9	Tumble Vessel	NA	NA			Y	Absent		-
L2116799-04A	Plastic 8oz unpreserved	A	NA		3.8	Y	Absent		A2-537-ISOTOPE(14),A2-TOC-9060-2REPS(28)
L2116799-04B	Plastic 2oz unpreserved for TS	A	NA		3.8	Y	Absent		A2-TS(7)
L2116799-04X	Plastic 250ml unpreserved Extracts	NA	NA			Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2116799-04X9	Tumble Vessel	NA	NA			Y	Absent		-
L2116799-05A	Plastic 8oz unpreserved	A	NA		3.8	Y	Absent		A2-537-ISOTOPE(14),A2-TOC-9060-2REPS(28)
L2116799-05B	Plastic 2oz unpreserved for TS	A	NA		3.8	Y	Absent		A2-TS(7)
L2116799-05X	Plastic 250ml unpreserved Extracts	NA	NA			Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2116799-05X9	Tumble Vessel	NA	NA			Y	Absent		-
L2116799-06A	Plastic 8oz unpreserved	A	NA		3.8	Y	Absent		A2-537-ISOTOPE(14),A2-TOC-9060-2REPS(28)

Project Name: TOWN OF CANTON**Lab Number:** L2116799**Project Number:** 05.0046589.02**Report Date:** 04/16/21**Container Information**

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2116799-06B	Plastic 2oz unpreserved for TS	A	NA		3.8	Y	Absent		A2-TS(7)
L2116799-06X	Plastic 250ml unpreserved Extracts	NA	NA			Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2116799-06X9	Tumble Vessel	NA	NA			Y	Absent		-
L2116799-07A	Plastic 8oz unpreserved	A	NA		3.8	Y	Absent		A2-537-ISOTOPE(14),A2-TOC-9060-2REPS(28)
L2116799-07B	Plastic 2oz unpreserved for TS	A	NA		3.8	Y	Absent		A2-TS(7)
L2116799-07X	Plastic 250ml unpreserved Extracts	NA	NA			Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2116799-07X9	Tumble Vessel	NA	NA			Y	Absent		-
L2116799-08A	Plastic 8oz unpreserved	A	NA		3.8	Y	Absent		A2-537-ISOTOPE(14),A2-TOC-9060-2REPS(28)
L2116799-08B	Plastic 2oz unpreserved for TS	A	NA		3.8	Y	Absent		A2-TS(7)
L2116799-08X	Plastic 250ml unpreserved Extracts	NA	NA			Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2116799-08X9	Tumble Vessel	NA	NA			Y	Absent		-
L2116799-09A	Plastic 8oz unpreserved	A	NA		3.8	Y	Absent		A2-537-ISOTOPE(14),A2-TOC-9060-2REPS(28)
L2116799-09B	Plastic 2oz unpreserved for TS	A	NA		3.8	Y	Absent		A2-TS(7)
L2116799-09X	Plastic 250ml unpreserved Extracts	NA	NA			Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2116799-09X9	Tumble Vessel	NA	NA			Y	Absent		-
L2116799-10A	Plastic 8oz unpreserved	A	NA		3.8	Y	Absent		A2-537-ISOTOPE(14),A2-TOC-9060-2REPS(28)
L2116799-10B	Plastic 2oz unpreserved for TS	A	NA		3.8	Y	Absent		A2-TS(7)
L2116799-10X	Plastic 250ml unpreserved Extracts	NA	NA			Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2116799-10X9	Tumble Vessel	NA	NA			Y	Absent		-
L2116799-11A	Plastic 8oz unpreserved	A	NA		3.8	Y	Absent		A2-537-ISOTOPE(14),A2-TOC-9060-2REPS(28)
L2116799-11B	Plastic 2oz unpreserved for TS	A	NA		3.8	Y	Absent		A2-TS(7)
L2116799-11X	Plastic 250ml unpreserved Extracts	NA	NA			Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2116799-11X9	Tumble Vessel	NA	NA			Y	Absent		-
L2116799-12A	Plastic 8oz unpreserved	A	NA		3.8	Y	Absent		A2-537-ISOTOPE(14),A2-TOC-9060-2REPS(28)
L2116799-12B	Plastic 2oz unpreserved for TS	A	NA		3.8	Y	Absent		A2-TS(7)
L2116799-12X	Plastic 250ml unpreserved Extracts	NA	NA			Y	Absent		A2-SPLP-537-ISOTOPE(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(*)
L2116799-12X9	Tumble Vessel	NA	NA			Y	Absent		-
L2116799-13A	Plastic 250ml unpreserved	A	NA		3.8	Y	Absent		A2-537-ISOTOPE(14)
L2116799-14A	Plastic 250ml unpreserved	A	NA		3.8	Y	Absent		A2-537-ISOTOPE(14)
L2116799-14B	Plastic 250ml unpreserved	A	NA		3.8	Y	Absent		A2-537-ISOTOPE(14)

Container Comments

L2116799-13A FB not transferred, now considered a trip blank.

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PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

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GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

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Footnotes

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

Terms

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

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

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

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

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

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

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

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

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the reporting limit (RL) for the sample.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

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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.

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REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.
- 134 Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) using Isotope Dilution. Alpha SOP 23528.

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.



Alpha Analytical, Inc.Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

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Certification Information

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

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625/625.1:** alpha-Terpineol**EPA 8260C/8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D/8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

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, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.****EPA 522, EPA 537.1.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1 Hg.****SM2340B**

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

CHAIN OF CUSTODY PAGE <u>1</u> OF <u>2</u>							Date Rec'd in Lab: <u>4/15/21</u>		ALPHA Job #: <u>W116799</u>		
Project Information							Report Information - Data Deliverables		Billing Information		
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193</p> <p>MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288</p> </div> <div style="width: 50%;"> <p>Project Name: <u>Town of Canton</u></p> <p>Project Location: <u>Canton, CT</u></p> <p>Project #: <u>05W46589.02</u></p> <p>Project Manager: <u>Richard Desrosiers</u></p> <p>ALPHA Quote #:</p> </div> </div>							<input type="checkbox"/> FAX <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> ADEx <input type="checkbox"/> Add'l Deliverables		<input checked="" type="checkbox"/> Same as Client info PO #:		
							Regulatory Requirements/Report Limits				
Client Information Client: <u>GZA</u> Address: <u>95 Glasterbury Blvd, 3rd Floor</u> <u>Glasterbury, CT 06033</u> Phone: Fax: Email: <u>richard.desrosiers@gza.com</u>							State / Fed Program		Criteria		
Turn-Around Time <input checked="" type="checkbox"/> Standard <input type="checkbox"/> RUSH (only confirmed if pre-approved) Date Due: Time:							MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO <input type="checkbox"/> Yes <input type="checkbox"/> No Are MCP Analytical Methods Required? <input type="checkbox"/> Yes <input type="checkbox"/> No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments) <input type="checkbox"/> Yes <input type="checkbox"/> No Are CT RCP (Reasonable Confidence Protocols) Required?				
							ANALYSIS <u>P/FAS</u> <u>TOC</u> <u>532.1</u>				
Other Project Specific Requirements/Comments/Detection Limits: If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed. (Note: All CAM methods for inorganic analyses require MS every 20 soil samples)							SAMPLE HANDLING Filtration <input type="checkbox"/> Done <input type="checkbox"/> Not needed <input type="checkbox"/> Lab to do Preservation <input type="checkbox"/> Lab to do (Please specify below)				
These samples have been previously analyzed by Alpha							TOTAL # BOTTLES				
ALPHA Lab ID (Lab Use Only)		Sample ID		Collection		Sample Matrix	Sampler's Initials				
				Date	Time						
<u>16799-01</u>		<u>GZ-101 S (0-2')</u>		<u>4.2.21</u>	<u>850</u>	<u>S</u>	<u>TL</u>	<u>X</u>	<u>X</u>		
<u>-02</u>		<u>GZ-101 D (2-3.7')</u>		<u>4.2.21</u>	<u>945</u>	<u>S</u>	<u>TL</u>	<u>X</u>	<u>X</u>		
<u>-03</u>		<u>GZ-102 S (0-2')</u>		<u>4.2.21</u>	<u>1010</u>	<u>S</u>	<u>TL</u>	<u>X</u>	<u>X</u>		
<u>-04</u>		<u>GZ-103 S (0-2')</u>		<u>4.2.21</u>	<u>1030</u>	<u>S</u>	<u>TL</u>	<u>X</u>	<u>X</u>		
<u>-05</u>		<u>GZ-104 S (0-2')</u>		<u>4.2.21</u>	<u>1120</u>	<u>S</u>	<u>TL</u>	<u>X</u>	<u>X</u>		
<u>-06</u>		<u>GZ-105 S (0-2')</u>		<u>4.2.21</u>	<u>1135</u>	<u>S</u>	<u>TL</u>	<u>X</u>	<u>X</u>		
<u>-07</u>		<u>GZ-106 S (0-2')</u>		<u>4.2.21</u>	<u>1150</u>	<u>S</u>	<u>TL</u>	<u>X</u>	<u>X</u>		
<u>-08</u>		<u>GZ-107 S (0-2')</u>		<u>4.2.21</u>	<u>1210</u>	<u>S</u>	<u>TL</u>	<u>X</u>	<u>X</u>		
<u>-09</u>		<u>GZ-108 S (0-2')</u>		<u>4.2.21</u>	<u>1310</u>	<u>S</u>	<u>TL</u>	<u>X</u>	<u>X</u>		
<u>-10</u>		<u>GZ-109 S (0-2')</u>		<u>4.2.21</u>	<u>1337</u>	<u>S</u>	<u>TL</u>	<u>X</u>	<u>X</u>		
PLEASE ANSWER QUESTIONS ABOVE! IS YOUR PROJECT MA MCP or CT RCP?							Container Type <u>P D</u> Preservative <u>None</u>		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 Terms and Conditions. See reverse side.		
Relinquished By: <u>[Signature]</u> Date/Time: <u>4/22/1415</u> <u>4/15/21 09:15</u>							Received By: <u>[Signature]</u> <u>Malina Wood</u> <u>T. H. Smith</u>		Date/Time: <u>4/22/1615</u> <u>4/15/21 1815</u> <u>4/15/21 0915</u>		

[illegible]



ANALYTICAL REPORT

Lab Number:	L2118991
Client:	GZA GeoEnvironmental, Inc. 95 Glastonbury Blvd. 3rd Floor Glastonbury, CT 06033
ATTN:	Richard Desrosiers
Phone:	(860) 858-3130
Project Name:	TOWN OF CANTON
Project Number:	05.0046589.02
Report Date:	04/29/21

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-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2118991-01	GZ-107(3.8-5.3')	SOIL	CANTON, CT	04/14/21 08:38	04/14/21
L2118991-02	GZ-108(3.5-5')	SOIL	CANTON, CT	04/14/21 08:55	04/14/21
L2118991-03	GZ-110(3.7-5.2')	SOIL	CANTON, CT	04/14/21 09:08	04/14/21
L2118991-04	GZ-109(3.2-4.7')	SOIL	CANTON, CT	04/14/21 09:31	04/14/21
L2118991-05	GZ-111(3-4.3')	SOIL	CANTON, CT	04/14/21 10:00	04/14/21

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Case Narrative

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

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

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

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

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

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

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Case Narrative (continued)

Sample Receipt

L2118991-01 through -05: The sample was received in an inappropriate container for the PFAAs via LCMSMS-Isotope Dilution, Total Organic Carbon-EPA 9060A (2 reps) analysis.

Perfluorinated Alkyl Acids by Isotope Dilution

L2118991-01, -01RE, -02, -03RE, -04RE and -05RE: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

L2118991-01: The surrogate recoveries were outside the acceptance criteria (less than 10%) for n-deuteriomethylperfluoro-1-octanesulfonamidoacetic acid (d3-nmefosaa) (1%) and n-deuterioethylperfluoro-1-octanesulfonamidoacetic acid (d5-netfosaa) (1%); however, re-extraction at lesser sample weight achieved similar results. The results of both extractions are reported; however, all associated compounds are considered to have a potential bias.

L2118991-01RE: The sample has elevated detection limits due to the limited sample volume utilized during extraction, as required by the sample matrix.

L2118991-03, -04, and -05RE: The sample was re-extracted with less sample weight within holding time due to several Extracted Internal Standards recovering <10%. The re-extraction resulted in an increase in EIS recoveries therefore the re-extraction is reported.

L2118991-03RE, -04RE, and -05RE: The sample has elevated detection limits due to the dilution required by the sample matrix.

WG1487098-1, WG1487098-2, WG1488287-1, and WG1488287-2: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

SPLP Perfluorinated Alkyl Acids by Isotope Dilution

L2118991-03, -04, and -05: The sample was re-extracted on dilution in order to quantify the results within the calibration range. The result(s) should be considered estimated, and are qualified with an E flag, for any compound(s) that exceeded the calibration range in the initial analysis. The re-extraction was performed only

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Case Narrative (continued)

for the compound(s) that exceeded the calibration range.

L2118991-03RE, -04RE, and -05RE: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

L2118991-03 and -04: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

WG1489721-3: This blank represents the SPLP tumbling blank associated with L2118991-01 through -05.

WG1490726-5: This blank represents the SPLP tumbling blank associated with L2118991-03RE, -04RE and -05RE.

WG1490726-1, WG1490726-2, and WG1490726-5: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

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:



Alycia Mogayzel

Title: Technical Director/Representative

Date: 04/29/21

ORGANICS

SEMIVOLATILES

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

SAMPLE RESULTS

Lab ID: L2118991-01
Client ID: GZ-107(3.8-5.3')
Sample Location: CANTON, CT

Date Collected: 04/14/21 08:38
Date Received: 04/14/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/24/21 21:41
Analyst: SG
Percent Solids: 81%
TCLP/SPLP Ext. Date: 04/21/21 17:20

Extraction Method: ALPHA 23528
Extraction Date: 04/23/21 04:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.85	--	1
Perfluoropentanoic Acid (PFPeA)	3.88		ng/l	1.85	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.85	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.85	--	1
Perfluorohexanoic Acid (PFHxA)	3.55		ng/l	1.85	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.85	--	1
Perfluoroheptanoic Acid (PFHpA)	2.93		ng/l	1.85	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.85	--	1
Perfluorooctanoic Acid (PFOA)	7.88		ng/l	1.85	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.85	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.85	--	1
Perfluorononanoic Acid (PFNA)	17.5		ng/l	1.85	--	1
Perfluorooctanesulfonic Acid (PFOS)	13.4		ng/l	1.85	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.85	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.85	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.85	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.85	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.85	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.85	--	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.85	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.85	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.85	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.85	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.85	--	1

Project Name: TOWN OF CANTON**Lab Number:** L2118991**Project Number:** 05.0046589.02**Report Date:** 04/29/21**SAMPLE RESULTS**

Lab ID: L2118991-01

Date Collected: 04/14/21 08:38

Client ID: GZ-107(3.8-5.3')

Date Received: 04/14/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	83		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	109		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	107		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	87		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	87		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	90		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	94		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	91		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	97		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	90		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	97		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	90		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	97		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	58		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	103		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	34		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	68		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	102		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	93		22-136

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

SAMPLE RESULTS

Lab ID: L2118991-01
Client ID: GZ-107(3.8-5.3')
Sample Location: CANTON, CT

Date Collected: 04/14/21 08:38
Date Received: 04/14/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/17/21 15:31
Analyst: MP
Percent Solids: 81%

Extraction Method: ALPHA 23528
Extraction Date: 04/16/21 11:48

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.570	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.570	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.285	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.14	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.570	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.14	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.285	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.285	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.285	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.570	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.570	--	1
Perfluorononanoic Acid (PFNA)	0.450		ng/g	0.285	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.285	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.285	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.570	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.14	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.570	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.570	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.570	--	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.570	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.570	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.570	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.570	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.570	--	1

Project Name: TOWN OF CANTON

Lab Number: L2118991

Project Number: 05.0046589.02

Report Date: 04/29/21

SAMPLE RESULTS

Lab ID: L2118991-01
 Client ID: GZ-107(3.8-5.3')
 Sample Location: CANTON, CT

Date Collected: 04/14/21 08:38
 Date Received: 04/14/21
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	30	Q	61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	24	Q	58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	40	Q	74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	31		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	26	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	27	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	46	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	31	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	49		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	31	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	43	Q	79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	31	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	64		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	1	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	30	Q	61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	71		10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	1	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	33	Q	54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	17	Q	24-159

Project Name: TOWN OF CANTON**Lab Number:** L2118991**Project Number:** 05.0046589.02**Report Date:** 04/29/21**SAMPLE RESULTS**

Lab ID: L2118991-01 RE

Date Collected: 04/14/21 08:38

Client ID: GZ-107(3.8-5.3')

Date Received: 04/14/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 04/20/21 08:58

Analytical Date: 04/23/21 02:44

Analyst: MP

Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	2.22	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	2.22	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	1.11	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	4.45	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	2.22	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	4.45	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	1.11	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	1.11	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/g	1.11	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	2.22	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	2.22	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	1.11	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	1.11	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	1.11	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	2.22	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	4.45	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	2.22	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	2.22	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	2.22	--	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	2.22	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	2.22	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	2.22	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	2.22	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	2.22	--	1

Project Name: TOWN OF CANTON**Lab Number:** L2118991**Project Number:** 05.0046589.02**Report Date:** 04/29/21**SAMPLE RESULTS**

Lab ID: L2118991-01 RE

Date Collected: 04/14/21 08:38

Client ID: GZ-107(3.8-5.3')

Date Received: 04/14/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	55	Q	61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	45	Q	58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	74		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	91		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	47	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	52	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	85		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	57	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	150		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	55	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	79		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	63	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	172		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	1	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	67		61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	94		10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	4	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	70		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	62		24-159

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

SAMPLE RESULTS

Lab ID: L2118991-02
Client ID: GZ-108(3.5-5')
Sample Location: CANTON, CT

Date Collected: 04/14/21 08:55
Date Received: 04/14/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/24/21 22:14
Analyst: SG
Percent Solids: 85%
TCLP/SPLP Ext. Date: 04/21/21 17:20

Extraction Method: ALPHA 23528
Extraction Date: 04/23/21 04:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	5.70		ng/l	1.84	--	1
Perfluoropentanoic Acid (PFPeA)	13.3		ng/l	1.84	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.84	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.84	--	1
Perfluorohexanoic Acid (PFHxA)	8.54		ng/l	1.84	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.84	--	1
Perfluoroheptanoic Acid (PFHpA)	14.9		ng/l	1.84	--	1
Perfluorohexanesulfonic Acid (PFHxS)	11.3		ng/l	1.84	--	1
Perfluorooctanoic Acid (PFOA)	34.4		ng/l	1.84	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.84	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.84	--	1
Perfluorononanoic Acid (PFNA)	5.76		ng/l	1.84	--	1
Perfluorooctanesulfonic Acid (PFOS)	28.9		ng/l	1.84	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.84	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.84	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.84	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.84	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.84	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.84	--	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.84	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.84	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.84	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.84	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.84	--	1

Project Name: TOWN OF CANTON**Lab Number:** L2118991**Project Number:** 05.0046589.02**Report Date:** 04/29/21**SAMPLE RESULTS****Lab ID:** L2118991-02**Date Collected:** 04/14/21 08:55**Client ID:** GZ-108(3.5-5')**Date Received:** 04/14/21**Sample Location:** CANTON, CT**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	76		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	100		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	99		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	67		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	76		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	80		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	102		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	81		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	91		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	83		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	93		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	83		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	90		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	61		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	98		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	21		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	84		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	96		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	89		22-136

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

SAMPLE RESULTS

Lab ID: L2118991-02
Client ID: GZ-108(3.5-5')
Sample Location: CANTON, CT

Date Collected: 04/14/21 08:55
Date Received: 04/14/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/17/21 15:48
Analyst: MP
Percent Solids: 85%

Extraction Method: ALPHA 23528
Extraction Date: 04/16/21 11:48

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.534	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.534	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.267	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.07	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.534	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.07	--	1
Perfluoroheptanoic Acid (PFHpA)	0.308		ng/g	0.267	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.267	--	1
Perfluorooctanoic Acid (PFOA)	0.731		ng/g	0.267	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.534	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.534	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.267	--	1
Perfluorooctanesulfonic Acid (PFOS)	0.620		ng/g	0.267	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.267	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.534	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.07	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.534	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.534	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.534	--	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.534	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.534	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.534	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.534	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.534	--	1

Project Name: TOWN OF CANTON**Lab Number:** L2118991**Project Number:** 05.0046589.02**Report Date:** 04/29/21**SAMPLE RESULTS****Lab ID:** L2118991-02**Date Collected:** 04/14/21 08:55**Client ID:** GZ-108(3.5-5')**Date Received:** 04/14/21**Sample Location:** CANTON, CT**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Surrogate (Extracted Internal Standard)	% Recovery		Qualifier	Acceptance Criteria		
Perfluoro[13C4]Butanoic Acid (MPFBA)	92			61-135		
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	74			58-150		
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	92			74-139		
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	91			14-167		
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	78			66-128		
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	83			71-129		
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	104			78-139		
Perfluoro[13C8]Octanoic Acid (M8PFOA)	87			75-130		
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	152			20-154		
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	92			72-140		
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	100			79-136		
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	93			75-130		
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	194		Q	19-175		
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	26		Q	31-134		
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	98			61-155		
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	74			10-117		
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	32		Q	34-137		
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	100			54-150		
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	99			24-159		

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

SAMPLE RESULTS

Lab ID: L2118991-03
Client ID: GZ-110(3.7-5.2')
Sample Location: CANTON, CT

Date Collected: 04/14/21 09:08
Date Received: 04/14/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/24/21 22:47
Analyst: SG
Percent Solids: 81%
TCLP/SPLP Ext. Date: 04/21/21 17:20

Extraction Method: ALPHA 23528
Extraction Date: 04/23/21 04:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	33.2		ng/l	1.85	--	1
Perfluoropentanoic Acid (PFPeA)	173		ng/l	1.85	--	1
Perfluorobutanesulfonic Acid (PFBS)	33.9		ng/l	1.85	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.85	--	1
Perfluorohexanoic Acid (PFHxA)	157		ng/l	1.85	--	1
Perfluoropentanesulfonic Acid (PFPeS)	146		ng/l	1.85	--	1
Perfluoroheptanoic Acid (PFHpA)	155		ng/l	1.85	--	1
Perfluorohexanesulfonic Acid (PFHxS)	1330	E	ng/l	1.85	--	1
Perfluorooctanoic Acid (PFOA)	238		ng/l	1.85	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	226		ng/l	1.85	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	213		ng/l	1.85	--	1
Perfluorononanoic Acid (PFNA)	341		ng/l	1.85	--	1
Perfluorooctanesulfonic Acid (PFOS)	5280	E	ng/l	1.85	--	1
Perfluorodecanoic Acid (PFDA)	43.5		ng/l	1.85	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	21.9		ng/l	1.85	--	1
Perfluorononanesulfonic Acid (PFNS)	2.68		ng/l	1.85	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.85	--	1
Perfluoroundecanoic Acid (PFUnA)	7.71		ng/l	1.85	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.85	--	1
Perfluorooctanesulfonamide (FOSA)	8.60	F	ng/l	1.85	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.85	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.85	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.85	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.85	--	1

Project Name: TOWN OF CANTON**Lab Number:** L2118991**Project Number:** 05.0046589.02**Report Date:** 04/29/21**SAMPLE RESULTS**

Lab ID: L2118991-03

Date Collected: 04/14/21 09:08

Client ID: GZ-110(3.7-5.2')

Date Received: 04/14/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	82		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	102		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	177	Q	70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	128		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	85		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	88		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	115		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	86		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	173	Q	14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	75		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	87		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	81		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	142		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	64		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	84		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	39		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	58		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	86		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	86		22-136

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

SAMPLE RESULTS

Lab ID: L2118991-03 RE
Client ID: GZ-110(3.7-5.2')
Sample Location: CANTON, CT

Date Collected: 04/14/21 09:08
Date Received: 04/14/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/27/21 19:30
Analyst: RS
Percent Solids: 81%
TCLP/SPLP Ext. Date: 04/21/21 17:20

Extraction Method: ALPHA 23528
Extraction Date: 04/26/21 11:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab						
Perfluorohexanesulfonic Acid (PFHxS)	2020		ng/l	40.0	--	1
Perfluorooctanesulfonic Acid (PFOS)	3930		ng/l	40.0	--	1

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	122		71-134
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	105		69-131

Project Name: TOWN OF CANTON**Lab Number:** L2118991**Project Number:** 05.0046589.02**Report Date:** 04/29/21**SAMPLE RESULTS**

Lab ID: L2118991-03 RE

Date Collected: 04/14/21 09:08

Client ID: GZ-110(3.7-5.2')

Date Received: 04/14/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 04/20/21 08:58

Analytical Date: 04/23/21 03:00

Analyst: MP

Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	2.17	--	1
Perfluoropentanoic Acid (PFPeA)	4.88		ng/g	2.17	--	1
Perfluorobutanesulfonic Acid (PFBS)	1.23		ng/g	1.08	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	4.34	--	1
Perfluorohexanoic Acid (PFHxA)	4.44		ng/g	2.17	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	4.34	--	1
Perfluoroheptanoic Acid (PFHpA)	4.46		ng/g	1.08	--	1
Perfluorohexanesulfonic Acid (PFHxS)	58.0		ng/g	1.08	--	1
Perfluorooctanoic Acid (PFOA)	7.68		ng/g	1.08	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	7.61		ng/g	2.17	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	3.92		ng/g	2.17	--	1
Perfluorononanoic Acid (PFNA)	15.7		ng/g	1.08	--	1
Perfluorooctanesulfonic Acid (PFOS)	266		ng/g	1.08	--	1
Perfluorodecanoic Acid (PFDA)	5.04		ng/g	1.08	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	2.17	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	4.34	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	2.17	--	1
Perfluoroundecanoic Acid (PFUnA)	3.16		ng/g	2.17	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	2.17	--	1
Perfluorooctanesulfonamide (FOSA)	2.31	F	ng/g	2.17	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	2.17	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	2.17	--	1
Perfluorotridecanoic Acid (PFTTrDA)	ND		ng/g	2.17	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	2.17	--	1

Project Name: TOWN OF CANTON**Lab Number:** L2118991**Project Number:** 05.0046589.02**Report Date:** 04/29/21**SAMPLE RESULTS**

Lab ID: L2118991-03 RE

Date Collected: 04/14/21 09:08

Client ID: GZ-110(3.7-5.2')

Date Received: 04/14/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	76		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	64		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	103		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	128		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	75		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	81		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	119		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	91		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	207	Q	20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	86		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	110		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	92		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	248	Q	19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	6	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	99		61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	10		10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	10	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	103		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	86		24-159

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

SAMPLE RESULTS

Lab ID: L2118991-04
Client ID: GZ-109(3.2-4.7')
Sample Location: CANTON, CT

Date Collected: 04/14/21 09:31
Date Received: 04/14/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/24/21 23:04
Analyst: SG
Percent Solids: 81%

Extraction Method: ALPHA 23528
Extraction Date: 04/23/21 04:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	14.9		ng/l	1.82	--	1
Perfluoropentanoic Acid (PFPeA)	32.9		ng/l	1.82	--	1
Perfluorobutanesulfonic Acid (PFBS)	3.76		ng/l	1.82	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.82	--	1
Perfluorohexanoic Acid (PFHxA)	55.9		ng/l	1.82	--	1
Perfluoropentanesulfonic Acid (PFPeS)	24.9		ng/l	1.82	--	1
Perfluoroheptanoic Acid (PFHpA)	29.2		ng/l	1.82	--	1
Perfluorohexanesulfonic Acid (PFHxS)	496	E	ng/l	1.82	--	1
Perfluorooctanoic Acid (PFOA)	56.3		ng/l	1.82	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	61.3		ng/l	1.82	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	54.1		ng/l	1.82	--	1
Perfluorononanoic Acid (PFNA)	236		ng/l	1.82	--	1
Perfluorooctanesulfonic Acid (PFOS)	9500	E	ng/l	1.82	--	1
Perfluorodecanoic Acid (PFDA)	50.3		ng/l	1.82	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	11.4		ng/l	1.82	--	1
Perfluorononanesulfonic Acid (PFNS)	5.48		ng/l	1.82	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.82	--	1
Perfluoroundecanoic Acid (PFUnA)	5.16		ng/l	1.82	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.82	--	1
Perfluorooctanesulfonamide (FOSA)	13.4	F	ng/l	1.82	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.82	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.82	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.82	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.82	--	1

Project Name: TOWN OF CANTON**Lab Number:** L2118991**Project Number:** 05.0046589.02**Report Date:** 04/29/21**SAMPLE RESULTS****Lab ID:** L2118991-04**Date Collected:** 04/14/21 09:31**Client ID:** GZ-109(3.2-4.7')**Date Received:** 04/14/21**Sample Location:** CANTON, CT**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	76		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	101		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	274	Q	70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	182	Q	12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	80		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	87		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	236	Q	71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	89		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	241	Q	14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	72		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	97		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	86		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	225	Q	10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	67		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	94		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	21		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	60		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	97		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	91		22-136

Project Name: TOWN OF CANTON**Lab Number:** L2118991**Project Number:** 05.0046589.02**Report Date:** 04/29/21**SAMPLE RESULTS**

Lab ID: L2118991-04 RE

Date Collected: 04/14/21 09:31

Client ID: GZ-109(3.2-4.7')

Date Received: 04/14/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: ALPHA 23528

Analytical Method: 134,LCMSMS-ID

Extraction Date: 04/20/21 08:58

Analytical Date: 04/23/21 03:17

Analyst: MP

Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	2.20	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	2.20	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	1.10	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	4.40	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	2.20	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	4.40	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	1.10	--	1
Perfluorohexanesulfonic Acid (PFHxS)	14.3		ng/g	1.10	--	1
Perfluorooctanoic Acid (PFOA)	1.77		ng/g	1.10	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	2.20	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	2.20	--	1
Perfluorononanoic Acid (PFNA)	8.23		ng/g	1.10	--	1
Perfluorooctanesulfonic Acid (PFOS)	327		ng/g	1.10	--	1
Perfluorodecanoic Acid (PFDA)	2.78		ng/g	1.10	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	2.20	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	4.40	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	2.20	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	2.20	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	2.20	--	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	2.20	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	2.20	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	2.20	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	2.20	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	2.20	--	1

Project Name: TOWN OF CANTON**Lab Number:** L2118991**Project Number:** 05.0046589.02**Report Date:** 04/29/21**SAMPLE RESULTS**

Lab ID: L2118991-04 RE

Date Collected: 04/14/21 09:31

Client ID: GZ-109(3.2-4.7')

Date Received: 04/14/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	49	Q	61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	41	Q	58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	86		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	69		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	45	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	50	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	102		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	53	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	115		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	52	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	92		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	57	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	133		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	0	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	60	Q	61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	56		10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	2	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	65		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	55		24-159

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

SAMPLE RESULTS

Lab ID: L2118991-04 RE
 Client ID: GZ-109(3.2-4.7')
 Sample Location: CANTON, CT

Date Collected: 04/14/21 09:31
 Date Received: 04/14/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 134,LCMSMS-ID
 Analytical Date: 04/28/21 15:29
 Analyst: RS
 Percent Solids: 81%

Extraction Method: ALPHA 23528
 Extraction Date: 04/26/21 11:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab

Perfluorohexanesulfonic Acid (PFHxS)	470		ng/l	40.0	--	1
Perfluorooctanesulfonic Acid (PFOS)	7660		ng/l	40.0	--	1

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	116		71-134
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	96		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	104		69-131

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

SAMPLE RESULTS

Lab ID: L2118991-05
Client ID: GZ-111(3-4.3')
Sample Location: CANTON, CT

Date Collected: 04/14/21 10:00
Date Received: 04/14/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/24/21 23:20
Analyst: SG
Percent Solids: 75%

Extraction Method: ALPHA 23528
Extraction Date: 04/23/21 04:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	8.78		ng/l	1.86	--	1
Perfluoropentanoic Acid (PFPeA)	17.7		ng/l	1.86	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.86	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.86	--	1
Perfluorohexanoic Acid (PFHxA)	9.73		ng/l	1.86	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.86	--	1
Perfluoroheptanoic Acid (PFHpA)	12.0		ng/l	1.86	--	1
Perfluorohexanesulfonic Acid (PFHxS)	37.7		ng/l	1.86	--	1
Perfluorooctanoic Acid (PFOA)	38.9		ng/l	1.86	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	3.48	F	ng/l	1.86	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	6.86		ng/l	1.86	--	1
Perfluorononanoic Acid (PFNA)	412	E	ng/l	1.86	--	1
Perfluorooctanesulfonic Acid (PFOS)	196		ng/l	1.86	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.86	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.86	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.86	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.86	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.86	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.86	--	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.86	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.86	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.86	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.86	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.86	--	1

Project Name: TOWN OF CANTON**Lab Number:** L2118991**Project Number:** 05.0046589.02**Report Date:** 04/29/21**SAMPLE RESULTS****Lab ID:** L2118991-05**Date Collected:** 04/14/21 10:00**Client ID:** GZ-111(3-4.3')**Date Received:** 04/14/21**Sample Location:** CANTON, CT**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	74		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	97		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	110		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	77		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	80		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	86		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	99		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	86		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	89		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	73		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	91		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	85		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	83		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	51		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	96		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	25		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	62		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	91		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	84		22-136

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

SAMPLE RESULTS

Lab ID: L2118991-05 RE
 Client ID: GZ-111(3-4.3')
 Sample Location: CANTON, CT

Date Collected: 04/14/21 10:00
 Date Received: 04/14/21
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 134,LCMSMS-ID
 Analytical Date: 04/27/21 20:20
 Analyst: RS
 Percent Solids: 75%
 TCLP/SPLP Ext. Date: 04/21/21 17:20

Extraction Method: ALPHA 23528
 Extraction Date: 04/26/21 11:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab						
Perfluorononanoic Acid (PFNA)	368		ng/l	20.0	--	1
Surrogate (Extracted Internal Standard)	% Recovery		Qualifier	Acceptance Criteria		
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	95			59-139		

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

SAMPLE RESULTS

Lab ID: L2118991-05 RE
Client ID: GZ-111(3-4.3')
Sample Location: CANTON, CT

Date Collected: 04/14/21 10:00
Date Received: 04/14/21
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/23/21 03:33
Analyst: MP
Percent Solids: 75%

Extraction Method: ALPHA 23528
Extraction Date: 04/20/21 08:58

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/g	2.39	--	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	2.39	--	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	1.19	--	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	4.78	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	2.39	--	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	4.78	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	1.19	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	1.19	--	1
Perfluorooctanoic Acid (PFOA)	1.46		ng/g	1.19	--	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	2.39	--	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	2.39	--	1
Perfluorononanoic Acid (PFNA)	14.2		ng/g	1.19	--	1
Perfluorooctanesulfonic Acid (PFOS)	6.68		ng/g	1.19	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/g	1.19	--	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	2.39	--	1
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	4.78	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	2.39	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	2.39	--	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	2.39	--	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	2.39	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	2.39	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	2.39	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	2.39	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	2.39	--	1

Project Name: TOWN OF CANTON**Lab Number:** L2118991**Project Number:** 05.0046589.02**Report Date:** 04/29/21**SAMPLE RESULTS**

Lab ID: L2118991-05 RE

Date Collected: 04/14/21 10:00

Client ID: GZ-111(3-4.3')

Date Received: 04/14/21

Sample Location: CANTON, CT

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	20	Q	61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	16	Q	58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	34	Q	74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	29		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	18	Q	66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	20	Q	71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	38	Q	78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	21	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	51		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	22	Q	72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	39	Q	79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	23	Q	75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	56		19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	0	Q	31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	24	Q	61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	90		10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	1	Q	34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	27	Q	54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	23	Q	24-159

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/17/21 13:52
Analyst: MP

Extraction Method: ALPHA 23528
Extraction Date: 04/16/21 11:48

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-02 Batch: WG1487098-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.500	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.500	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.250	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.500	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.250	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.250	--
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.250	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.500	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.500	--
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.250	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.250	--
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.250	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.500	--
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.500	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.500	--
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.500	--
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.500	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.500	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.500	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.500	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.500	--

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID
 Analytical Date: 04/17/21 13:52
 Analyst: MP

Extraction Method: ALPHA 23528
 Extraction Date: 04/16/21 11:48

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-02 Batch: WG1487098-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	97		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	78		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	94		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	81		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	83		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	86		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	108		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	97		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	145		20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	97		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	105		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	98		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	188	Q	19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	83		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	109		61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	62		10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	103		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	101		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	100		24-159

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/23/21 02:11
Analyst: MP

Extraction Method: ALPHA 23528
Extraction Date: 04/20/21 08:58

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01,03-05 Batch: WG1488287-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/g	0.500	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/g	0.500	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/g	0.250	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/g	1.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/g	0.500	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/g	1.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/g	0.250	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/g	0.250	--
Perfluorooctanoic Acid (PFOA)	ND		ng/g	0.250	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/g	0.500	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/g	0.500	--
Perfluorononanoic Acid (PFNA)	ND		ng/g	0.250	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/g	0.250	--
Perfluorodecanoic Acid (PFDA)	ND		ng/g	0.250	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/g	0.500	--
Perfluorononanesulfonic Acid (PFNS)	ND		ng/g	1.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/g	0.500	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/g	0.500	--
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/g	0.500	--
Perfluorooctanesulfonamide (FOSA)	ND		ng/g	0.500	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/g	0.500	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/g	0.500	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/g	0.500	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/g	0.500	--

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/23/21 02:11
Analyst: MP

Extraction Method: ALPHA 23528
Extraction Date: 04/20/21 08:58

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01,03-05 Batch: WG1488287-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	111		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	88		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	106		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	165		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	93		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	100		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	118		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	110		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	255	Q	20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	105		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	120		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	112		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	279	Q	19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	98		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	117		61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	29		10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	105		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	119		54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	108		24-159

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/24/21 20:51
Analyst: SG
TCLP/SPLP Extraction Date:

Extraction Method: ALPHA 23528
Extraction Date: 04/23/21 04:14

Parameter	Result	Qualifier	Units	RL	MDL
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab for sample(s): 01-05 Batch: WG1489721-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.00	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	--
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	--
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/24/21 20:51
Analyst: SG
TCLP/SPLP Extraction Date:

Extraction Method: ALPHA 23528
Extraction Date: 04/23/21 04:14

Parameter	Result	Qualifier	Units	RL	MDL
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab for sample(s): 01-05 Batch: WG1489721-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	98		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	127		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	106		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	87		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	97		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	97		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	99		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	97		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	100		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	94		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	96		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	95		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	99		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	75		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	103		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	65		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	79		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	104		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	95		22-136

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID
 Analytical Date: 04/24/21 21:08
 Analyst: SG
 TCLP/SPLP Extraction Date: 04/21/21 17:20

Extraction Method: ALPHA 23528
 Extraction Date: 04/23/21 04:14

Parameter	Result	Qualifier	Units	RL	MDL
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab for sample(s): 01-05 Batch: WG1489721-3					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.85	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.85	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.85	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.85	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.85	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.85	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.85	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.85	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.85	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.85	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.85	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.85	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.85	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.85	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.85	--
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.85	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.85	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.85	--
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.85	--
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.85	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.85	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.85	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.85	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.85	--

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID
 Analytical Date: 04/24/21 21:08
 Analyst: SG
 TCLP/SPLP Extraction Date: 04/21/21 17:20

Extraction Method: ALPHA 23528
 Extraction Date: 04/23/21 04:14

Parameter	Result	Qualifier	Units	RL	MDL
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab for sample(s): 01-05 Batch: WG1489721-3					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	83		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	111		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	108		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	82		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	86		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	93		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	117		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	95		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	97		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	95		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	99		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	89		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	92		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	69		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	101		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	29		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	72		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	97		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	98		22-136

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/27/21 18:41
Analyst: RS
TCLP/SPLP Extraction Date:

Extraction Method: ALPHA 23528
Extraction Date: 04/26/21 11:15

Parameter	Result	Qualifier	Units	RL	MDL
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab for sample(s): 03-05 Batch: WG1490726-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.00	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	--
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	--
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID
 Analytical Date: 04/27/21 18:41
 Analyst: RS
 TCLP/SPLP Extraction Date:

Extraction Method: ALPHA 23528
 Extraction Date: 04/26/21 11:15

Parameter	Result	Qualifier	Units	RL	MDL
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab for sample(s): 03-05 Batch: WG1490726-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	106		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	181	Q	62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	153	Q	70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	102		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	119		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	113		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	132		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	106		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	101		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	95		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	105		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	99		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	107		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	56		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	105		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	49		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	62		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	98		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	86		22-136

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/27/21 18:57
Analyst: RS
TCLP/SPLP Extraction Date: 04/21/21 17:20

Extraction Method: ALPHA 23528
Extraction Date: 04/26/21 11:15

Parameter	Result	Qualifier	Units	RL	MDL
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab for sample(s): 03-05 Batch: WG1490726-5					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.74	--
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.74	--
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.74	--
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.74	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.74	--
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.74	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.74	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.74	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.74	--
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.74	--
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.74	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.74	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.74	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.74	--
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.74	--
Perfluorononanesulfonic Acid (PFNS)	ND		ng/l	1.74	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.74	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.74	--
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.74	--
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.74	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.74	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.74	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.74	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.74	--

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Method Blank Analysis Batch Quality Control

Analytical Method: 134,LCMSMS-ID
 Analytical Date: 04/27/21 18:57
 Analyst: RS
 TCLP/SPLP Extraction Date: 04/21/21 17:20

Extraction Method: ALPHA 23528
 Extraction Date: 04/26/21 11:15

Parameter	Result	Qualifier	Units	RL	MDL
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab for sample(s): 03-05 Batch: WG1490726-5					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	79		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	124		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	148	Q	70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	89		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	92		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	92		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	126		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	92		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	98		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	89		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	110		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	96		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	106		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	49		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	109		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	16		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	48		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	95		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	84		22-136

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2118991

Report Date: 04/29/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-02 Batch: WG1487098-2								
Perfluorobutanoic Acid (PFBA)	104		-		71-135	-		30
Perfluoropentanoic Acid (PFPeA)	105		-		69-132	-		30
Perfluorobutanesulfonic Acid (PFBS)	116		-		72-128	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	128		-		62-145	-		30
Perfluorohexanoic Acid (PFHxA)	109		-		70-132	-		30
Perfluoropentanesulfonic Acid (PFPeS)	97		-		73-123	-		30
Perfluoroheptanoic Acid (PFHpA)	110		-		71-131	-		30
Perfluorohexanesulfonic Acid (PFHxS)	103		-		67-130	-		30
Perfluorooctanoic Acid (PFOA)	111		-		69-133	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	115		-		64-140	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	109		-		70-132	-		30
Perfluorononanoic Acid (PFNA)	113		-		72-129	-		30
Perfluorooctanesulfonic Acid (PFOS)	109		-		68-136	-		30
Perfluorodecanoic Acid (PFDA)	111		-		69-133	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	114		-		65-137	-		30
Perfluorononanesulfonic Acid (PFNS)	110		-		69-125	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	111		-		63-144	-		30
Perfluoroundecanoic Acid (PFUnA)	126		-		64-136	-		30
Perfluorodecanesulfonic Acid (PFDS)	119		-		59-134	-		30
Perfluorooctanesulfonamide (FOSA)	106		-		67-137	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	109		-		61-139	-		30
Perfluorododecanoic Acid (PFDoA)	95		-		69-135	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Parameter	LCS %Recovery	Qual	LCS %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-02 Batch: WG1487098-2								
Perfluorotridecanoic Acid (PFTTrDA)	120		-		66-139	-		30
Perfluorotetradecanoic Acid (PFTA)	115		-		69-133	-		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCS %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	98				61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	77				58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	93				74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	85				14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	87				66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	87				71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	103				78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	95				75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	152				20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	97				72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	101				79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	96				75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	181	Q			19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	84				31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	91				61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	72				10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	87				34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	106				54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	119				24-159

Lab Control Sample Analysis **Batch Quality Control**

Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2118991

Report Date: 04/29/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01,03-05 Batch: WG1488287-2								
Perfluorobutanoic Acid (PFBA)	107		-		71-135	-		30
Perfluoropentanoic Acid (PFPeA)	106		-		69-132	-		30
Perfluorobutanesulfonic Acid (PFBS)	112		-		72-128	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	118		-		62-145	-		30
Perfluorohexanoic Acid (PFHxA)	108		-		70-132	-		30
Perfluoropentanesulfonic Acid (PFPeS)	95		-		73-123	-		30
Perfluoroheptanoic Acid (PFHpA)	106		-		71-131	-		30
Perfluorohexanesulfonic Acid (PFHxS)	98		-		67-130	-		30
Perfluorooctanoic Acid (PFOA)	108		-		69-133	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	119		-		64-140	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	102		-		70-132	-		30
Perfluorononanoic Acid (PFNA)	117		-		72-129	-		30
Perfluorooctanesulfonic Acid (PFOS)	108		-		68-136	-		30
Perfluorodecanoic Acid (PFDA)	119		-		69-133	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	125		-		65-137	-		30
Perfluorononanesulfonic Acid (PFNS)	95		-		69-125	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	114		-		63-144	-		30
Perfluoroundecanoic Acid (PFUnA)	114		-		64-136	-		30
Perfluorodecanesulfonic Acid (PFDS)	113		-		59-134	-		30
Perfluorooctanesulfonamide (FOSA)	106		-		67-137	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	97		-		61-139	-		30
Perfluorododecanoic Acid (PFDoA)	102		-		69-135	-		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: TOWN OF CANTON

Lab Number: L2118991

Project Number: 05.0046589.02

Report Date: 04/29/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01,03-05 Batch: WG1488287-2								
Perfluorotridecanoic Acid (PFTTrDA)	109		-		66-139	-		30
Perfluorotetradecanoic Acid (PFTA)	112		-		69-133	-		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	112				61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	89				58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	103				74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	162				14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	95				66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	102				71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	119				78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	109				75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	238	Q			20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	105				72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	117				79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	108				75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	258	Q			19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	108				31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	119				61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	32				10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	109				34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	125				54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	105				24-159

Lab Control Sample Analysis Batch Quality Control

Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2118991

Report Date: 04/29/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab Associated sample(s): 01-05 Batch: WG1489721-2								
Perfluorobutanoic Acid (PFBA)	113		-		67-148	-		30
Perfluoropentanoic Acid (PFPeA)	112		-		63-161	-		30
Perfluorobutanesulfonic Acid (PFBS)	115		-		65-157	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	121		-		37-219	-		30
Perfluorohexanoic Acid (PFHxA)	114		-		69-168	-		30
Perfluoropentanesulfonic Acid (PFPeS)	121		-		52-156	-		30
Perfluoroheptanoic Acid (PFHpA)	113		-		58-159	-		30
Perfluorohexanesulfonic Acid (PFHxS)	128		-		69-177	-		30
Perfluorooctanoic Acid (PFOA)	115		-		63-159	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	126		-		49-187	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	109		-		61-179	-		30
Perfluorononanoic Acid (PFNA)	115		-		68-171	-		30
Perfluorooctanesulfonic Acid (PFOS)	111		-		52-151	-		30
Perfluorodecanoic Acid (PFDA)	116		-		63-171	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	123		-		56-173	-		30
Perfluorononanesulfonic Acid (PFNS)	115		-		48-150	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	109		-		60-166	-		30
Perfluoroundecanoic Acid (PFUnA)	114		-		60-153	-		30
Perfluorodecanesulfonic Acid (PFDS)	114		-		38-156	-		30
Perfluorooctanesulfonamide (FOSA)	109		-		46-170	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	113		-		45-170	-		30
Perfluorododecanoic Acid (PFDoA)	116		-		67-153	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab Associated sample(s): 01-05 Batch: WG1489721-2								
Perfluorotridecanoic Acid (PFTrDA)	131		-		48-158	-		30
Perfluorotetradecanoic Acid (PFTA)	110		-		59-182	-		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	98				58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	125				62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	107				70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	93				12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	97				57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	99				60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	100				71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	96				62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	103				14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	95				59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	101				69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	93				62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	107				10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	88				24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	106				55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	65				10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	85				27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	103				48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	96				22-136

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2118991

Report Date: 04/29/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab Associated sample(s): 03-05 Batch: WG1490726-2								
Perfluorobutanoic Acid (PFBA)	120		-		67-148	-		30
Perfluoropentanoic Acid (PFPeA)	118		-		63-161	-		30
Perfluorobutanesulfonic Acid (PFBS)	125		-		65-157	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	130		-		37-219	-		30
Perfluorohexanoic Acid (PFHxA)	122		-		69-168	-		30
Perfluoropentanesulfonic Acid (PFPeS)	133		-		52-156	-		30
Perfluoroheptanoic Acid (PFHpA)	121		-		58-159	-		30
Perfluorohexanesulfonic Acid (PFHxS)	136		-		69-177	-		30
Perfluorooctanoic Acid (PFOA)	121		-		63-159	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	122		-		49-187	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	124		-		61-179	-		30
Perfluorononanoic Acid (PFNA)	120		-		68-171	-		30
Perfluorooctanesulfonic Acid (PFOS)	120		-		52-151	-		30
Perfluorodecanoic Acid (PFDA)	118		-		63-171	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	156		-		56-173	-		30
Perfluorononanesulfonic Acid (PFNS)	114		-		48-150	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	127		-		60-166	-		30
Perfluoroundecanoic Acid (PFUnA)	120		-		60-153	-		30
Perfluorodecanesulfonic Acid (PFDS)	109		-		38-156	-		30
Perfluorooctanesulfonamide (FOSA)	125		-		46-170	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	144		-		45-170	-		30
Perfluorododecanoic Acid (PFDoA)	126		-		67-153	-		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: TOWN OF CANTON

Lab Number: L2118991

Project Number: 05.0046589.02

Report Date: 04/29/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab Associated sample(s): 03-05 Batch: WG1490726-2								
Perfluorotridecanoic Acid (PFTrDA)	126		-		48-158	-		30
Perfluorotetradecanoic Acid (PFTA)	120		-		59-182	-		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	103				58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	174	Q			62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	146	Q			70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	98				12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	120				57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	110				60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	125				71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	104				62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	95				14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	96				59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	105				69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	97				62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	89				10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	68				24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	104				55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	45				10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	54				27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	98				48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	85				22-136

Matrix Spike Analysis

Batch Quality Control

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1487098-3 QC Sample: L2118939-01 Client ID: MS Sample												
Perfluorobutanoic Acid (PFBA)	ND	4.96	5.27	106	-	-	-	-	71-135	-	-	30
Perfluoropentanoic Acid (PFPeA)	ND	4.96	5.22	105	-	-	-	-	69-132	-	-	30
Perfluorobutanesulfonic Acid (PFBS)	ND	4.4	5.12	116	-	-	-	-	72-128	-	-	30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	4.64	5.97	129	-	-	-	-	62-145	-	-	30
Perfluorohexanoic Acid (PFHxA)	ND	4.96	5.51	111	-	-	-	-	70-132	-	-	30
Perfluoropentanesulfonic Acid (PFPeS)	ND	4.66	4.42	95	-	-	-	-	73-123	-	-	30
Perfluoroheptanoic Acid (PFHpA)	ND	4.96	5.35	108	-	-	-	-	71-131	-	-	30
Perfluorohexanesulfonic Acid (PFHxS)	ND	4.53	4.72	104	-	-	-	-	67-130	-	-	30
Perfluorooctanoic Acid (PFOA)	ND	4.96	5.41	107	-	-	-	-	69-133	-	-	30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	4.72	5.34	113	-	-	-	-	64-140	-	-	30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	4.72	5.06	107	-	-	-	-	70-132	-	-	30
Perfluorononanoic Acid (PFNA)	ND	4.96	5.53	112	-	-	-	-	72-129	-	-	30
Perfluorooctanesulfonic Acid (PFOS)	0.514F	4.6	5.53	109	-	-	-	-	68-136	-	-	30
Perfluorodecanoic Acid (PFDA)	ND	4.96	5.72	115	-	-	-	-	69-133	-	-	30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	4.76	5.63	118	-	-	-	-	65-137	-	-	30
Perfluorononanesulfonic Acid (PFNS)	ND	4.77	5.17	108	-	-	-	-	69-125	-	-	30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	4.96	5.72	115	-	-	-	-	63-144	-	-	30
Perfluoroundecanoic Acid (PFUnA)	ND	4.96	6.19	125	-	-	-	-	64-136	-	-	30
Perfluorodecanesulfonic Acid (PFDS)	ND	4.78	5.53	116	-	-	-	-	59-134	-	-	30
Perfluorooctanesulfonamide (FOSA)	ND	4.96	5.30	107	-	-	-	-	67-137	-	-	30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	4.96	5.06	102	-	-	-	-	61-139	-	-	30
Perfluorododecanoic Acid (PFDoA)	ND	4.96	5.15	104	-	-	-	-	69-135	-	-	30

Matrix Spike Analysis

Batch Quality Control

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1487098-3 QC Sample: L2118939-01 Client ID: MS Sample												
Perfluorotridecanoic Acid (PFTTrDA)	ND	4.96	5.48	111		-	-		66-139	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	4.96	5.81	117		-	-		69-133	-		30

Surrogate (Extracted Internal Standard)	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	164				19-175
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	83				14-167
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	148				20-154
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	63				34-137
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	55				31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	90				61-155
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	89				75-130
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	74				66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	78				71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	95				78-139
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	102				54-150
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	94				24-159
Perfluoro[13C4]Butanoic Acid (MPFBA)	89				61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	71				58-150
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	92				10-117
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	95				79-136
Perfluoro[13C8]Octanoic Acid (M8PFOA)	88				75-130
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	86				72-140
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	86				74-139

Matrix Spike Analysis

Batch Quality Control

Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2118991

Report Date: 04/29/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab MS Sample Associated sample(s): 01,03-05 QC Batch ID: WG1488287-3 QC Sample: L2119219-01 Client ID:												
Perfluorooctanoic Acid (PFOA)	ND	5.19	5.60	105		-	-		69-133	-		30
Perfluorononanoic Acid (PFNA)	ND	5.19	5.48	106		-	-		72-129	-		30
Perfluorooctanesulfonic Acid (PFOS)	0.584	4.82	5.16	95		-	-		68-136	-		30

Surrogate (Extracted Internal Standard)	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	122				79-136
Perfluoro[13C8]Octanoic Acid (M8PFOA)	107				75-130
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	112				72-140

Matrix Spike Analysis

Batch Quality Control

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1489721-4 QC Sample: L2118991-01 Client ID: GZ-107(3.8-5.3')												
Perfluorobutanoic Acid (PFBA)	ND	37.2	43.6	113	-	-	-	-	67-148	-	-	30
Perfluoropentanoic Acid (PFPeA)	3.88	37.2	45.5	112	-	-	-	-	63-161	-	-	30
Perfluorobutanesulfonic Acid (PFBS)	ND	33.1	38.5	115	-	-	-	-	65-157	-	-	30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	34.8	44.5	128	-	-	-	-	37-219	-	-	30
Perfluorohexanoic Acid (PFHxA)	3.55	37.2	47.0	117	-	-	-	-	69-168	-	-	30
Perfluoropentanesulfonic Acid (PFPeS)	ND	35	39.1	112	-	-	-	-	52-156	-	-	30
Perfluoroheptanoic Acid (PFHpA)	2.93	37.2	44.4	111	-	-	-	-	58-159	-	-	30
Perfluorohexanesulfonic Acid (PFHxS)	ND	34	42.0	119	-	-	-	-	69-177	-	-	30
Perfluorooctanoic Acid (PFOA)	7.88	37.2	50.4	114	-	-	-	-	63-159	-	-	30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	35.4	44.2	125	-	-	-	-	49-187	-	-	30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	35.4	41.7	118	-	-	-	-	61-179	-	-	30
Perfluorononanoic Acid (PFNA)	17.5	37.2	59.1	112	-	-	-	-	68-171	-	-	30
Perfluorooctanesulfonic Acid (PFOS)	13.4	34.6	51.4	110	-	-	-	-	52-151	-	-	30
Perfluorodecanoic Acid (PFDA)	ND	37.2	41.0	109	-	-	-	-	63-171	-	-	30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	35.7	39.2	110	-	-	-	-	56-173	-	-	30
Perfluorononanesulfonic Acid (PFNS)	ND	35.8	39.2	109	-	-	-	-	48-150	-	-	30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	37.2	48.7	131	-	-	-	-	60-166	-	-	30
Perfluoroundecanoic Acid (PFUnA)	ND	37.2	43.8	117	-	-	-	-	60-153	-	-	30
Perfluorodecanesulfonic Acid (PFDS)	ND	35.9	40.3	112	-	-	-	-	38-156	-	-	30
Perfluorooctanesulfonamide (FOSA)	ND	37.2	43.4F	117	-	-	-	-	46-170	-	-	30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	37.2	45.2	121	-	-	-	-	45-170	-	-	30
Perfluorododecanoic Acid (PFDoA)	ND	37.2	42.4	114	-	-	-	-	67-153	-	-	30

Matrix Spike Analysis**Batch Quality Control****Project Name:** TOWN OF CANTON**Project Number:** 05.0046589.02**Lab Number:** L2118991**Report Date:** 04/29/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1489721-4 QC Sample: L2118991-01 Client ID: GZ-107(3.8-5.3')												
Perfluorotridecanoic Acid (PFTTrDA)	ND	37.2	45.3	122		-	-		48-158	-		30
Perfluorotetradecanoic Acid (PFTTA)	ND	37.2	42.6	114		-	-		59-182	-		30

Surrogate (Extracted Internal Standard)	MS % Recovery	Qualifier	MSD % Recovery	Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	98				10-162
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	81				12-142
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	95				14-147
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	69				27-126
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	64				24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	101				55-137
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	92				62-124
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	85				57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	90				60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	105				71-134
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	100				48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	94				22-136
Perfluoro[13C4]Butanoic Acid (MPFBA)	79				58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	104				62-163
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	21				10-112
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	98				69-131
Perfluoro[13C8]Octanoic Acid (M8PFOA)	90				62-129
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	90				59-139
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	105				70-131

Matrix Spike Analysis*Batch Quality Control***Project Name:** TOWN OF CANTON**Lab Number:** L2118991**Project Number:** 05.0046589.02**Report Date:** 04/29/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab Associated sample(s): 03-05 QC Batch ID: WG1490726-3 QC Sample: L2118991-04 Client ID: GZ-109(3.2-4.7')												
Perfluorohexanesulfonic Acid (PFHxS)	470	731	1260	108		-	-		69-177	-		30
Perfluorononanoic Acid (PFNA)	228	800	1090	108		-	-		68-171	-		30
Perfluorooctanesulfonic Acid (PFOS)	7660	742	7730	9	Q	-	-		52-151	-		30

Surrogate (Extracted Internal Standard)	MS % Recovery	Qualifier	MSD % Recovery	Qualifier	Acceptance Criteria
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	111				71-134
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	108				69-131
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	97				59-139

Lab Duplicate Analysis Batch Quality Control

Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2118991

Report Date: 04/29/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1487098-4 QC Sample: L2118939-02 Client ID: DUP Sample						
Perfluorobutanoic Acid (PFBA)	ND	ND	ng/g	NC		30
Perfluoropentanoic Acid (PFPeA)	ND	ND	ng/g	NC		30
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ng/g	NC		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	ND	ng/g	NC		30
Perfluorohexanoic Acid (PFHxA)	ND	ND	ng/g	NC		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	ND	ng/g	NC		30
Perfluoroheptanoic Acid (PFHpA)	ND	ND	ng/g	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ng/g	NC		30
Perfluorooctanoic Acid (PFOA)	ND	ND	ng/g	NC		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	ND	ng/g	NC		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	ND	ng/g	NC		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/g	NC		30
Perfluorooctanesulfonic Acid (PFOS)	ND	ND	ng/g	NC		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/g	NC		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	ND	ng/g	NC		30
Perfluorononanesulfonic Acid (PFNS)	ND	ND	ng/g	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/g	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/g	NC		30
Perfluorodecanesulfonic Acid (PFDS)	ND	ND	ng/g	NC		30
Perfluorooctanesulfonamide (FOSA)	ND	ND	ng/g	NC		30

Lab Duplicate Analysis Batch Quality Control

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1487098-4 QC Sample: L2118939-02 Client ID: DUP Sample						

N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/g	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/g	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/g	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/g	NC		30

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	90		92		61-135
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	71		74		58-150
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	87		89		74-139
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	83		87		14-167
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	72		77		66-128
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	76		81		71-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	99		102		78-139
Perfluoro[13C8]Octanoic Acid (M8PFOA)	84		87		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	152		156	Q	20-154
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	86		88		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	95		97		79-136
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	87		93		75-130
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	176	Q	177	Q	19-175
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	50		50		31-134
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	93		101		61-155
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	15		26		10-117
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	61		64		34-137
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	95		108		54-150

Lab Duplicate Analysis Batch Quality Control

Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2118991

Report Date: 04/29/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1487098-4 QC Sample: L2118939-02 Client ID: DUP Sample						

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	98		104		24-159

Lab Duplicate Analysis Batch Quality Control

Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2118991

Report Date: 04/29/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01,03-05 QC Batch ID: WG1488287-4 QC Sample: L2119219-02 Client ID: DUP Sample						
Perfluorooctanoic Acid (PFOA)	ND	ND	ng/g	NC		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/g	NC		30
Perfluorooctanesulfonic Acid (PFOS)	1.17	1.15	ng/g	2		30

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C8]Octanoic Acid (M8PFOA)	105		111		75-130
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	115		119		72-140
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	123		114		79-136

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L2118991
Report Date: 04/29/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1489721-5 QC Sample: L2118991-02 Client ID: GZ-108(3.5-5')						
Perfluorobutanoic Acid (PFBA)	5.70	5.82	ng/l	2		30
Perfluoropentanoic Acid (PFPeA)	13.3	13.3	ng/l	0		30
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ng/l	NC		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	ND	ng/l	NC		30
Perfluorohexanoic Acid (PFHxA)	8.54	8.82	ng/l	3		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	14.9	14.3	ng/l	4		30
Perfluorohexanesulfonic Acid (PFHxS)	11.3	12.3	ng/l	8		30
Perfluorooctanoic Acid (PFOA)	34.4	33.0	ng/l	4		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	ND	ng/l	NC		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	1.85F	ng/l	NC		30
Perfluorononanoic Acid (PFNA)	5.76	5.71	ng/l	1		30
Perfluorooctanesulfonic Acid (PFOS)	28.9	29.1	ng/l	1		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/l	NC		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	ND	ng/l	NC		30
Perfluorononanesulfonic Acid (PFNS)	ND	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/l	NC		30
Perfluorodecanesulfonic Acid (PFDS)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonamide (FOSA)	ND	ND	ng/l	NC		30

Lab Duplicate Analysis Batch Quality Control

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1489721-5 QC Sample: L2118991-02 Client ID: GZ-108(3.5-5')						
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/l	NC		30

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	76		76		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	100		103		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	99		111		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	67		73		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	76		81		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	80		86		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	102		103		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	81		91		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	91		88		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	83		90		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	93		101		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	83		92		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	90		94		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	61		64		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	98		105		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	21		16		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	84		66		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	96		98		48-131

Lab Duplicate Analysis

Batch Quality Control

Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2118991

Report Date: 04/29/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
SPLP Perfluorinated Alkyl Acids by Isotope Dilution & EPA 1312 - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1489721-5 QC Sample: L2118991-02 Client ID: GZ-108(3.5-5')						

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	89		92		22-136

INORGANICS & MISCELLANEOUS

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

SAMPLE RESULTS

Lab ID: L2118991-01
Client ID: GZ-107(3.8-5.3')
Sample Location: CANTON, CT

Date Collected: 04/14/21 08:38
Date Received: 04/14/21
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	0.097		%	0.010	--	1	-	04/28/21 08:49	1,9060A	SM
Total Organic Carbon (Rep2)	0.089		%	0.010	--	1	-	04/28/21 08:49	1,9060A	SM
Total Organic Carbon (Average)	0.093		%	0.010	--	1	-	04/28/21 08:49	1,9060A	SM
General Chemistry - Mansfield Lab										
Solids, Total	81.0		%	0.100	--	1	-	04/16/21 11:12	121,2540G	MC



Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2118991

Report Date: 04/29/21

SAMPLE RESULTS

Lab ID: L2118991-02

Client ID: GZ-108(3.5-5')

Sample Location: CANTON, CT

Date Collected: 04/14/21 08:55

Date Received: 04/14/21

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	0.515		%	0.010	--	1	-	04/28/21 08:49	1,9060A	SM
Total Organic Carbon (Rep2)	0.573		%	0.010	--	1	-	04/28/21 08:49	1,9060A	SM
Total Organic Carbon (Average)	0.544		%	0.010	--	1	-	04/28/21 08:49	1,9060A	SM
General Chemistry - Mansfield Lab										
Solids, Total	85.0		%	0.100	--	1	-	04/16/21 11:12	121,2540G	MC



Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2118991

Report Date: 04/29/21

SAMPLE RESULTS

Lab ID: L2118991-03

Client ID: GZ-110(3.7-5.2')

Sample Location: CANTON, CT

Date Collected: 04/14/21 09:08

Date Received: 04/14/21

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	1.54		%	0.010	--	1	-	04/28/21 08:49	1,9060A	SM
Total Organic Carbon (Rep2)	1.30		%	0.010	--	1	-	04/28/21 08:49	1,9060A	SM
Total Organic Carbon (Average)	1.42		%	0.010	--	1	-	04/28/21 08:49	1,9060A	SM
General Chemistry - Mansfield Lab										
Solids, Total	80.8		%	0.100	--	1	-	04/16/21 11:12	121,2540G	MC



Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2118991

Report Date: 04/29/21

SAMPLE RESULTS

Lab ID: L2118991-04

Client ID: GZ-109(3.2-4.7')

Sample Location: CANTON, CT

Date Collected: 04/14/21 09:31

Date Received: 04/14/21

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	0.812		%	0.010	--	1	-	04/28/21 08:49	1,9060A	SM
Total Organic Carbon (Rep2)	0.823		%	0.010	--	1	-	04/28/21 08:49	1,9060A	SM
Total Organic Carbon (Average)	0.818		%	0.010	--	1	-	04/28/21 08:49	1,9060A	SM
General Chemistry - Mansfield Lab										
Solids, Total	81.2		%	0.100	--	1	-	04/16/21 11:12	121,2540G	MC



Project Name: TOWN OF CANTON

Project Number: 05.0046589.02

Lab Number: L2118991

Report Date: 04/29/21

SAMPLE RESULTS

Lab ID: L2118991-05

Client ID: GZ-111(3-4.3')

Sample Location: CANTON, CT

Date Collected: 04/14/21 10:00

Date Received: 04/14/21

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	0.575		%	0.010	--	1	-	04/28/21 08:49	1,9060A	SM
Total Organic Carbon (Rep2)	0.602		%	0.010	--	1	-	04/28/21 08:49	1,9060A	SM
Total Organic Carbon (Average)	0.588		%	0.010	--	1	-	04/28/21 08:49	1,9060A	SM
General Chemistry - Mansfield Lab										
Solids, Total	75.4		%	0.100	--	1	-	04/16/21 11:12	121,2540G	MC



Project Name: TOWN OF CANTON

Lab Number: L2118991

Project Number: 05.0046589.02

Report Date: 04/29/21

Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab for sample(s): 01-05 Batch: WG1489843-1										
Total Organic Carbon (Rep1)	ND		%	0.010	--	1	-	04/28/21 08:49	1,9060A	SM
Total Organic Carbon (Rep2)	ND		%	0.010	--	1	-	04/28/21 08:49	1,9060A	SM
Total Organic Carbon (Average)	ND		%	0.010	--	1	-	04/28/21 08:49	1,9060A	SM

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Organic Carbon - Mansfield Lab Associated sample(s): 01-05 Batch: WG1489843-2								
Total Organic Carbon (Rep1)	110		-		75-125	-		25
Total Organic Carbon (Rep2)	97		-		75-125	-		25
Total Organic Carbon (Average)	104		-		75-125	-		25

Matrix Spike Analysis

Batch Quality Control

Project Name: TOWN OF CANTON

Lab Number: L2118991

Project Number: 05.0046589.02

Report Date: 04/29/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Organic Carbon - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1489843-4 WG1489843-5 QC Sample: L2116753-24 Client ID: MS Sample												
Total Organic Carbon (Rep1)	1.08	1.04	2.22	109		2.06	90		75-125	7		25
Total Organic Carbon (Rep2)	0.957	1.24	2.20	100		2.09	97		75-125	5		25

Lab Duplicate Analysis

Batch Quality Control

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1487097-1 QC Sample: L2119398-01 Client ID: DUP Sample						
Solids, Total	88.0	87.1	%	1		10
Total Organic Carbon - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1489843-3 QC Sample: L2116753-24 Client ID: DUP Sample						
Total Organic Carbon (Rep1)	1.08	0.968	%	11		25
Total Organic Carbon (Rep2)	0.957	1.08	%	12		25
Total Organic Carbon (Average)	1.02	1.02	%	0		25

Project Name: TOWN OF CANTON**Lab Number:** L2118991**Project Number:** 05.0046589.02**Report Date:** 04/29/21**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2118991-01A	Plastic 2oz unpreserved for TS	A	NA		4.3	Y	Absent		A2-TS(7)
L2118991-01B	Plastic 8oz unpreserved	A	NA		4.3	Y	Absent		A2-537-ISOTOPE(14),A2-TOC-9060-2REPS(28)
L2118991-01X	Plastic 250ml unpreserved Extracts	A	NA		4.3	Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2118991-01X1	Plastic 250ml unpreserved Extracts	A	NA		4.3	Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2118991-01X2	Plastic 250ml unpreserved Extracts	A	NA		4.3	Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2118991-01X3	Plastic 250ml unpreserved Extracts	A	NA		4.3	Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2118991-01X9	Plastic 8oz unpreserved	A	NA		4.3	Y	Absent		-
L2118991-02A	Plastic 2oz unpreserved for TS	A	NA		4.3	Y	Absent		A2-TS(7)
L2118991-02B	Plastic 8oz unpreserved	A	NA		4.3	Y	Absent		A2-537-ISOTOPE(14),A2-TOC-9060-2REPS(28)
L2118991-02X	Plastic 250ml unpreserved Extracts	A	NA		4.3	Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2118991-02X1	Plastic 250ml unpreserved Extracts	A	NA		4.3	Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2118991-02X2	Plastic 250ml unpreserved Extracts	A	NA		4.3	Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2118991-02X3	Plastic 250ml unpreserved Extracts	A	NA		4.3	Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2118991-02X9	Plastic 8oz unpreserved	A	NA		4.3	Y	Absent		-
L2118991-03A	Plastic 2oz unpreserved for TS	A	NA		4.3	Y	Absent		A2-TS(7)
L2118991-03B	Plastic 8oz unpreserved	A	NA		4.3	Y	Absent		A2-537-ISOTOPE(14),A2-TOC-9060-2REPS(28)
L2118991-03X	Plastic 250ml unpreserved Extracts	A	NA		4.3	Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2118991-03X1	Plastic 250ml unpreserved Extracts	A	NA		4.3	Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2118991-03X2	Plastic 250ml unpreserved Extracts	A	NA		4.3	Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2118991-03X3	Plastic 250ml unpreserved Extracts	A	NA		4.3	Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2118991-03X9	Plastic 8oz unpreserved	A	NA		4.3	Y	Absent		-
L2118991-04A	Plastic 2oz unpreserved for TS	A	NA		4.3	Y	Absent		A2-TS(7)

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Serial_No:04292117:45
Lab Number: L2118991
Report Date: 04/29/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2118991-04B	Plastic 8oz unpreserved	A	NA		4.3	Y	Absent		A2-537-ISOTOPE(14),A2-TOC-9060-2REPS(28)
L2118991-04X	Plastic 250ml unpreserved Extracts	A	NA		4.3	Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2118991-04X1	Plastic 250ml unpreserved Extracts	A	NA		4.3	Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2118991-04X2	Plastic 250ml unpreserved Extracts	A	NA		4.3	Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2118991-04X3	Plastic 250ml unpreserved Extracts	A	NA		4.3	Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2118991-04X9	Plastic 8oz unpreserved	A	NA		4.3	Y	Absent		-
L2118991-05A	Plastic 2oz unpreserved for TS	A	NA		4.3	Y	Absent		A2-TS(7)
L2118991-05B	Plastic 8oz unpreserved	A	NA		4.3	Y	Absent		A2-537-ISOTOPE(14),A2-TOC-9060-2REPS(28)
L2118991-05X	Plastic 250ml unpreserved Extracts	A	NA		4.3	Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2118991-05X1	Plastic 250ml unpreserved Extracts	A	NA		4.3	Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2118991-05X2	Plastic 250ml unpreserved Extracts	A	NA		4.3	Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2118991-05X3	Plastic 250ml unpreserved Extracts	A	NA		4.3	Y	Absent		A2-SPLP-537-ISOTOPE(14)
L2118991-05X9	Plastic 8oz unpreserved	A	NA		4.3	Y	Absent		-

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Serial_No:04292117:45
Lab Number: L2118991
Report Date: 04/29/21

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA	376-06-7
Perfluorotridecanoic Acid	PFTTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report



Project Name: TOWN OF CANTON
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Footnotes

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

Terms

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

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

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

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

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

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

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

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

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the reporting limit (RL) for the sample.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: Data Usability Report



Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

Lab Number: L2118991
Report Date: 04/29/21

Data Qualifiers

the identification is based on a mass spectral library search.

- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Project Name: TOWN OF CANTON
Project Number: 05.0046589.02

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Report Date: 04/29/21

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.
- 134 Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) using Isotope Dilution. Alpha SOP 23528.

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.



Alpha Analytical, Inc.

ID No.:17873

Facility: **Company-wide**

Revision 19

Department: **Quality Assurance**

Published Date: 4/2/2021 1:14:23 PM

Title: **Certificate/Approval Program Summary**

Page 1 of 1

Certification Information

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

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625/625.1:** alpha-Terpineol**EPA 8260C/8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D/8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

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, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.****EPA 522, EPA 537.1.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1 Hg.****SM2340B**

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



APPENDIX D

MONITORING WELL INSTALLATION LOGS

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

Town of Canton
Canton, Connecticut

EXPLORATION NO.: GZ-2D
SHEET: 1 of 2
PROJECT NO: 05.0046589.02
REVIEWED BY:

Logged By: T. Lucas
Drilling Co.: Glacier Drilling
Foreman: Matt Schock

Geoprobe Location: See Plan
Ground Surface Elev. (ft.):
Final Geoprobe Depth (ft.): 45
Date Start - Finish: 12/3/2020 - 12/3/2020

H. Datum:
V. Datum:

Type of Rig: Sonic
Rig Model: GV5
Drilling Method:
Direct Push

Sampler Type: MacroCore
Sampler O.D. (in.): 6
Sampler Length (in.): 60
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
12/3/2020		3.98	

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID* (ppm)						
		0-6				: Air vacuumed to 6'	1				
5	S-1	6-10	48	48	ND	S-1 : Top 17": Loose, grey-brown, fine to medium SAND and GRAVEL, little Cobble, little Silt, wet Bottom 31": Medium dense, brown, fine to medium SAND, little fine Gravel, trace coarse Sand, trace Gravel, wet					
10	S-2	10-15	60	60	ND	S-2 : Top 27": Loose, brown, fine to medium SAND, some Gravel, little Silt, little Cobble, trace Quartz, wet Bottom 33": Loose, grey-brown, fine to medium SAND, some Cobble, little Silt, little Gravel, wet					
15	S-3	15-20	60	60	ND	S-3 : Top 51": Very dense, grey-brown, fine SAND, some Silt, some Gravel, little fine Gravel, trace medium SAND, wet Bottom 9": Quartz, Feldspar, BOULDER					
20	S-4	20-30	120	120	ND	S-4 : Top 14": Medium dense, grey-brown, fine to medium SAND, some Silt, little Gravel, trace Cobble, wet Middle 21": Loose, brown, fine to medium SAND, little Cobble, little Silt, little Gravel, trace Silt, wet Bottom 85": Weathered Mica, Feldspar, Schist					
25											
30											

REMARKS
1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and above background readings.
ND = None Detected above background.

Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

GZ-2D

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

Town of Canton
Canton, Connecticut

EXPLORATION NO.: GZ-2D
SHEET: 2 of 2
PROJECT NO: 05.0046589.02
REVIEWED BY:

Logged By: T. Lucas
Drilling Co.: Glacier Drilling
Foreman: Matt Schock

Geoprobe Location: See Plan
Ground Surface Elev. (ft.):
Final Geoprobe Depth (ft.): 45
Date Start - Finish: 12/3/2020 - 12/3/2020

H. Datum:
V. Datum:

Type of Rig: Sonic
Rig Model: GV5
Drilling Method:
Direct Push

Sampler Type: MacroCore
Sampler O.D. (in.): 6
Sampler Length (in.): 60
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
12/3/2020		3.98	

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.) Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID* (ppm)					
35	S-5	30-35	60	60		S-5 : Grey MICA, Feldspar, Schist, light fracturing				
40	S-6	35-45	120	120		S-6 : Top 16": Grey MICA, Feldspar, Schist, light fracturing Bottom 104": MICA, Feldspar, Schist. moderate fracturing	2	BEDROCK	45	Bentonite (36-38') Sand #1 (38-45') 2" PVC Pre-Pack Screen (39.5-44.5')
45						End of exploration at 45 feet.				
50										
55										
60										

REMARKS
2 - 5 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-slot PVC well screen set at approximately 44.5 feet below grade. Well completed in ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser. Filter sand placed in annulus around well from 38 to 45 feet below grade. Bentonite seal installed from 36 to 38 feet below grade. Remaining annulus filled with grout from 3 to 36 feet below grade. Well completed with concrete collar/roadbox.

Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

GZ-2D

GEOPROBE LOG



GZA
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Engineers and Scientists

Town of Canton
 Canton, Connecticut

EXPLORATION NO.: GZ-2I
 SHEET: 1 of 1
 PROJECT NO: 05.0046589.02
 REVIEWED BY:

Logged By: T. Lucas
Drilling Co.: Glacier Drilling
Foreman: Matt Schock

Geoprobe Location: See Plan
Ground Surface Elev. (ft.):
Final Geoprobe Depth (ft.): 25
Date Start - Finish: 12/3/2020 - 12/4/2020

H. Datum:
V. Datum:

Type of Rig: Sonic
Rig Model: GV5
Drilling Method:
 Direct Push

Sampler Type: MacroCore
Sampler O.D. (in.): 6
Sampler Length (in.): 60
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
------	------	-------------	------------

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID* (ppm)						
		0-25				: Air vacuumed to 6'	1				
5						See GZ-2D for Soil Descriptions					
10											
15											
20											
25							2				
30						End of Exploration at 25 feet.					

REMARKS

1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and above background readings.
 ND = None Detected above background.
 2 - 5 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-slot PVC well screen set at approximately 25 feet below grade. Well completed in ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser. Filter sand placed in annulus around well from 18 to 25 feet below grade. Bentonite seal installed from 16 to 18 feet below grade. Remaining annulus filled with grout from 3 to 16 feet below grade. Well completed with concrete collar/roadbox.

Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

GZ-2I

GEOPROBE LOG



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Town of Canton
Canton, Connecticut

EXPLORATION NO.: GZ-4D
SHEET: 1 of 2
PROJECT NO: 05.0046589.02
REVIEWED BY:

Logged By: T. Lucas
Drilling Co.: Glacier Drilling
Foreman: Matt Schock

Geoprobe Location: See Plan
Ground Surface Elev. (ft.):
Final Geoprobe Depth (ft.): 35
Date Start - Finish: 12/1/2020 - 12/1/2020

H. Datum:
V. Datum:

Type of Rig: Sonic
Rig Model: GV5
Drilling Method:
Direct Push

Sampler Type: MacroCore
Sampler O.D. (in.): 6
Sampler Length (in.): 60
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
12/1/2020			

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID* (ppm)						
		0-5			ND	: Air vacuumed to 5', boulder blocked hole at depth.	1				
5	S-1	5-10	60	60	ND	S-1 : Top 19": Loose, brown, BOULDER and COBBLES, little fine to medium Sand, little Silt, moist Middle 29": Loose, brown, fine to medium SAND and fine GRAVEL, little Cobble, little Silt, little Boulders Bottom 12": Loose, brown, fine to medium SAND, little Cobble, little Boulders, trace to little Silt, moist S-2 : Top 6": Loose, brown, medium to coarse SAND, little Gravel, trace Silt, moist Next 6": Loose, grey-brown, fine to medium SAND, little Silt, wet				6.5	
10	S-2	10-15	60	60	ND	Next 18": Loose, brown, fine to medium SAND, some Coble, little coarse Sand, little Silt, moist Bottom 30": Very dense, orange-brown, fine to medium SAND, some Gravel, little to some Silt, little boulders, moist S-3 : Top 12": Loose, brown, fine to medium SAND, little Silt, moist Middle 18": Medium dense, brown, fine to medium SAND, some Cobble, little Silt, wet Bottom 30": Loose, brown, fine to medium SAND, little Gravel, little coarse Sand, trace Silt, wet					
15	S-3	15-20	60	60	ND	S-4 : Top 12": Medium dense, pale brown, fine to medium SAND, some Gravel, little to some Silt, wet, grey SCHIST, Cobble @ 20.5' Middle 24": Weathered/Crushed grey SCHIST, Gravel, little to Cobble @ 20.5' Bottom 24": Grey SCHIST S-5 : Top 18": Grey SCHIST, moderately fractured					
20	S-4	20-25	60	60	NM					21	
25	S-5	25-35	120	84	NM		2		WEATHERED ROCK		
30											

REMARKS
1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and above background readings.
ND = None Detected above background. NM = Not Measured
2 - 25-30, used water during drilling. Approximately gal - 15.

Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

GZ-4D

GEOPROBE LOG



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Town of Canton
 Canton, Connecticut

EXPLORATION NO.: GZ-4D
SHEET: 2 of 2
PROJECT NO: 05.0046589.02
REVIEWED BY:

Logged By: T. Lucas
Drilling Co.: Glacier Drilling
Foreman: Matt Schock

Geoprobe Location: See Plan
Ground Surface Elev. (ft.):
Final Geoprobe Depth (ft.): 35
Date Start - Finish: 12/1/2020 - 12/1/2020

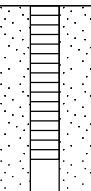
H. Datum:
V. Datum:

Type of Rig: Sonic
Rig Model: GV5
Drilling Method:
 Direct Push

Sampler Type: MacroCore
Sampler O.D. (in.): 6
Sampler Length (in.): 60
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
12/1/2020			

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID* (ppm)						
35						Middle 36": Weathered/Crushed grey SCHIST Bottom 30": Grey SCHIST, moderately fractured	2		WEATHERED ROCK	32.5	 Sand #1 (27-35') 2" PVC Pre-Pack Screen (29-34')
35						End of exploration at 35 feet.			BEDROCK	35	
40											
45											
50											
55											
60											

REMARKS
 2 - 5 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-slot PVC well screen set at approximately 35 feet below grade. Well completed in ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser. Filter sand placed in annulus around well from 27 to 35 feet below grade. Bentonite seal installed from 25 to 27 feet below grade. Remaining annulus filled with grout from 4 to 26 feet below grade. Well completed with concrete collar/roadbox.

Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

GZ-4D

GEOPROBE LOG



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Town of Canton
Canton, Connecticut

EXPLORATION NO.: GZ-4I
SHEET: 1 of 1
PROJECT NO: 05.0046589.02
REVIEWED BY:

Logged By: T. Lucas
Drilling Co.: Glacier Drilling
Foreman: Matt Schock

Geoprobe Location: See Plan
Ground Surface Elev. (ft.):
Final Geoprobe Depth (ft.): 21
Date Start - Finish: 12/2/2020 - 12/2/2020

H. Datum:
V. Datum:

Type of Rig: Sonic
Rig Model: GV5
Drilling Method:
Direct Push

Sampler Type: MacroCore
Sampler O.D. (in.): 6
Sampler Length (in.): 60
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
12/2/2020		3.41	

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.) Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID* (ppm)					
		0-21				: Air vacuumed to 6' See GZ-4D for Soil Descriptions	1			Sand #1 (0-3')
5										
10										Grout (3-12') 2" PVC Riser (0-16')
15										Bentonite (12-14')
20							2			Sand #1 (14-21') 2" PVC Pre-Pack Screen (16-21')
25						End of Exploration at 21 feet.				
30										

REMARKS
1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and above background readings.
ND = None Detected above background.
2 - 5 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-slot PVC well screen set at approximately 21 feet below grade. Well completed in ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser. Filter sand placed in annulus around well from 14 to 21 feet below grade. Bentonite seal installed from 12 to 14 feet below grade. Remaining annulus filled with grout from 3 to 12 feet below grade. Well completed with concrete collar/roadbox.

Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

GZ-4I

GEOPROBE LOG



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Town of Canton
Canton, Connecticut

EXPLORATION NO.: GZ-5
SHEET: 1 of 1
PROJECT NO: 05.0046589.02
REVIEWED BY:

Logged By: T. Lucas
Drilling Co.: Glacier Drilling
Foreman: Matt Schock

Geoprobe Location: See Plan
Ground Surface Elev. (ft.):
Final Geoprobe Depth (ft.): 15
Date Start - Finish: 12/1/2020 - 12/1/2020

H. Datum:
V. Datum:

Type of Rig: Sonic
Rig Model: GV5
Drilling Method:
Direct Push

Sampler Type: MacroCore
Sampler O.D. (in.): 6
Sampler Length (in.): 60
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
12/1/2020		8.06	

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.) Stratum Description	Depth (ft.)	Equipment Installed	
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID* (ppm)						
		0-6				: Air vacuumed to 6'	1				
5	S-1	6-10	48	48	ND	S-1 : Top 25": Very loose, brown, medium SAND, little to some Gravel, trace Silt, damp Middle 15": Very loose, brown, medium to coarse SAND, little Gravel, trace Silt Bottom 8": Very loose, brown, fine to medium SAND, little Silt, trace Gravel, trace Cobble		SAND AND GRAVEL	5		Sand #1 (0-2') Bentonite (2-3') 2" PVC Riser (0-5')
10	S-2	10-15	60	60	ND	S-2 : Top 17": Very loose, brown, to medium to coarse SAND, little Gravel, trace Silt, trace fine Sand, moist Next 10": Very loose, brown, medium to coarse SAND, little Gravel, trace fine Sand, trace Silt, wet	2	SAND	15		Sand #1 (3-15') 2" PVC Pre-Pack Screen (5-15')
15						Next 26": Loose, pale brown, fine to coarse SAND, little Silt, Gravel, wet Bottom 7": Loose, brown, fine to coarse SAND, trace Gravel, trace Silt, wet					
20						End of exploration at 15 feet.					
25											
30											

REMARKS

1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and above background readings.
ND = None Detected above background.
2 - 10 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-slot PVC well screen set at approximately 15 feet below grade. Well completed in ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser. Filter sand placed in annulus around well from 3 to 51 feet below grade. Bentonite seal installed from 3 to 2 feet below grade. Remaining annulus filled with grout from 0 to 2 feet below grade. Well completed with concrete collar/roadbox.

Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

GZ-5

GEOPROBE LOG



GZA
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Town of Canton
Canton, Connecticut

EXPLORATION NO.: GZ-6
SHEET: 1 of 1
PROJECT NO: 05.0046589.02
REVIEWED BY:

Logged By: T. Lucas
Drilling Co.: Glacier Drilling
Foreman: Matt Schock

Geoprobe Location: See Plan
Ground Surface Elev. (ft.):
Final Geoprobe Depth (ft.): 15
Date Start - Finish: 11/30/2020 - 11/30/2020

H. Datum:
V. Datum:

Type of Rig: Sonic
Rig Model: GV5
Drilling Method:
Direct Push

Sampler Type: MacroCore
Sampler O.D. (in.): 6
Sampler Length (in.): 60
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
11/30/2020		4.61	

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.) Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID* (ppm)					
		0-6				: Air vacuumed to 6'	1			Grout (0-1') Bentonite (1-2') 2" PVC Riser (0-4')
5	S-1	6-10	48	48	ND	S-1: Brown, GRAVEL, COBBLES and medium to coarse SAND, little Silt, wet, Top 1', rest dry				
10	S-2	10-15	60	60	ND	S-2: Top 31": Brown, medium SAND and GRAVEL, little Silt, moist Middle 11": Brown, fine to medium SAND and GRAVEL, moist Bottom 18": Grey-brown, fine SAND, little fine Gravel, little Silt, moist	2	SAND AND GRAVEL	15	Sand #1 (2-15') 2" PVC Pre-Pack Screen (4-14')
15						End of Exploration at 15 feet.				
20										
25										
30										

REMARKS

1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and above background readings. ND = None Detected above background.
2 - 10 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-slot PVC well screen set at approximately 14 feet below grade. Well completed in ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser. Filter sand placed in annulus around well from 2 to 14 feet below grade. Bentonite seal installed from 1 to 2 feet below grade. Remaining annulus filled with grout from 0 to 1 feet below grade. Well completed with concrete collar/roadbox.

Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

GZ-6

GEOPROBE LOG



GZA
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Engineers and Scientists

Town of Canton
Canton, Connecticut

EXPLORATION NO.: GZ-7
SHEET: 1 of 1
PROJECT NO: 05.0046589.02
REVIEWED BY:

Logged By: T. Lucas
Drilling Co.: Glacier Drilling
Foreman: Matt Schock

Geoprobe Location: See Plan
Ground Surface Elev. (ft.):
Final Geoprobe Depth (ft.): 14
Date Start - Finish: 12/1/2020 - 12/1/2020

H. Datum:
V. Datum:

Type of Rig: Sonic
Rig Model: GV5
Drilling Method:
Direct Push

Sampler Type: MacroCore
Sampler O.D. (in.): 6
Sampler Length (in.): 60
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.) Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID* (ppm)					
5		0-6				: Air vacuumed to 6' See GZ-7I for Soil Descriptions	1			Sand #1 (0-1') Bentonite (1-2') 2" PVC Riser (0-4')
10							1			Sand #1 (2-14') 2" PVC Pre-Pack Screen (4-14')
15						End of Exploration at 14 feet.				
20										
25										
30										

REMARKS

1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and above background readings. ND = None Detected above background.
1 - 10 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-slot PVC well screen set at approximately 14 feet below grade. Well completed in ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser. Filter sand placed in annulus around well from 2 to 14 feet below grade. Bentonite seal installed from 1 to 2 feet below grade. Remaining annulus filled with grout from 0 to 1 feet below grade. Well completed with concrete collar/roadbox.

Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

GZ-7

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
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Town of Canton
Canton, Connecticut

EXPLORATION NO.: GZ-71
SHEET: 1 of 1
PROJECT NO: 05.0046589.02
REVIEWED BY:

Logged By: T. Lucas
Drilling Co.: Glacier Drilling
Foreman: Matt Schock

Geoprobe Location: See Plan
Ground Surface Elev. (ft.):
Final Geoprobe Depth (ft.): 30
Date Start - Finish: 11/30/2020 - 11/30/2020

H. Datum:
V. Datum:

Type of Rig: Sonic
Rig Model: GV5
Drilling Method:
Direct Push

Sampler Type: MacroCore
Sampler O.D. (in.): 6
Sampler Length (in.): 60
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
11/30/2020		5.63	

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID* (ppm)						
		0-6				: Air vacuumed to 6'	1				
5	S-1	6-10	48	48	ND	S-1 : Top 37": Brown, medium to coarse SAND and GRAVEL, trace to little Silt, little Cobble Bottom 11": Tight, pale brown, fine to medium SAND and fine GRAVEL, little Silt, moist					Sand #1 (0-4')
10	S-2	10-15	60	60	ND	S-2 : Top 30": Tight, pale brown, fine to medium SAND and fine GRAVEL, little Silt, little Cobble, wet Bottom 30": Grey, fine SAND, some fine Gravel, little Silt, moist					Grout (4-12') 2" PVC Riser (0-16')
15	S-3	15-20	60	60	ND	S-3 : Top 40": Brown, fine GRAVEL and medium SAND, little Silt, moist Bottom 20": Tight, red-brown, fine SAND, little fine Gravel, little Silt, moist					Bentonite (12-14') Sand #1 (14-16')
20	S-4	20-25	60	60	ND	S-4 : Quartz, Feldspar SCHIST	2			20	2" PVC Pre-Pack Screen (16-21') Sand #1 (21-22')
25	S-5	25-30	60	60	NM	S-5 : Quartz, Feldspar SCHIST					Bentonite (22-30')
30										30	

End of exploration at 30 feet.

REMARKS
1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and above background readings.
ND = None Detected above background. NM = Not Measured
2 - 10 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-slot PVC well screen set at approximately 30 feet below grade. Well completed in ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser. Filter sand placed in annulus around well from 14 to 22 feet below grade. Bentonite seal installed from 12 to 14 feet below grade. Remaining annulus filled with grout from 4 to 12 feet below grade. Well completed with concrete collar/roadbox.

Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

GZ-71

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

Town of Canton
Canton, Connecticut

EXPLORATION NO.: GZ-8
SHEET: 1 of 1
PROJECT NO: 05.0046589.02
REVIEWED BY:

Logged By: T. Lucas
Drilling Co.: Glacier Drilling
Foreman: Matt Schock

Geoprobe Location: See Plan
Ground Surface Elev. (ft.):
Final Geoprobe Depth (ft.): 13
Date Start - Finish: 12/7/2020 - 12/7/2020

H. Datum:
V. Datum:

Type of Rig: Sonic
Rig Model: GV5
Drilling Method:
Direct Push

Sampler Type: MacroCore
Sampler O.D. (in.): 6
Sampler Length (in.): 60
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.) Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID* (ppm)					
5		0-13				: See GZ-8I for Soil Descriptions	1			Sand #1 (0-1') Bentonite (1-2') 2" PVC Riser (0-3')
10							2			Sand #1 (2-13') 2" PVC Pre-Pack Screen (3-13')
15						End of Exploration at 13 feet.				
20										
25										
30										

REMARKS

1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and above background readings. ND = None Detected above background.
2 - 10 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-slot PVC well screen set at approximately 13 feet below grade. Well completed in ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser. Filter sand placed in annulus around well from 2 to 13 feet below grade. Bentonite seal installed from 1 to 2 feet below grade. Remaining annulus filled with grout from 0 to 1 feet below grade. Well completed with concrete collar/roadbox.

Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

GZ-8

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

Town of Canton
Canton, Connecticut

EXPLORATION NO.: GZ-8I
SHEET: 1 of 1
PROJECT NO: 05.0046589.02
REVIEWED BY:

Logged By: T. Lucas
Drilling Co.: Glacier Drilling
Foreman: Matt Schock

Geoprobe Location: See Plan
Ground Surface Elev. (ft.):
Final Geoprobe Depth (ft.): 28.5
Date Start - Finish: 12/7/2020 - 12/7/2020

H. Datum:
V. Datum:

Type of Rig: Sonic
Rig Model: GV5
Drilling Method:
Direct Push

Sampler Type: MacroCore
Sampler O.D. (in.): 6
Sampler Length (in.): 60
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
12/7/2020		3.07	

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID* (ppm)						
5	S-1	0-10	120	120	ND	S-1 : Top 19": Loose, brown, fine to medium SAND, little Silt, little Gravel, moist Next 23": Loose, grey-brown, medium SAND, trace Silt, wet Next 44": Loose, brown, fine to medium SAND, little Silt, little Gravel, trace Cobble, wet Bottom 24": Dense, brown, fine to medium SAND, some Cobble, little Silt, little Gravel, wet	1		SAND AND GRAVEL	2.5	Sand #1 (0-3')
									SAND	4.5	
10	S-2	10-20	120	120	ND	S-2 : Top 51": Loose, brown, fine to medium SAND, little Silt, trace Gravel, wet Middle 51": Very dense, grey-brown, fine to medium SAND, some Cobble, little Silt, little Gravel, trace Boulder Bottom 18": Grey, Quartz, Mica, Feldspar SCHIST (102-114" highly fractured)			SAND AND GRAVEL	18.5	Grout (3-19.5') 2" PVC Riser (0-23.5')
20	S-3	20-28.5	102	102		S-3 : Grey, Mica, Feldspar SCHIST			BEDROCK	20	
25											Bentonite (19.5-21.5')
30						End of exploration at 28.5 feet.	2				Sand #1 (21.5-28.5') 2" PVC Pre-Pack Screen (23.5-28.5')

REMARKS
1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and above background readings.
ND = None Detected above background.
2 - 10 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-slot PVC well screen set at approximately 28.5 feet below grade. Well completed in ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser. Filter sand placed in annulus around well from 21.5 to 28.5 feet below grade. Bentonite seal installed from 19.5 to 21.5 feet below grade. Remaining annulus filled with grout from 3 to 19.5 feet below grade. Well completed with concrete collar/roadbox.

Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

GZ-8I

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

Town of Canton
Canton, Connecticut

EXPLORATION NO.: GZ-9
SHEET: 1 of 1
PROJECT NO: 05.0046589.02
REVIEWED BY:

Logged By: T. Lucas
Drilling Co.: Glacier Drilling
Foreman: Matt Schock

Geoprobe Location: See Plan
Ground Surface Elev. (ft.):
Final Geoprobe Depth (ft.): 13.5
Date Start - Finish: 12/3/2020 - 12/3/2020

H. Datum:
V. Datum:

Type of Rig: Sonic
Rig Model: GV5
Drilling Method:
Direct Push

Sampler Type: MacroCore
Sampler O.D. (in.): 6
Sampler Length (in.): 60
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
12/3/2020		3.99	

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.) Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID* (ppm)					
5		0-13.5				: Air vacuumed to 6' See GZ-9I for Soil Descriptions	1			
10							2			
15						End of Exploration at 13.5 feet.				
20										
25										
30										

REMARKS

1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and above background readings. ND = None Detected above background.
2 - 10 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-slot PVC well screen set at approximately 13.5 feet below grade. Well completed in ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser. Filter sand placed in annulus around well from 2.5 to 13.5 feet below grade. Bentonite seal installed from 1.5 to 2.5 feet below grade. Remaining annulus filled with sand from 0 to 1.5 feet below grade. Well completed with concrete collar/roadbox.

Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

GZ-9

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

Town of Canton
Canton, Connecticut

EXPLORATION NO.: GZ-9I
SHEET: 1 of 1
PROJECT NO: 05.0046589.02
REVIEWED BY:

Logged By: T. Lucas
Drilling Co.: Glacier Drilling
Foreman: Matt Schock

Geoprobe Location: See Plan
Ground Surface Elev. (ft.):
Final Geoprobe Depth (ft.): 30
Date Start - Finish: 12/2/220 - 12/2/2020

H. Datum:
V. Datum:

Type of Rig: Sonic
Rig Model: GV5
Drilling Method:
Direct Push

Sampler Type: MacroCore
Sampler O.D. (in.): 6
Sampler Length (in.): 60
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
12/2/2020		4.04	

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID* (ppm)						
		0-5				: Air vacuumed to 5'	1				
5	S-1	5-10	60	60	ND	S-1 : Top 24": Dense, grey, fine SAND and SILT, 1/8" orange mottling @ 2", 4", 7"; 1/4" orange mottling @ 10", moist Bottom 36": Very dense, brown, fine to medium SAND, little Gravel, little Silt, moist			SAND	7	Sand #1 (0-3')
10	S-2	10-15	60	60	ND	S-2 : Top 28": Loose, brown, fine to medium SAND and GRAVEL, little Silt, moist Middle 10": Loose, brown, fine to medium SAND and COBBLE, little Gravel, little Silt, wet Bottom 22": Loose, red-brown, fine to medium SAND, little Gravel, little Silt, trace Boulder, wet			SAND AND GRAVEL	13	Grout (3-17') 2" PVC Riser (0-21')
15	S-3	15-20	60	60	ND	S-3 : Top 36": Loose, red-brown, medium SAND, some Gravel, trace to little Silt, wet Bottom 24": Very dense, grey-brown, fine to medium SAND, little to some Silt, trace Gravel, wet					
20	S-4	20-25	60	60	ND	S-4 : Loose, medium SAND, some Gravel, little Silt, wet			SAND		Bentonite (17-19')
25	S-5	25-30	60	60	ND	S-5 : Top 13": Loose, grey-brown, fine to medium SAND, some Silt, little Gravel Middle 35": Grey SCHIST, weathered Bottom 12": Grey SCHIST	2			26	Sand #1 (19-26') 2" PVC Pre-Pack Well Screen (21-26')
									WEATHERED BEDROCK	29	
30									BEDROCK	30	

End of exploration at 30 feet.

REMARKS
1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and above background readings.
ND = None Detected above background.
2 - 5 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-slot PVC well screen set at approximately 26 feet below grade. Well completed in ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser. Filter sand placed in annulus around well from 19 to 26 feet below grade. Bentonite seal installed from 17 to 19 feet below grade. Remaining annulus filled with grout from 3 to 17 feet below grade. Well completed with concrete collar/roadbox.

Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

GZ-9I

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

Town of Canton
Canton, Connecticut

EXPLORATION NO.: GZ-10
SHEET: 1 of 1
PROJECT NO: 05.0046589.02
REVIEWED BY:

Logged By: T. Lucas
Drilling Co.: Glacier Drilling
Foreman: Matt Schock

Geoprobe Location: See Plan
Ground Surface Elev. (ft.):
Final Geoprobe Depth (ft.): 13
Date Start - Finish: 12/4/2020 - 12/4/2020

H. Datum:
V. Datum:

Type of Rig: Sonic
Rig Model: GV5
Drilling Method:
Direct Push

Sampler Type: MacroCore
Sampler O.D. (in.): 6
Sampler Length (in.): 60
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
12/4/2020		2.81	

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID* (ppm)						
		0-6				: Air vacuumed to 6'	1				
5	S-1	6-10	48	48	ND	S-1 : Top 25": Loose, brown, fine to medium SAND, some Cobble, little Silt, little Gravel, trace coarse Sand, trace Gravel, wet Middle 6": Loose, grey, fine to medium SAND, some Silt			SAND	9	
10	S-2	10-13	36	36	ND	Bottom 17": Grey, weathered SCHIST S-2 : Grey, weathered Mica, Feldspar, SCHIST, little Quartz	2		WEATHERED BEDROCK	13	
15						End of exploration at 13 feet.					
20											
25											
30											

REMARKS

1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and above background readings.
ND = None Detected above background.
2 - 10 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-slot PVC well screen set at approximately 13 feet below grade. Well completed in ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser. Filter sand placed in annulus around well from 2 to 13 feet below grade. Bentonite seal installed from 1 to 2 feet below grade. Remaining annulus filled with sand from 0 to 1 feet below grade. Well completed with concrete collar/roadbox.

Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

GZ-10

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

Town of Canton
Canton, Connecticut

EXPLORATION NO.: GZ-11
SHEET: 1 of 1
PROJECT NO: 05.0046589.02
REVIEWED BY:

Logged By: T. Lucas
Drilling Co.: Glacier Drilling
Foreman: Matt Schock

Geoprobe Location: See Plan
Ground Surface Elev. (ft.):
Final Geoprobe Depth (ft.): 13.5
Date Start - Finish: 12/7/2020 - 12/7/2020

H. Datum:
V. Datum:

Type of Rig: Sonic
Rig Model: GV5
Drilling Method:
Direct Push

Sampler Type: MacroCore
Sampler O.D. (in.): 6
Sampler Length (in.): 60
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.) Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID* (ppm)					
5		0-6				: Air vacuumed to 6' See GZ-111 for Soil Descriptions	1			
10							2			
15						End of Exploration at 13.5 feet.				
20										
25										
30										

REMARKS

1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and above background readings. ND = None Detected above background.
2 - 10 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-slot PVC well screen set at approximately 13.5 feet below grade. Well completed in ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser. Filter sand placed in annulus around well from 2.5 to 13.5 feet below grade. Bentonite seal installed from 1.5 to 2.5 feet below grade. Remaining annulus filled with sand from 0 to 1.5 feet below grade. Well completed with concrete collar/roadbox.

Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

GZ-11

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

Town of Canton
Canton, Connecticut

EXPLORATION NO.: GZ-111
SHEET: 1 of 1
PROJECT NO: 05.0046589.02
REVIEWED BY:

Logged By: T. Lucas
Drilling Co.: Glacier Drilling
Foreman: Matt Schock

Geoprobe Location: See Plan
Ground Surface Elev. (ft.):
Final Geoprobe Depth (ft.): 25
Date Start - Finish: 12/4/2020 - 12/4/2020

H. Datum:
V. Datum:

Type of Rig: Sonic
Rig Model: GV5
Drilling Method:
Direct Push

Sampler Type: MacroCore
Sampler O.D. (in.): 6
Sampler Length (in.): 60
Rock Core Size:

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)	Equipment Installed
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID* (ppm)						
		0-6				: Air vacuumed to 6'	1				
5	S-1	6-10	48	48	ND	S-1 : Top 30": Loose, brown, medium to coarse SAND, some Gravel, little Cobble, trace Silt, trace Boulder, wet Middle 11": Medium dense, brown, fine SAND, little to some Silt, wet Bottom 7": Loose, brown, fine to medium SAND, little Gravel, trace Silt			SAND		Sand #1 (0-3')
10	S-2	10-16.5	78	78	ND	S-2 : Top 31": Loose, brown, fine to medium SAND, little Gravel, little Silt, trace Cobble, wet Next 18": Medium dense, brown, fine to medium SAND, some Gravel, little Silt, little Cobble Next 21": Dense, brown, fine SAND, some Silt, little Gravel, trace Cobble, wet Bottom 8": Grey Quartz and Feldspar SCHIST					Grout (3-15.5') 2" PVC Riser (0-19.5')
15	S-3	16.5-20	42	42		S-3 : Grey Quartz and Feldspar SCHIST				16	Bentonite (15.5-17.5')
20	S-4	20-25	60	60		S-4 : Top 20": Grey, Mica and Feldspar SCHIST, little Quartz Bottom 40": Grey, Mica and Feldspar SCHIST, moderately fractured			BEDROCK		Sand #1 (17.5-25') 2" PVC Pre-Pack Screen (19.5-24.5')
25						End of exploration at 25 feet.	2			25	
30											

REMARKS
1 - Soil samples screened with a 10.6 eV MiniRAE photoionization detector (PID). PID values represent meter response in parts per million (ppm) relative to benzene in air and above background readings.
ND = None Detected above background.
2 - 5 feet of 2 inch diameter, Schedule 40, threaded, flush joint, 10-slot PVC well screen set at approximately 25 feet below grade. Well completed in ground surface with a 2 inch diameter, Schedule 40, threaded, flush joint, PVC riser. Filter sand placed in annulus around well from 17.5 to 25 feet below grade. Bentonite seal installed from 15.5 to 17.5 feet below grade. Remaining annulus filled with grout from 3 to 15.5 feet below grade. Well completed with concrete collar/roadbox.

Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

GZ-111



APPENDIX E
GROUNDWATER AND SURFACE WATER FIELD DATA SHEETS

SURFACE WATER SAMPLE FIELD LOG

GZA GeoEnvironmental, Inc. 95 Glastonbury Blvd., 3rd Floor Glastonbury, CT 06033 Phone: (860) 286-8900		<u>PROJECT</u>						Date: 1/15/2021 Page 1 of 1			
		Project Name: Town of Canton Project Location: Canton, Connecticut						File No. 05.0046589.02 GZA Staff/Sampler: T. Lucas PM: R. Desrosiers			
GZA Staff: T. Lucas Weather: 30's°F, Cloudy		Sample Method/Device Sample Device: Grab Grab Bomb Kemmerer Trap Bottle Other						Surface Water Body Cherry Brook			
Water Quality Meter Calibration Data											
pH Meter: Model: YSI 556A		Reading: pH 4: 4 /		pH 7: 7 /		pH 10: 10 /					
Spec. Con. Model: YSI 556A		Standard Solution: 1413		Reading: (start) 1408		(finish) 1413					
DO: Model: YSI 556A		Standard Solution: 100%		Reading: (start) 99.6		(finish) 100.0					
Turbidity: Model: Micro TPI		Standard Solution: 1000/10/0.02		Reading: (start)		(finish) 1000/10/0.02					
Sample ID	Time	Water Depth (ft.)	Sample Depth (ft.)	Turbidity (ntu)	pH (su)	S.C. (uS)	DO (mg/L)	Temp. (C)	ORP (mvolts)	Salinity (ppt)	Sample Location
S-1	1214	~4.0	0.5'	8.61	7.57	80.3	14.35	3.3	129.0	0.04	
S-2	1224	~3.5	0.5'	9.43	7.16	95.4	14.23	2.7	128.1	0.04	Small amount of river babble
S-3*	1235	~5.5	0.5'	14.36	6.95	98.7	56.74(x)	2.6	142.9	0.05	Large amount of foam build up
S-4	1305	~4.5	0.5'	11.07	6.74	111.4	17.15	2.6	168.3	0.05	Small amount of (foam/river babble) buildup
S-5	1335	~3.5	0.5'	7.72	6.77	84.7	18.26	2.4	149.3	0.05	Small amount of (foam/river babble) buildup
SITE SKETCH See Figure 5 for sample locations. *S-3 Duplicate sample collected here. (x) 56.74 (jumped between 60's - 90's for a while)									Analysis: PFAS MOD, Method 537 isotope dilution, 18 compounds		

WATER LEVEL MEASUREMENT LOG

GZA GeoEnvironmental, Inc. 95 Glastonbury Blvd., 3rd Floor Glastonbury, CT 06033 Phone: (860) 286-8900			PROJECT Project Name: <u>Town of Canton</u>					Date: <u>1/13/21</u> Page 1 of 1 File No. <u>05.0046589.02</u>	
Location: <u>Canton, Connecticut</u>			MEASURING EQUIPMENT					GZA Staff/Sampler <u>T. Lucas</u> Abbreviations: PVC = Top of PVC well riser. Stl = Top of steel well casing/protector. Grnd = Relative to ground surface.	
Air Temperature (°F): <u>20's</u> Weather Conditions: <u>Cloudy</u>			Measuring Device: <u>Keck</u> FiberglassTape Electric Tape Interface Meter Other						
Time	Well/Stream Gauge I.D.	Depth to Water (ft)	Total Depth of Well (ft)	Measmnt. Datum PVC/Stl/Grnd	DNAPL Thickness (ft)	LNAPL Thickness (ft)	Correct. Factor (ft)	Comments/Well Condition	
	GZ-1	5.12	19.30	PVC	N/A	N/A	N/A	Good	
	GZ-2D	4.30	43.70	PVC	N/A	N/A	N/A	Good	
	GZ-2I	3.63	24.85	PVC	N/A	N/A	N/A	Good	
	GZ-2	3.47	16.45	PVC	N/A	N/A	N/A	Good	
	GZ-3	3.59	18.30	PVC	N/A	N/A	N/A	Good	
	GZ-4D	3.45	33.23	PVC	N/A	N/A	N/A	Good	
	GZ-4I	3.67	20.12	PVC	N/A	N/A	N/A	Good	
	GZ-4	3.64	14.01	PVC	N/A	N/A	N/A	Good	
	GZ-5	7.19	14.02	PVC	N/A	N/A	N/A	Good	
	GZ-6	4.09	13.94	PVC	N/A	N/A	N/A	Good	
	GZ-7I	4.22	20.55	PVC	N/A	N/A	N/A	Good	
	GZ-7	3.54	13.78	PVC	N/A	N/A	N/A	Good	
	GZ-8I	4.07	29.36	PVC	N/A	N/A	N/A	Good	
	GZ-8	4.66	15.28	PVC	N/A	N/A	N/A	Good	
	GZ-9I	4.68	25.95	PVC	N/A	N/A	N/A	Good	
	GZ-9	4.74	13.24	PVC	N/A	N/A	N/A	Good	
	GZ-10	5.62	15.93	PVC	N/A	N/A	N/A	Good	
	GZ-11I	3.96	23.27	PVC	N/A	N/A	N/A	Good	
	GZ-11	4.00	12.80	PVC	N/A	N/A	N/A	Good	
	SG-1	2.81	-	ref	N/A	N/A	N/A	Good	
	SG-2	2.89	-	ref	N/A	N/A	N/A	Good	
	SG-3	3.40	-	ref	N/A	N/A	N/A	Good	
	Bridge	12.51	-	ref	N/A	N/A	N/A	Good, sidewalk side, middle	

Table 6
Hydraulic Conductivity and Screening Summary

Town of Canton
4 Barbourtown road
Canton, CT

Well ID	Media Well Screened In	Top of Screen Depth	Bottom of Screen Depth	Depth to Top of Bedrock	Difference TOC and Grade	Static Water Level TOC	Static Water Level Grade	Casing Radius	Borehole Radius	Borehole Radius	Screen Length	Screen Effective Length	Effective Well Radius	Effective Screen Radius	Effective Screen Radius	Kv/Kh Ratio	Aquifer Thickness (b)	Initial Displacement	Static Water Column Height	Slug Method	Test 1 (Slug In)	Test 2 (Slug Out)	Harm_Kh
Units		FT BSG	FT BSG		FT	FT TOC	FT BSG	in	in	ft	ft	ft	in	in	ft	-	ft	ft	FT BSG	-	ft/day	ft/day	ft/day
GZ-1	OB	7	20	--	0.63	6.724	7.35	4	4	0.17	13.5	13.5	2	1	0.0833	1	12.65	0.469	12.65	Slug	0.53	4.07	2.30
GZ-2	OB	4	17.5	--	0.98	3.63	4.61	4	4	0.17	13.5	13.5	2	1	0.0833	1	12.89	0.765	12.89	Slug	3.96	1.45	2.70
GZ-2D	BR	39.5	44.5	WBR = 23' BR = 30'	0.67	4.95	5.62	6	6	0.25	5	5	3	1	0.0833	1	5	2.044	38.88	Pnuematic	2.62	2.71	2.67
GZ-2I	OB/WBR	20	25	WBR = 23'	1.04	4.452	5.49	6	6	0.25	5	5	3	1	0.0833	1	5	2.102	19.51	Pnuematic	43.75	32.76	38.26
GZ-3	OB	4.3	19.3	--	0.9	3.62	4.52	4	4	0.17	13.5	13.5	2	1	0.0833	1	14.78	1.491	14.78	Slug	0.36	0.37	0.37
GZ-4	OB	4.5	14.5	--	0.38	3.492	3.87	4	4	0.17	13.5	13.5	2	1	0.0833	1	10	1.491	10.63	Slug	0.44	0.46	0.45
GZ-4D	WBR/BR	29	34	WBR=21' BR=32.5'	0.25	3.418	3.67	6	6	0.25	5	5	3	1	0.0833	1	5	2.005	30.33	Pnuematic	2.85	2.79	2.82
GZ-4I	OB	16	21	--	0.23	3.457	3.69	6	6	0.25	5	5	3	1	0.0833	1	5	1.984	17.31	Pnuematic	0.36	0.39	0.38
GZ-5	OB	5	15	--	0.6	7.42	8.02	6	6	0.25	5	5	3	1	0.0833	1	6.98	0.579	6.98	Slug		21.55	21.55
GZ-6	OB	4	14	--	0.29	4.37	4.66	6	6	0.25	5	5	3	1	0.0833	1	9.34	0.579	9.34	Slug		25.64	25.64
GZ-7	OB	4	14	--	0.78	3.664	4.44	6	6	0.25	5	5	3	1	0.0833	1	9.56	1.034	9.56	Slug	2.16	3.94	3.05
GZ-7I	OB/BR	16	21	BR=20'	0.21	4.377	4.59	6	6	0.25	5	5	3	1	0.0833	1	5	2.121	16.41	Pnuematic	35.61	34.11	34.86
GZ-8	OB	3	13	--	-2.63	4.605	1.98	6	6	0.25	5	5	3	1	0.0833	1	10	1.329	11.03	Slug	0.35	0.46	0.41
GZ-8I	BR	23.5	28.5	BR=18.5'	-1.69	3.468	1.78	6	6	0.25	5	5	3	1	0.0833	1	5	1.986	26.72	Pnuematic	3.70	3.54	3.62
GZ-9	OB	3.5	13.5	--	0.34	5.1	5.44	6	6	0.25	5	5	3	1	0.0833	1	8.06	1.491	8.06	Slug	0.50	0.51	0.51
GZ-9I	OB	21	26	WBR=26' BR=29'	0.42	5.01	5.43	6	6	0.25	5	5	3	1	0.0833	1	5	2.25	20.57	Pnuematic	6.46	6.48	6.47
GZ-10	OB/WBR	3	13	WBR=9'	-2.64	6	3.36	6	6	0.25	5	5	3	1	0.0833	1	9.64	1.424	9.64	Slug	1.87	2.18	2.03
GZ-11	OB	3.5	13.5	--	0.78	3.244	4.02	6	6	0.25	5	5	3	1	0.0833	1	9.48	1.424	9.48	Slug	1.84	1.65	1.75
GZ-11I	BR	19.5	24.5	BR=14.5'	0.35	3.82	4.17	6	6	0.25	5	5	3	1	0.0833	1	5	1.982	20.33	Pnuematic	9.39	10.13	9.76

	Average K/unit	Geomean/unit
Soil/OB	5.46	1.84
OB/WBR	25.05	13.93
BR	4.72	4.04

GZA GeoEnvironmental, Inc.
95 Glastonbury Blvd, 3rd Floor
Glastonbury, CT 06033

GROUNDWATER SAMPLING DATA SHEET

Well ID: GZ-21
Sample Date: 1/13/2021

PROJECT INFORMATION

Project Name: Town of Canton Location: Canton, CT File No. 05.0046589.02

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 1/13/2021 Collector Initials: TWL
Reference Point of Measurement: PVC Riser ☒ Steel Casing ☐ Sound ☐
Well Completion: Stand Pipe ☐ Road Box ☒
Difference Between PVC and Casing Top (feet): 0.93
Well Screened Interval (ftg) 20-25
HACH Kit Type NA
Reference Elevation (feet) 396.251
Ground Elevation (feet) 397.287
Difference in Elevation (feet): -1.036
(Reference Elevation - Ground Elevation)
Other Field Method

	Depth from Ref. Point	Depth Below Ground	(Reference Point Measurement - Difference in Elevation)
Total Length of Well (feet):	24.85	25.89	
Depth to Water (feet):	3.63	4.67	Total Purged Sampled Volume 3.6 <input type="checkbox"/> gallons or <input checked="" type="checkbox"/> liters
Standing Water in Well (feet):	21.22	21.22	Multiply liters by 0.2642 to get gallons

Well Condition: Protective Casing - poor / good; Lock - Yes / No; Expansion Cap - Yes/No; Well ID - Yes / No; Concrete Collar - Yes / No; Well - poor / good
Well head vapors: VOCs (PID/FID) ppmv Methane (FID/Other) ppmv Other ppmv

Sample Method: Bail ☐ Grab ☐ Pump ☐ Low Flow ☒ Purge Method: Bail ☐ Pump ☒ Flow-Thru Cell Vol: (460mL) ☒ Other ☐
Pump Type: Electric Submersible ☐ Peristaltic ☒ Bladder Pump ☐ Other: ☐ 250 mL

CALIBRATION DATA:

Specific Conductance: Instrument Model: YSI 556 Standard Solution: 1413 Reading (start) 1413 (finish)
pH (s.u.): Instrument Model: YSI 556 Reading: pH 4: 4 pH 7: 7 pH 10: 10
DO (mg/L): Instrument Model: YSI 556 Standard Solution: 100% Reading (start) 100.00% (finish)
Turbidity (NTU): Instrument Model: Micro TPI Standard Solution: 1000/10/0.02 Reading (start) 1000/10/0.02
ORP (mvols): Instrument Model: YSI 556 Standard Solution: 237.5 Reading (start) 237.7 (finish)

INSTRUMENT MEASUREMENTS:

Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time:	740	755	805	810	815	820				820
Depth to Water (ft) below Ref. point (drawdown <0.3)	3.63	3.66	3.66	3.66	3.66	3.60				3.60
Volume Purged (L)		1.35	2.25	2.7	3.15	3.6				3.6
Purge Rate (ml/min)		90	90	90	90	90				90
Temperature (3%) °C		8.6	8.7	8.7	8.8	8.8				8.8
Spec. Cond. (3%) (µS)		181.4	181.2	180.8	180.4	180.1				180.1
Salinity (3%) (ppt)		0.09	0.09	0.09	0.09	0.09				0.09
DO (10%) (mg/L)		5.01	5.06	5.03	5.00	4.96				4.96
pH (+/- 0.1) (s.u.)		5.86	5.86	5.84	5.82	5.81				5.81
ORP** (+/- 10) (mvols)		280.2	282.6	283.2	283.8	284.5				284.5
Turbidity (<5) (10%) (ntu)		15.32	6.88	5.90	5.22	4.43				3.63

*Static measurement is before installation of equipment.

**If ORP is negative and DO is greater than 2 mg/L or if DO is greater than 10 mg/L; recalibrate and/or clean instrument. If persistent call PM.

SAMPLING INFORMATION

Sample Depth: 22.5' Sample Time: 820 Sample ID: GZ-2/DUP
(below grade X or ref. pt.)

Analysis	Method	No. Bottles	Bottle Type	Vol.	Preservation	Handling
PFAS		4	HDPE	250 mL	As Is	Cooler/Ice

DUP sample collected.

NOTES/OBSERVATIONS:

Color:	Clear	Odor: None	Product Thickness*:	N/A	Well Condition:	Good
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(*Call PM if present)

GZA GeoEnvironmental, Inc.
95 Glastonbury Blvd, 3rd Floor
Glastonbury, CT 06033

GROUNDWATER SAMPLING DATA SHEET

Well ID: GZ-4D
Sample Date: 1/14/2021

PROJECT INFORMATION

Project Name: Town of Canton Location: Canton, CT File No. 05.0046589.02

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 1/14/2021 Collector Initials: TWL
Reference Point of Measurement: PVC Riser ☒ Steel Casing ☐ Sound ☐ Reference Elevation (feet) 395.08
Well Completion: Stand Pipe ☐ Road Box ☒ Ground Elevation (feet) 395.33
Difference Between PVC and Casing Top (feet): 0.36 Difference in Elevation (feet): -0.25
Well Screened Interval (ftg) 29-34 (Reference Elevation - Ground Elevation)
HACH Kit Type NA Other Field Method

	Depth from Ref. Point	Depth Below Ground	(Reference Point Measurement - Difference in Elevation)
Total Length of Well (feet):	33.23	33.48	
Depth to Water (feet):	3.45	3.7	Total Purged Sampled Volume 4.95 <input type="checkbox"/> gallons or <input checked="" type="checkbox"/> liters
Standing Water in Well (feet):	29.78	29.78	Multiply liters by 0.2642 to get gallons

Well Condition: Protective Casing - poor / good; Lock - Yes / No; Expansion Cap - Yes/No; Well ID - Yes / No; Concrete Collar - Yes / No; Well - poor / good
Well head vapors: VOCs (PID/FID) ppmv Methane (FID/Other) ppmv Other ppmv

Sample Method: Bail ☐ Grab ☐ Pump ☐ Low Flow ☒ Purge Method: Bail ☐ Pump ☒ Flow-Thru Cell Vol: (460mL) ☒ Other ☐
Pump Type: Electric Submersible ☐ Peristaltic ☒ Bladder Pump ☐ Other: ☐ 250 mL

CALIBRATION DATA:

Specific Conductance: Instrument Model: YSI 556 Standard Solution: 1413 Reading (start) 1413 (finish)
pH (s.u.): Instrument Model: YSI 556 Reading: pH 4: 4 pH 7: 7 pH 10: 9.99
DO (mg/L): Instrument Model: YSI 556 Standard Solution: 100% Reading (start) 100.10% (finish)
Turbidity (NTU): Instrument Model: Micro TPI Standard Solution: 1000/10/0.02 Reading (start) 1000/10/0.02
ORP (mvols): Instrument Model: YSI 556 Standard Solution: 237.5 Reading (start) 237.7 (finish)

INSTRUMENT MEASUREMENTS:

Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time:	900	915	945	950	955					955
Depth to Water (ft) below Ref. point (drawdown <0.3)	3.45	3.49	3.50	3.50	3.50					3.50
Volume Purged (L)		1.35	4.05	4.5	4.95					4.95
Purge Rate (ml/min)		90	90	90	90					90
Temperature (3%) °C		9.2	9.0	8.9	8.9					8.9
Spec. Cond. (3%) (µS)		317.6	314.2	314.0	313.7					313.7
Salinity (3%) (ppt)		0.15	0.15	0.14	0.14					0.14
DO (10%) (mg/L)		0.42	0.37	0.37	0.37					0.37
pH (+/- 0.1) (s.u.)		7.18	7.24	7.24	7.26					7.26
ORP** (+/- 10) (mvols)		-82.0	-90.7	-90.9	-90.8					-90.8
Turbidity (<5) (10%) (ntu)		18.69	4.04	3.59	3.22					3.22

*Static measurement is before installation of equipment.

**If ORP is negative and DO is greater than 2 mg/L or if DO is greater than 10 mg/L; recalibrate and/or clean instrument. If persistent call PM.

SAMPLING INFORMATION

Sample Depth: 31.2' Sample Time: 955 Sample ID: GZ-4D
(below grade X or ref. pt.)

Analysis	Method	No. Bottles	Bottle Type	Vol.	Preservation	Handling
PFAS		2	HDPE	250 mL	As Is	Cooler/Ice

NOTES/OBSERVATIONS:

Color: Clear Odor: None Product Thickness*: N/A Well Condition: Good
(*Call PM if present)

GZA GeoEnvironmental, Inc.
95 Glastonbury Blvd, 3rd Floor
Glastonbury, CT 06033

GROUNDWATER SAMPLING DATA SHEET

Well ID: GZ-41
Sample Date: 1/14/2021

PROJECT INFORMATION

Project Name: Town of Canton Location: Canton, CT File No. 05.0046589.02

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 1/14/2021 Collector Initials: TWL
Reference Point of Measurement: PVC Riser ☒ Steel Casing ☐ Sound ☐ Reference Elevation (feet) 395.24
Well Completion: Stand Pipe ☐ Road Box ☒ Ground Elevation (feet) 395.47
Difference Between PVC and Casing Top (feet): 0.27 Difference in Elevation (feet): -0.23
Well Screened Interval (fbg) 16-21 (Reference Elevation - Ground Elevation)
HACH Kit Type NA Other Field Method _____

	Depth from Ref. Point	Depth Below Ground	(Reference Point Measurement - Difference in Elevation)
Total Length of Well (feet):	20.12	20.35	
Depth to Water (feet):	3.67	3.9	Total Purged Sampled Volume 4.95 <input type="checkbox"/> gallons or <input checked="" type="checkbox"/> liters
Standing Water in Well (feet):	16.45	16.45	Multiply liters by 0.2642 to get gallons

Well Condition: Protective Casing - poor / good; Lock - Yes / No; Expansion Cap - Yes/No; Well ID - Yes / No; Concrete Collar - Yes / No; Well - poor / good
Well head vapors: VOCs (PID/FID) _____ ppmv Methane (FID/Other) _____ ppmv Other _____ ppmv

Sample Method: Bail ☐ Grab ☐ Pump ☐ Low Flow ☒ Purge Method: Bail ☐ Pump ☒ Flow-Thru Cell Vol: (460mL) ☒ Other ☐
Pump Type: Electric Submersible ☐ Peristaltic ☒ Bladder Pump ☐ Other: ☐ _____ 250 mL

CALIBRATION DATA:

Specific Conductance: Instrument Model: YSI 556 Standard Solution: 1413 Reading (start) 1413 (finish) _____
pH (s.u.): Instrument Model: YSI 556 Reading: pH 4: 4 pH 7: 7 pH 10: 9.99
DO (mg/L): Instrument Model: YSI 556 Standard Solution: 100% Reading (start) 100.10% (finish) _____
Turbidity (NTU): Instrument Model: Micro TPI Standard Solution: 1000/10/0.02 Reading (start) 1000/10/0.02
ORP (mvols): Instrument Model: YSI 556 Standard Solution: 237.5 Reading (start) 237.7 (finish) _____

INSTRUMENT MEASUREMENTS:

Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time:	745	800	820	830	835	840				840
Depth to Water (ft) below Ref. point (drawdown <0.3)	3.67	3.72	3.72	3.72	3.72	3.72				3.72
Volume Purged (L)		1.35	3.15	4.05	4.5	4.95				4.95
Purge Rate (ml/min)		90	90	90	90	90				90
Temperature (3%) °C		9.0	9.1	9.1	9.0	9.0				9.0
Spec. Cond. (3%) (µS)		285.3	285.2	285.6	286.1	286.2				286.2
Salinity (3%) (ppt)		0.14	0.14	0.14	0.14	0.14				0.14
DO (10%) (mg/L)		1.52	0.75	0.82	0.80	0.78				0.78
pH (+/- 0.1) (s.u.)		7.72	7.74	7.69	7.68	7.66				7.66
ORP** (+/- 10) (mvols)		-52.1	-65.7	-72.6	-76.0	-79.5				-79.5
Turbidity (<5) (10%) (ntu)		18.77	8.87	5.54	3.99	3.62				3.62

*Static measurement is before installation of equipment.

**If ORP is negative and DO is greater than 2 mg/L or if DO is greater than 10 mg/L; recalibrate and/or clean instrument. If persistent call PM.

SAMPLING INFORMATION

Sample Depth: 18' Sample Time: 840 Sample ID: GZ-41
(below grade X or ref. pt.)

Analysis	Method	No. Bottles	Bottle Type	Vol.	Preservation	Handling
PFAS		2	HDPE	250 mL	As Is	Cooler/Ice

NOTES/OBSERVATIONS:

Color: Clear Odor: None Product Thickness*: N/A Well Condition: Good
(*Call PM if present)

GZA GeoEnvironmental, Inc.
95 Glastonbury Blvd, 3rd Floor
Glastonbury, CT 06033

GROUNDWATER SAMPLING DATA SHEET

Well ID: GZ-5
Sample Date: 1/12/2021

PROJECT INFORMATION

Project Name: Town of Canton Location: Canton, CT File No. 05.0046589.02

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 1/12/2021 Collector Initials: TWL
Reference Point of Measurement: PVC Riser ☒ Steel Casing ☐ Round ☐
Well Completion: Stand Pipe ☐ Road Box ☒
Difference Between PVC and Casing Top (feet): 0.56 Reference Elevation (feet) 401.4
Well Screened Interval (fbg) 5-15 Ground Elevation (feet) 402.01
HACH Kit Type NA Difference in Elevation (feet): -0.61
(Reference Elevation - Ground Elevation)
Other Field Method _____

	Depth from Ref. Point	Depth Below Ground	(Reference Point Measurement - Difference in Elevation)
Total Length of Well (feet):	14.02	14.63	
Depth to Water (feet):	7.19	7.80	Total Purged Sampled Volume 2.7 <input type="checkbox"/> gallons or <input checked="" type="checkbox"/> liters
Standing Water in Well (feet):	6.83	6.83	Multiply liters by 0.2642 to get gallons

Well Condition: Protective Casing - poor / good; Lock - Yes / No; Expansion Cap - Yes/No; Well ID - Yes / No; Concrete Collar - Yes / No; Well - poor / good
Well head vapors: VOCs (PID/FID) _____ ppmv Methane (FID/Other) _____ ppmv Other _____ ppmv

Sample Method: Bail ☐ Grab ☐ Pump ☐ Low Flow ☒ Purge Method: Bail ☐ Pump ☒ Flow-Thru Cell Vol: (460mL) ☒ Other ☐
Pump Type: Electric Submersible ☐ Peristaltic ☒ Bladder Pump ☐ Other: ☐ _____ 250 mL

CALIBRATION DATA:

Specific Conductance: Instrument Model: YSI 556 Standard Solution: 1413 Reading (start) 1414 (finish) _____
pH (s.u.): Instrument Model: YSI 556 Reading: pH 4: 4 pH 7: 7 pH 10: 10
DO (mg/L): Instrument Model: YSI 556 Standard Solution: 100% Reading (start) 99.00% (finish) _____
Turbidity (NTU): Instrument Model: Micro TPI Standard Solution: 1000/10/0.02 Reading (start) 1000/10/0.02
ORP (mvols): Instrument Model: YSI 556 Standard Solution: 237.5 Reading (start) 237.5 (finish) _____

INSTRUMENT MEASUREMENTS:

Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time:	1120	1135	1140	1145	1150					1150
Depth to Water (ft) below Ref. point (drawdown <0.3)	7.19	7.22	7.22	7.22	7.22					7.22
Volume Purged (L)		1.35	1.8	2.25	2.7					2.7
Purge Rate (ml/min)		90	90	90	90					90
Temperature (3%) °C		9.7	9.7	9.5	9.5					9.5
Spec. Cond. (3%) (µS)		520.4	526.1	529.8	532.2					532.2
Salinity (3%) (ppt)		0.25	0.26	0.26	0.26					0.26
DO (10%) (mg/L)		4.49	4.56	4.59	4.49					4.49
pH (+/- 0.1) (s.u.)		6.20	6.21	6.22	6.23					6.23
ORP** (+/- 10) (mvols)		246.5	244.5	243.1	241.7					241.7
Turbidity (<5) (10%) (ntu)		9.37	6.44	4.72	3.78					3.78

*Static measurement is before installation of equipment.

**If ORP is negative and DO is greater than 2 mg/L or if DO is greater than 10 mg/L; recalibrate and/or clean instrument. If persistent call PM.

SAMPLING INFORMATION

Sample Depth: 11' Sample Time: 1150 Sample ID: GZ-5
(below grade ___X___ or ref. pt. ___)

Analysis	Method	No. Bottles	Bottle Type	Vol.	Preservation	Handling
PFAS		2	HDEP	250 mL	As Is	Cooler/Ice

NOTES/OBSERVATIONS:

Color: Clear Odor: None Product Thickness*: N/A Well Condition: Good
(*Call PM if present)

GZA GeoEnvironmental, Inc.
95 Glastonbury Blvd, 3rd Floor
Glastonbury, CT 06033

GROUNDWATER SAMPLING DATA SHEET

Well ID: GZ-6
Sample Date: 1/12/2021

PROJECT INFORMATION

Project Name: Town of Canton Location: Canton, CT File No. 05.0046589.02

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 1/12/2021 Collector Initials: TWL
Reference Point of Measurement: PVC Riser ☒ Steel Casing ☐ Sound ☐ Reference Elevation (feet) 398.32
Well Completion: Stand Pipe ☐ Road Box ☒ Ground Elevation (feet) 398.61
Difference Between PVC and Casing Top (feet): 0.47 Difference in Elevation (feet): -0.29
Well Screened Interval (ftg) 4-14 (Reference Elevation - Ground Elevation)
HACH Kit Type NA Other Field Method

	Depth from Ref. Point	Depth Below Ground	(Reference Point Measurement - Difference in Elevation)
Total Length of Well (feet):	13.94	14.23	
Depth to Water (feet):	4.09	4.38	Total Purged Sampled Volume 3.78 <input type="checkbox"/> gallons or <input checked="" type="checkbox"/> liters
Standing Water in Well (feet):	9.85	9.85	Multiply liters by 0.2642 to get gallons

Well Condition: Protective Casing - poor / good; Lock - Yes / No; Expansion Cap - Yes / No; Well ID - Yes / No; Concrete Collar - Yes / No; Well - poor / good
Well head vapors: VOCs (PID/FID) ppmv Methane (FID/Other) ppmv Other ppmv

Sample Method: Bail ☐ Grab ☐ Pump ☐ Low Flow ☒ Purge Method: Bail ☐ Pump ☒ Flow-Thru Cell Vol: (460mL) ☒ Other ☐
Pump Type: Electric Submersible ☐ Peristaltic ☒ Bladder Pump ☐ Other: ☐ 250 mL

CALIBRATION DATA:

Specific Conductance: Instrument Model: YSI 556 Standard Solution: 1413 Reading (start) 1414 (finish)
pH (s.u.): Instrument Model: YSI 556 Reading: pH 4: 4 pH 7: 7 pH 10: 10
DO (mg/L): Instrument Model: YSI 556 Standard Solution: 100% Reading (start) 99.00% (finish)
Turbidity (NTU): Instrument Model: Micro TPI Standard Solution: 1000/10/0.02 Reading (start) 1000/10/0.02
ORP (mvols): Instrument Model: YSI 556 Standard Solution: 237.5 Reading (start) 237.5 (finish)

INSTRUMENT MEASUREMENTS:

Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time:	1008	1023	1040	1045	1050					1050
Depth to Water (ft) below Ref. point (drawdown <0.3)	4.09	4.12	4.12	4.12	4.12					4.12
Volume Purged (L)		1.35	2.88	3.33	3.78					3.78
Purge Rate (ml/min)		90	90	90	90					90
Temperature (3%) °C		7.9	8.0	8.0	8.0					8.0
Spec. Cond. (3%) (µS)		122.8	119.8	119.7	119.6					119.6
Salinity (3%) (ppt)		0.06	0.06	0.06	0.06					0.06
DO (10%) (mg/L)		6.80	7.10	7.06	7.00					7.00
pH (+/- 0.1) (s.u.)		5.09	5.17	5.17	5.17					5.17
ORP** (+/- 10) (mvols)		274.0	283.1	283.1	283.6					283.6
Turbidity (<5) (10%) (ntu)		49.69	14.11	3.89	3.42					3.42

*Static measurement is before installation of equipment.

**If ORP is negative and DO is greater than 2 mg/L or if DO is greater than 10 mg/L; recalibrate and/or clean instrument. If persistent call PM.

SAMPLING INFORMATION

Sample Depth: 9' Sample Time: 1050 Sample ID: GZ-6
(below grade X or ref. pt.)

Analysis	Method	No. Bottles	Bottle Type	Vol.	Preservation	Handling
PFAS		2	HDEP	250 mL	As Is	Cooler/Ice

NOTES/OBSERVATIONS:

Color: Clear Odor: None Product Thickness*: N/A Well Condition: Good
(*Call PM if present)

GZA GeoEnvironmental, Inc.
95 Glastonbury Blvd, 3rd Floor
Glastonbury, CT 06033

GROUNDWATER SAMPLING DATA SHEET

Well ID: GZ-7
Sample Date: 1/12/2021

PROJECT INFORMATION

Project Name: Town of Canton Location: Canton, CT File No. 05.0046589.02

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 1/12/2021 Collector Initials: TWL
Reference Point of Measurement: PVC Riser ☒ Steel Casing ☐ Sound ☐ Reference Elevation (feet) 396.27
Well Completion: Stand Pipe ☐ Road Box ☒ Ground Elevation (feet) 397.08
Difference Between PVC and Casing Top (feet): 0.86 Difference in Elevation (feet): -0.81
Well Screened Interval (ftg) 4-14 (Reference Elevation - Ground Elevation)
HACH Kit Type NA Other Field Method

	Depth from Ref. Point	Depth Below Ground	(Reference Point Measurement - Difference in Elevation)
Total Length of Well (feet):	13.78	14.59	
Depth to Water (feet):	3.54	4.35	Total Purged Sampled Volume 3.6 <input type="checkbox"/> gallons or <input checked="" type="checkbox"/> liters
Standing Water in Well (feet):	10.24	10.24	Multiply liters by 0.2642 to get gallons

Well Condition: Protective Casing - poor / good; Lock - Yes / No; Expansion Cap - Yes / No; Well ID - Yes / No; Concrete Collar - Yes / No; Well - poor / good
Well head vapors: VOCs (PID/FID) ppmv Methane (FID/Other) ppmv Other ppmv

Sample Method: Bail ☐ Grab ☐ Pump ☐ Low Flow ☒ Purge Method: Bail ☐ Pump ☒ Flow-Thru Cell Vol: (460mL) ☒ Other ☐
Pump Type: Electric Submersible ☐ Peristaltic ☒ Bladder Pump ☐ Other: ☐ 250 mL

CALIBRATION DATA:

Specific Conductance: Instrument Model: YSI 556 Standard Solution: 1413 Reading (start) 1414 (finish)
pH (s.u.): Instrument Model: YSI 556 Reading: pH 4: 4 pH 7: 7 pH 10: 10
DO (mg/L): Instrument Model: YSI 556 Standard Solution: 100% Reading (start) 99.00% (finish)
Turbidity (NTU): Instrument Model: Micro TPI Standard Solution: 1000/10/0.02 Reading (start) 1000/10/0.02
ORP (mvols): Instrument Model: YSI 556 Standard Solution: 237.5 Reading (start) 237.5 (finish)

INSTRUMENT MEASUREMENTS:

Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time:	1250	1305	1320	1325	1330					1330
Depth to Water (ft) below Ref. point (drawdown <0.3)	3.54	3.58	3.58	3.58	3.58					3.58
Volume Purged (L)		1.35	2.7	3.15	3.6					3.6
Purge Rate (ml/min)		90	90	90	90					90
Temperature (3%) °C		8.1	8.1	8.1	8.1					8.1
Spec. Cond. (3%) (µS)		102.4	102.8	102.7	102.9					102.9
Salinity (3%) (ppt)		0.05	0.05	0.05	0.05					0.05
DO (10%) (mg/L)		9.14	8.86	8.83	8.78					8.78
pH (+/- 0.1) (s.u.)		5.40	5.52	5.53	5.53					5.53
ORP** (+/- 10) (mvols)		346.9	352.6	352.8	353.3					353.3
Turbidity (<5) (10%) (ntu)		19.12	5.49	3.91	3.25					3.25

*Static measurement is before installation of equipment.

**If ORP is negative and DO is greater than 2 mg/L or if DO is greater than 10 mg/L; recalibrate and/or clean instrument. If persistent call PM.

SAMPLING INFORMATION

Sample Depth: 9' Sample Time: 1330 Sample ID: GZ-7
(below grade X or ref. pt.)

Analysis	Method	No. Bottles	Bottle Type	Vol.	Preservation	Handling
PFAS		6	HDPE	250 mL	As Is	Cooler/Ice

MS/MSD collected.

NOTES/OBSERVATIONS:

Color: Clear Odor: None Product Thickness*: N/A Well Condition: Good
(*Call PM if present)

GZA GeoEnvironmental, Inc.
95 Glastonbury Blvd, 3rd Floor
Glastonbury, CT 06033

GROUNDWATER SAMPLING DATA SHEET

Well ID: GZ-71
Sample Date: 1/12/2021

PROJECT INFORMATION

Project Name: Town of Canton Location: Canton, CT File No. 05.0046589.02

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 1/12/2021 Collector Initials: TWL
Reference Point of Measurement: PVC Riser ☒ Steel Casing ☐ Sound ☐ Reference Elevation (feet) 396.91
Well Completion: Stand Pipe ☐ Road Box ☒ Ground Elevation (feet) 397.13
Difference Between PVC and Casing Top (feet): 0.36 Difference in Elevation (feet): -0.22
Well Screened Interval (fbg) 16-21 (Reference Elevation - Ground Elevation)
HACH Kit Type NA Other Field Method

	Depth from Ref. Point	Depth Below Ground	(Reference Point Measurement - Difference in Elevation)
Total Length of Well (feet):	20.55	20.77	
Depth to Water (feet):	4.22	4.44	Total Purged Sampled Volume 3.15 <input type="checkbox"/> gallons or <input checked="" type="checkbox"/> liters
Standing Water in Well (feet):	16.33	16.33	Multiply liters by 0.2642 to get gallons

Well Condition: Protective Casing - poor / good; Lock - Yes / No; Expansion Cap - Yes/No; Well ID - Yes / No; Concrete Collar - Yes / No; Well - poor / good
Well head vapors: VOCs (PID/FID) ppmv Methane (FID/Other) ppmv Other ppmv

Sample Method: Bail ☐ Grab ☐ Pump ☐ Low Flow ☒ Purge Method: Bail ☐ Pump ☒ Flow-Thru Cell Vol: (460mL) ☒ Other ☐
Pump Type: Electric Submersible ☐ Peristaltic ☒ Bladder Pump ☐ Other: ☐ 250 mL

CALIBRATION DATA:

Specific Conductance: Instrument Model: YSI 556 Standard Solution: 1413 Reading (start) 1414 (finish)
pH (s.u.): Instrument Model: YSI 556 Reading: pH 4: 4 pH 7: 7 pH 10: 10
DO (mg/L): Instrument Model: YSI 556 Standard Solution: 100% Reading (start) 99.00% (finish)
Turbidity (NTU): Instrument Model: Micro TPI Standard Solution: 1000/10/0.02 Reading (start) 1000/10/0.02
ORP (mvolts): Instrument Model: YSI 556 Standard Solution: 237.5 Reading (start) 237.5 (finish)

INSTRUMENT MEASUREMENTS:

Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time:	1415	1430	1435	1440	1445	1450				1450
Depth to Water (ft) below Ref. point (drawdown <0.3)	4.22	4.27	4.27	4.27	4.27	4.27				4.27
Volume Purged (L)		1.35	1.8	2.25	2.7	3.15				3.15
Purge Rate (ml/min)		90	90	90	90	90				90
Temperature (3%) °C		8.8	8.7	8.7	8.6	8.7				8.7
Spec. Cond. (3%) (µS)		182.6	190.1	196.3	199.6	200.3				200.3
Salinity (3%) (ppt)		0.09	0.09	0.09	0.09	0.09				0.09
DO (10%) (mg/L)		4.15	3.83	3.69	3.50	3.44				3.44
pH (+/- 0.1) (s.u.)		5.35	5.39	5.43	5.45	5.47				5.47
ORP** (+/- 10) (mvolts)		323.4	317.9	312.8	311.0	310.5				310.5
Turbidity (<5) (10%) (ntu)		11.16	8.65	7.32	6.33	4.84				4.84

*Static measurement is before installation of equipment.

**If ORP is negative and DO is greater than 2 mg/L or if DO is greater than 10 mg/L; recalibrate and/or clean instrument. If persistent call PM.

SAMPLING INFORMATION

Sample Depth: 18.5' Sample Time: 1450 Sample ID: GZ-71
(below grade X or ref. pt.)

Analysis	Method	No. Bottles	Bottle Type	Vol.	Preservation	Handling
PFAS		2	HDPE	250 mL	As Is	Cooler/Ice

NOTES/OBSERVATIONS:

Color: Clear Odor: None Product Thickness*: N/A Well Condition: Good
(*Call PM if present)

GZA GeoEnvironmental, Inc.
95 Glastonbury Blvd, 3rd Floor
Glastonbury, CT 06033

GROUNDWATER SAMPLING DATA SHEET

Well ID: GZ-8
Sample Date: 1/14/2021

PROJECT INFORMATION

Project Name: Town of Canton Location: Canton, CT File No. 05.0046589.02

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 1/14/2021 Collector Initials: TWL
Reference Point of Measurement: PVC Riser ☒ Steel Casing ☐ Sound ☐ Reference Elevation (feet) 395.067
Well Completion: Stand Pipe ☐ Road Box ☒ Ground Elevation (feet) 392.641
Difference Between PVC and Casing Top (feet): 0.32 Difference in Elevation (feet): 2.426
Well Screened Interval (fbg) 3-13 (Reference Elevation - Ground Elevation)
HACH Kit Type NA Other Field Method

	Depth from Ref. Point	Depth Below Ground	(Reference Point Measurement - Difference in Elevation)
Total Length of Well (feet):	15.28	12.85	
Depth to Water (feet):	4.66	2.23	Total Purged Sampled Volume 2.7 <input type="checkbox"/> gallons or <input checked="" type="checkbox"/> liters
Standing Water in Well (feet):	10.62	10.62	Multiply liters by 0.2642 to get gallons

Well Condition: Protective Casing - poor / good; Lock - Yes / No; Expansion Cap - Yes/No; Well ID - Yes / No; Concrete Collar - Yes / No; Well - poor / good
Well head vapors: VOCs (PID/FID) ppmv Methane (FID/Other) ppmv Other ppmv

Sample Method: Bail ☐ Grab ☐ Pump ☐ Low Flow ☒ Purge Method: Bail ☐ Pump ☒ Flow-Thru Cell Vol: (460mL) ☒ Other ☐
Pump Type: Electric Submersible ☐ Peristaltic ☒ Bladder Pump ☐ Other: ☐ 250 mL

CALIBRATION DATA:

Specific Conductance: Instrument Model: YSI 556 Standard Solution: 1413 Reading (start) 1413 (finish)
pH (s.u.): Instrument Model: YSI 556 Reading: pH 4: 4 pH 7: 7 pH 10: 9.99
DO (mg/L): Instrument Model: YSI 556 Standard Solution: 100% Reading (start) 100.10% (finish)
Turbidity (NTU): Instrument Model: Micro TPI Standard Solution: 1000/10/0.02 Reading (start) 1000/10/0.02
ORP (mvolts): Instrument Model: YSI 556 Standard Solution: 237.5 Reading (start) 237.7 (finish)

INSTRUMENT MEASUREMENTS:

Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time:	1240	1255	1300	1305	1310					1310
Depth to Water (ft) below Ref. point (drawdown <0.3)	4.66	4.68	4.68	4.68	4.68					4.68
Volume Purged (L)		1.35	1.8	2.25	2.7					2.7
Purge Rate (ml/min)		90	90	90	90					90
Temperature (3%) °C		7.8	7.8	7.8	7.8					7.8
Spec. Cond. (3%) (µS)		212.9	211.4	210.1	209.2					209.2
Salinity (3%) (ppt)		0.10	0.10	0.10	0.10					0.10
DO (10%) (mg/L)		2.12	2.25	2.29	2.36					2.36
pH (+/- 0.1) (s.u.)		5.98	5.96	5.94	5.92					5.92
ORP** (+/- 10) (mvolts)		149.9	151.4	152.8	154.4					154.4
Turbidity (<5) (10%) (ntu)		7.13	5.40	4.29	3.62					3.62

*Static measurement is before installation of equipment.

**If ORP is negative and DO is greater than 2 mg/L or if DO is greater than 10 mg/L; recalibrate and/or clean instrument. If persistent call PM.

SAMPLING INFORMATION

Sample Depth: 8' Sample Time: 1310 Sample ID: GZ-8
(below grade X or ref. pt.)

Analysis	Method	No. Bottles	Bottle Type	Vol.	Preservation	Handling
PFAS		2	HDPE	250 mL	As Is	Cooler/Ice

NOTES/OBSERVATIONS:

Color: Clear Odor: None Product Thickness*: N/A Well Condition: Good
(*Call PM if present)

GZA GeoEnvironmental, Inc.
95 Glastonbury Blvd, 3rd Floor
Glastonbury, CT 06033

GROUNDWATER SAMPLING DATA SHEET

Well ID: GZ-81
Sample Date: 1/14/2021

PROJECT INFORMATION

Project Name: Town of Canton Location: Canton, CT File No. 05.0046589.02

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 1/14/2021 Collector Initials: TWL
Reference Point of Measurement: PVC Riser ☒ Steel Casing ☐ Sound ☐ Reference Elevation (feet) 394.352
Well Completion: Stand Pipe ☐ Road Box ☒ Ground Elevation (feet) 392.66
Difference Between PVC and Casing Top (feet): 0.35 Difference in Elevation (feet): 1.692
Well Screened Interval (fbg) 23.5-28.5 (Reference Elevation - Ground Elevation)
HACH Kit Type NA Other Field Method _____

	Depth from Ref. Point	Depth Below Ground	(Reference Point Measurement - Difference in Elevation)
Total Length of Well (feet):	29.36	27.67	
Depth to Water (feet):	4.07	2.38	Total Purged Sampled Volume 4.5 <input type="checkbox"/> gallons or <input checked="" type="checkbox"/> liters
Standing Water in Well (feet):	25.29	25.29	Multiply liters by 0.2642 to get gallons

Well Condition: Protective Casing - poor / good; Lock - Yes / No; Expansion Cap - Yes/No; Well ID - Yes / No; Concrete Collar - Yes / No; Well - poor / good
Well head vapors: VOCs (PID/FID) _____ ppmv Methane (FID/Other) _____ ppmv Other _____ ppmv

Sample Method: Bail ☐ Grab ☐ Pump ☐ Low Flow ☒ Purge Method: Bail ☐ Pump ☒ Flow-Thru Cell Vol: (460mL) ☒ Other ☐
Pump Type: Electric Submersible ☐ Peristaltic ☒ Bladder Pump ☐ Other: ☐ _____ 250 mL

CALIBRATION DATA:

Specific Conductance: Instrument Model: YSI 556 Standard Solution: 1413 Reading (start) 1413 (finish) _____
pH (s.u.): Instrument Model: YSI 556 Reading: pH 4: 4 pH 7: 7 pH 10: 9.99
DO (mg/L): Instrument Model: YSI 556 Standard Solution: 100% Reading (start) 100.10% (finish) _____
Turbidity (NTU): Instrument Model: Micro TPI Standard Solution: 1000/10/0.02 Reading (start) 1000/10/0.02
ORP (mvolts): Instrument Model: YSI 556 Standard Solution: 237.5 Reading (start) 237.7 (finish) _____

INSTRUMENT MEASUREMENTS:

Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time:	1350	1405	1425	1430	1435	1440				1440
Depth to Water (ft) below Ref. point (drawdown <0.3)	4.07	4.12	4.12	4.12	4.12	4.12				4.12
Volume Purged (L)		1.35	3.15	3.6	4.05	4.5				4.5
Purge Rate (ml/min)		90	90	90	90	90				90
Temperature (3%) °C		8.7	8.6	8.6	8.6	8.6				8.6
Spec. Cond. (3%) (µS)		465.0	461.3	460.8	460.2	459.3				459.3
Salinity (3%) (ppt)		0.23	0.23	0.22	0.22	0.22				0.22
DO (10%) (mg/L)		2.01	2.20	2.22	2.23	2.25				2.25
pH (+/- 0.1) (s.u.)		7.47	7.56	7.56	7.57	7.58				7.58
ORP** (+/- 10) (mvolts)		116.8	110.2	109.5	109.1	108.7				108.7
Turbidity (<5) (10%) (ntu)		25.23	10.56	8.05	5.81	4.29				4.29

*Static measurement is before installation of equipment.

**If ORP is negative and DO is greater than 2 mg/L or if DO is greater than 10 mg/L; recalibrate and/or clean instrument. If persistent call PM.

SAMPLING INFORMATION

Sample Depth: 25' Sample Time: 1440 Sample ID: GZ-81
(below grade ___X___ or ref. pt. ___)

Analysis	Method	No. Bottles	Bottle Type	Vol.	Preservation	Handling
PFAS		2	HDPE	250 mL	As Is	Cooler/Ice

NOTES/OBSERVATIONS:

Color: Clear Odor: None Product Thickness*: N/A Well Condition: Good
(*Call PM if present)

GZA GeoEnvironmental, Inc.
95 Glastonbury Blvd, 3rd Floor
Glastonbury, CT 06033

GROUNDWATER SAMPLING DATA SHEET

Well ID: GZ-9
Sample Date: 1/13/2021

PROJECT INFORMATION

Project Name: Town of Canton Location: Canton, CT File No. 05.0046589.02

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 1/13/2021 Collector Initials: TWL
Reference Point of Measurement: PVC Riser ☒ Steel Casing ☐ Sound ☐ Reference Elevation (feet) 396.84
Well Completion: Stand Pipe ☐ Road Box ☒ Ground Elevation (feet) 397.18
Difference Between PVC and Casing Top (feet): 0.43 Difference in Elevation (feet): -0.34
Well Screened Interval (ftg) 3.5-13.5 (Reference Elevation - Ground Elevation)
HACH Kit Type NA Other Field Method

	Depth from Ref. Point	Depth Below Ground	(Reference Point Measurement - Difference in Elevation)
Total Length of Well (feet):	13.24	13.58	
Depth to Water (feet):	4.74	5.08	Total Purged Sampled Volume 2.7 <input type="checkbox"/> gallons or <input checked="" type="checkbox"/> liters
Standing Water in Well (feet):	8.50	8.50	Multiply liters by 0.2642 to get gallons

Well Condition: Protective Casing - poor / good; Lock - Yes / No; Expansion Cap - Yes/No; Well ID - Yes / No; Concrete Collar - Yes / No; Well - poor / good
Well head vapors: VOCs (PID/FID) ppmv Methane (FID/Other) ppmv Other ppmv

Sample Method: Bail ☐ Grab ☐ Pump ☐ Low Flow ☒ Purge Method: Bail ☐ Pump ☒ Flow-Thru Cell Vol: (460mL) ☒ Other ☐
Pump Type: Electric Submersible ☐ Peristaltic ☒ Bladder Pump ☐ Other: ☐ 250 mL

CALIBRATION DATA:

Specific Conductance: Instrument Model: YSI 556 Standard Solution: 1413 Reading (start) 1413 (finish)
pH (s.u.): Instrument Model: YSI 556 Reading: pH 4: 4 pH 7: 7 pH 10: 10
DO (mg/L): Instrument Model: YSI 556 Standard Solution: 100% Reading (start) 100.00% (finish)
Turbidity (NTU): Instrument Model: Micro TPI Standard Solution: 1000/10/0.02 Reading (start) 1000/10/0.02
ORP (mvols): Instrument Model: YSI 556 Standard Solution: 237.5 Reading (start) 237.7 (finish)

INSTRUMENT MEASUREMENTS:

Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time:	1015	1030	135	1040	1045					1045
Depth to Water (ft) below Ref. point (drawdown <0.3)	4.74	4.76	4.76	4.76	4.76					4.76
Volume Purged (L)		1.35	1.8	2.25	2.7					2.7
Purge Rate (ml/min)		90	90	90	90					90
Temperature (3%) °C		8.3	8.3	8.4	8.4					8.4
Spec. Cond. (3%) (µS)		322.9	321.7	320.5	319.2					319.2
Salinity (3%) (ppt)		0.16	0.16	0.16	0.16					0.16
DO (10%) (mg/L)		5.54	5.27	5.14	5.09					5.09
pH (+/- 0.1) (s.u.)		5.58	5.51	5.47	5.44					5.44
ORP** (+/- 10) (mvols)		148.5	158.3	161.0	162.9					162.9
Turbidity (<5) (10%) (ntu)		8.61	5.49	3.86	2.50					2.50

*Static measurement is before installation of equipment.

**If ORP is negative and DO is greater than 2 mg/L or if DO is greater than 10 mg/L; recalibrate and/or clean instrument. If persistent call PM.

SAMPLING INFORMATION

Sample Depth: 9' Sample Time: 1045 Sample ID: GZ-9
(below grade X or ref. pt.)

Analysis	Method	No. Bottles	Bottle Type	Vol.	Preservation	Handling
PFAS		2	HDPE	250 mL	As Is	Cooler/Ice

NOTES/OBSERVATIONS:

Color: Clear Odor: None Product Thickness*: N/A Well Condition: Good
(*Call PM if present)

GZA GeoEnvironmental, Inc.
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Glastonbury, CT 06033

GROUNDWATER SAMPLING DATA SHEET

Well ID: GZ-91
Sample Date: 1/13/2021

PROJECT INFORMATION

Project Name: Town of Canton Location: Canton, CT File No. 05.0046589.02

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 1/13/2021 Collector Initials: TWL
Reference Point of Measurement: PVC Riser ☒ Steel Casing ☐ Sound ☐ Reference Elevation (feet) 396.56
Well Completion: Stand Pipe ☐ Road Box ☒ Ground Elevation (feet) 396.99
Difference Between PVC and Casing Top (feet): 0.52 Difference in Elevation (feet): -0.43
Well Screened Interval (ftg) 21-26 (Reference Elevation - Ground Elevation)
HACH Kit Type NA Other Field Method

	Depth from Ref. Point	Depth Below Ground	(Reference Point Measurement - Difference in Elevation)
Total Length of Well (feet):	25.95	26.38	
Depth to Water (feet):	4.68	5.11	Total Purged Sampled Volume 4.05 <input type="checkbox"/> gallons or <input checked="" type="checkbox"/> liters
Standing Water in Well (feet):	21.27	21.27	Multiply liters by 0.2642 to get gallons

Well Condition: Protective Casing - poor / good; Lock - Yes / No; Expansion Cap - Yes/No; Well ID - Yes / No; Concrete Collar - Yes / No; Well - poor / good
Well head vapors: VOCs (PID/FID) ppmv Methane (FID/Other) ppmv Other ppmv

Sample Method: Bail ☐ Grab ☐ Pump ☐ Low Flow ☒ Purge Method: Bail ☐ Pump ☒ Flow-Thru Cell Vol: (460mL) ☒ Other ☐
Pump Type: Electric Submersible ☐ Peristaltic ☒ Bladder Pump ☐ Other: ☐ 250 mL

CALIBRATION DATA:

Specific Conductance: Instrument Model: YSI 556 Standard Solution: 1413 Reading (start) 1413 (finish)
pH (s.u.): Instrument Model: YSI 556 Reading: pH 4: 4 pH 7: 7 pH 10: 10
DO (mg/L): Instrument Model: YSI 556 Standard Solution: 100% Reading (start) 100.00% (finish)
Turbidity (NTU): Instrument Model: Micro TPI Standard Solution: 1000/10/0.02 Reading (start) 1000/10/0.02
ORP (mvols): Instrument Model: YSI 556 Standard Solution: 237.5 Reading (start) 237.7 (finish)

INSTRUMENT MEASUREMENTS:

Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time:	900	915	930	935	940	945				945
Depth to Water (ft) below Ref. point (drawdown <0.3)	4.68	4.77	4.78	4.78	4.78	4.78				4.78
Volume Purged (L)		1.35	2.7	3.15	3.6	4.0				4.0
Purge Rate (ml/min)		90	90	90	90	90				90
Temperature (3%) °C		9.3	9.1	9.0	9.0	8.9				8.9
Spec. Cond. (3%) (µS)		285.4	287.4	287.9	288.3	288.8				288.8
Salinity (3%) (ppt)		0.14	0.14	0.14	0.14	0.14				0.14
DO (10%) (mg/L)		0.33	0.31	0.31	0.30	0.30				0.30
pH (+/- 0.1) (s.u.)		6.51	6.49	6.48	6.46	6.46				6.46
ORP** (+/- 10) (mvols)		-44.8	-40.5	-39.7	-39.2	-38.6				-38.6
Turbidity (<5) (10%) (ntu)		16.61	8.40	6.32	5.12	4.57				4.57

*Static measurement is before installation of equipment.

**If ORP is negative and DO is greater than 2 mg/L or if DO is greater than 10 mg/L; recalibrate and/or clean instrument. If persistent call PM.

SAMPLING INFORMATION

Sample Depth: 23.5' Sample Time: 945 Sample ID: GZ-91
(below grade X or ref. pt.)

Analysis	Method	No. Bottles	Bottle Type	Vol.	Preservation	Handling
PFAS		2	HDPE	250 mL	As Is	Cooler/Ice

NOTES/OBSERVATIONS:

Color: Clear Odor: None Product Thickness*: N/A Well Condition: Good
(*Call PM if present)

GZA GeoEnvironmental, Inc.
95 Glastonbury Blvd, 3rd Floor
Glastonbury, CT 06033

GROUNDWATER SAMPLING DATA SHEET

Well ID: GZ-10
Sample Date: 1/12/2021

PROJECT INFORMATION

Project Name: Town of Canton Location: Canton, CT File No. 05.0046589.02

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 1/12/2021 Collector Initials: TWL
Reference Point of Measurement: PVC Riser ☒ Steel Casing ☐ Round ☐
Well Completion: Stand Pipe ☐ Road Box ☒
Difference Between PVC and Casing Top (feet): 0.25 Reference Elevation (feet) 395.582
Well Screened Interval (fbg) 3-13 Ground Elevation (feet) 392.945
HACH Kit Type NA Difference in Elevation (feet): 2.637
(Reference Elevation - Ground Elevation)
Other Field Method _____

	Depth from Ref. Point	Depth Below Ground	(Reference Point Measurement - Difference in Elevation)
Total Length of Well (feet):	15.93	13.29	
Depth to Water (feet):	5.62	2.98	Total Purged Sampled Volume 2.7 <input type="checkbox"/> gallons or <input checked="" type="checkbox"/> liters
Standing Water in Well (feet):	10.31	10.31	Multiply liters by 0.2642 to get gallons

Well Condition: Protective Casing - poor / good; Lock - Yes / No; Expansion Cap - Yes/No; Well ID - Yes / No; Concrete Collar - Yes / No; Well - poor / good
Well head vapors: VOCs (PID/FID) _____ ppmv Methane (FID/Other) _____ ppmv Other _____ ppmv

Sample Method: Bail ☐ Grab ☐ Pump ☐ Low Flow ☒ Purge Method: Bail ☐ Pump ☒ Flow-Thru Cell Vol: (460mL) ☒ Other ☐
Pump Type: Electric Submersible ☐ Peristaltic ☒ Bladder Pump ☐ Other: ☐ _____ 250 mL

CALIBRATION DATA:

Specific Conductance: Instrument Model: YSI 556 Standard Solution: 1413 Reading (start) 1414 (finish) _____
pH (s.u.): Instrument Model: YSI 556 Reading: pH 4: 4 pH 7: 7 pH 10: 10
DO (mg/L): Instrument Model: YSI 556 Standard Solution: 100% Reading (start) 99.00% (finish) _____
Turbidity (NTU): Instrument Model: Micro TPI Standard Solution: 1000/10/0.02 Reading (start) 1000/10/0.02
ORP (mvols): Instrument Model: YSI 556 Standard Solution: 237.5 Reading (start) 237.5 (finish) _____

INSTRUMENT MEASUREMENTS:

Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time:	855	910	915	920	925					925
Depth to Water (ft) below Ref. point (drawdown <0.3)	5.65	5.65	5.65	5.65	5.65					5.65
Volume Purged (L)		1.35	1.8	2.25	2.7					2.7
Purge Rate (ml/min)		90	90	90	90					90
Temperature (3%) °C		8.5	8.6	8.6	8.6					8.6
Spec. Cond. (3%) (µS)		345.2	343.5	345.9	346.4					356.4
Salinity (3%) (ppt)		0.17	0.16	0.17	0.17					0.17
DO (10%) (mg/L)		2.60	2.50	2.44	2.39					2.39
pH (+/- 0.1) (s.u.)		6.05	5.99	6.00	6.02					6.02
ORP** (+/- 10) (mvols)		76.4	76.3	76.3	76.8					76.8
Turbidity (<5) (10%) (ntu)		5.17	4.07	4.12	3.83					3.83

*Static measurement is before installation of equipment.

**If ORP is negative and DO is greater than 2 mg/L or if DO is greater than 10 mg/L; recalibrate and/or clean instrument. If persistent call PM.

SAMPLING INFORMATION

Sample Depth: 8' Sample Time: 925 Sample ID: GZ-10
(below grade X or ref. pt.)

Analysis	Method	No. Bottles	Bottle Type	Vol.	Preservation	Handling
PFAS		2	HDPE	250 mL	As Is	Cooler/Ice

NOTES/OBSERVATIONS:

Color: Clear Odor: None Product Thickness*: N/A Well Condition: Good
(*Call PM if present)

GZA GeoEnvironmental, Inc.
95 Glastonbury Blvd, 3rd Floor
Glastonbury, CT 06033

GROUNDWATER SAMPLING DATA SHEET

Well ID: GZ-11
Sample Date: 1/14/2021

PROJECT INFORMATION

Project Name: Town of Canton Location: Canton, CT File No. 05.0046589.02

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 1/14/2021 Collector Initials: TWL
Reference Point of Measurement: PVC Riser ☒ Steel Casing ☐ Sound ☐ Reference Elevation (feet) 393.628
Well Completion: Stand Pipe ☐ Road Box ☒ Ground Elevation (feet) 394.412
Difference Between PVC and Casing Top (feet): 0.81 Difference in Elevation (feet): -0.784
Well Screened Interval (ftg) 3.5-13.5 (Reference Elevation - Ground Elevation)
HACH Kit Type NA Other Field Method

	Depth from Ref. Point	Depth Below Ground	(Reference Point Measurement - Difference in Elevation)
Total Length of Well (feet):	12.80	13.58	
Depth to Water (feet):	4.00	4.78	Total Purged Sampled Volume 2.7 <input type="checkbox"/> gallons or <input checked="" type="checkbox"/> liters
Standing Water in Well (feet):	8.80	8.80	Multiply liters by 0.2642 to get gallons

Well Condition: Protective Casing - poor / good; Lock - Yes / No; Expansion Cap - Yes/No; Well ID - Yes / No; Concrete Collar - Yes / No; Well - poor / good
Well head vapors: VOCs (PID/FID) ppmv Methane (FID/Other) ppmv Other ppmv

Sample Method: Bail ☐ Grab ☐ Pump ☐ Low Flow ☒ Purge Method: Bail ☐ Pump ☒ Flow-Thru Cell Vol: (460mL) ☒ Other ☐
Pump Type: Electric Submersible ☐ Peristaltic ☒ Bladder Pump ☐ Other: ☐ 250 mL

CALIBRATION DATA:

Specific Conductance: Instrument Model: YSI 556 Standard Solution: 1413 Reading (start) 1413 (finish)
pH (s.u.): Instrument Model: YSI 556 Reading: pH 4: 4 pH 7: 7 pH 10: 9.99
DO (mg/L): Instrument Model: YSI 556 Standard Solution: 100% Reading (start) 100.10% (finish)
Turbidity (NTU): Instrument Model: Micro TPI Standard Solution: 1000/10/0.02 Reading (start) 1000/10/0.02
ORP (mvols): Instrument Model: YSI 556 Standard Solution: 237.5 Reading (start) 237.7 (finish)

INSTRUMENT MEASUREMENTS:

Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time:	1020	1035	1040	1045	1050					1050
Depth to Water (ft) below Ref. point (drawdown <0.3)	4.00	4.09	4.09	4.10	4.09					4.09
Volume Purged (L)		1.35	1.8	2.25	2.7					2.7
Purge Rate (ml/min)		90	90	90	90					90
Temperature (3%) °C		7.5	7.5	7.4	7.5					7.5
Spec. Cond. (3%) (µS)		46.7	50.2	50.8	51.3					51.3
Salinity (3%) (ppt)		0.02	0.02	0.02	0.02					0.02
DO (10%) (mg/L)		8.83	8.69	8.73	8.65					8.65
pH (+/- 0.1) (s.u.)		5.49	5.52	5.54	5.55					5.55
ORP** (+/- 10) (mvols)		205.2	211.4	217.7	220.0					220.0
Turbidity (<5) (10%) (ntu)		2.65	2.19	2.94	2.31					2.31

*Static measurement is before installation of equipment.

**If ORP is negative and DO is greater than 2 mg/L or if DO is greater than 10 mg/L; recalibrate and/or clean instrument. If persistent call PM.

SAMPLING INFORMATION

Sample Depth: 9.2' Sample Time: 1050 Sample ID: GZ-11
(below grade X or ref. pt.)

Analysis	Method	No. Bottles	Bottle Type	Vol.	Preservation	Handling
PFAS		2	HDPE	250 mL	As Is	Cooler/Ice

MS/MSD

NOTES/OBSERVATIONS:

Color: Clear Odor: None Product Thickness*: N/A Well Condition: Good
(*Call PM if present)

GZA GeoEnvironmental, Inc.
95 Glastonbury Blvd, 3rd Floor
Glastonbury, CT 06033

GROUNDWATER SAMPLING DATA SHEET

Well ID: GZ-111
Sample Date: 1/14/2021

PROJECT INFORMATION

Project Name: Town of Canton Location: Canton, CT File No. 05.0046589.02

WATER LEVEL OBSERVATIONS

Measurement Date/Time: 1/14/2021 Collector Initials: TWL
Reference Point of Measurement: PVC Riser ☒ Steel Casing ☐ Sound ☐ Reference Elevation (feet) 394.243
Well Completion: Stand Pipe ☐ Road Box ☒ Ground Elevation (feet) 394.593
Difference Between PVC and Casing Top (feet): 0.42 Difference in Elevation (feet): -0.35
Well Screened Interval (ftg) 19.5-24.5 (Reference Elevation - Ground Elevation)
HACH Kit Type NA Other Field Method _____

	Depth from Ref. Point	Depth Below Ground	(Reference Point Measurement - Difference in Elevation)
Total Length of Well (feet):	23.37	23.72	
Depth to Water (feet):	3.96	4.31	Total Purged Sampled Volume 4.05 <input type="checkbox"/> gallons or <input checked="" type="checkbox"/> liters
Standing Water in Well (feet):	19.41	19.41	Multiply liters by 0.2642 to get gallons

Well Condition: Protective Casing - poor / good; Lock - Yes / No; Expansion Cap - Yes/No; Well ID - Yes / No; Concrete Collar - Yes / No; Well - poor / good
Well head vapors: VOCs (PID/FID) _____ ppmv Methane (FID/Other) _____ ppmv Other _____ ppmv

Sample Method: Bail ☐ Grab ☐ Pump ☐ Low Flow ☒ Purge Method: Bail ☐ Pump ☒ Flow-Thru Cell Vol: (460mL) ☒ Other ☐
Pump Type: MW-5 Electric Submersible ☐ Peristaltic ☒ Bladder Pump ☐ Other: ☐ _____ 250 mL

CALIBRATION DATA:

Specific Conductance: Instrument Model: YSI 556 Standard Solution: 1413 Reading (start) 1413 (finish) _____
pH (s.u.): Instrument Model: YSI 556 Reading: pH 4: 4 pH 7: 7 pH 10: 9.99
DO (mg/L): Instrument Model: YSI 556 Standard Solution: 100% Reading (start) 100.10% (finish) _____
Turbidity (NTU): Instrument Model: Micro TPI Standard Solution: 1000/10/0.02 Reading (start) 1000/10/0.02
ORP (mvols): Instrument Model: YSI 556 Standard Solution: 237.5 Reading (start) 237.7 (finish) _____

INSTRUMENT MEASUREMENTS:

Parameters	Static*	1	2	3	4	5	6	7	8	Stabilized
Time:	1125	1140	1200	1205	1210					1210
Depth to Water (ft) below Ref. point (drawdown <0.3)	3.96	4.10	4.11	4.11	4.11					4.11
Volume Purged (L)		1.35	3.15	3.6	4.05					4.05
Purge Rate (ml/min)		90	90	90	90					90
Temperature (3%) °C		8.6	8.8	8.8	8.8					8.8
Spec. Cond. (3%) (µS)		251.6	251.5	251.4	251.5					251.5
Salinity (3%) (ppt)		0.12	0.12	0.12	0.12					0.12
DO (10%) (mg/L)		1.34	1.53	1.50	1.56					1.56
pH (+/- 0.1) (s.u.)		6.06	6.10	6.11	6.12					6.12
ORP** (+/- 10) (mvols)		77.6	70.7	69.7	68.8					68.8
Turbidity (<5) (10%) (ntu)		20.11	7.93	5.42	4.30					4.30

*Static measurement is before installation of equipment.

**If ORP is negative and DO is greater than 2 mg/L or if DO is greater than 10 mg/L; recalibrate and/or clean instrument. If persistent call PM.

SAMPLING INFORMATION

Sample Depth: 22' Sample Time: 1210 Sample ID: GZ-111
(below grade X or ref. pt.)

Analysis	Method	No. Bottles	Bottle Type	Vol.	Preservation	Handling
PFAS		2	HDPE	250 mL	As Is	Cooler/Ice

NOTES/OBSERVATIONS:

Color: Clear Odor: None Product Thickness*: N/A Well Condition: Good
(*Call PM if present)



APPENDIX F

GROUNDWATER AND SURFACE WATER ANALYTICAL RESULTS



Report of Analysis

GZA
95 Glastonbury Boulevard, 3rd Floor
Glastonbury, CT 06033
Attention: Richard Desrosiers

Project Name: Town of Canton
Project Number: 05.0046589.02
Lot Number: **WA16017**
Date Completed: 01/28/2021

Karen Coonan

01/29/2021 4:13 PM
Approved and released by:
Project Manager II: **Karen L. Coonan**



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PACE ANALYTICAL SERVICES, LLC

SC DHEC No: 32010001

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

Case Narrative GZA Lot Number: WA16017

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved The NELAC Institute (TNI) standards, the Pace Analytical Services, LLC ("Pace") Laboratory Quality Manual, standard operating procedures (SOPs), and Pace policies. Additionally, the DoD QSM version 5.3 has been followed for these samples, and specifically Table B-15 was followed for all PFAS samples. Any exceptions to the TNI standards, the Laboratory Quality Manual, SOPs, the DoD QSM, or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Pace Project Manager listed on the cover page.

Samples WA16017-001 contained a custody seal around the lid.

The continuing calibration verification (CCV) associated with samples WA16017-001, WA16017-002, WA16017-004, WA16017-006, WA16017-007, WA16017-008 for analyte: PFUdA recovered above the upper control limit. The samples associated with this CCV were non-detect for the affected analytes; therefore, the data has been reported.

PACE ANALYTICAL SERVICES, LLC

Sample Summary

GZA

Lot Number: WA16017

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	TB-011521	Aqueous	01/15/2021	01/16/2021
002	S-1	Aqueous	01/15/2021 1214	01/16/2021
003	S-2	Aqueous	01/15/2021 1224	01/16/2021
004	S-3	Aqueous	01/15/2021 1235	01/16/2021
005	S-4	Aqueous	01/15/2021 1305	01/16/2021
006	S-5	Aqueous	01/15/2021 1335	01/16/2021
007	DUP	Aqueous	01/15/2021	01/16/2021
008	FB-011521	Aqueous	01/15/2021 1240	01/16/2021

(8 samples)

PACE ANALYTICAL SERVICES, LLC

Detection Summary

GZA

Lot Number: WA16017

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
004	S-3	Aqueous	PFOS	PFAS by ID	1.4	J	ng/L	7
007	DUP	Aqueous	PFOA	PFAS by ID	1.4	J	ng/L	9

(2 detections)

PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16017-001
Description: TB-011521	Matrix: Aqueous
Date Sampled: 01/15/2021	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/20/2021 1249	MMM	01/19/2021 1022	79847

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.8	2.0	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-dodecanoic acid (PFDaA)	307-55-1	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-tridecanoic acid (PFTTrDA)	72629-94-8	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.9	0.98	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		3.9	0.98	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		109	25-150
13C2_PFTeDA		95	25-150
13C3_PFBs		99	25-150
13C3_PFHxS		99	25-150
13C3-HFPO-DA		117	25-150
13C4_PFHpA		91	25-150
13C5_PFHxA		100	25-150
13C6_PFDA		101	25-150
13C7_PFUdA		93	25-150
13C8_PFOA		92	25-150
13C8_PFOS		106	25-150
13C9_PFNA		89	25-150
d5-EtFOSAA		91	25-150
d3-MeFOSAA		98	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16017-002
Description: S-1	Matrix: Aqueous
Date Sampled: 01/15/2021 1214	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/20/2021 1300	MMM	01/19/2021 1022	79847

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.3	1.8	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-dodecanoic acid (PFDaA)	307-55-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		108	25-150
13C2_PFTeDA		88	25-150
13C3_PFBs		89	25-150
13C3_PFHxS		101	25-150
13C3-HFPO-DA		100	25-150
13C4_PFHpA		103	25-150
13C5_PFHxA		82	25-150
13C6_PFDA		102	25-150
13C7_PFUdA		87	25-150
13C8_PFOA		92	25-150
13C8_PFOS		90	25-150
13C9_PFNA		88	25-150
d5-EtFOSAA		75	25-150
d3-MeFOSAA		101	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16017-004
Description: S-3	Matrix: Aqueous
Date Sampled: 01/15/2021 1235	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/20/2021 1321	MMM	01/19/2021 1022	79847

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-dodecanoic acid (PFDaA)	307-55-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.4	J	3.4	0.86	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		109	25-150
13C2_PFTeDA		81	25-150
13C3_PFBs		93	25-150
13C3_PFHxS		78	25-150
13C3-HFPO-DA		96	25-150
13C4_PFHpA		92	25-150
13C5_PFHxA		90	25-150
13C6_PFDA		106	25-150
13C7_PFUdA		87	25-150
13C8_PFOA		89	25-150
13C8_PFOS		74	25-150
13C9_PFNA		77	25-150
d5-EtFOSAA		84	25-150
d3-MeFOSAA		97	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16017-006
Description: S-5	Matrix: Aqueous
Date Sampled: 01/15/2021 1335	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/20/2021 1403	MMM	01/19/2021 1022	79847

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.5	1.9	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-n-dodecanoic acid (PFDaA)	307-55-1	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.8	0.94	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		3.8	0.94	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		101	25-150
13C2_PFTeDA		87	25-150
13C3_PFBs		92	25-150
13C3_PFHxS		77	25-150
13C3-HFPO-DA		100	25-150
13C4_PFHpA		101	25-150
13C5_PFHxA		87	25-150
13C6_PFDA		89	25-150
13C7_PFUdA		93	25-150
13C8_PFOA		90	25-150
13C8_PFOS		98	25-150
13C9_PFNA		87	25-150
d5-EtFOSAA		82	25-150
d3-MeFOSAA		105	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16017-007
Description: DUP	Matrix: Aqueous
Date Sampled: 01/15/2021	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/20/2021 1414	MMM	01/19/2021 1022	79847

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.2	1.8	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-dodecanoic acid (PFDaA)	307-55-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	1.4	J	3.6	0.91	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.6	0.91	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		3.6	0.91	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		111	25-150
13C2_PFTeDA		90	25-150
13C3_PFBs		89	25-150
13C3_PFHxS		96	25-150
13C3-HFPO-DA		100	25-150
13C4_PFHpA		101	25-150
13C5_PFHxA		95	25-150
13C6_PFDA		96	25-150
13C7_PFUdA		94	25-150
13C8_PFOA		100	25-150
13C8_PFOS		90	25-150
13C9_PFNA		77	25-150
d5-EtFOSAA		81	25-150
d3-MeFOSAA		93	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16017-008
Description: FB-011521	Matrix: Aqueous
Date Sampled: 01/15/2021 1240	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/20/2021 1435	MMM	01/19/2021 1022	79847

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		8.9	2.2	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.9	2.2	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.9	2.2	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.9	2.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.9	2.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.9	2.2	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		4.5	1.1	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	ND		4.5	1.1	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.5	1.1	ng/L	1
Perfluoro-n-dodecanoic acid (PFDaA)	307-55-1	PFAS by ID SOP	ND		4.5	1.1	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		4.5	1.1	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		4.5	1.1	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		4.5	1.1	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		4.5	1.1	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.5	1.1	ng/L	1
Perfluoro-n-tridecanoic acid (PFTTrDA)	72629-94-8	PFAS by ID SOP	ND		4.5	1.1	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.5	1.1	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		4.5	1.1	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		112	25-150
13C2_PFTeDA		91	25-150
13C3_PFBs		104	25-150
13C3_PFHxS		99	25-150
13C3-HFPO-DA		114	25-150
13C4_PFHpA		108	25-150
13C5_PFHxA		106	25-150
13C6_PFDA		107	25-150
13C7_PFUdA		101	25-150
13C8_PFOA		108	25-150
13C8_PFOS		109	25-150
13C9_PFNA		95	25-150
d5-EtFOSAA		85	25-150
d3-MeFOSAA		109	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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QC Summary

PFAS by LC/MS/MS - MB

Sample ID: WQ79847-001

Matrix: Aqueous

Batch: 79847

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/19/2021 1022

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
9CI-PF3ONS	ND		1	8.0	2.0	ng/L	01/20/2021 1157
11CI-PF3OUdS	ND		1	8.0	2.0	ng/L	01/20/2021 1157
GenX	ND		1	8.0	2.0	ng/L	01/20/2021 1157
ADONA	ND		1	8.0	2.0	ng/L	01/20/2021 1157
EtFOSAA	ND		1	8.0	2.0	ng/L	01/20/2021 1157
MeFOSAA	ND		1	8.0	2.0	ng/L	01/20/2021 1157
PFBS	ND		1	4.0	1.0	ng/L	01/20/2021 1157
PFHxS	ND		1	4.0	1.0	ng/L	01/20/2021 1157
PFDA	ND		1	4.0	1.0	ng/L	01/20/2021 1157
PFDaA	ND		1	4.0	1.0	ng/L	01/20/2021 1157
PFHpA	ND		1	4.0	1.0	ng/L	01/20/2021 1157
PFHxA	ND		1	4.0	1.0	ng/L	01/20/2021 1157
PFNA	ND		1	4.0	1.0	ng/L	01/20/2021 1157
PFOA	ND		1	4.0	1.0	ng/L	01/20/2021 1157
PFTeDA	ND		1	4.0	1.0	ng/L	01/20/2021 1157
PFTrDA	ND		1	4.0	1.0	ng/L	01/20/2021 1157
PFUdA	ND		1	4.0	1.0	ng/L	01/20/2021 1157
PFOS	ND		1	4.0	1.0	ng/L	01/20/2021 1157

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFDaA		122	25-150
13C2_PFTeDA		99	25-150
13C3_PFBs		93	25-150
13C3_PFHxS		96	25-150
13C3-HFPO-DA		103	25-150
13C4_PFHpA		92	25-150
13C5_PFHxA		96	25-150
13C6_PFDA		105	25-150
13C7_PFUdA		87	25-150
13C8_PFOA		97	25-150
13C8_PFOS		96	25-150
13C9_PFNA		92	25-150
d5-EtFOSAA		90	25-150
d3-MeFOSAA		110	25-150

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

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QC Data for Lot Number: WA16017

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PFAS by LC/MS/MS - LCS

Sample ID: WQ79847-002

Matrix: Aqueous

Batch: 79847

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/19/2021 1022

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
9CI-PF3ONS	15	14		1	93	50-150	01/20/2021 1207
11CI-PF3OUdS	15	15		1	100	50-150	01/20/2021 1207
GenX	32	34		1	105	50-150	01/20/2021 1207
ADONA	15	17		1	111	50-150	01/20/2021 1207
EtFOSAA	16	16		1	101	50-150	01/20/2021 1207
MeFOSAA	16	17		1	109	50-150	01/20/2021 1207
PFBS	14	14		1	99	50-150	01/20/2021 1207
PFHxS	15	18		1	122	50-150	01/20/2021 1207
PFDA	16	18		1	113	50-150	01/20/2021 1207
PFDaA	16	18		1	109	50-150	01/20/2021 1207
PFHpA	16	16		1	102	50-150	01/20/2021 1207
PFHxA	16	17		1	106	50-150	01/20/2021 1207
PFNA	16	17		1	105	50-150	01/20/2021 1207
PFOA	16	17		1	107	50-150	01/20/2021 1207
PFTeDA	16	18		1	111	50-150	01/20/2021 1207
PFTrDA	16	17		1	106	50-150	01/20/2021 1207
PFUdA	16	20		1	123	50-150	01/20/2021 1207
PFOS	15	14		1	97	50-150	01/20/2021 1207

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFDaA		110	25-150
13C2_PFTeDA		98	25-150
13C3_PFBs		89	25-150
13C3_PFHxS		76	25-150
13C3-HFPO-DA		102	25-150
13C4_PFHpA		101	25-150
13C5_PFHxA		94	25-150
13C6_PFDA		97	25-150
13C7_PFUdA		90	25-150
13C8_PFOA		92	25-150
13C8_PFOs		104	25-150
13C9_PFNA		84	25-150
d5-EtFOSAA		86	25-150
d3-MeFOSAA		100	25-150

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)

QC Data for Lot Number: WA16017

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PFAS by LC/MS/MS - Duplicate

Sample ID: WA16017-002DU

Matrix: Aqueous

Batch: 79847

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/19/2021 1022

Parameter	Sample Amount (ng/L)	Result (ng/L)	Q	Dil	% RPD	% RPD Limit	Analysis Date
9CI-PF3ONS	ND	ND		1	0.00	20	01/20/2021 1311
11CI-PF3OUdS	ND	ND		1	0.00	20	01/20/2021 1311
GenX	ND	ND		1	0.00	20	01/20/2021 1311
ADONA	ND	ND		1	0.00	20	01/20/2021 1311
EtFOSAA	ND	ND		1	0.00	20	01/20/2021 1311
MeFOSAA	ND	ND		1	0.00	20	01/20/2021 1311
PFBS	ND	ND		1	0.00	20	01/20/2021 1311
PFHxS	ND	ND		1	0.00	20	01/20/2021 1311
PFDA	ND	ND		1	0.00	20	01/20/2021 1311
PFDaA	ND	ND		1	0.00	20	01/20/2021 1311
PFHpA	ND	ND		1	0.00	20	01/20/2021 1311
PFHxA	ND	ND		1	0.00	20	01/20/2021 1311
PFNA	ND	ND		1	0.00	20	01/20/2021 1311
PFOA	ND	ND		1	0.00	20	01/20/2021 1311
PFTeDA	ND	ND		1	0.00	20	01/20/2021 1311
PFTTrDA	ND	ND		1	0.00	20	01/20/2021 1311
PFUdA	ND	ND		1	0.00	20	01/20/2021 1311
PFOS	ND	ND		1	0.00	20	01/20/2021 1311

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFDaA		117	25-150
13C2_PFTeDA		107	25-150
13C3_PFBs		101	25-150
13C3_PFHxS		101	25-150
13C3-HFPO-DA		111	25-150
13C4_PFHpA		102	25-150
13C5_PFHxA		102	25-150
13C6_PFDA		99	25-150
13C7_PFUdA		93	25-150
13C8_PFOA		101	25-150
13C8_PFOS		100	25-150
13C9_PFNA		90	25-150
d5-EtFOSAA		104	25-150
d3-MeFOSAA		120	25-150

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)

QC Data for Lot Number: WA16017

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PFAS by LC/MS/MS - MS

Sample ID: WA16017-004MS

Matrix: Aqueous

Batch: 79847

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/19/2021 1022

Parameter	Sample Amount (ng/L)	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
9CI-PF3ONS	ND	13	13		1	97	50-150	01/20/2021 1332
11CI-PF3OUdS	ND	13	12		1	92	50-150	01/20/2021 1332
GenX	ND	28	25		1	89	50-150	01/20/2021 1332
ADONA	ND	13	15		1	113	50-150	01/20/2021 1332
EtFOSAA	ND	14	15		1	108	50-150	01/20/2021 1332
MeFOSAA	ND	14	16		1	119	50-150	01/20/2021 1332
PFBS	ND	12	13		1	104	50-150	01/20/2021 1332
PFHxS	ND	13	13		1	106	50-150	01/20/2021 1332
PFDA	ND	14	13		1	93	50-150	01/20/2021 1332
PFDaA	ND	14	14		1	104	50-150	01/20/2021 1332
PFHpA	ND	14	13		1	93	50-150	01/20/2021 1332
PFHxA	ND	14	17		1	120	50-150	01/20/2021 1332
PFNA	ND	14	16		1	113	50-150	01/20/2021 1332
PFOA	ND	14	15		1	111	50-150	01/20/2021 1332
PFTeDA	ND	14	15		1	110	50-150	01/20/2021 1332
PFTrDA	ND	14	14		1	104	50-150	01/20/2021 1332
PFUdA	ND	14	16		1	118	50-150	01/20/2021 1332
PFOS	1.4	13	13		1	90	50-150	01/20/2021 1332

Surrogate	Q	% Rec	Acceptance Limit
13C2_PFDaA		109	25-150
13C2_PFTeDA		91	25-150
13C3_PFBs		98	25-150
13C3_PFHxS		89	25-150
13C3-HFPO-DA		107	25-150
13C4_PFHpA		110	25-150
13C5_PFHxA		86	25-150
13C6_PFDA		100	25-150
13C7_PFUdA		86	25-150
13C8_PFOA		96	25-150
13C8_PFOS		99	25-150
13C9_PFNA		83	25-150
d5-EtFOSAA		93	25-150
d3-MeFOSAA		88	25-150

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

Chain of Custody and Miscellaneous Documents



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Number **114491**

Client	Address	City	State	Zip Code	Project Name	Project No.	Sample ID / Description	Collection Date(s)	Extraction Time (Min)	Analysis	No. of Containers by Preservative Type	Report to Contact	Telephone No. / Email	Circle No.
GZA Geo Environmental	95 Glastonbury Blvd, 3rd Fl	Glastonbury	CT	06033	Turn of Canton	05-046589.02	TB-011521	1-15-21	1214	6-X	2	Rich	Richard, Charles (202) 929-0000	24244
							S-1	1-15-21	1214	6-X	2			
							S-2	1-15-21	1224	6-X	2			
							S-3	1-15-21	1235	6-X	2			
							S-4	1-15-21	1305	6-X	2			
							S-5	1-15-21	1335	6-X	2			
							DUP	1-15-21	1240	6-X	2			
							PB-011521	1-15-21	1240	6-X	2			

Turn Around Time Required (Prior lab approval required for expedited TAT.)	Sample Disposal	Sample Disposal by Lab	Possible Hazard Identification	QC Requirements (Specify)
Standard <input type="checkbox"/> Rush (Specify)	<input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal by Lab	<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Hazardous	<input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison <input type="checkbox"/> Unknown	Date Time
1. Relinquished by <i>gza</i>	Date <i>1-15-21</i> Time <i>1445</i>	1. Received by <i>FedEx</i>		Date Time
2. Relinquished by	Date Time	2. Received by		Date Time
3. Relinquished by	Date Time	3. Received by		Date Time
4. Relinquished by	Date Time	4. Laboratory received by <i>Wash State</i>		Date Time

Note: All samples are retained for four weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on ice (Circle) Yes ☒ No ☐
Receiv. Temp. *3.2* °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Samples(s), Pink-FedEx Client Copy

Document Number: MEC0302-01

PACE ANALYTICAL SERVICES, LLC



Samples Receipt Checklist (SRC) (ME0018C-15)

Issuing Authority: Pace ENV - WCOL



WA16017

/2020

1 of 1

Sample Receipt Checklist (SRC)

Client: GZA

Cooler Inspected by/date: WBS / 1/16/21 Lot #: _____

NMS

Means of receipt: <input type="checkbox"/> Pace <input type="checkbox"/> Client <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other: _____	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	1. Were custody seals present on the cooler?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> NA	2. If custody seals were present, were they intact and unbroken?
pH Strip ID: <u>na</u> Chlorine Strip ID: <u>na</u> Tested by: <u>na</u>	
Original temperature upon receipt / Derived (Corrected) temperature upon receipt %Solid Snap-Cup ID: <u>na</u>	
3. 2/3.2 °C <u>na</u> / <u>na</u> °C <u>na</u> / <u>na</u> °C	
Method: <input type="checkbox"/> Temperature Blank <input checked="" type="checkbox"/> Against Bottles IR Gun ID: <u>5</u> IR Gun Correction Factor: <u>0</u> °C	
Method of coolant: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Ice Packs <input type="checkbox"/> Dry Ice <input type="checkbox"/> None	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified?
PM was Notified by: phone / email / face-to-face (circle one).	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	4. Is the commercial courier's packing slip attached to this form?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5. Were proper custody procedures (relinquished/received) followed?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6. Were sample IDs listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7. Were sample IDs listed on all sample containers?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8. Was collection date & time listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9. Was collection date & time listed on all sample containers?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10. Did all container label information (ID, date, time) agree with the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11. Were tests to be performed listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	13. Was adequate sample volume available?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	14. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	16. For VOA and RSK-175 samples, were bubbles present >"pea-size" (¼" or 6mm in diameter) in any of the VOA vials?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	17. Were all DRO/metals/nutrient samples received at a pH of < 2?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	18. Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	19. Were all applicable NH ₃ /TKN/cyanide/phenol/625.1/608.3 (< 0.5mg/L) samples free of residual chlorine?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	20. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	21. Was the quote number listed on the container label? If yes, Quote # <u>24244</u>
Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)	
Sample(s) <u>na</u> were received incorrectly preserved and were adjusted accordingly in sample receiving with <u>na</u> mL of circle one: H ₂ SO ₄ , HNO ₃ , HCl, NaOH using SR # <u>na</u>	
Time of preservation <u>na</u> . If more than one preservative is needed, please note in the comments below.	
Sample(s) <u>na</u> were received with bubbles >6 mm in diameter.	
Sample(s) <u>na</u> were received with TRC > 0.5 mg/L (If #19 is <u>na</u>) and were adjusted accordingly in sample receiving with sodium thiosulfate (Na ₂ S ₂ O ₃) with Shealy ID: <u>na</u>	
SR barcode labels applied by: <u>WBS</u> Date: <u>1/16/21</u>	

Comments:



Report of Analysis

GZA
95 Glastonbury Boulevard, 3rd Floor
Glastonbury, CT 06033
Attention: Richard Desrosiers

Project Name: Canton
Project Number: 05.0046589.00
Lot Number: **WA16018**
Date Completed: 01/28/2021

Karen Coonan

01/29/2021 4:13 PM
Approved and released by:
Project Manager II: **Karen L. Coonan**



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PACE ANALYTICAL SERVICES, LLC

SC DHEC No: 32010001

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

Case Narrative GZA Lot Number: WA16018

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved The NELAC Institute (TNI) standards, the Pace Analytical Services, LLC ("Pace") Laboratory Quality Manual, standard operating procedures (SOPs), and Pace policies. Additionally, the DoD QSM version 5.3 has been followed for these samples, and specifically Table B-15 was followed for all PFAS samples. Any exceptions to the TNI standards, the Laboratory Quality Manual, SOPs, the DoD QSM, or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Pace Project Manager listed on the cover page.

Sample 16018-003 contained a custody seal around the lid.

The continuing calibration verification (CCV) associated with samples WA16018-001, WA16018-002, WA16018-003 for analyte: PFUdA recovered above the upper control limit. The samples associated with this CCV were non-detect for the affected analytes; therefore, the data has been reported.

PACE ANALYTICAL SERVICES, LLC

Sample Summary

GZA

Lot Number: WA16018

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	GZ-10	Aqueous	01/12/2021 0925	01/16/2021
002	GZ-6	Aqueous	01/12/2021 1050	01/16/2021
003	TB-011221	Aqueous	01/12/2021	01/16/2021
004	GZ-5	Aqueous	01/12/2021 1150	01/16/2021
005	FB-011221	Aqueous	01/12/2021 1225	01/16/2021
006	GZ-7	Aqueous	01/12/2021 1330	01/16/2021
007	GZ-7I	Aqueous	01/12/2021 1450	01/16/2021
008	GZ-2I	Aqueous	01/13/2021 0820	01/16/2021
009	GZ-9I	Aqueous	01/13/2021 0945	01/16/2021
010	GZ-9	Aqueous	01/13/2021 1045	01/16/2021
011	DUP-	Aqueous	01/13/2021	01/16/2021
012	GZ-2D	Aqueous	01/13/2021 1500	01/16/2021
013	EB-011321	Aqueous	01/13/2021 1530	01/16/2021
014	GZ-4I	Aqueous	01/14/2021 0840	01/16/2021
015	GZ-4D	Aqueous	01/14/2021 0955	01/16/2021
016	GZ-11	Aqueous	01/14/2021 1050	01/16/2021
017	GZ-11I	Aqueous	01/14/2021 1210	01/16/2021
018	FB-011421	Aqueous	01/14/2021 1100	01/16/2021
019	GZ-8	Aqueous	01/14/2021 1310	01/16/2021
020	GZ-8I	Aqueous	01/14/2021 1440	01/16/2021

(20 samples)

PACE ANALYTICAL SERVICES, LLC

Detection Summary

GZA

Lot Number: WA16018

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	GZ-10	Aqueous	PFBS	PFAS by ID	1.2	J	ng/L	6
001	GZ-10	Aqueous	PFHxS	PFAS by ID	5.4		ng/L	6
001	GZ-10	Aqueous	PFHpA	PFAS by ID	4.0	J	ng/L	6
001	GZ-10	Aqueous	PFHxA	PFAS by ID	4.9		ng/L	6
001	GZ-10	Aqueous	PFNA	PFAS by ID	10		ng/L	6
001	GZ-10	Aqueous	PFOA	PFAS by ID	3.7	J	ng/L	6
001	GZ-10	Aqueous	PFOS	PFAS by ID	3.0	J	ng/L	6
004	GZ-5	Aqueous	PFDA	PFAS by ID	2.3	J	ng/L	9
004	GZ-5	Aqueous	PFNA	PFAS by ID	1.8	J	ng/L	9
004	GZ-5	Aqueous	PFOA	PFAS by ID	4.2		ng/L	9
004	GZ-5	Aqueous	PFOS	PFAS by ID	11		ng/L	9
006	GZ-7	Aqueous	PFBS	PFAS by ID	3.5	J	ng/L	11
006	GZ-7	Aqueous	PFHxS	PFAS by ID	15		ng/L	11
006	GZ-7	Aqueous	PFHpA	PFAS by ID	1.2	J	ng/L	11
006	GZ-7	Aqueous	PFHxA	PFAS by ID	1.5	J	ng/L	11
006	GZ-7	Aqueous	PFOA	PFAS by ID	2.6	J	ng/L	11
006	GZ-7	Aqueous	PFOS	PFAS by ID	14		ng/L	11
007	GZ-7I	Aqueous	PFBS	PFAS by ID	4.2		ng/L	12
007	GZ-7I	Aqueous	PFHxS	PFAS by ID	56		ng/L	12
007	GZ-7I	Aqueous	PFHpA	PFAS by ID	31		ng/L	12
007	GZ-7I	Aqueous	PFHxA	PFAS by ID	27		ng/L	12
007	GZ-7I	Aqueous	PFNA	PFAS by ID	4.5		ng/L	12
007	GZ-7I	Aqueous	PFOA	PFAS by ID	28		ng/L	12
007	GZ-7I	Aqueous	PFOS	PFAS by ID	20		ng/L	12
008	GZ-2I	Aqueous	PFBS	PFAS by ID	12		ng/L	13
008	GZ-2I	Aqueous	PFHxS	PFAS by ID	180		ng/L	13
008	GZ-2I	Aqueous	PFHpA	PFAS by ID	370		ng/L	13
008	GZ-2I	Aqueous	PFHxA	PFAS by ID	260		ng/L	13
008	GZ-2I	Aqueous	PFNA	PFAS by ID	42		ng/L	13
008	GZ-2I	Aqueous	PFOA	PFAS by ID	280		ng/L	13
008	GZ-2I	Aqueous	PFOS	PFAS by ID	58		ng/L	13
009	GZ-9I	Aqueous	PFHpA	PFAS by ID	1.4	J	ng/L	14
009	GZ-9I	Aqueous	PFHxA	PFAS by ID	1.5	J	ng/L	14
009	GZ-9I	Aqueous	PFOA	PFAS by ID	2.4	J	ng/L	14
009	GZ-9I	Aqueous	PFOS	PFAS by ID	1.5	J	ng/L	14
010	GZ-9	Aqueous	PFBS	PFAS by ID	1.5	J	ng/L	15
010	GZ-9	Aqueous	PFHpA	PFAS by ID	1.3	J	ng/L	15
010	GZ-9	Aqueous	PFHxA	PFAS by ID	1.5	J	ng/L	15
010	GZ-9	Aqueous	PFNA	PFAS by ID	1.4	J	ng/L	15
010	GZ-9	Aqueous	PFOA	PFAS by ID	2.5	J	ng/L	15
010	GZ-9	Aqueous	PFOS	PFAS by ID	5.4		ng/L	15
011	DUP-	Aqueous	PFBS	PFAS by ID	12		ng/L	16
011	DUP-	Aqueous	PFHxS	PFAS by ID	190		ng/L	16
011	DUP-	Aqueous	PFHpA	PFAS by ID	350		ng/L	16
011	DUP-	Aqueous	PFHxA	PFAS by ID	270		ng/L	16

Detection Summary (Continued)

Lot Number: WA16018

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
011	DUP-	Aqueous	PFNA	PFAS by ID	41		ng/L	16
011	DUP-	Aqueous	PFOA	PFAS by ID	290		ng/L	16
011	DUP-	Aqueous	PFOS	PFAS by ID	58		ng/L	16
012	GZ-2D	Aqueous	PFHxS	PFAS by ID	2.2	J	ng/L	17
012	GZ-2D	Aqueous	PFHpA	PFAS by ID	3.9	J	ng/L	17
012	GZ-2D	Aqueous	PFOA	PFAS by ID	2.0	J	ng/L	17
012	GZ-2D	Aqueous	PFOS	PFAS by ID	6.5		ng/L	17
014	GZ-4I	Aqueous	PFBS	PFAS by ID	1.9	J	ng/L	19
014	GZ-4I	Aqueous	PFHxS	PFAS by ID	18		ng/L	19
014	GZ-4I	Aqueous	PFHpA	PFAS by ID	6.5		ng/L	19
014	GZ-4I	Aqueous	PFHxA	PFAS by ID	8.6		ng/L	19
014	GZ-4I	Aqueous	PFNA	PFAS by ID	3.2	J	ng/L	19
014	GZ-4I	Aqueous	PFOA	PFAS by ID	4.5		ng/L	19
014	GZ-4I	Aqueous	PFOS	PFAS by ID	8.2		ng/L	19
015	GZ-4D	Aqueous	PFBS	PFAS by ID	2.6	J	ng/L	20
015	GZ-4D	Aqueous	PFHxS	PFAS by ID	21		ng/L	20
015	GZ-4D	Aqueous	PFHpA	PFAS by ID	15		ng/L	20
015	GZ-4D	Aqueous	PFHxA	PFAS by ID	16		ng/L	20
015	GZ-4D	Aqueous	PFNA	PFAS by ID	19		ng/L	20
015	GZ-4D	Aqueous	PFOA	PFAS by ID	15		ng/L	20
015	GZ-4D	Aqueous	PFOS	PFAS by ID	32		ng/L	20
016	GZ-11	Aqueous	PFHxS	PFAS by ID	1.8	J	ng/L	21
017	GZ-11I	Aqueous	PFBS	PFAS by ID	1.3	J	ng/L	22
017	GZ-11I	Aqueous	PFHxS	PFAS by ID	12		ng/L	22
017	GZ-11I	Aqueous	PFHpA	PFAS by ID	6.7		ng/L	22
017	GZ-11I	Aqueous	PFHxA	PFAS by ID	8.5		ng/L	22
017	GZ-11I	Aqueous	PFOA	PFAS by ID	2.7	J	ng/L	22
017	GZ-11I	Aqueous	PFOS	PFAS by ID	3.3	J	ng/L	22
019	GZ-8	Aqueous	PFHxS	PFAS by ID	4.7		ng/L	24
019	GZ-8	Aqueous	PFHpA	PFAS by ID	2.7	J	ng/L	24
019	GZ-8	Aqueous	PFHxA	PFAS by ID	2.9	J	ng/L	24
020	GZ-8I	Aqueous	PFHxS	PFAS by ID	5.8		ng/L	25
020	GZ-8I	Aqueous	PFHpA	PFAS by ID	4.3		ng/L	25
020	GZ-8I	Aqueous	PFHxA	PFAS by ID	5.2		ng/L	25
020	GZ-8I	Aqueous	PFOA	PFAS by ID	2.8	J	ng/L	25
020	GZ-8I	Aqueous	PFOS	PFAS by ID	1.2	J	ng/L	25

(81 detections)

PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16018-001
Description: GZ-10	Matrix: Aqueous
Date Sampled: 01/12/2021 0925	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/20/2021 1445	MMM	01/19/2021 1022	79847

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	1.2	J	4.2	1.1	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	5.4		4.2	1.1	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	4.0	J	4.2	1.1	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	4.9		4.2	1.1	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	10		4.2	1.1	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	3.7	J	4.2	1.1	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-tridecanoic acid (PFTTrDA)	72629-94-8	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	3.0	J	4.2	1.1	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		101	25-150
13C2_PFTeDA		96	25-150
13C3_PFBs		109	25-150
13C3_PFHxS		105	25-150
13C3-HFPO-DA		110	25-150
13C4_PFHpA		99	25-150
13C5_PFHxA		105	25-150
13C6_PFDA		114	25-150
13C7_PFUdA		92	25-150
13C8_PFOA		103	25-150
13C8_PFOS		98	25-150
13C9_PFNA		91	25-150
d5-EtFOSAA		92	25-150
d3-MeFOSAA		106	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16018-002
Description: GZ-6	Matrix: Aqueous
Date Sampled: 01/12/2021 1050	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/20/2021 1456	MMM	01/19/2021 1022	79847

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		8.2	2.1	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.2	2.1	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.2	2.1	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.2	2.1	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.2	2.1	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.2	2.1	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-tridecanoic acid (PFTTrDA)	72629-94-8	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		4.1	1.0	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		117	25-150
13C2_PFTeDA		104	25-150
13C3_PFBs		115	25-150
13C3_PFHxS		109	25-150
13C3-HFPO-DA		126	25-150
13C4_PFHpA		117	25-150
13C5_PFHxA		97	25-150
13C6_PFDA		98	25-150
13C7_PFUdA		103	25-150
13C8_PFOA		109	25-150
13C8_PFOs		118	25-150
13C9_PFNA		98	25-150
d5-EtFOSAA		91	25-150
d3-MeFOSAA		116	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16018-003
Description: TB-011221	Matrix: Aqueous
Date Sampled: 01/12/2021	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/20/2021 1507	MMM	01/19/2021 1022	79847

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		3.9	0.97	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		105	25-150
13C2_PFTeDA		103	25-150
13C3_PFBs		100	25-150
13C3_PFHxS		106	25-150
13C3-HFPO-DA		102	25-150
13C4_PFHpA		102	25-150
13C5_PFHxA		94	25-150
13C6_PFDA		110	25-150
13C7_PFUdA		97	25-150
13C8_PFOA		107	25-150
13C8_PFOS		108	25-150
13C9_PFNA		112	25-150
d5-EtFOSAA		87	25-150
d3-MeFOSAA		111	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16018-004
Description: GZ-5	Matrix: Aqueous
Date Sampled: 01/12/2021 1150	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/21/2021 1510	JJG	01/20/2021 1356	80099

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	2.3	J	4.2	1.1	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	1.8	J	4.2	1.1	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	4.2		4.2	1.1	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	11		4.2	1.1	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		94	25-150
13C2_PFTeDA		95	25-150
13C3_PFBs		102	25-150
13C3_PFHxS		102	25-150
13C3-HFPO-DA		108	25-150
13C4_PFHpA		106	25-150
13C5_PFHxA		103	25-150
13C6_PFDA		97	25-150
13C7_PFUdA		100	25-150
13C8_PFOA		107	25-150
13C8_PFOS		98	25-150
13C9_PFNA		101	25-150
d5-EtFOSAA		86	25-150
d3-MeFOSAA		98	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16018-005
Description: FB-011221	Matrix: Aqueous
Date Sampled: 01/12/2021 1225	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/21/2021 1438	JJG	01/20/2021 1356	80099

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		9.1	2.3	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		9.1	2.3	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		9.1	2.3	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		9.1	2.3	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		9.1	2.3	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		9.1	2.3	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		4.6	1.1	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	ND		4.6	1.1	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.6	1.1	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.6	1.1	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		4.6	1.1	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		4.6	1.1	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		4.6	1.1	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		4.6	1.1	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.6	1.1	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		4.6	1.1	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.6	1.1	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		4.6	1.1	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		108	25-150
13C2_PFTeDA		104	25-150
13C3_PFBs		106	25-150
13C3_PFHxS		107	25-150
13C3-HFPO-DA		112	25-150
13C4_PFHpA		108	25-150
13C5_PFHxA		108	25-150
13C6_PFDA		105	25-150
13C7_PFUdA		106	25-150
13C8_PFOA		120	25-150
13C8_PFOS		95	25-150
13C9_PFNA		106	25-150
d5-EtFOSAA		99	25-150
d3-MeFOSAA		106	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16018-006
Description: GZ-7	Matrix: Aqueous
Date Sampled: 01/12/2021 1330	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/21/2021 1520	JJG	01/20/2021 1356	80099

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	3.5	J	4.1	1.0	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	15		4.1	1.0	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-dodecanoic acid (PFDaA)	307-55-1	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	1.2	J	4.1	1.0	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	1.5	J	4.1	1.0	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	2.6	J	4.1	1.0	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-tridecanoic acid (PFTTrDA)	72629-94-8	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	14		4.1	1.0	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		94	25-150
13C2_PFTeDA		62	25-150
13C3_PFBs		104	25-150
13C3_PFHxS		102	25-150
13C3-HFPO-DA		107	25-150
13C4_PFHpA		108	25-150
13C5_PFHxA		106	25-150
13C6_PFDA		99	25-150
13C7_PFUdA		93	25-150
13C8_PFOA		110	25-150
13C8_PFOs		93	25-150
13C9_PFNA		99	25-150
d5-EtFOSAA		85	25-150
d3-MeFOSAA		89	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16018-007
Description: GZ-7I	Matrix: Aqueous
Date Sampled: 01/12/2021 1450	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/21/2021 1552	JJG	01/20/2021 1356	80099

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	4.2		4.2	1.1	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	56		4.2	1.1	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	31		4.2	1.1	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	27		4.2	1.1	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	4.5		4.2	1.1	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	28		4.2	1.1	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	20		4.2	1.1	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		64	25-150
13C2_PFTeDA		48	25-150
13C3_PFBs		96	25-150
13C3_PFHxS		86	25-150
13C3-HFPO-DA		110	25-150
13C4_PFHpA		104	25-150
13C5_PFHxA		106	25-150
13C6_PFDA		89	25-150
13C7_PFUdA		78	25-150
13C8_PFOA		109	25-150
13C8_PFOs		69	25-150
13C9_PFNA		93	25-150
d5-EtFOSAA		60	25-150
d3-MeFOSAA		73	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16018-008
Description: GZ-2I	Matrix: Aqueous
Date Sampled: 01/13/2021 0820	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/21/2021 1603	JJG	01/20/2021 1356	80099

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		8.3	2.1	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.3	2.1	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.3	2.1	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.3	2.1	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.3	2.1	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.3	2.1	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	12		4.2	1.0	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	180		4.2	1.0	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.2	1.0	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.2	1.0	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	370		4.2	1.0	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	260		4.2	1.0	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	42		4.2	1.0	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	280		4.2	1.0	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.2	1.0	ng/L	1
Perfluoro-n-tridecanoic acid (PFTTrDA)	72629-94-8	PFAS by ID SOP	ND		4.2	1.0	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.2	1.0	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	58		4.2	1.0	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		102	25-150
13C2_PFTeDA		104	25-150
13C3_PFBs		108	25-150
13C3_PFHxS		104	25-150
13C3-HFPO-DA		114	25-150
13C4_PFHpA		106	25-150
13C5_PFHxA		110	25-150
13C6_PFDA		103	25-150
13C7_PFUdA		106	25-150
13C8_PFOA		114	25-150
13C8_PFOS		96	25-150
13C9_PFNA		105	25-150
d5-EtFOSAA		93	25-150
d3-MeFOSAA		93	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16018-009
Description: GZ-9I	Matrix: Aqueous
Date Sampled: 01/13/2021 0945	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/21/2021 1614	JJG	01/20/2021 1356	80099

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	1.4	J	3.9	0.97	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	1.5	J	3.9	0.97	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	2.4	J	3.9	0.97	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.5	J	3.9	0.97	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		111	25-150
13C2_PFTeDA		111	25-150
13C3_PFBs		119	25-150
13C3_PFHxS		116	25-150
13C3-HFPO-DA		129	25-150
13C4_PFHpA		119	25-150
13C5_PFHxA		120	25-150
13C6_PFDA		118	25-150
13C7_PFUdA		118	25-150
13C8_PFOA		124	25-150
13C8_PFOS		108	25-150
13C9_PFNA		113	25-150
d5-EtFOSAA		106	25-150
d3-MeFOSAA		109	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16018-010
Description: GZ-9	Matrix: Aqueous
Date Sampled: 01/13/2021 1045	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/21/2021 1624	JJG	01/20/2021 1356	80099

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.4	2.1	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	1.5	J	4.2	1.1	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-dodecanoic acid (PFDaA)	307-55-1	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	1.3	J	4.2	1.1	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	1.5	J	4.2	1.1	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	1.4	J	4.2	1.1	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	2.5	J	4.2	1.1	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.2	1.1	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	5.4		4.2	1.1	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		102	25-150
13C2_PFTeDA		101	25-150
13C3_PFBs		106	25-150
13C3_PFHxS		101	25-150
13C3-HFPO-DA		112	25-150
13C4_PFHpA		109	25-150
13C5_PFHxA		112	25-150
13C6_PFDA		101	25-150
13C7_PFUdA		102	25-150
13C8_PFOA		113	25-150
13C8_PFOs		99	25-150
13C9_PFNA		101	25-150
d5-EtFOSAA		90	25-150
d3-MeFOSAA		101	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16018-011
Description: DUP-	Matrix: Aqueous
Date Sampled: 01/13/2021	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/21/2021 1635	JJG	01/20/2021 1356	80099

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		8.0	2.0	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.0	2.0	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.0	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.0	2.0	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.0	2.0	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.0	2.0	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	12		4.0	1.0	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	190		4.0	1.0	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.0	1.0	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.0	1.0	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	350		4.0	1.0	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	270		4.0	1.0	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	41		4.0	1.0	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	290		4.0	1.0	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.0	1.0	ng/L	1
Perfluoro-n-tridecanoic acid (PFTTrDA)	72629-94-8	PFAS by ID SOP	ND		4.0	1.0	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.0	1.0	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	58		4.0	1.0	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		102	25-150
13C2_PFTeDA		105	25-150
13C3_PFBs		102	25-150
13C3_PFHxS		96	25-150
13C3-HFPO-DA		112	25-150
13C4_PFHpA		107	25-150
13C5_PFHxA		104	25-150
13C6_PFDA		98	25-150
13C7_PFUdA		100	25-150
13C8_PFOA		108	25-150
13C8_PFOS		100	25-150
13C9_PFNA		102	25-150
d5-EtFOSAA		90	25-150
d3-MeFOSAA		103	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16018-012
Description: GZ-2D	Matrix: Aqueous
Date Sampled: 01/13/2021 1500	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/21/2021 1656	JJG	01/20/2021 1030	80047

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		8.2	2.1	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.2	2.1	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.2	2.1	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.2	2.1	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.2	2.1	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.2	2.1	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	2.2	J	4.1	1.0	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	3.9	J	4.1	1.0	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	2.0	J	4.1	1.0	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	6.5		4.1	1.0	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		96	25-150
13C2_PFTeDA		94	25-150
13C3_PFBs		97	25-150
13C3_PFHxS		97	25-150
13C3-HFPO-DA		101	25-150
13C4_PFHpA		101	25-150
13C5_PFHxA		100	25-150
13C6_PFDA		98	25-150
13C7_PFUdA		97	25-150
13C8_PFOA		103	25-150
13C8_PFOS		93	25-150
13C9_PFNA		96	25-150
d5-EtFOSAA		93	25-150
d3-MeFOSAA		97	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16018-013
Description: EB-011321	Matrix: Aqueous
Date Sampled: 01/13/2021 1530	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/21/2021 1449	JJG	01/20/2021 1030	80047

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-tridecanoic acid (PFTTrDA)	72629-94-8	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		4.1	1.0	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		85	25-150
13C2_PFTeDA		75	25-150
13C3_PFBs		86	25-150
13C3_PFHxS		85	25-150
13C3-HFPO-DA		89	25-150
13C4_PFHpA		87	25-150
13C5_PFHxA		88	25-150
13C6_PFDA		84	25-150
13C7_PFUdA		85	25-150
13C8_PFOA		91	25-150
13C8_PFOs		80	25-150
13C9_PFNA		80	25-150
d5-EtFOSAA		77	25-150
d3-MeFOSAA		88	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16018-014
Description: GZ-4I	Matrix: Aqueous
Date Sampled: 01/14/2021 0840	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/21/2021 1707	JJG	01/20/2021 1030	80047

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	1.9	J	4.1	1.0	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	18		4.1	1.0	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	6.5		4.1	1.0	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	8.6		4.1	1.0	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	3.2	J	4.1	1.0	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	4.5		4.1	1.0	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-tridecanoic acid (PFTTrDA)	72629-94-8	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	8.2		4.1	1.0	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		91	25-150
13C2_PFTeDA		95	25-150
13C3_PFBs		99	25-150
13C3_PFHxS		95	25-150
13C3-HFPO-DA		103	25-150
13C4_PFHpA		102	25-150
13C5_PFHxA		101	25-150
13C6_PFDA		99	25-150
13C7_PFUdA		100	25-150
13C8_PFOA		106	25-150
13C8_PFOs		99	25-150
13C9_PFNA		94	25-150
d5-EtFOSAA		93	25-150
d3-MeFOSAA		103	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16018-015
Description: GZ-4D	Matrix: Aqueous
Date Sampled: 01/14/2021 0955	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/21/2021 1718	JJG	01/20/2021 1030	80047

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.8	1.9	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	2.6	J	3.9	0.97	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	21		3.9	0.97	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	15		3.9	0.97	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	16		3.9	0.97	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	19		3.9	0.97	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	15		3.9	0.97	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-tridecanoic acid (PFTTrDA)	72629-94-8	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	32		3.9	0.97	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		86	25-150
13C2_PFTeDA		84	25-150
13C3_PFBs		91	25-150
13C3_PFHxS		92	25-150
13C3-HFPO-DA		97	25-150
13C4_PFHpA		94	25-150
13C5_PFHxA		97	25-150
13C6_PFDA		92	25-150
13C7_PFUdA		91	25-150
13C8_PFOA		96	25-150
13C8_PFOS		77	25-150
13C9_PFNA		88	25-150
d5-EtFOSAA		89	25-150
d3-MeFOSAA		88	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16018-016
Description: GZ-11	Matrix: Aqueous
Date Sampled: 01/14/2021 1050	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/21/2021 1728	JJG	01/20/2021 1030	80047

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.9	2.0	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.9	2.0	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.9	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.9	2.0	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.9	2.0	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.9	2.0	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		4.0	0.99	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	1.8	J	4.0	0.99	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.0	0.99	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.0	0.99	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		4.0	0.99	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		4.0	0.99	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		4.0	0.99	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		4.0	0.99	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.0	0.99	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		4.0	0.99	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.0	0.99	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		4.0	0.99	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		90	25-150
13C2_PFTeDA		89	25-150
13C3_PFBs		97	25-150
13C3_PFHxS		94	25-150
13C3-HFPO-DA		101	25-150
13C4_PFHpA		100	25-150
13C5_PFHxA		102	25-150
13C6_PFDA		93	25-150
13C7_PFUdA		94	25-150
13C8_PFOA		103	25-150
13C8_PFOS		91	25-150
13C9_PFNA		93	25-150
d5-EtFOSAA		91	25-150
d3-MeFOSAA		89	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16018-017
Description: GZ-111	Matrix: Aqueous
Date Sampled: 01/14/2021 1210	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/21/2021 1800	JJG	01/20/2021 1030	80047

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		8.1	2.0	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.1	2.0	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.1	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.1	2.0	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.1	2.0	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.1	2.0	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	1.3	J	4.0	1.0	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	12		4.0	1.0	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.0	1.0	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.0	1.0	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	6.7		4.0	1.0	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	8.5		4.0	1.0	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		4.0	1.0	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	2.7	J	4.0	1.0	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.0	1.0	ng/L	1
Perfluoro-n-tridecanoic acid (PFTTrDA)	72629-94-8	PFAS by ID SOP	ND		4.0	1.0	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.0	1.0	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	3.3	J	4.0	1.0	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		88	25-150
13C2_PFTeDA		81	25-150
13C3_PFBs		97	25-150
13C3_PFHxS		93	25-150
13C3-HFPO-DA		112	25-150
13C4_PFHpA		100	25-150
13C5_PFHxA		107	25-150
13C6_PFDA		97	25-150
13C7_PFUdA		94	25-150
13C8_PFOA		109	25-150
13C8_PFOs		85	25-150
13C9_PFNA		99	25-150
d5-EtFOSAA		82	25-150
d3-MeFOSAA		91	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16018-018
Description: FB-011421	Matrix: Aqueous
Date Sampled: 01/14/2021 1100	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/21/2021 1459	JJG	01/20/2021 1030	80047

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		8.7	2.2	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.7	2.2	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.7	2.2	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.7	2.2	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.7	2.2	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.7	2.2	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		4.4	1.1	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	ND		4.4	1.1	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.4	1.1	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.4	1.1	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		4.4	1.1	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		4.4	1.1	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		4.4	1.1	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		4.4	1.1	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.4	1.1	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		4.4	1.1	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.4	1.1	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		4.4	1.1	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		108	25-150
13C2_PFTeDA		104	25-150
13C3_PFBs		103	25-150
13C3_PFHxS		112	25-150
13C3-HFPO-DA		114	25-150
13C4_PFHpA		109	25-150
13C5_PFHxA		111	25-150
13C6_PFDA		107	25-150
13C7_PFUdA		111	25-150
13C8_PFOA		120	25-150
13C8_PFOS		99	25-150
13C9_PFNA		109	25-150
d5-EtFOSAA		103	25-150
d3-MeFOSAA		100	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16018-019
Description: GZ-8	Matrix: Aqueous
Date Sampled: 01/14/2021 1310	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/21/2021 1811	JJG	01/20/2021 1030	80047

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		8.2	2.0	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	4.7		4.1	1.0	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	2.7	J	4.1	1.0	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	2.9	J	4.1	1.0	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		4.1	1.0	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		4.1	1.0	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		89	25-150
13C2_PFTeDA		92	25-150
13C3_PFBs		98	25-150
13C3_PFHxS		95	25-150
13C3-HFPO-DA		103	25-150
13C4_PFHpA		97	25-150
13C5_PFHxA		98	25-150
13C6_PFDA		93	25-150
13C7_PFUdA		99	25-150
13C8_PFOA		106	25-150
13C8_PFOS		103	25-150
13C9_PFNA		99	25-150
d5-EtFOSAA		92	25-150
d3-MeFOSAA		92	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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PFAS by LC/MS/MS

Client: GZA	Laboratory ID: WA16018-020
Description: GZ-8I	Matrix: Aqueous
Date Sampled: 01/14/2021 1440	
Date Received: 01/16/2021	

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	01/25/2021 2105	JJG	01/21/2021 1050	80206

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.7	1.9	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	5.8		3.9	0.97	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	4.3		3.9	0.97	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	5.2		3.9	0.97	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	2.8	J	3.9	0.97	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8	PFAS by ID SOP	ND		3.9	0.97	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	1.2	J	3.9	0.97	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_PFDaA		100	25-150
13C2_PFTeDA		91	25-150
13C3_PFBs		95	25-150
13C3_PFHxS		96	25-150
13C3-HFPO-DA		101	25-150
13C4_PFHpA		96	25-150
13C5_PFHxA		101	25-150
13C6_PFDA		95	25-150
13C7_PFUdA		94	25-150
13C8_PFOA		101	25-150
13C8_PFOS		97	25-150
13C9_PFNA		100	25-150
d5-EtFOSAA		95	25-150
d3-MeFOSAA		100	25-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

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QC Summary

PFAS by LC/MS/MS - MB

Sample ID: WQ79847-001

Matrix: Aqueous

Batch: 79847

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/19/2021 1022

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
9CI-PF3ONS	ND		1	8.0	2.0	ng/L	01/20/2021 1157
11CI-PF3OUdS	ND		1	8.0	2.0	ng/L	01/20/2021 1157
GenX	ND		1	8.0	2.0	ng/L	01/20/2021 1157
ADONA	ND		1	8.0	2.0	ng/L	01/20/2021 1157
EtFOSAA	ND		1	8.0	2.0	ng/L	01/20/2021 1157
MeFOSAA	ND		1	8.0	2.0	ng/L	01/20/2021 1157
PFBS	ND		1	4.0	1.0	ng/L	01/20/2021 1157
PFHxS	ND		1	4.0	1.0	ng/L	01/20/2021 1157
PFDA	ND		1	4.0	1.0	ng/L	01/20/2021 1157
PFDaA	ND		1	4.0	1.0	ng/L	01/20/2021 1157
PFHpA	ND		1	4.0	1.0	ng/L	01/20/2021 1157
PFHxA	ND		1	4.0	1.0	ng/L	01/20/2021 1157
PFNA	ND		1	4.0	1.0	ng/L	01/20/2021 1157
PFOA	ND		1	4.0	1.0	ng/L	01/20/2021 1157
PFTeDA	ND		1	4.0	1.0	ng/L	01/20/2021 1157
PFTTrDA	ND		1	4.0	1.0	ng/L	01/20/2021 1157
PFUdA	ND		1	4.0	1.0	ng/L	01/20/2021 1157
PFOS	ND		1	4.0	1.0	ng/L	01/20/2021 1157
Surrogate	Q	% Rec	Acceptance Limit				
13C2_PFDaA		122	25-150				
13C2_PFTeDA		99	25-150				
13C3_PFBs		93	25-150				
13C3_PFHxS		96	25-150				
13C3-HFPO-DA		103	25-150				
13C4_PFHpA		92	25-150				
13C5_PFHxA		96	25-150				
13C6_PFDA		105	25-150				
13C7_PFUdA		87	25-150				
13C8_PFOA		97	25-150				
13C8_PFOs		96	25-150				
13C9_PFNAA		92	25-150				
d5-EtFOSAA		90	25-150				
d3-MeFOSAA		110	25-150				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

PFAS by LC/MS/MS - LCS

Sample ID: WQ79847-002

Matrix: Aqueous

Batch: 79847

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/19/2021 1022

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
9CI-PF3ONS	15	14		1	93	50-150	01/20/2021 1207
11CI-PF3OUdS	15	15		1	100	50-150	01/20/2021 1207
GenX	32	34		1	105	50-150	01/20/2021 1207
ADONA	15	17		1	111	50-150	01/20/2021 1207
EtFOSAA	16	16		1	101	50-150	01/20/2021 1207
MeFOSAA	16	17		1	109	50-150	01/20/2021 1207
PFBS	14	14		1	99	50-150	01/20/2021 1207
PFHxS	15	18		1	122	50-150	01/20/2021 1207
PFDA	16	18		1	113	50-150	01/20/2021 1207
PFDaA	16	18		1	109	50-150	01/20/2021 1207
PFHpA	16	16		1	102	50-150	01/20/2021 1207
PFHxA	16	17		1	106	50-150	01/20/2021 1207
PFNA	16	17		1	105	50-150	01/20/2021 1207
PFOA	16	17		1	107	50-150	01/20/2021 1207
PFTeDA	16	18		1	111	50-150	01/20/2021 1207
PFTTrDA	16	17		1	106	50-150	01/20/2021 1207
PFUdA	16	20		1	123	50-150	01/20/2021 1207
PFOS	15	14		1	97	50-150	01/20/2021 1207
Surrogate	Q	% Rec	Acceptance Limit				
13C2_PFDaA		110	25-150				
13C2_PFTeDA		98	25-150				
13C3_PFBs		89	25-150				
13C3_PFHxS		76	25-150				
13C3-HFPO-DA		102	25-150				
13C4_PFHpA		101	25-150				
13C5_PFHxA		94	25-150				
13C6_PFDA		97	25-150				
13C7_PFUdA		90	25-150				
13C8_PFOA		92	25-150				
13C8_PFOs		104	25-150				
13C9_PFNA		84	25-150				
d5-EtFOSAA		86	25-150				
d3-MeFOSAA		100	25-150				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

PFAS by LC/MS/MS - MB

Sample ID: WQ80047-001

Matrix: Aqueous

Batch: 80047

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/20/2021 1030

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
9CI-PF3ONS	ND		1	8.0	2.0	ng/L	01/21/2021 1355
11CI-PF3OUdS	ND		1	8.0	2.0	ng/L	01/21/2021 1355
GenX	ND		1	8.0	2.0	ng/L	01/21/2021 1355
ADONA	ND		1	8.0	2.0	ng/L	01/21/2021 1355
EtFOSAA	ND		1	8.0	2.0	ng/L	01/21/2021 1355
MeFOSAA	ND		1	8.0	2.0	ng/L	01/21/2021 1355
PFBS	ND		1	4.0	1.0	ng/L	01/21/2021 1355
PFHxS	ND		1	4.0	1.0	ng/L	01/21/2021 1355
PFDA	ND		1	4.0	1.0	ng/L	01/21/2021 1355
PFDaA	ND		1	4.0	1.0	ng/L	01/21/2021 1355
PFHpA	ND		1	4.0	1.0	ng/L	01/21/2021 1355
PFHxA	ND		1	4.0	1.0	ng/L	01/21/2021 1355
PFNA	ND		1	4.0	1.0	ng/L	01/21/2021 1355
PFOA	ND		1	4.0	1.0	ng/L	01/21/2021 1355
PFTeDA	ND		1	4.0	1.0	ng/L	01/21/2021 1355
PFTTrDA	ND		1	4.0	1.0	ng/L	01/21/2021 1355
PFUdA	ND		1	4.0	1.0	ng/L	01/21/2021 1355
PFOS	ND		1	4.0	1.0	ng/L	01/21/2021 1355
Surrogate	Q	% Rec	Acceptance Limit				
13C2_PFDaA		115	25-150				
13C2_PFTeDA		110	25-150				
13C3_PFBs		110	25-150				
13C3_PFHxS		118	25-150				
13C3-HFPO-DA		120	25-150				
13C4_PFHpA		113	25-150				
13C5_PFHxA		112	25-150				
13C6_PFDA		108	25-150				
13C7_PFUdA		116	25-150				
13C8_PFOA		116	25-150				
13C8_PFOs		100	25-150				
13C9_PFNAA		105	25-150				
d5-EtFOSAA		107	25-150				
d3-MeFOSAA		106	25-150				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

PFAS by LC/MS/MS - LCS

Sample ID: WQ80047-002

Matrix: Aqueous

Batch: 80047

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/20/2021 1030

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
9CI-PF3ONS	15	16		1	107	50-150	01/21/2021 1406
11CI-PF3OUdS	15	15		1	100	50-150	01/21/2021 1406
GenX	32	33		1	105	50-150	01/21/2021 1406
ADONA	15	17		1	114	50-150	01/21/2021 1406
EiFOSAA	16	19		1	118	50-150	01/21/2021 1406
MeFOSAA	16	16		1	102	50-150	01/21/2021 1406
PFBS	14	15		1	108	50-150	01/21/2021 1406
PFHxS	15	16		1	113	50-150	01/21/2021 1406
PFDA	16	17		1	108	50-150	01/21/2021 1406
PFDaA	16	17		1	109	50-150	01/21/2021 1406
PFHpA	16	18		1	113	50-150	01/21/2021 1406
PFHxA	16	17		1	103	50-150	01/21/2021 1406
PFNA	16	19		1	119	50-150	01/21/2021 1406
PFOA	16	17		1	108	50-150	01/21/2021 1406
PFTeDA	16	18		1	115	50-150	01/21/2021 1406
PFTTrDA	16	18		1	110	50-150	01/21/2021 1406
PFUdA	16	18		1	113	50-150	01/21/2021 1406
PFOS	15	16		1	111	50-150	01/21/2021 1406
Surrogate	Q	% Rec	Acceptance Limit				
13C2_PFDaA		101	25-150				
13C2_PFTeDA		100	25-150				
13C3_PFBs		104	25-150				
13C3_PFHxS		105	25-150				
13C3-HFPO-DA		106	25-150				
13C4_PFHpA		103	25-150				
13C5_PFHxA		104	25-150				
13C6_PFDA		100	25-150				
13C7_PFUdA		99	25-150				
13C8_PFOA		109	25-150				
13C8_PFOs		103	25-150				
13C9_PFNA		97	25-150				
d5-EiFOSAA		100	25-150				
d3-MeFOSAA		99	25-150				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

PFAS by LC/MS/MS - MS

Sample ID: WA16018-016MS

Matrix: Aqueous

Batch: 80047

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/20/2021 1030

Parameter	Sample Amount (ng/L)	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
9CI-PF3ONS	ND	16	17		1	104	50-150	01/21/2021 1739
11CI-PF3OUdS	ND	16	16		1	100	50-150	01/21/2021 1739
GenX	ND	34	34		1	98	50-150	01/21/2021 1739
ADONA	ND	16	18		1	109	50-150	01/21/2021 1739
EiFOSAA	ND	17	17		1	101	50-150	01/21/2021 1739
MeFOSAA	ND	17	19		1	108	50-150	01/21/2021 1739
PFBS	ND	15	15		1	98	50-150	01/21/2021 1739
PFHxS	1.8	16	18		1	106	50-150	01/21/2021 1739
PFDA	ND	17	17		1	101	50-150	01/21/2021 1739
PFDaA	ND	17	17		1	101	50-150	01/21/2021 1739
PFHpA	ND	17	17		1	101	50-150	01/21/2021 1739
PFHxA	ND	17	19		1	108	50-150	01/21/2021 1739
PFNA	ND	17	18		1	102	50-150	01/21/2021 1739
PFOA	ND	17	18		1	104	50-150	01/21/2021 1739
PFTeDA	ND	17	17		1	99	50-150	01/21/2021 1739
PFTTrDA	ND	17	18		1	102	50-150	01/21/2021 1739
PFUdA	ND	17	18		1	103	50-150	01/21/2021 1739
PFOS	ND	16	19		1	117	50-150	01/21/2021 1739
Surrogate	Q	% Rec	Acceptance Limit					
13C2_PFDaA		92	25-150					
13C2_PFTeDA		93	25-150					
13C3_PFBs		94	25-150					
13C3_PFHxS		95	25-150					
13C3-HFPO-DA		102	25-150					
13C4_PFHpA		97	25-150					
13C5_PFHxA		93	25-150					
13C6_PFDA		92	25-150					
13C7_PFUdA		91	25-150					
13C8_PFOA		102	25-150					
13C8_PFOs		89	25-150					
13C9_PFNAA		89	25-150					
d5-EiFOSAA		87	25-150					
d3-MeFOSAA		90	25-150					

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

PFAS by LC/MS/MS - MSD

Sample ID: WA16018-016MD

Matrix: Aqueous

Batch: 80047

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/20/2021 1030

Parameter	Sample Amount (ng/L)	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
9CI-PF3ONS	ND	15	14		1	99	15	50-150	30	01/21/2021 1749
11CI-PF3OUdS	ND	15	15		1	101	8.3	50-150	30	01/21/2021 1749
GenX	ND	31	30		1	96	12	50-150	30	01/21/2021 1749
ADONA	ND	15	17		1	115	5.1	50-150	30	01/21/2021 1749
EiFOSAA	ND	16	15		1	96	16	50-150	30	01/21/2021 1749
MeFOSAA	ND	16	15		1	94	24	50-150	30	01/21/2021 1749
PFBS	ND	14	14		1	105	2.9	50-150	30	01/21/2021 1749
PFHxS	1.8	14	18		1	113	3.8	50-150	30	01/21/2021 1749
PFDA	ND	16	16		1	99	11	50-150	30	01/21/2021 1749
PFDaA	ND	16	15		1	99	12	50-150	30	01/21/2021 1749
PFHpA	ND	16	17		1	110	1.8	50-150	30	01/21/2021 1749
PFHxA	ND	16	16		1	103	14	50-150	30	01/21/2021 1749
PFNA	ND	16	16		1	103	9.0	50-150	30	01/21/2021 1749
PFOA	ND	16	16		1	105	8.5	50-150	30	01/21/2021 1749
PFTeDA	ND	16	16		1	103	6.5	50-150	30	01/21/2021 1749
PFTTrDA	ND	16	15		1	99	13	50-150	30	01/21/2021 1749
PFUdA	ND	16	15		1	99	14	50-150	30	01/21/2021 1749
PFOS	ND	15	15		1	104	21	50-150	30	01/21/2021 1749
Surrogate	Q	% Rec	Acceptance Limit							
13C2_PFDaA		93	25-150							
13C2_PFTeDA		93	25-150							
13C3_PFBs		97	25-150							
13C3_PFHxS		92	25-150							
13C3-HFPO-DA		106	25-150							
13C4_PFHpA		97	25-150							
13C5_PFHxA		102	25-150							
13C6_PFDA		100	25-150							
13C7_PFUdA		99	25-150							
13C8_PFOA		103	25-150							
13C8_PFOs		93	25-150							
13C9_PFNA		97	25-150							
d5-EiFOSAA		89	25-150							
d3-MeFOSAA		98	25-150							

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

PFAS by LC/MS/MS - MB

Sample ID: WQ80099-001

Matrix: Aqueous

Batch: 80099

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/20/2021 1356

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
9CI-PF3ONS	ND		1	8.0	2.0	ng/L	01/21/2021 1417
11CI-PF3OUdS	ND		1	8.0	2.0	ng/L	01/21/2021 1417
GenX	ND		1	8.0	2.0	ng/L	01/21/2021 1417
ADONA	ND		1	8.0	2.0	ng/L	01/21/2021 1417
EtFOSAA	ND		1	8.0	2.0	ng/L	01/21/2021 1417
MeFOSAA	ND		1	8.0	2.0	ng/L	01/21/2021 1417
PFBS	ND		1	4.0	1.0	ng/L	01/21/2021 1417
PFHxS	ND		1	4.0	1.0	ng/L	01/21/2021 1417
PFDA	ND		1	4.0	1.0	ng/L	01/21/2021 1417
PFDaA	ND		1	4.0	1.0	ng/L	01/21/2021 1417
PFHpA	ND		1	4.0	1.0	ng/L	01/21/2021 1417
PFHxA	ND		1	4.0	1.0	ng/L	01/21/2021 1417
PFNA	ND		1	4.0	1.0	ng/L	01/21/2021 1417
PFOA	ND		1	4.0	1.0	ng/L	01/21/2021 1417
PFTeDA	ND		1	4.0	1.0	ng/L	01/21/2021 1417
PFTTrDA	ND		1	4.0	1.0	ng/L	01/21/2021 1417
PFUdA	ND		1	4.0	1.0	ng/L	01/21/2021 1417
PFOS	ND		1	4.0	1.0	ng/L	01/21/2021 1417
Surrogate	Q	% Rec	Acceptance Limit				
13C2_PFDaA		103	25-150				
13C2_PFTeDA		100	25-150				
13C3_PFBs		103	25-150				
13C3_PFHxS		102	25-150				
13C3-HFPO-DA		113	25-150				
13C4_PFHpA		106	25-150				
13C5_PFHxA		107	25-150				
13C6_PFDA		103	25-150				
13C7_PFUdA		105	25-150				
13C8_PFOA		116	25-150				
13C8_PFOs		89	25-150				
13C9_PFNAA		103	25-150				
d5-EtFOSAA		96	25-150				
d3-MeFOSAA		98	25-150				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

PFAS by LC/MS/MS - LCS

Sample ID: WQ80099-002

Matrix: Aqueous

Batch: 80099

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/20/2021 1356

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
9CI-PF3ONS	15	15		1	102	50-150	01/21/2021 1427
11CI-PF3OUdS	15	15		1	101	50-150	01/21/2021 1427
GenX	32	32		1	101	50-150	01/21/2021 1427
ADONA	15	19		1	129	50-150	01/21/2021 1427
EtFOSAA	16	17		1	107	50-150	01/21/2021 1427
MeFOSAA	16	18		1	109	50-150	01/21/2021 1427
PFBS	14	15		1	104	50-150	01/21/2021 1427
PFHxS	15	16		1	110	50-150	01/21/2021 1427
PFDA	16	17		1	106	50-150	01/21/2021 1427
PFDaA	16	17		1	105	50-150	01/21/2021 1427
PFHpA	16	17		1	107	50-150	01/21/2021 1427
PFHxA	16	16		1	101	50-150	01/21/2021 1427
PFNA	16	17		1	105	50-150	01/21/2021 1427
PFOA	16	19		1	117	50-150	01/21/2021 1427
PFTeDA	16	17		1	107	50-150	01/21/2021 1427
PFTTrDA	16	17		1	106	50-150	01/21/2021 1427
PFUdA	16	18		1	115	50-150	01/21/2021 1427
PFOS	15	16		1	106	50-150	01/21/2021 1427
Surrogate	Q	% Rec	Acceptance Limit				
13C2_PFDaA		86	25-150				
13C2_PFTeDA		87	25-150				
13C3_PFBs		90	25-150				
13C3_PFHxS		88	25-150				
13C3-HFPO-DA		101	25-150				
13C4_PFHpA		98	25-150				
13C5_PFHxA		96	25-150				
13C6_PFDA		90	25-150				
13C7_PFUdA		84	25-150				
13C8_PFOA		94	25-150				
13C8_PFOS		76	25-150				
13C9_PFNA		88	25-150				
d5-EtFOSAA		78	25-150				
d3-MeFOSAA		84	25-150				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

PFAS by LC/MS/MS - MS

Sample ID: WA16018-006MS

Matrix: Aqueous

Batch: 80099

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/20/2021 1356

Parameter	Sample Amount (ng/L)	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
9CI-PF3ONS	ND	15	15		1	102	50-150	01/21/2021 1531
11CI-PF3OUdS	ND	15	14		1	91	50-150	01/21/2021 1531
GenX	ND	32	32		1	100	50-150	01/21/2021 1531
ADONA	ND	15	18		1	120	50-150	01/21/2021 1531
EiFOSAA	ND	16	16		1	102	50-150	01/21/2021 1531
MeFOSAA	ND	16	17		1	106	50-150	01/21/2021 1531
PFBS	3.5	14	17		1	97	50-150	01/21/2021 1531
PFHxS	15	15	29		1	95	50-150	01/21/2021 1531
PFDA	ND	16	16		1	99	50-150	01/21/2021 1531
PFDaA	ND	16	16		1	103	50-150	01/21/2021 1531
PFHpA	1.2	16	18		1	102	50-150	01/21/2021 1531
PFHxA	1.5	16	17		1	98	50-150	01/21/2021 1531
PFNA	ND	16	16		1	100	50-150	01/21/2021 1531
PFOA	2.6	16	17		1	93	50-150	01/21/2021 1531
PFTeDA	ND	16	16		1	98	50-150	01/21/2021 1531
PFTTrDA	ND	16	15		1	92	50-150	01/21/2021 1531
PFUdA	ND	16	16		1	99	50-150	01/21/2021 1531
PFOS	14	15	27		1	91	50-150	01/21/2021 1531
Surrogate	Q	% Rec	Acceptance Limit					
13C2_PFDaA		96	25-150					
13C2_PFTeDA		75	25-150					
13C3_PFBs		107	25-150					
13C3_PFHxS		98	25-150					
13C3-HFPO-DA		109	25-150					
13C4_PFHpA		107	25-150					
13C5_PFHxA		108	25-150					
13C6_PFDA		99	25-150					
13C7_PFUdA		97	25-150					
13C8_PFOA		110	25-150					
13C8_PFOs		93	25-150					
13C9_PFNAA		101	25-150					
d5-EiFOSAA		87	25-150					
d3-MeFOSAA		93	25-150					

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

PFAS by LC/MS/MS - MSD

Sample ID: WA16018-006MD

Matrix: Aqueous

Batch: 80099

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/20/2021 1356

Parameter	Sample Amount (ng/L)	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
9CI-PF3ONS	ND	14	13		1	88	19	50-150	30	01/21/2021 1542
11CI-PF3OUdS	ND	14	12		1	86	10	50-150	30	01/21/2021 1542
GenX	ND	31	31		1	102	2.3	50-150	30	01/21/2021 1542
ADONA	ND	14	16		1	108	15	50-150	30	01/21/2021 1542
EiFOSAA	ND	15	15		1	95	12	50-150	30	01/21/2021 1542
MeFOSAA	ND	15	16		1	107	3.6	50-150	30	01/21/2021 1542
PFBS	3.5	14	16		1	90	9.3	50-150	30	01/21/2021 1542
PFHxS	15	14	27		1	87	6.4	50-150	30	01/21/2021 1542
PFDA	ND	15	14		1	91	13	50-150	30	01/21/2021 1542
PFDaA	ND	15	15		1	100	7.0	50-150	30	01/21/2021 1542
PFHpA	1.2	15	16		1	99	6.9	50-150	30	01/21/2021 1542
PFHxA	1.5	15	16		1	96	6.3	50-150	30	01/21/2021 1542
PFNA	ND	15	15		1	98	7.1	50-150	30	01/21/2021 1542
PFOA	2.6	15	17		1	94	2.1	50-150	30	01/21/2021 1542
PFTeDA	ND	15	15		1	101	1.3	50-150	30	01/21/2021 1542
PFTTrDA	ND	15	14		1	88	8.7	50-150	30	01/21/2021 1542
PFUdA	ND	15	15		1	101	2.3	50-150	30	01/21/2021 1542
PFOS	14	14	27		1	92	1.4	50-150	30	01/21/2021 1542
Surrogate	Q	% Rec	Acceptance Limit							
13C2_PFDaA		93	25-150							
13C2_PFTeDA		70	25-150							
13C3_PFBs		103	25-150							
13C3_PFHxS		102	25-150							
13C3-HFPO-DA		104	25-150							
13C4_PFHpA		101	25-150							
13C5_PFHxA		100	25-150							
13C6_PFDA		97	25-150							
13C7_PFUdA		90	25-150							
13C8_PFOA		108	25-150							
13C8_PFOs		95	25-150							
13C9_PFNAA		92	25-150							
d5-EiFOSAA		79	25-150							
d3-MeFOSAA		89	25-150							

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

PFAS by LC/MS/MS - MB

Sample ID: WQ80206-001

Matrix: Aqueous

Batch: 80206

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/21/2021 1050

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
9CI-PF3ONS	ND		1	8.0	2.0	ng/L	01/25/2021 2001
11CI-PF3OUdS	ND		1	8.0	2.0	ng/L	01/25/2021 2001
GenX	ND		1	8.0	2.0	ng/L	01/25/2021 2001
ADONA	ND		1	8.0	2.0	ng/L	01/25/2021 2001
EiFOSAA	ND		1	8.0	2.0	ng/L	01/25/2021 2001
MeFOSAA	ND		1	8.0	2.0	ng/L	01/25/2021 2001
PFBS	ND		1	4.0	1.0	ng/L	01/25/2021 2001
PFHxS	ND		1	4.0	1.0	ng/L	01/25/2021 2001
PFDA	ND		1	4.0	1.0	ng/L	01/25/2021 2001
PFDaA	ND		1	4.0	1.0	ng/L	01/25/2021 2001
PFHpA	ND		1	4.0	1.0	ng/L	01/25/2021 2001
PFHxA	ND		1	4.0	1.0	ng/L	01/25/2021 2001
PFNA	ND		1	4.0	1.0	ng/L	01/25/2021 2001
PFOA	ND		1	4.0	1.0	ng/L	01/25/2021 2001
PFTeDA	ND		1	4.0	1.0	ng/L	01/25/2021 2001
PFTTrDA	ND		1	4.0	1.0	ng/L	01/25/2021 2001
PFUdA	ND		1	4.0	1.0	ng/L	01/25/2021 2001
PFOS	ND		1	4.0	1.0	ng/L	01/25/2021 2001
Surrogate	Q	% Rec	Acceptance Limit				
13C2_PFDaA		115	25-150				
13C2_PFTeDA		104	25-150				
13C3_PFBs		104	25-150				
13C3_PFHxS		111	25-150				
13C3-HFPO-DA		111	25-150				
13C4_PFHpA		106	25-150				
13C5_PFHxA		109	25-150				
13C6_PFDA		106	25-150				
13C7_PFUdA		102	25-150				
13C8_PFOA		109	25-150				
13C8_PFOs		109	25-150				
13C9_PFNAA		107	25-150				
d5-EiFOSAA		109	25-150				
d3-MeFOSAA		110	25-150				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

PFAS by LC/MS/MS - LCS

Sample ID: WQ80206-002

Matrix: Aqueous

Batch: 80206

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 01/21/2021 1050

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
9CI-PF3ONS	15	15		1	100	50-150	01/25/2021 2012
11CI-PF3OUdS	15	15		1	101	50-150	01/25/2021 2012
GenX	32	32		1	100	50-150	01/25/2021 2012
ADONA	15	17		1	115	50-150	01/25/2021 2012
EiFOSAA	16	17		1	107	50-150	01/25/2021 2012
MeFOSAA	16	18		1	110	50-150	01/25/2021 2012
PFBS	14	14		1	101	50-150	01/25/2021 2012
PFHxS	15	17		1	113	50-150	01/25/2021 2012
PFDA	16	16		1	98	50-150	01/25/2021 2012
PFDaA	16	17		1	106	50-150	01/25/2021 2012
PFHpA	16	17		1	105	50-150	01/25/2021 2012
PFHxA	16	17		1	104	50-150	01/25/2021 2012
PFNA	16	16		1	101	50-150	01/25/2021 2012
PFOA	16	16		1	103	50-150	01/25/2021 2012
PFTeDA	16	17		1	106	50-150	01/25/2021 2012
PFTTrDA	16	17		1	108	50-150	01/25/2021 2012
PFUdA	16	19		1	117	50-150	01/25/2021 2012
PFOS	15	15		1	100	50-150	01/25/2021 2012
Surrogate	Q	% Rec	Acceptance Limit				
13C2_PFDaA		111	25-150				
13C2_PFTeDA		100	25-150				
13C3_PFBs		108	25-150				
13C3_PFHxS		103	25-150				
13C3-HFPO-DA		108	25-150				
13C4_PFHpA		108	25-150				
13C5_PFHxA		106	25-150				
13C6_PFDA		105	25-150				
13C7_PFUdA		98	25-150				
13C8_PFOA		108	25-150				
13C8_PFOS		108	25-150				
13C9_PFNA		107	25-150				
d5-EiFOSAA		105	25-150				
d3-MeFOSAA		109	25-150				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

* = RSD is out of criteria

+ = RPD is out of criteria

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

Chain of Custody and Miscellaneous Documents

Number 114492

Client: GZA Geo-Environmental		Report to: Contract		Telephone No. / E-mail: 24244		Order No. 24244	
Address: 95 Glenside Blvd, 3rd Floor		Sampler's Signature: [Signature]		Analysis (Attach for if more space is needed)		Page 1 of 2	
City: Glenside		Printed Name: Lucas		MS/MSD		Barcode: WA16018	
Project Name: Town of Canton		Printed Name: Tyler		MS/MSD		Barcode: WA16018	
Project No. 05.0046589.02		PO No. 24244		MS/MSD		Barcode: WA16018	
Sample ID / Description		Collection Date (MM/DD)		MS/MSD		Barcode: WA16018	
(Containers for each sample may be combined on one line)		Collection Date (MM/DD)		MS/MSD		Barcode: WA16018	
GZ-10		1-12-21 0925		MS/MSD		Barcode: WA16018	
GZ-6		1-12-21 1050		MS/MSD		Barcode: WA16018	
TB - 011221		1-12-21		MS/MSD		Barcode: WA16018	
GZ-5		1-12-21 1150		MS/MSD		Barcode: WA16018	
FB - 011221		1-12-21 1225		MS/MSD		Barcode: WA16018	
GZ-7		1-12-21 1330		MS/MSD		Barcode: WA16018	
GZ-7 I		1-12-21 1450		MS/MSD		Barcode: WA16018	
GZ-2 I		1-13-21 820		MS/MSD		Barcode: WA16018	
GZ-9 I		1-13-21 945		MS/MSD		Barcode: WA16018	
GZ-9		1-13-21 1045		MS/MSD		Barcode: WA16018	
Sample Disposal		Sample Disposal		Sample Disposal		Sample Disposal	
Standard <input type="checkbox"/> Rush <input type="checkbox"/> (Specify)		Standard <input type="checkbox"/> Rush <input type="checkbox"/> (Specify)		Standard <input type="checkbox"/> Rush <input type="checkbox"/> (Specify)		Standard <input type="checkbox"/> Rush <input type="checkbox"/> (Specify)	
1. Requisitioned by [Signature]		1. Requisitioned by [Signature]		1. Requisitioned by [Signature]		1. Requisitioned by [Signature]	
2. Requisitioned by [Signature]		2. Requisitioned by [Signature]		2. Requisitioned by [Signature]		2. Requisitioned by [Signature]	
3. Requisitioned by [Signature]		3. Requisitioned by [Signature]		3. Requisitioned by [Signature]		3. Requisitioned by [Signature]	
4. Requisitioned by [Signature]		4. Requisitioned by [Signature]		4. Requisitioned by [Signature]		4. Requisitioned by [Signature]	
Note: All samples are retained for four weeks from receipt unless other arrangements are made.		Note: All samples are retained for four weeks from receipt unless other arrangements are made.		Note: All samples are retained for four weeks from receipt unless other arrangements are made.		Note: All samples are retained for four weeks from receipt unless other arrangements are made.	

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Document Number: MEC00142-04

PACE ANALYTICAL SERVICES, LLC



Samples Receipt Checklist (SRC) (ME0018C-15)

Issuing Authority: Pace ENV - WCOL



WA16018

/29/2020
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Sample Receipt Checklist (SRC)

Client: GZA

Cooler Inspected by/date: WBS / 1/16/21 Lot # NMS

Means of receipt: <input type="checkbox"/> Pace <input type="checkbox"/> Client <input type="checkbox"/> UPS <input checked="" type="checkbox"/> FedEx <input type="checkbox"/> Other:	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	1. Were custody seals present on the cooler?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	2. If custody seals were present, were they intact and unbroken?
pH Strip ID: <u>nc</u> Chlorine Strip ID: <u>nc</u> Tested by: <u>nc</u>	
Original temperature upon receipt / Derived (Corrected) temperature upon receipt %Solid Snap-Cup ID: <u>nc</u>	
<u>3.0 / 3.0 °C nc / nc °C nc °C nc °C</u>	
Method: <input type="checkbox"/> Temperature Blank <input checked="" type="checkbox"/> Against Bottles IR Gun ID: <u>5</u> IR Gun Correction Factor: <u>0</u> °C	
Method of coolant: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Ice Packs <input type="checkbox"/> Dry Ice <input type="checkbox"/> None	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified?
PM was Notified by: <u>phone / email / face-to-face</u> (circle one).	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	4. Is the commercial courier's packing slip attached to this form?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5. Were proper custody procedures (relinquished/received) followed?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6. Were sample IDs listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7. Were sample IDs listed on all sample containers?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8. Was collection date & time listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9. Was collection date & time listed on all sample containers?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10. Did all container label information (ID, date, time) agree with the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11. Were tests to be performed listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	13. Was adequate sample volume available?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	14. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	16. For VOA and RSK-175 samples, were bubbles present > "pea-size" (¼" or 6mm in diameter) in any of the VOA vials?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	17. Were all DRO/metals/nutrient samples received at a pH of < 2?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	18. Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	19. Were all applicable NH ₃ /TKN/cyanide/phenol/625.1/608.3 (< 0.5mg/L) samples free of residual chlorine?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	20. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	21. Was the quote number listed on the container label? If yes, Quote # <u>242049</u>
Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)	
Sample(s) <u>nc</u> were received incorrectly preserved and were adjusted accordingly	
in sample receiving with <u>nc</u> mL of circle one: H ₂ SO ₄ , HNO ₃ , HCl, NaOH using SR # <u>nc</u>	
Time of preservation <u>nc</u> If more than one preservative is needed, please note in the comments below.	
Sample(s) <u>nc</u> were received with bubbles > 6 mm in diameter.	
Samples(s) <u>nc</u> were received with TRC > 0.5 mg/L (If #19 is no) and were	
adjusted accordingly in sample receiving with sodium thiosulfate (Na ₂ S ₂ O ₃) with Shealy ID: <u>nc</u>	
SR barcode labels applied by: <u>WBS</u> Date: <u>1/16/21</u>	

Comments:



GZA GeoEnvironmental, Inc.