FINAL

POST MITIGATION PERFORMANCE SAMPLING REPORT

DEFENSE FUEL SUPPORT POINT VERONA
NYSDEC SITE CODE 633086

VERONA, NEW YORK

PREPARED FOR:

DEFENSE LOGISTICS AGENCY – ENERGY
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FINAL
POST MITIGATION PERFORMANCE SAMPLING REPORT
DEFENSE FUEL SUPPORT POINT VERONA

TITLE PAGE

Eric Blomberg, PG
Senior Hydrogeologist

Date: 2-21-23

I, Eric Blomberg, certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Report (Post Mitigation Performance Sampling Report) was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

Edward Kurja, PE (MA ENV)
Project Manager

Date: 2-21-23

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Abbreviations/Acronyms

AFFF	Aqueous Film Forming Foam
ASTs	Aboveground Storage Tanks
bgs	Below Ground Surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DFSP	Defense Fuel Support Point
DLA-E	Defense Logistics Agency - Energy
DoD	Department of Defense
EDR	Environmental Database Report
HAL	Health Advisory Level
IRM	Interim Remedial Measure
ND	Not Detected
ng/L	Nanograms Per Liter
NYSDEC	New York State Department of Environmental Conservation
PFAS	Per and Polyfluoroalkyl
PFOA	Perfluoro-octanoic Acid
PFOS	Perfluoro-octane Sulfonate
QC	Quality Control
RSL	Regional Screening Level
TK&K	TK&K Services
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
µg/kg	Micrograms Per Kilogram

1.0 INTRODUCTION

This Post Mitigation Performance Sampling Report has been prepared by TK&K Services (TK&K) on behalf of the Defense Logistics Agency – Energy (DLA-E) for the former Defense Fuel Support Point (DFSP) Verona (the Site) Verona, New York (see **Figure 1**). This report describes the groundwater sampling event performed from October 27 through October 29, 2021, for per- and polyfluoroalkyl substances (PFAS), specifically perfluoro-octanoic acid (PFOA) and perfluoro-octane sulfonate (PFOS), at the Site (see **Figure 2**).

The objective of this Post Mitigation Performance Sampling Report is to satisfy the request of the New York State Department of Environmental Conservation (NYSDEC) presented in a letter dated September 4, 2019 (see **Appendix A**), to investigate the extent of groundwater contamination and determine if it is impacting Stony Creek. Groundwater results were compared to the guidance values in NYSDEC's Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) (October 2020).

1.1 Site Background

DFSP Verona was constructed in 1959 as a fuel storage and transfer facility on previously undeveloped land. Historically, there have been four field constructed Aboveground Storage Tanks (ASTs) on Site that covered a significant portion of the DFSP Verona service facility (Tanks 1, 2, 3, and 4). Each of the four ASTs, the fuel loading rack, and the fuel pump house were connected to an automated firefighting foam system. DLA-E has identified that Aqueous film forming foam (AFFF) was stored and used at the DFSP from the mid-1980s through 2017. Fueling operations ceased at the facility as of September 2014 and DLA-E permanently closed the DFSP in August 2017. AFFF decommissioning activities were documented in the *DFSP Verona Aqueous Firefighting Foam System Closure Report*, TK&K Services (November 2017).

The presence of PFAS in soil and groundwater at the Site is directly related to the storage and use of AFFF. Historically, 55-gallon drums containing AFFF concentrate were used to fill two 200-gallon bladder tanks located in the Fire Foam Pump Building, which were integral to the fire suppression system. In the event of a fire, AFFF would be combined with water in the AFFF pumphouse piping before application to the fire. AFFF concentrate onsite was tested annually and if found to be degraded, it was removed and resupplied by the vendor. As part of the decommissioning of DFSP Verona, all bulk fuel storage vessels and piping have been closed and the facility no longer needs an automated fire suppression system for the fuel system. Site work to remove the AFFF foam product material and residue was performed in August 2017.

There have been two reported historical releases of AFFF at DFSP Verona. Sometime between 1988 and 1993, lightening tripped the photonic eye on Tank 1 and AFFF was released into Tank 1, and subsequently drained into Berm 1. Tank 1 was emptied through fuel separators to remove water and AFFF. Residual dike water and AFFF liquid was recovered by vacuum truck for off-

site disposal. Another AFFF release occurred in 2003 onto the concrete truck pad during a lightning event which tripped a sensor. Reportedly, AFFF was not recovered, and the liquid evaporated on the pad.

In addition to the noted releases above, periodic testing of the AFFF system by charging lines and draining the system to low point drains or the ground surface surrounding the AFFF pump house was common and may have been a significant source for releasing PFAS to the environment.

In November 2016, the Department of Defense (DoD) initiated an evaluation of the Site's drinking water for PFOA and PFOS due to prior storage and use of AFFF on site. Sampling drinking water at locations with AFFF storage has become common at DoD facilities in recent years to identify exposures to PFAS contamination. DFSP Verona groundwater is not a source of potable water or irrigation at the Site. The source of municipal water is Glenmore Reservoir on Florence Creek, located twenty miles from the facility. A drinking water sample was obtained by TK&K from the first spigot after the municipal supply line enters DFSP Verona's administrative building and analyzed via United States Environmental Protection Agency (USEPA) Method 537 for the determination of 14 PFAS compounds in drinking water. All results were below detectable laboratory limits for PFOA and PFOS at 9 and 15 nanograms per liter (ng/l), respectively. The drinking water results were provided in a report entitled *Analytical Report for Perfluorinated Compounds Sampling in Drinking Water DFSP Verona*, TK&K Services (December 2016).

In June and July 2017, DLA-E collected groundwater samples from several site monitoring wells and one soil sample near the former SPDES discharge point for the oil/water separator for laboratory analysis of PFAS. Laboratory results indicated groundwater from monitoring wells at the facility were impacted by PFAS. The highest concentrations of PFAS in groundwater were detected in monitoring wells MW-10R (1,300 nanograms per Liter (ng/L) of PFOS and 62 ng/L of PFOA) and MW-27 (670 ng/L PFOS and 16 ng/L PFOA). Both wells are located downgradient of the loading rack. PFAS concentrations were detected further downgradient in wells MW-5 (6.2 ng/L of PFOS and 92 ng/L of PFOA) and MW-9 (190 ng/L of PFOS and 18 ng/L of PFOA), located near the western fence line. PFAS concentrations diminished upgradient of the loading rack at well MW-24 (61 ng/L of PFOS and 1.8 ng/L of PFOA), but increased significantly in the furthest upgradient well, MW-13 (1,000 ng/L PFOS and 15 ng/L of PFOA). The soil sample collected to evaluate the potential for the facility's storm water to contact and transport PFAS (VER-SED-01) contained 6.2 micrograms per kilogram (µg/kg) of PFOS indicating that water passing through the storm water system likely contacted PFAS although it does not appear to be a significant ongoing transport mechanism. The results of groundwater and soil testing were provided in a report entitled DFSP *Verona PFAS Groundwater Sampling Report*, TK&K Services, (September 2017).

The NYSDEC was notified by DLA-E of the findings of the Site investigation for PFAS. NYSDEC opened Spill Number 17-08575 in response and conducted State-led private well sampling in the surrounding community for PFAS in groundwater. TK&K obtained laboratory results but no narrative report of the NYSDEC private well sampling results. Using online imaging, TK&K mapped locations of the samples collected using addresses provided on the laboratory chain of custody. Laboratory results indicated there were no impacts of PFAS or PFOA detected above the NYDEC groundwater quality standard of 10 nanograms per liter (ng/L). Of the eight private wells sampled, only one sample, located on New York Route 31 (approximately 2,400 feet to the northwest of the Site and across Stony Creek), had a detection of PFOA at 5.8 ng/L. All other private well results were Not Detected (ND) for PFAS.

A Site Characterization Work Plan for the investigation of PFAS was submitted to the NYSDEC and approved via a call with TK&K personnel on December 3, 2018. During that call, the NYSDEC requested that monitoring well (MW-10R) be re-sampled during the site characterization field work to confirm the concentration from the summer 2017 sampling event.

The Site Characterization was performed in December 2018 and January 2019 and the results were documented in the *Final Site Characterization Report*, TK&K Services, (July 2019). Fourteen of sixteen soil samples contained PFAS with the highest concentrations in soil sample SSPFAS-33 (0-2 ft.) and surface sample SSPFAS-38 (0-6 in.). These samples contained PFOS above the RSL at 185 and 184 ug/kg, respectively. SSPFAS-33 was collected adjacent to the pump house floor drain discharge pipe which daylights outside of the facility fence line. This area could have been exposed to AFFF during testing, cleaning, or refilling activities inside the AFFF Pump House. Sample SSPFAS-38 was collected immediately below the low point drain discharge pipe on the west exterior side of the AFFF pump house. This area would have received AFFF after system testing or any time system piping was charged and subsequently drained back to the AFFF pump house. Both samples have PFAS concentrations above the USEPA Regional Screening Level (RSL) calculated residential exposure limit of 126 ug/kg (185 ug/kg PFOS in SSPFAS-33 and 184 ug/kg PFOS in SSPFAS-38, respectively).

The groundwater sampling event performed in January 2019 confirmed that eight of the thirteen monitoring wells sampled had combined PFOA/PFOS concentrations which exceeded the USEPA's Health Advisory Level (HAL) of 70 ng/L. The highest concentration of combined PFOA/PFOS was detected in monitoring well MW-33, which is in an area that accepts floor drain effluent from the AFFF Pump House. The elevated levels of PFAS in groundwater may have been related to the PFAS releases in soil near the AFFF pump house where the impacted soil was acting as a continuing source of PFAS contamination.

Other findings of the January 2019 sampling event confirmed the general groundwater flow direction as northwest toward Stony Creek. Migration of PFAS in groundwater in unconsolidated material from DFSP Verona is toward the northwest and Stony Creek.

The *Final Site Characterization Report*, TK&K Services, (July 2019) was approved by the NYSDEC in a letter to DLA-E dated September 4, 2019 (see **Appendix A**). The letter indicated that subsequent investigations should be performed to investigate the extent of soil and groundwater contamination and determine if groundwater contamination is impacting Stony Creek.

In October and November 2020, an Interim Remedial Measure (IRM) was performed by DLA-E to reduce soil with PFAS concentrations above the calculated USEPA RSL of 126 ug/kg for residential exposure in the area north of the AFFF pump house. This impacted soil may have been a source of contamination to groundwater. Approximately 1,213 tons of PFAS impacted soil was excavated and properly disposed off-site. IRM activities were documented in the *Final Interim Remedial Measure Report* by TK&K Services (October 2022) that has been submitted to the NYSDEC.

Further evaluation and cleanup (if necessary) of this site will occur under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process in accordance with the Department of Defense Remediation Plan for Cleanup of Water Impacted with Perflourooctane Sulfonate or Perfluorooctanoic Acid, submitted to Congress in June 2020. Please see the attached letter from the Assistant Secretary of the Air Force (Installations, Environment and Energy to Senator Shaheen regarding a site in New Hampshire (**Appendix B).** The Air Force also owns DFSP Verona, and DLA-E is responsible for environmental closure of the site. DLA-E will continue to coordinate actions at the site with NYSDEC.

During the semi-annual groundwater monitoring event in April 2021, a total of 27 groundwater samples were collected from monitoring wells for analysis of PFAS compounds. The laboratory results indicated the highest PFOS and PFOA concentrations were in samples collected from MW-40 (PFOA at 238 ng/L and PFOS at 2,730 ng/L and MW-46 (PFOA at 202 ng/L and PFOS at 14,000 ng/L. Monitoring well MW-33R rebounded to 599 ng/L following the source removal in October 2020 but remained below the pre-IRA event level of 4,730 ng/L (November 2019). The results of this sampling event were included in the *Post Mitigation Performance Sampling Report*, TK&K Services, (September 2021) which has been provided to NYSDEC.

Section 2.0 of this report summarizes the latest semi-annual groundwater sampling event, which was performed from October 27 through October 29, 2021.

1.2 Surficial Geology & Hydrogeology

Soil classification performed by TK&K during this Site Characterization confirmed that there are three glacially derived unconsolidated units of variable composition, thickness, and extent at DFSP Verona. The first unit occurs across most of the site and consists of silt and clay with a trace of sand and gravel (glacial till). The second unit occurs predominantly in the southern

half of the site and consists of silt, clay, sand, and trace amounts of gravel. The third unit is highly variable in extent and consists of sand and gravel (glacial outwash). Underlying the unconsolidated glacial deposits is gray shale (bedrock) of the Clinton Group which is a fine-grained rock characterized by low permeability and low groundwater yield. Bedrock at the Site is usually highly weathered for the upper few feet; below the weathered zone is massive shale with minimal fracturing. Bedrock was encountered at 20 feet below ground surface (bgs) in the southern part of the Site and within a few feet of the surface within the wetlands of Stony Creek. Per the Remedial Investigation Report by Engineering-Science, Inc., (January 1995), three bedrock monitoring wells (MW-20D, MW-21D, and MW-22D) were to be installed in 1994 to determine if facility-related contaminants were infiltrating the shallow bedrock. However, during the installation of MW-21D, no groundwater was encountered in bedrock at 90 feet below grade (70 feet into bedrock). Due to the lack of groundwater, no samples were available for analysis and bedrock monitoring wells MW-20D and MW-21D were abandoned by grouting with a bentonite and cement mixture. The data indicates that the transport of PFAS compounds via bedrock groundwater is not expected at this Site.

Groundwater contour maps have been prepared from elevation data collected from on-site monitoring wells during previous sampling events. Historically, the direction of groundwater flow in the overburden aquifer is to the northwest toward Stony Creek. Minor variances to the groundwater flow direction occur on Site, due to man-made surface features (tank berms, swales, and impervious surfaces) and subsurface utility lines. Stony Creek is classified as Class C by the NYSDEC, with best uses listed as fishing and is considered suitable for propagation and primary and secondary contact recreation.

1.3 Aquifer Classification

NYSDEC categorizes aquifer classification into two types, Primary Water Supply Aquifers and Principal Aquifers. Primary Water Supply Aquifers are defined as highly productive aquifers presently utilized as sources of water supply by major municipal systems. Principal aquifers are defined as aquifers known to be highly productive or consist of geology that suggests an abundant potential water supply but are not intensively used by major municipal systems at the present time. The NYSDEC Aquifer Mapping Program does not provide the aquifer type utilized by the town of Verona and the area is shown as unmapped according to the United States Geological Survey (USGS) New York Aquifer Viewer online resource.

The Site is located in the Lake Oneida Watershed. Regionally, the principal supply of groundwater in Oneida County occurs in glacial outwash deposits. Only about one third of county residents rely on groundwater and those residents are primarily in the western part of the County. According to the October 2018 Environmental Baseline Survey (TK&K), ten water supply wells were identified in the Environmental Database Report (EDR) within one mile of DFSP Verona including one public water supply well. There are no water supply wells on DFSP Verona, and the property is supplied with potable water from the Verona Water Authority.

2.0 GROUNDWATER MONITORING EVENT

TK&K performed groundwater sampling in accordance with the NYDEC approved *DFSP Verona Site Characterization Work Plan* (October 2019) and *DFSP Verona Supplemental Site Characterization Work Plan* (June 2020). Following the release of *NYSDEC's Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS)* (October 2020), groundwater results were compared with the NYSDEC screening level value of 10 ng/L for PFOA or PFOS in addition to the USEPA's HAL of 70 ng/L.

2.1 Groundwater Sampling Activities

Groundwater sampling activities were conducted from October 27 through October 29, 2021. Prior to purging and sampling groundwater, water levels were measured from all available monitoring wells. Water level measurements and elevations are included in **Table 1**, and a groundwater elevation contour map is included (see **Figure 3)** from groundwater measurements collected on October 27, 2021.

During the October 2021 sampling event, groundwater samples were collected to further assess PFAS distribution in groundwater. Samples were collected from monitoring wells MW-2R, MW-5, MW-13, MW-24, MW-29, MW-30, MW-32, MW-33R, MW-35, MW-36, MW-38, MW-39, MW-40, MW-41, MW-42, MW-43, MW-44, MW-45, MW-46, MW-47, MW-48, MW-51, MW-53, MW-55, MW-56, MW-59, and MW-60. Sampling was performed using USEPA Region I *Low-Stress Purging/Sampling for the Collection of Groundwater Samples from Monitoring Wells* (EPASOP-GW 001). Sample collection followed PFAS-specific protocols to prevent cross contamination, per the Site Characterization Work Plan (November 2018). A peristaltic pump with new silicon and HDPE tubing for each well was used to collect one groundwater sample from each monitoring well plus two duplicate samples (MW-32DUP and MW-41DUP) and one equipment blank (Equipment Blank) was collected for quality control (QC). Low-flow groundwater sampling logs for each monitoring well are provided in **Appendix C**. All samples were collected in pre-cleaned and preserved bottle ware provided by the laboratory and packed in ice with a chain of custody record for transportation to SGS's Orlando, FL laboratory for PFAS analysis by USEPA Method 537 Modified.

2.2 Groundwater Sampling Results

A total of 27 groundwater samples were collected during this event plus two duplicates and one equipment blank. The well casing of MW-59 was obstructed, and MW-58, MW-61 and MW-62 were in the standing water of the wetlands, therefore these wells were not sampled. All samples contained detectable concentrations of PFAS except for MW-35. Of the monitoring wells with detectable PFAS concentrations, 20 monitoring wells had samples exceeding NYSDEC's groundwater screening level of 10 ng/L (MW-2R, MW-5, MW-13, MW-30, MW-32, MW-33R, MW-36, MW-38, MW-39, MW-40, MW-41, MW-42, MW-43, MW-44, MW-45, MW-46, MW-47, MW-48, MW-51, MW-56). Groundwater samples from wells MW-2R, MW-5, MW-13, MW-30, MW-32, MW-33R, MW-36, MW-38, MW-39, MW-40, MW-41,

MW-42, MW-43, MW-44, MW-45, MW-46, MW-47, and MW-51 were above the USEPA's HAL of 70 ng/L. The two monitoring wells with the highest PFOS and PFOA concentrations were MW-41 (PFOA at 135 ng/L and PFOS at 4,110 ng/L) and MW-46 (PFOA at 236 ng/L and PFOS at 14,900 ng/L).

The laboratory results of the October 2021 groundwater sampling event are summarized on **Table 2** and depicted on **Figure 4**. Laboratory reports are included in **Appendix D.**

The QC samples for groundwater indicate sampling and analytical procedures were not compromised during this sampling event. The results for duplicate samples MW-32DUP and MW-41DUP were consistent with samples from MW-32 and MW-41. The equipment blank sample contained no detectable PFAS compounds, indicating no cross-contamination from sampling equipment occurred between samples.

According to the laboratory, during the first analytical run, fifteen samples had analytes over the calibration curve. The problem was corrected by the laboratory by performing a second run with adjusted dilution factors, as indicated in the lab reports. The data are considered useable for this monitoring report as results are consistent with previous groundwater sampling events and most results are significantly higher than regulatory criteria. A Data Usability Summary Report (DUSR) was not prepared as additional sampling events are planned. A DUSR will be prepared and included in the report that contains the analytical data for final delineation.

3.0 CONCLUSIONS

Based on the results of the groundwater sampling event performed in October 2021, the following conclusions can be made:

- During the semi-annual groundwater monitoring event in October 2021, a total of 27 groundwater samples were collected from monitoring wells for analysis of PFAS compounds.
- The two monitoring wells with the highest PFOS and PFOA concentrations were MW-41 (PFOA at 135 ng/L and PFOS at 4,110 ng/L) and MW-46 (PFOA at 236 ng/L and PFOS at 14,900 ng/L).
- Monitoring well MW-33R rebounded to 1010 ng/L following the source removal in October 2020 but remains below the pre-IRA event level of 4,730 ng/L (November 2019).
- The PFAS levels in groundwater at DFSP Verona have been delineated to the NYSDEC screening level of 10 ng/L. PFAS compounds from the Site migrate to the northwest and dissipate in the wetlands prior to Stony Creek.
- It should be noted that at the time of laboratory analysis, no federally approved analytical sampling methods for PFAS in groundwater, surface water, soil and sediment

were available. NYSDEC's Sampling, Analysis, and Assessment of Per and Polyfluoroalkyl Substances (October 2000) does provide screening levels for water. Therefore, there is only a presumption that PFAS may exceed NYSDEC's screening levels.

4.0 REFERENCES

TK&K Services. Analytical Report for Perfluorinated Compounds Sampling in Drinking Water DFSP Verona, New York (December 2016).

TK&K Services. DFSP Verona PFC Groundwater Sampling Report (September 2017).

TK&K Services. DFSP Verona Aqueous Firefighting Foam System Closure Report (November 2017).

USEPA. Regional Screening Levels, RSL User's Guide, and RSL Calculator (May 2018).

TK&K Services. DFSP Verona Site Characterization Work Plan (November 2018).

TK&K Services. DFSP Verona Supplemental Site Characterization Work Plan (October 2019).

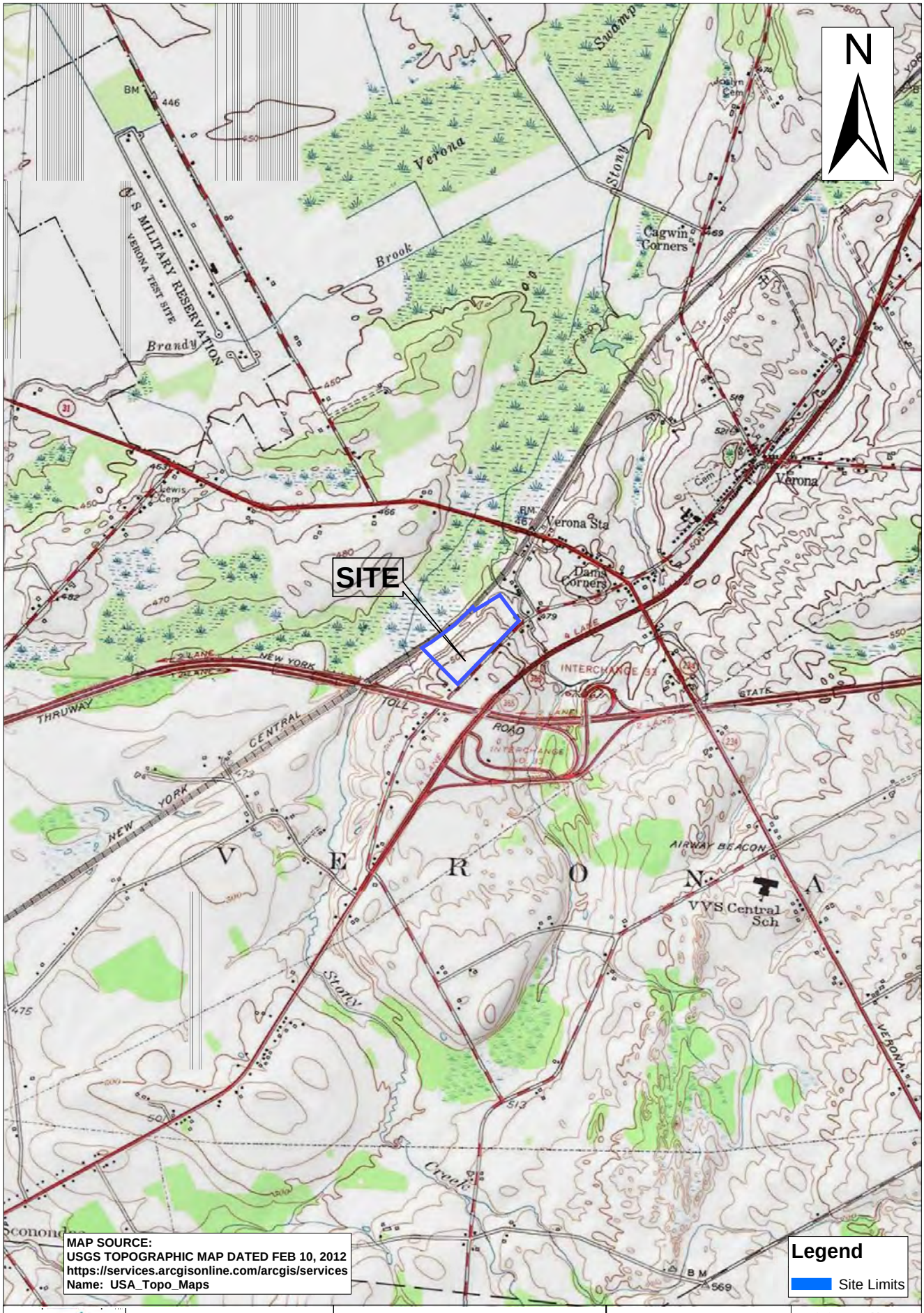
TK&K Services. DFSP Verona Supplemental Site Assessment Work Plan (June 2020).

TK&K Services. Final Supplemental Site Characterization Report (September 2022).

TK&K Services. Final Interim Remedial Measure Report (October 2022)

NYSDEC's Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) (October 2020).

Figures



MAP SOURCE:
USGS TOPOGRAPHIC MAP DATED FEB 10, 2012
https://services.arcgisonline.com/arcgis/services
Name: USA_Topo_Maps

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FIGURE 1
SITE LOCUS MAP

POST MITIGATION
PERFORMANCE
SAMPLING REPORT

DESIGNED BY: SC
CHECKED BY: EK
APPROVED BY: EK
DRAWN BY: SC
SCALE: AS SHOWN
DATE: 6/14/2021

PROJECT No.: 14003

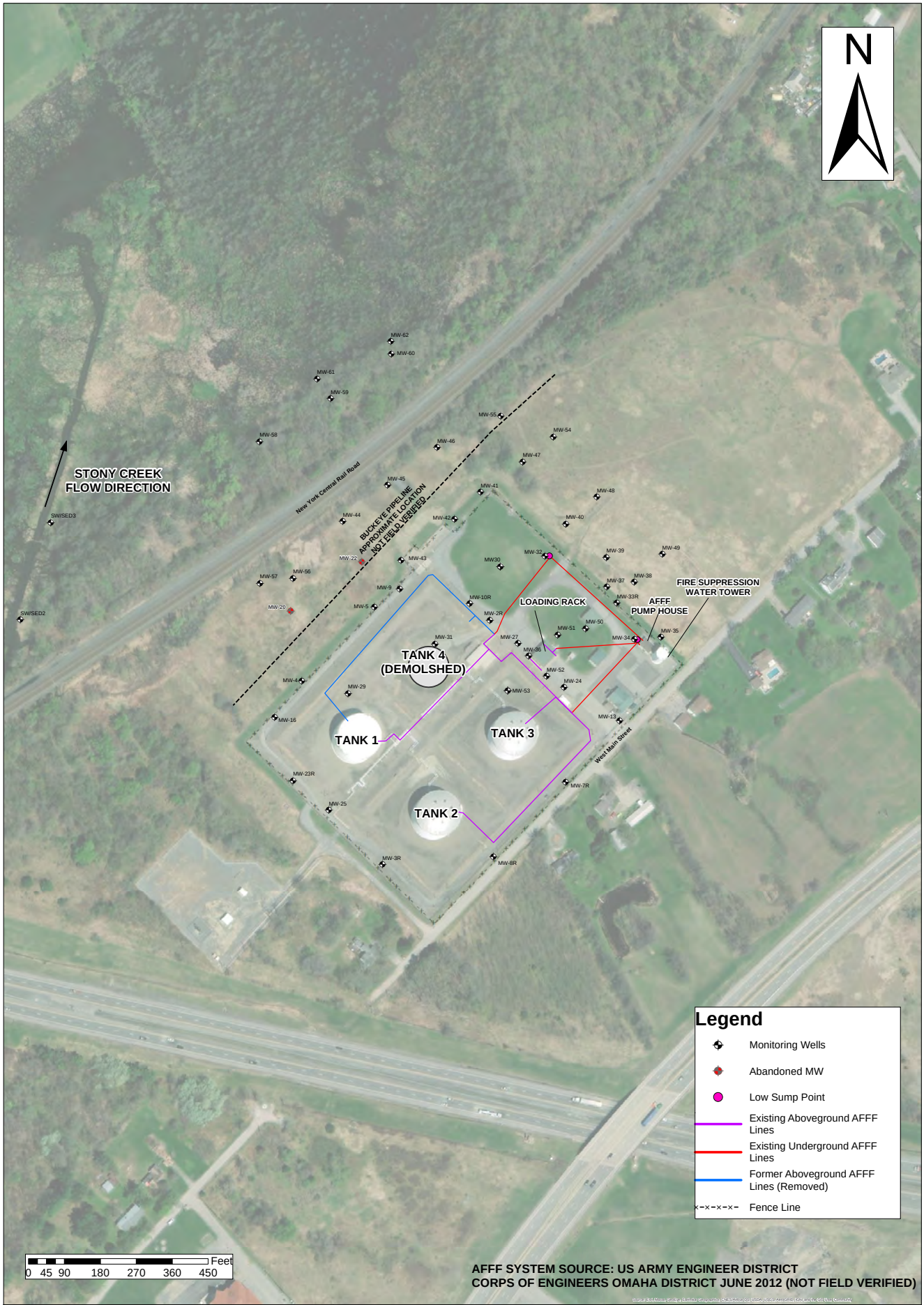

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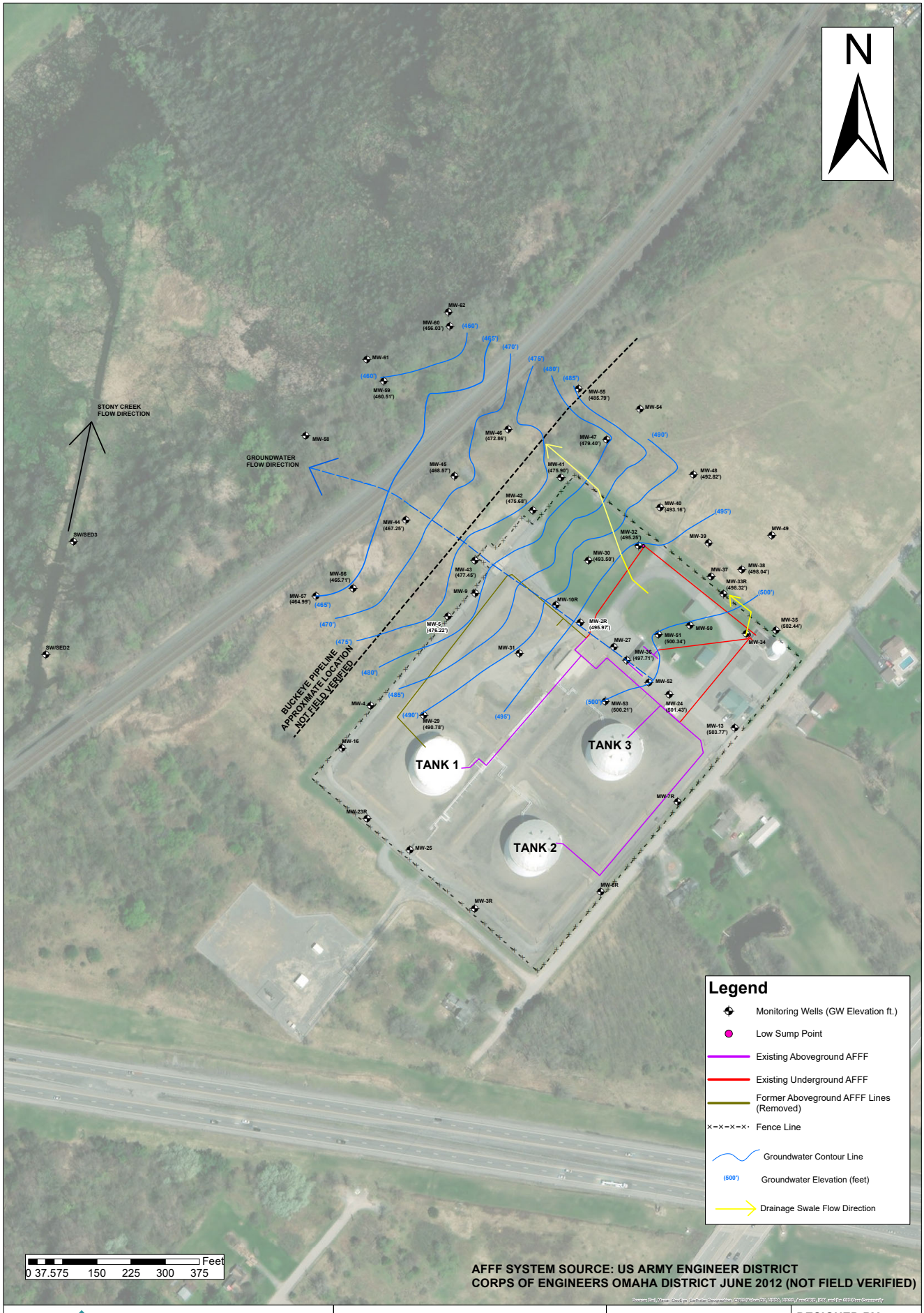
FIGURE 2
SITE PLAN

POST MITIGATION
PERFORMANCE
SAMPLING REPORT

DESIGNED BY: CP
CHECKED BY: EB
APPROVED BY: EB
DRAWN BY: CP
SCALE: AS SHOWN
DATE: 6/14/2021

PROJECT No.: 14003



AFFF SYSTEM SOURCE: US ARMY ENGINEER DISTRICT CORPS OF ENGINEERS OMAHA DISTRICT JUNE 2012 (NOT FIELD VERIFIED)

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FIGURE 3

GROUNDWATER ELEVATION CONTOUR MAP
OCTOBER 2021

POST MITIGATION
PERFORMANCE
SAMPLING REPORT

DESIGNED BY: CP
CHECKED BY: EB
APPROVED BY: EB
DRAWN BY: CP
SCALE: AS SHOWN
DATE: 11/29/2021

PROJECT No.: 14003

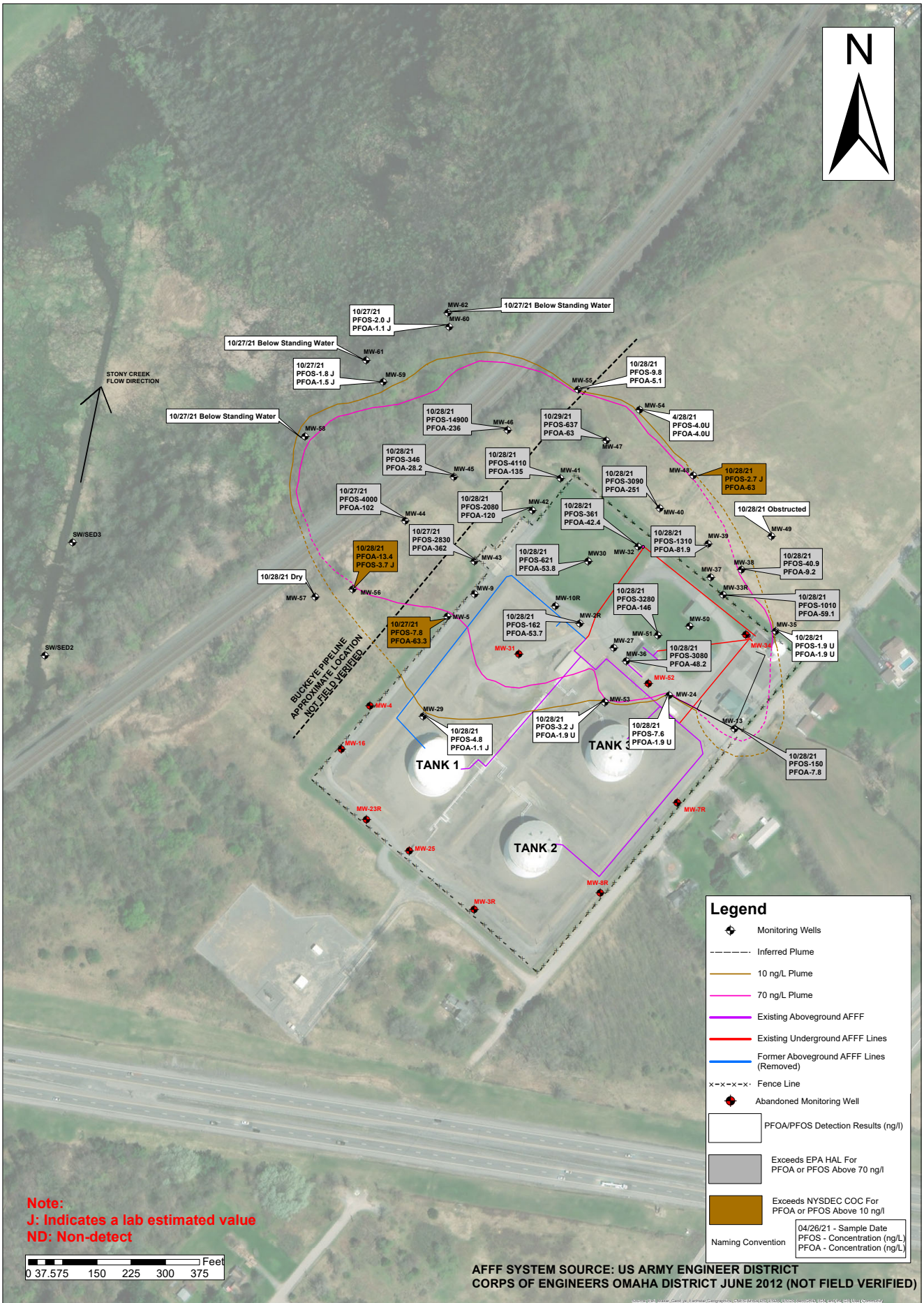

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FIGURE 4

GROUNDWATER SAMPLING DETECTIONS
OCTOBER 2021

POST MITIGATION
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SAMPLING REPORT

DESIGNED BY: CP
CHECKED BY: EB
APPROVED BY: EB
DRAWN BY: CP
SCALE: AS SHOWN
DATE: 11/30/2021

PROJECT No.:
14003

Tables

Table 1: Well Gauging Data
Post Mitigation Performance Sampling Report
DFSP Verona
Verona, NY

Monitoring Well	Date	TOW Elevation (ft.)	DTW from TOW (ft.)	Groundwater Elevation (ft.)
MW-2R	10/28/2021	500.926	4.96	495.97
MW-05	10/27/2021	488.518	12.30	476.22
MW-13	10/28/2021	509.620	5.85	503.77
MW-24	10/29/2021	503.007	1.58	501.427
MW-29	10/28/2021	497.202	6.42	490.78
MW-30	10/28/2021	498.331	4.83	493.50
MW-32	10/28/2021	499.599	4.35	495.25
MW-33R	10/29/2021	502.156	3.84	498.32
MW-35	10/28/2021	504.860	2.42	502.44
MW-36	10/28/2021	501.524	3.81	497.71
MW-38	10/29/2021	502.677	4.64	498.04
MW-39	10/29/2021	-	3.49	-
MW-40	10/29/2021	495.763	2.60	493.16
MW-41	10/29/2021	482.944	7.04	475.90
MW-42	10/29/2021	482.800	7.12	475.68
MW-43	10/27/2021	484.553	7.10	477.45
MW-44	10/27/2021	470.402	3.15	467.25
MW-45	10/28/2021	472.096	3.53	468.57
MW-46	10/28/2021	476.560	3.70	472.86
MW-47	10/29/2021	485.746	6.35	479.40
MW-48	10/29/2021	495.534	2.71	492.82
MW-51	10/28/2021	504.947	4.61	500.34
MW-53	10/28/2021	503.595	3.39	500.21
MW-54	4/28/2021	486.496	Obstructed	-
MW-55	10/29/2021	488.993	3.20	485.79
MW-56	4/26/2021	469.727	4.02	465.71
MW-57	10/28/2021	468.216	3.23	464.99
MW-58	4/26/2021	456.774	Not Measured	-
MW-59	10/27/2021	463.105	2.6	460.51
MW-60	10/27/2021	459.160	2.45	456.03
MW-61	4/26/2021	-	Below Standing Water	-
MW-62	4/26/2021	456.565	Below Standing Water	-

Notes:
1. Elevations based on the NAD 1983 Central New York State Plane
2. TOW = Top of Monitoring Well
3. DTW = Depth to Water

Table 2: Detected Compounds in Groundwater
Post Mitigation Performance Sampling Report
DFSP Verona
Verona, NY

			Units	Perfluorooctanesulfonic Acid (PFOS)	Perfluorooctanoic Acid (PFOA)	Perfluoroheptonic Acid (PFHpA)	Perfluorononanoic Acid (PFNA)	Perfluorobutanesulfonic Acid (PFBS)	Perfluorohexanesulfonic Acid (PFHxS)
	NYSDEC COC Screening Level		ng/l	10	10	100	100	100	100
Monitoring Well	Sample Designation	Date Collected	-	-	-	-	-	-	-
MW-2R	MW-2R*	1/10/2019	ng/l	**171**	**24**	36.2	5.23 J	2.46 J	14.4
	MW-2R (D)*	1/10/2019	ng/l	**144**	**20.4**	30.6	3.97 J	2.05 J	12.4
	MW-2R	11/5/2019	ng/l	**143**	**45.9**	99.8	4.39 J	7.51 J	4.46
	MW-2R	10/30/2020	ng/l	**156**	**84.6**	240	6.8 J	25.3	**107**
	MW-2R	4/27/2021	ng/l	**159**	**32.3**	60.4	5.1 J	7.6 J	22.7
	MW-2R	10/28/2021	ng/l	**162**	**53.7**	**128**	5.5	32.1	81.9
MW-3R	MW-3R	11/5/2019	ng/l	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	2.49 J
MW-4	MW-4	11/6/2019	ng/l	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
MW-5	MW-5	11/6/2019	ng/l	7.22 J	**47.1**	**118**	4.67 J	3.8 U	4.46 J
	MW-5	10/30/2020	ng/l	**17.7**	**76.5**	**156**	8.1	4.0 U	7.3 J
	MW-5	4/28/2021	ng/l	**8.7**	**100**	**189**	11.9	4.0 U	6.7 J
	MW-5	10/27/2021	ng/l	7.8	**63.3**	**126**	6.2	1.0 J	7.7
MW-7R	MW-7R*	1/9/2019	ng/l	4.52 J	4.0 U	4.0 U	4.0 U	4.0 U	6.65 J
	MW-7R	11/5/2019	ng/l	3.37 J	3.8 U	3.8 U	3.8 U	1.92 J	11.4
MW-8R	MW-8R	11/5/2019	ng/l	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	6.22 J
MW-9	MW-9	11/6/2019	ng/l	**124**	**13.7**	25.8	3.8 U	47.1	**108**
MW-10R	MW-10R	1/10/2019	ng/l	**1080**	**68.6**	74.2	4.0 U	**330**	**778**
	MW-10R	11/5/2019	ng/l	**978**[a]	**65.9**	62.6	3.8 U	**297**	**835**[a]
MW-13	MW-13*	1/8/2019	ng/l	**229**	5.49 J	4.32 J	3.8 U	10.7	78.7
	MW-13	11/5/2019	ng/l	**213**	7.38 J	5.02 J	3.8 U	9.58	85.8
	MW-13	10/30/2020	ng/l	**173**	4.2 J	4.1 J	4.0 U	11.8	76
	MW-13	4/27/2021	ng/l	**117**	4.5 J	3.4 J	4.0 U	6.6 J	44
	MW-13	10/28/2021	ng/l	**150**	7.8	6.3	1.9 U	6.5	55.4
MW-16R	MW-16R	11/5/2019	ng/l	9.3	3.8 U	3.8 U	3.8 U	3.8 U	2.45 J
MW-23R	MW-23R	11/5/2019	ng/l	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
MW-24	MW-24	11/5/2019	ng/l	**22.6**	3.8 U	3.8 U	3.8 U	6.67 J	15.3
	MW-24	10/28/2021	ng/l	7.6	1.9 U	1.9 U	1.9 U	2.5 J	5.9
MW-25	MW-25	11/5/2019	ng/l	3.77 J	2.07 J	3.8 U	3.8 U	3.8 U	11.1
MW-27	MW-27	11/5/2019	ng/l	**268**	7.6 J	15.5	3.8 U	6.47 J	94.2
MW-29	MW-29*	1/9/2019	ng/l	6.27 J	4.0 U	4.0 U	4.0 U	4.0 U	2.27 J
	MW-29 (D)*	1/9/2019	ng/l	7.62 J	4.0 U	4.0 U	4.0 U	4.0 U	2.48 J
	MW-29	11/6/2019	ng/l	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
	MW-29	10/30/2020	ng/l	3.8 J	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U
	MW-29	4/28/2021	ng/l	5.8 J	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
	MW-29	10/28/2021	ng/l	4.8	1.1 J	1.8 J	1.9 U	2.3 J	4.2
MW-30	MW-30*	1/9/2019	ng/l	**637**	**50.1**	50.1	3.59 J	14.8	**255**
	MW-30	11/6/2019	ng/l	**405**	**35.8**	61.2	2.58 J	15.6	**350**
	MW-30	10/30/2020	ng/l	**1690**	**121**	**241**	13.1	56.2	**1010**
	MW-30	4/27/2021	ng/l	**510**	**22.3**	31.8	2.9 J	11.5	**231**
	MW-30	10/28/2021	ng/l	**621**	**53.8**	81.6	5	20.3	**433**
MW-31	MW-31	1/9/2019	ng/l	**13.5**	3.8 U	3.8 U	3.8 U	2.56 J	11.3
	MW-31	11/6/2019	ng/l	**98.1**	4.99 J	4.94 J	3.8 U	6.91 J	44.8
MW-32	MW-32*	1/9/2019	ng/l	**647**	**109**	**324**	25.2	23	**277**
	MW-32	11/6/2019	ng/l	**378**	**66.5**	**164**	19.6	15	**232**
	MW-32	4/28/2021	ng/l	**273**	**36**	**92.5**	7.0 J	15.1	**225**
	MW-32	10/28/2021	ng/l	**361**	**42.4**	**119**	9.2	13.3	**298**
	MW-32 (D)	10/28/2021	ng/l	**449**	**65.4**	**191**	14.9	15.5	**323**
MW-33/MW-33R	MW-33*	1/9/2019	ng/l	**5560**	**425**	**539**	**154**	46.5	**800**
	MW-33	11/7/2019	ng/l	**4500**[a]	**336**	**487**	**116**	41.9	**662**
	MW-33 (D)	11/7/2019	ng/l	**4730**[a]	**347**	**499**	**118**	44	**691**
	MW-33R	10/30/2020	ng/l	**19**	2.0 J	4.0 U	4.0 U	4.0 U	5.0 J
	MW-33R	4/27/2021	ng/l	**599**	**42.3**	**104**	6.9 J	31.2	**107**
	MW-33R (D)	4/27/2021	ng/l	**610**	**42.8**	**104**	7.1 J	28.5	**107**
	MW-33R	10/28/2021	ng/l	**1010**	**59.1**	**121**	9.1	26.5	**156**
MW-34	MW-34*	1/9/2019	ng/l	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
	MW-34	11/6/2019	ng/l	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
	MW-34 (D)	11/6/2019	ng/l	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
MW-35	MW-35*	1/9/2019	ng/l	3.8 U	3.8 U	3.8U	3.8 U	3.8 U	3.8 U
	MW-35	11/7/2019	ng/l	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
	MW-35	10/30/2020	ng/l	5.5 J	4.0 U	4.0 U	4.0 U	4.0 U	2.7 J
	MW-35	4/27/2021	ng/l	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
	MW-35	10/28/2021	ng/l	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
MW-36	MW-36*	1/9/2019	ng/l	**2030**	**25.5**	16.1	3.8 U	67.9	**255**
	MW-36	11/5/2019	ng/l	**6070**[a]	**77.4**	41.6	3.8 U	**187**	**678**
	MW-36	10/30/2020	ng/l	**4100**	**83.1**	31.8	4.0 U	**169**	**481**
	MW-36 (D)	10/30/2020	ng/l	**7660**	**123**	62.7	4.0 U	**297**	**1040**
	MW-36	4/27/2021	ng/l	**13600**	**156**	81.9	2.7 J	**335**	**1480**
	MW-36 (D)	4/27/2021	ng/l	**14700**	**146**	76.6	2.6 J	**309**	**1580**
	MW-36	10/28/2021	ng/l	**3080**	**48.2**	23.9	1.9 U	**121**	**332**
MW-37	MW-37*	1/9/2019	ng/l	**2360**	**320**	**655**	16.7	**450**	**3770**
	MW-37	11/7/2019	ng/l	**7360**[a]	**415**	**975**[a]	37.7	**368**	**4580**[a]
	MW-37 (D)	11/7/2019	ng/l	**6540**[a]	**386**	**908**[a]	34.5	**334**	**4350**[a]
MW-38	MW-38	11/7/2019	ng/l	**84.6**	**10.1**	28.1	3.8 U	**103**	**103**
	MW-38	10/30/2020	ng/l	**75.6**	**13.3**	31.2	4.0 U	**120**	**146**
	MW-38	4/27/2021	ng/l	**70**	**12.7**	26.8	4.0 U	**89.2**	**135**
	MW-38	10/28/2021	ng/l	**40.9**	9.2	32.3	1.9 U	**143**	**112**
MW-39	MW-39	11/7/2019	ng/l	**1630**[a]	**67**	**130**	12.3	55.9	**1250**[a]
	MW-39	4/27/2021	ng/l	**929**	**47.6**	**100**	5.0 J	45.2	**900**
	MW-39	10/28/2021	ng/l	**1310**	**81.9**	**177**	8.5	70.7	**1430**
MW-40	MW-40	11/7/2019	ng/l	**2640**[a]	**193**	**449**	25.4	86.1	**1540**[a]
	MW-40	10/29/2020	ng/l	**2620**	**224**	**446**	26.8	88.6	**1590**
	MW-40 (D)	10/29/2020	ng/l	**3590**	**293**	**641**	37.4	**123**	**2480**
	MW-40	4/27/2021	ng/l	**2730**	**238**	**496**	32.1	**107**	**1630**
	MW-40	10/28/2021	ng/l	**3090**	**251**	**507**	34.5	91.8	**1860**

Table 2: Detected Compounds in Groundwater
Post Mitigation Performance Sampling Report
DFSP Verona
Verona, NY

			Units	Perfluorooctanesulfonic Acid (PFOS)	Perfluorooctanoic Acid (PFOA)	Perfluoroheptonic Acid (PFHpA)	Perfluorononanoic Acid (PFNA)	Perfluorobutanesulfonic Acid (PFBS)	Perfluorohexanesulfonic Acid (PFHxS)
	NYSDEC COC Screening Level		ng/l	10	10	100	100	100	100
Monitoring Well	Sample Designation	Date Collected	-	-	-	-	-	-	-
MW-41	MW-41	11/6/2019	ng/l	**4020**[a]	**107**	**166**	16	41	**1290**[a]
	MW-41	10/30/2020	ng/l	**6140**	**175**	**281**	27.3	66.9	**1560**
	MW-41 (D)	10/30/2020	ng/l	**5420**	**176**	**264**	**2639**	68.6	**1560**
	MW-41	4/26/2021	ng/l	**3140**	**117**	**192**	14.3	45.6	**1300**
	MW-41	10/28/2021	ng/l	**4110**	**135**	**201**	21.5	60.3	**1290**
	MW-41 (D)	10/28/2021	ng/l	**3970**	**129**	**193**	21	58.1	**1350**
MW-42	MW-42	11/6/2019	ng/l	**1460**[a]	**107**	**145**	3.62 J	**257**	**1510**[a]
	MW-42	10/30/2020	ng/l	**1910**	**135**	**175**	5.3 J	**321**	**1770**
	MW-42	4/26/2021	ng/l	**1650**	**115**	**132**	4.5 J	**274**	**1400**
	MW-42	10/28/2021	ng/l	**2080**	**120**	**135**	5.4	**280**	**1640**
MW-43	MW-43	11/6/2019	ng/l	**810**[a]	**33.1**	55.9	3.23 J	32.8	**291**
	MW-43	10/30/2020	ng/l	**665**	**33.9**	47.9	3.4 J	38.3	**281**
	MW-43	4/26/2021	ng/l	**455**	**32**	57.1	2.7 J	55.5	**357**
	MW-43	10/27/2021	ng/l	**2830**	**362**	**506**	24.6	**224**	**1980**
MW-44	MW-44	1/8/2020	ng/l	**3110**[a]	**69.6**	85.5	13.4	56.8	**739**[a]
	MW-44	10/29/2020	ng/l	**3860**	**75.4**	**102**	11.1	95.2	**794**
	MW-44	4/26/2021	ng/l	**2760**	**71.1**	**108**	12	89.1	**1060**
	MW-44	10/27/2021	ng/l	**4000**	**102**	**142**	16	**103**	**1300**
MW-45	MW-45	1/8/2020	ng/l	**98.3**	**20.2**	40.6	2.0 J	76.9	**490**
	MW-45	10/29/2020	ng/l	**239**	**24**	45.4	4.0 U	48.7	**310**
	MW-45	4/26/2021	ng/l	**205**	**18.7**	35.1	4.0 U	61.1	**432**
	MW-45	10/28/2021	ng/l	**346**	**28.2**	54.3	1.6 J	65.8	**442**
MW-46	MW-46	1/8/2020	ng/l	**13600**[a]	**166**	**289**	21.3	97.9	**6050**[a]
	MW-46	10/29/2020	ng/l	**6800**	**115**	**202**	10.4	**145**	**2100**
	MW-46	4/26/2021	ng/l	**14000**	**202**	**356**	29.5	**184**	**7690**
	MW-46	10/28/2021	ng/l	**14900**	**236**	**234 J**	150 U[b]	**126**	**6540**
MW-47	MW-47	1/9/2020	ng/l	**679**	**78.9**	**206**	3.5 J	36.0	**540**
	MW-47	10/29/2020	ng/l	**1770**	**158**	**335**	19.3	60.3	**913**
	MW-47	4/27/2021	ng/l	**852**	**77.7**	**160**	5.8 J	37.2	**481**
	MW-47	10/29/2021	ng/l	**637**	**63**	**141**	4.1	33.4	**401**
MW-48	MW-48	1/9/2020	ng/l	7.0 J	**32.3**	**136**	3.8 U	83.0	**246**
	MW-48 (D)	1/9/2020	ng/l	3.0 J	**31.8**	**139**	3.8 U	81.0	**254**
	MW-48	10/29/2020	ng/l	**10.5**	**44.9**	**154**	4.0 U	85.1	**325**
	MW-48	4/26/2021	ng/l	3.9 J	**45.2**	**138**	4.4 U	69.2	**230**
	MW-48	10/28/2021	ng/l	2.7 J	**39.6**	**115**	1.9 U	64.2	**293**
MW-50	MW-50	1/8/2020	ng/l	**111**	**61.2**	**234**	3.8 U	13.6	**260**
MW-51	MW-51	1/8/2020	ng/l	**2620**[a]	**88.5**	**100**	14.9	26.8	**899**[a]
	MW-51	10/30/2020	ng/l	**2150**	**180**	**227**	20.5	50.3	**1330**
	MW-51	4/27/2021	ng/l	**2850**	**123**	**98.6**	22.3	31.9	**1110**
	MW-51	10/28/2021	ng/l	**3280**	**146**	**153**	20.9	48.3	**1290**
MW-52	MW-52	1/9/2020	ng/l	7.0 J	2.9 J	2.1 J	3.8 U	4.4 J	15.6
MW-53	MW-53	1/8/2020	ng/l	4.4 J	3.8 U	3.8 U	3.8 U	3.8 U	2.4 J
	MW-53	10/29/2020	ng/l	5.1 J	4.2 U	4.2 U	4.2 U	4.2 U	3.6 J
	MW-53	4/28/2021	ng/l	8	4.0 U	2.4 J	4.0 U	4.0 U	3.6 J
	MW-53	10/28/2021	ng/l	3.2 J	1.9 U	1.9 U	1.9 U	1.9 U	2.3 J
MW-54	MW-54	4/28/2021	ng/l	4.0 U	4.0 U	4.0 U	4.0 U	5.5 J	3.7 J
MW-55	MW-55	4/28/2021	ng/l	**10.5**	2.8 J	10	4.4 U	16.3	50.5
	MW-55	10/28/2021	ng/l	9.8	5.1	19.6	1.9 U	19.2	54.8
MW-56	MW-56	10/29/2020	ng/l	**226**	**72.9**	**286**	10.3	31.9	**393**
	MW-56	4/26/2021	ng/l	**187**	**59.4**	**239**	8.3	23.5	**355**
	MW-56	10/28/2021	ng/l	**13.4**	3.7 J	8	1.9 U	2.9 J	7.8
MW-58	MW-58	7/21/2020	ng/l	7.2 J	9.1	32.3	4.2 U	50.9	**262**
	MW-58	4/26/2021	ng/l	29.7	3.4 J	7.7 J	4.0 U	17.5	**87.9**
MW-59	MW-59	10/27/2021	ng/l	1.8 J	1.5 J	3.2 J	1.9 U	5.6	13.9
MW-60	MW-60	7/21/2020	ng/l	4.5 U	2.8 J	4.5 U	4.5 U	4.5 U	4.6 J
	MW-60	4/26/2021	ng/l	4.9 J	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
	MW-60	10/27/2021	ng/l	2.0 J	1.1 J	1.9 U	1.9 U	1.2 J	4.3
MW-61	MW-61	7/21/2020	ng/l	4.8 J	4.5 U	3.6 J	4.5 U	16	12.7
	MW-61	04/2021	ng/l	NS	NS	NS	NS	NS	NS
MW-62	MW-62	04/2021	ng/l	NS	NS	NS	NS	NS	NS
Quality Control	E/MW-01	1/10/2019	ng/l	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U
	FB/FBD-01	1/10/2019	ng/l	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.2 U
	10-17-19 Equipment QC	10/17/2019	ng/l	3.8 U	3.8 U	3.8 U	3.8 U	3.8	3.8 U
	11072019 EQUIPMENT BLANK	11/7/2019	ng/l	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
	121919 E/MW-01 (GW)	12/19/2019	ng/l	4 U	4 U	4 U	4 U	4 U	4 U
	01-09-2020 FB/FBD-01	1/9/2020	ng/l	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
	01-09-2020 E/MW-01 (GW)	1/9/2020	ng/l	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U	3.8 U
	FIELD BLANK	10/30/2020	ng/l	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U
	EQUIPMENT BLANK	10/30/2020	ng/l	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U	4.2 U
	EQUIPMENT BLANK	4/26/2021	ng/l	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
	EQUIPMENT BLANK	10/28/2021	ng/l	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U

Notes:

1. ng/l - nanograms per liter
2. U - Undetected at the Limit of Detection
3. J - Lab estimated Value
4. [a] - Result is from sample analysis run #2
5. (D) = duplicate sample
6. NS=Not Sampled
7. **Shaded and bolded concentrations indicating result exceeds the NYSDEC's COC Screening Level for PFAS**
8. Samples analyzed by Method: MS Semi-volatiles (EPA 537M QSM5.1 B-15)
9. 10-17-19 Equipment QC, 121919 E/MW-01 (GW), 11072019 EQUIPMENT BLANK, 01-09-2020 E/MW-01 (GW), EQUIPMENT BLANK are equipment blank samples
10. 01-09-2020 FB/FBD-01, FIELD BLANK are field blank samples
10. WC-1 10/17/19 and WC-2 10/17/19 are waste characterization samples
12. COC - Contaminant of Concern
13. [b] - Lab detection limit above NYSDEC Screening Level

Appendix A - NYSDEC Correspondence

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau A
625 Broadway, 12th Floor, Albany, NY 12233-7015
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Mr. William Potter, P.G.
Defense Logistics Agency
DLA Installation Management for Energy
8725 John J. Kingman Road, rm 2828
Fort Belvoir, VA 22060

SEP 0 4 2019

Re: DFSP Verona (633086)

Dear Mr. Potter:

The New York State Department of Environmental Conservation has reviewed the Final Site Characterization Report for Defense Fuel Support Point Verona, dated July 2019. The Department finds the report to be acceptable. The Department would like subsequent investigations to be performed to define the extents of soil and groundwater contamination identified and determine if groundwater contamination is impacting Stoney Creek. A work plan detailing the activities to be performed as part of the next phase of activities should be submitted for review and approval. Future figures should include the date of information being presented (e.g. Figures 3, 4, and 5). The Please contact me at (518) 402-9626 if you have any questions.

Regards,

Brian Jankauskas, P.E.
Project Manager
Remedial Bureau A, Section C

cc: J. Swartwout, DEC
E. O'Neil, DOH
file

Appendix B - Assistant Secretary Of The Air Force Letter

DEPARTMENT OF THE AIR FORCE
WASHINGTON, DC 20330-1000

OFFICE OF THE ASSISTANT SECRETARY

21 October 2020

SAF/IE
1665 Air Force Pentagon
Washington, DC 20330

The Honorable Jeanne Shaheen
United States Senate
Washington, DC 20515

Dear Senator Shaheen:

Thank you for your letter of September 27, 2020, regarding our communications with the New Hampshire Department of Environmental Services concerning recently enacted state Maximum Contaminant Levels and Ambient Groundwater Quality Standards for four per- and polyflouroalkyl substances (PFAS). We are conducting groundwater response actions nationally in accordance with the *Department of Defense Remediation Plan for Cleanup of Water Impacted with Perfluorooctane Sulfonate or Perfluorooctanoic Acid*, submitted to Congress in June 2020.

At the former Pease AFB, we have ensured that no one is drinking water with concentrations of PFOS and PFOA above USEPA lifetime health advisory (HA) levels attributable to the Department of the Air Force. We awarded the Remedial Investigation (RI) phase contract in July, pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), which includes a baseline human health risk assessment. As you note, we will also consider State standards as potential "applicable or relevant and appropriate requirements" (ARARs) during this phase of the process. Additionally, if at any time in the CERCLA process we find that anyone is being exposed to drinking water above USEPA's HA due to releases from Pease, we will take appropriate action.

The state of science for PFAS compounds continues to progress. Your memo highlights key policy issues in that we are currently constrained to apply USEPA's HA levels as the triggers for removal actions such as providing alternate water for private well owners. We will work through the DoD's PFAS Task Force to evaluate options for addressing these issues in a consistent manner across DoD.

We are committed to protecting human health and the environment at Pease and the surrounding community, and will continue working closely with stakeholders on PFOS/PFOA actions. I am available at your convenience to discuss this matter further or answer any questions you may have. We appreciate your continued support for the men and women of the Department of the Air Force.

Sincerely,

JOHN W. HENDERSON, P.E.
Assistant Secretary of the Air Force
(Installations, Environment and Energy)

Appendix C - Low-Flow Groundwater Sampling Records

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME: DFSP VERONA	LOCATION ID: MW-2R
PROJECT NUMBER: 14003.001	DATE: 10/28/21
SAMPLE ID: MW-2R	SAMPLE TIME: 10/28/21 3:12
START TIME: 2:01	END TIME: 3:12
SITE NAME/NUMBER:	PAGE: 1 OF 2

WELL DIAMETER (INCHES): [ ] 1 [ ] 2 [X] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [ ] 3/16 [ ] 1/4 [ ] 3/8 [ ] 1/2 [ ] OTHER

MEASUREMENT POINT (MP): [ ] TOP OF RISER (TOR) [X] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	4.96 FT	FINAL DTW (BMP)	8.04 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	11.32 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	6.36 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	3.01 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	4.13 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	6.87 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or <0.5)	TURBIDITY (ntu) (+/- 10% or < 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
2:01	4.96	400	16	306	7.5	7.60	953	-47.7		
2:10	6.07	400	16	311	7.5	7.65	158	-45.1		
2:15	6.30	400	16	320	7.5	7.69	141	-44.5		
2:20	6.51	400	16	342	7.5	7.73	125	-44.0		
2:25	6.64	400	16	401	7.5	7.71	117	-43.7		
2:30	6.72	400	16	407	7.5	7.59	105	-44.0		
2:35	7.14	400	16	411	7.5	7.54	78.5	-42.9		
2:40	7.25	400	16	419	7.5	7.53	70.3	-43.1		
2:45	7.38	400	16	432	7.5	6.90	65.9	-43.9		
2:50	7.4	400	16	449	7.5	6.84	68.4	-44.1		
2:55	7.7	400	16	455	7.4	9.56	40.7	-45.9		
3:00	7.77	400	16	457	7.3	5.13	33.4	-47.4		
3:05	7.44	400	16	462	7.3	4.97	30.3	-48.3		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [ ] LIQUINOX
- [ ] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS
- [ ] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [X] HDPE TUBING
- [ ] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER
- [ ] PID
- [ ] WQ METER
- [X] TURB. METER
- [X] PUMP
- [ ] OTHER
- [ ] FILTERS NO. TYPE

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
[ ]								
[ ]								
[ ]								

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[ ]

NUMBER OF GALLONS GENERATED: 6.87

If yes, purged approximately 1 standing volume prior to sampling or mL for this sample location.

NOTES: stabilization achieved, sample taken

Sampler Signature: Print Name:

Checked By: Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME: DFSP VERONA	LOCATION ID: MW-2R
PROJECT NUMBER: 14003.001	DATE: 10/28/21
SAMPLE ID: MW-2R	SAMPLE TIME: 3:12
START TIME: 2:01	END TIME: 3:10
SITE NAME/NUMBER:	PAGE: 2 OF 2

WELL DIAMETER (INCHES): [ ] 1 [ ] 2 [X] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [ ] 3/16 [ ] 1/4 [ ] 3/8 [ ] 1/2 [ ] OTHER

MEASUREMENT POINT (MP): [ ] TOP OF RISER (TOR) [X] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	4.96 FT	FINAL DTW (BMP)	8.04 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	18.32 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	6.36 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	2.01 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	4.15 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	6.87 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or <0.5)	TURBIDITY (ntu) (+/- 10% or < 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
3:10	8.04	400	16	460	7.3	4.76	27	-49.1		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] _____
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [ ] LIQUINOX
- [ ] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS
- [ ] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [X] HDPE TUBING
- [ ] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

TUBING/PUMP/BLADDER MATERIALS
- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER
- [ ] PID
- [ ] WQ METER
- [X] TURB. METER
- [X] PUMP
- [ ] OTHER
- [ ] FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
[ ]								
[ ]								
[ ]								

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[ ]

NUMBER OF GALLONS GENERATED: 6.87

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

NOTES:

Sampler Signature: Print Name:

Checked By: Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME: DFSP VERONA		LOCATION ID: MW-5	DATE: 10/27/21
PROJECT NUMBER: 14003.001		START TIME: 3:11	END TIME: 1549
SAMPLE ID: MW-5	SAMPLE TIME: 1549	SITE NAME/NUMBER:	PAGE: 1 OF 1

WELL DIAMETER (INCHES): ☒ 1 ☒ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER

TUBING ID (INCHES): ☐ 1/8 ☐ 3/16 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ OTHER

MEASUREMENT POINT (MP): ☐ TOP OF RISER (TOR) ☒ TOP OF CASING (TOC) ☐ OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	12.3 FT	FINAL DTW (BMP)	16.83 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	18 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	5.7 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	.74 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	.93 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	3.17 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or <0.5)	TURBIDITY (ntu) (+/- 10% or < 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
3:11	12.3	300	14	815	6.9	1.09	79.1			
3:16	13.5	300	14	553	6.2	2.62	49.0			
3:21	14.23	300	14	564	6.1	2.64	16.1			
3:31	16.83	300	14	594	6.1	2.73	6.81			
3:36	16.83	300	14	611	6.1	2.23	7.04			
3:41	16.83	300	14	616	6.1	2.14	6.42			
3:46	16.83	300	14	617	6.1	2.09	5.48			

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: ☒ PERISTALTIC ☐ SUBMERSIBLE ☐ BLADDER ☐ WATTERA ☐ OTHER ☐ OTHER

DECON FLUIDS USED: ☐ LIQUINOX ☐ DEIONIZED WATER ☐ POTABLE WATER ☐ NITRIC ACID ☐ HEXANE ☐ METHANOL ☐ OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS: ☐ SILICON TUBING ☐ TEFLON TUBING ☐ TEFLON LINED TUBING ☒ HDPE TUBING ☐ LDPE TUBING ☐ OTHER ☐ OTHER

☐ S. STEEL PUMP MATERIAL ☐ PVC PUMP MATERIAL ☐ GEOPROBE SCREEN ☐ TEFLON BLADDER ☐ OTHER ☐ OTHER ☐ OTHER

EQUIPMENT USED: ☒ WL METER ☐ PID ☐ WQ METER ☒ TURB. METER ☒ PUMP ☐ OTHER ☐ FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
☐								
☐								
☐								

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: YES ☐ NO ☒

NO-PURGE METHOD UTILIZED: YES ☐ NO ☐

NUMBER OF GALLONS GENERATED: 3.17

If yes, purged approximately 1 standing volume prior to sampling or ___ mL for this sample location.

NOTES: Stabilization achieved, samples collected

Sampler Signature: Print Name:

Checked By: Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME	DFSP VERONA
PROJECT NUMBER	14003.001
SAMPLE ID	MW-13
SAMPLE TIME	1035
LOCATION ID	MW-13
DATE	10/28/21
START TIME	10:00
END TIME	10:35
SITE NAME/NUMBER	
PAGE	1 OF 1

WELL DIAMETER (INCHES): [X] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [ ] 3/16 [ ] 1/4 [ ] 3/8 [ ] 1/2 [ ] OTHER

MEASUREMENT POINT (MP): [ ] TOP OF RISER (TOR) [X] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	5.85 FT	FINAL DTW (BMP)	8.89 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	15.60 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	9.75 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	.5 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	1.59 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	3.96 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or <0.5)	TURBIDITY (ntu) (+/- 10% or < 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
1000	5.85	500	16	792	7.4	4.89	131	285		
1010	8.44	500	17	815	7.2	1.47	267	158.2		
1015	8.60	500	17	855	7.2	1.17	150	146.8		
1020	8.72	500	17	871	7.2	1.16	66.7	141.8		
1025	8.80	500	17	873	7.2	1.02	29.6	138.7		
1030	8.85	500	17	867	7.2	.92	28.4	138.3		
1035	8.89	500	17	873	7.1	.95	27.5	138.7		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [ ] LIQUINOX
- [ ] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS
- [ ] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [X] HDPE TUBING
- [ ] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER
- [ ] PID
- [ ] WQ METER
- [X] TURB. METER
- [X] PUMP
- [ ] OTHER
- [ ] FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[ ]

NUMBER OF GALLONS GENERATED: 4

If yes, purged approximately 1 standing volume prior to sampling or ___ mL for this sample location.

NOTES: stabilization achieved, sample taken

Sampler Signature:

Print Name:

Checked By:

Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME: DFSP VERONA		LOCATION ID: MW-24	DATE: 10/29/21
PROJECT NUMBER: 14003.001		START TIME: 13:00	END TIME: 1340
SAMPLE ID: MW-24	SAMPLE TIME: 10/29/21	SITE NAME/NUMBER:	PAGE: 1 OF 1

WELL DIAMETER (INCHES): ☐ 1 ☒ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER

TUBING ID (INCHES): ☐ 1/8 ☐ 3/16 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ OTHER

MEASUREMENT POINT (MP): ☐ TOP OF RISER (TOR) ☒ TOP OF CASING (TOC) ☐ OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	1.58 FT	FINAL DTW (BMP)	3.23 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	11.47 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	9.89 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	.27 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	1.61 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	5.28 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or <0.5)	TURBIDITY (ntu) (+/- 10% or < 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
1300	1.58	500	.17	748	6.9	6.05	121	60.2		
1305	2.98	500	18	815	6.9	1.83	29.7	64.6		
1310	3.05	500	18	870	6.9	1.53	16.6	62.9		
1315	3.10	500	18	911	6.9	1.23	10.6	61.2		
1320	3.15	500	18	946	6.9	1.06	9.14	59.1		
1325	3.18	500	18	964	6.9	.92	7.27	57.8		
1330	3.20	500	18	981	6.9	.84	6.42	57.0		
1335	3.22	500	18	996	6.9	.76	5.91	55.7		
1340	3.23	500	18	1005	6.9	.71	5.52	54.8		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- ☒ PERISTALTIC
- ☐ SUBMERSIBLE
- ☐ BLADDER
- ☐ _____
- ☐ WATTERA
- ☐ OTHER
- ☐ OTHER

DECON FLUIDS USED
- ☐ LIQUINOX
- ☐ DEIONIZED WATER
- ☐ POTABLE WATER
- ☐ NITRIC ACID
- ☐ HEXANE
- ☐ METHANOL
- ☐ OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS
- ☐ SILICON TUBING
- ☐ TEFLON TUBING
- ☐ TEFLON LINED TUBING
- ☐ HDPE TUBING
- ☐ LDPE TUBING
- ☐ OTHER
- ☐ OTHER

- ☐ S. STEEL PUMP MATERIAL
- ☐ PVC PUMP MATERIAL
- ☐ GEOPROBE SCREEN
- ☐ TEFLON BLADDER
- ☐ OTHER
- ☐ OTHER
- ☐ OTHER

EQUIPMENT USED
- ☒ WL METER
- ☐ PID
- ☐ WQ METER
- ☒ TURB. METER
- ☒ PUMP
- ☐ OTHER
- ☐ FILTERS NO. ___ TYPE

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	☐	☒
NO-PURGE METHOD UTILIZED	☐	☐

NUMBER OF GALLONS GENERATED: 5.28

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

NOTES: stability achieved, samples collected

Sampler Signature: Print Name:

Checked By: Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME: DESP VERONA	LOCATION ID: MW-29
PROJECT NUMBER: 14003.001	DATE: 10/28/21
SAMPLE ID: MW-29 / SAMPLE TIME: 10/28/21	START TIME: 1124 / END TIME: 1159
SITE NAME/NUMBER:	PAGE: 1 OF 1

WELL DIAMETER (INCHES): ☐ 1 ☒ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER

TUBING ID (INCHES): ☐ 1/8 ☐ 3/16 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ OTHER

MEASUREMENT POINT (MP): ☐ TOP OF RISER (TOR) ☒ TOP OF CASING (TOC) ☐ OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	6.42 FT	FINAL DTW (BMP)	8.46 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	18.11 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	11.69 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	.33 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	1.91 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	11.4 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or <0.5)	TURBIDITY (ntu) (+/- 10% or < 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
11:24	6.42	400	15	1206	7.0	.95	205	-50.8		
11:36	8.38	400	15	1182	7.0	.36	68.5	-70.3		
11:41	8.46	400	15	1181	6.9	.35	15.3	-72.8		
11:46	8.46	400	15	1178	6.9	.86	10.4	-74.9		
11:51	8.46	400	15	1174	6.9	.84	10.1	-76.9		
11:56	8.46	400	15	1172	6.9	.83	9.97	-77.9		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- ☒ PERISTALTIC
- ☐ SUBMERSIBLE
- ☐ BLADDER
- ☐ WATTERA
- ☐ OTHER
- ☐ OTHER

DECON FLUIDS USED
- ☐ LIQUINOX
- ☐ DEIONIZED WATER
- ☐ POTABLE WATER
- ☐ NITRIC ACID
- ☐ HEXANE
- ☐ METHANOL
- ☐ OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS
- ☐ SILICON TUBING
- ☐ TEFLON TUBING
- ☐ TEFLON LINED TUBING
- ☒ HDPE TUBING
- ☐ LDPE TUBING
- ☐ OTHER
- ☐ OTHER

- ☐ S. STEEL PUMP MATERIAL
- ☐ PVC PUMP MATERIAL
- ☐ GEOPROBE SCREEN
- ☐ TEFLON BLADDER
- ☐ OTHER
- ☐ OTHER
- ☐ OTHER

EQUIPMENT USED
- ☒ WL METER
- ☐ PID
- ☐ WQ METER
- ☒ TURB. METER
- ☒ PUMP
- ☐ OTHER
- ☐ FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	☐	☒
NO-PURGE METHOD UTILIZED	☐	☐

NUMBER OF GALLONS GENERATED: 11.4

If yes, purged approximately 1 standing volume prior to sampling or ___ mL for this sample location.

NOTES: Stability achieved, samples taken

Sampler Signature: Print Name:

Checked By: Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME		LOCATION ID	DATE
DFSP VERONA		MW-30	10/28/21
PROJECT NUMBER		START TIME	END TIME
14003.001		1500	1525
SAMPLE ID	SAMPLE TIME	SITE NAME/NUMBER	PAGE
MW-30	15:25		1 OF 1

WELL DIAMETER (INCHES) ☐ 1 ☒ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER

TUBING ID (INCHES) ☐ 1/8 ☐ 3/16 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ OTHER

MEASUREMENT POINT (MP) ☐ TOP OF RISER (TOR) ☒ TOP OF CASING (TOC) ☐ OTHER

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	4.83 FT	FINAL DTW (BMP)	5.16 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	17.84 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	13.01 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	.05 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	2.12 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	3.3 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or ≤0.5)	TURBIDITY (ntu) (+/- 10% or ≤ 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
1500	4.83	500	15	987	7.3	1.32	42.1	182.3		
1510	5.12	500	15	983	6.7	.49	8.4	117.1		
1515	5.12	500	15	983	6.7	.36	2.9	107.1		
1520	5.14	500	15	980	6.7	.41	1.8	97.5		
1525	5.16	500	15	982	6.7	.39	2.0	93.4		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- ☒ PERISTALTIC
- ☐ SUBMERSIBLE
- ☐ BLADDER
- ☐ WATTERA
- ☐ OTHER
- ☐ OTHER

DECON FLUIDS USED
- ☐ LIQUINOX
- ☐ DEIONIZED WATER
- ☐ POTABLE WATER
- ☐ NITRIC ACID
- ☐ HEXANE
- ☐ METHANOL
- ☐ OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS
- ☐ SILICON TUBING
- ☐ TEFLON TUBING
- ☐ TEFLON LINED TUBING
- ☒ HDPE TUBING
- ☐ LDPE TUBING
- ☐ OTHER
- ☐ OTHER

- ☐ S. STEEL PUMP MATERIAL
- ☐ PVC PUMP MATERIAL
- ☐ GEOPROBE SCREEN
- ☐ TEFLON BLADDER
- ☐ OTHER
- ☐ OTHER
- ☐ OTHER

EQUIPMENT USED
- ☒ WL METER
- ☐ PID
- ☐ WQ METER
- ☐ TURB. METER
- ☒ PUMP
- ☐ OTHER
- ☐ FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	☐	☒
NO-PURGE METHOD UTILIZED	☐	☐

NUMBER OF GALLONS GENERATED: 3.3

If yes, purged approximately 1 standing volume prior to sampling or ___ mL for this sample location.

NOTES: Stabilization achieved, sample taken

Sampler Signature: Print Name:

Checked By: Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME: DFSP Verona		LOCATION ID: MW-32	DATE: 10/28/21
PROJECT NUMBER: 14003.001		START TIME: 1400	END TIME: 1430
SAMPLE ID: MW-32	SAMPLE TIME: 1430	SITE NAME/NUMBER:	PAGE: 1 OF 1

WELL DIAMETER (INCHES): ☐ 1 ☒ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER

TUBING ID (INCHES): ☐ 1/8 ☐ 3/16 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ OTHER

MEASUREMENT POINT (MP): ☐ TOP OF RISER (TOR) ☒ TOP OF CASING (TOC) ☐ OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	4.35 FT	FINAL DTW (BMP)	6.76 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	23.30 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	18.95 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	.39 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	2.38 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	3.96 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or <0.5)	TURBIDITY (ntu) (+/- 10% or < 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
1400	4.35	500	16	806	7.8	3.56	29.2	146.7		
1410	6.1	500	16	719	7.2	4.20	7.7	104.3		
1415	6.3	500	15	720	7.2	4.23	4.9	100.0		
1420	6.56	500	15	724	7.1	3.42	2.1	98.2		
1425	6.66	500	15	730	7.1	3.12	4.7	98.3		
1430	6.76	500	15	732	7.1	2.84	1.6	97.2		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- ☒ PERISTALTIC
- ☐ SUBMERSIBLE
- ☐ BLADDER
- ☐ WATTERA
- ☐ OTHER
- ☐ OTHER

DECON FLUIDS USED
- ☐ LIQUINOX
- ☐ DEIONIZED WATER
- ☐ POTABLE WATER
- ☐ NITRIC ACID
- ☐ HEXANE
- ☐ METHANOL
- ☐ OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS
- ☐ SILICON TUBING
- ☐ TEFLON TUBING
- ☐ TEFLON LINED TUBING
- ☒ HDPE TUBING
- ☐ LDPE TUBING
- ☐ OTHER
- ☐ OTHER

TUBING/PUMP/BLADDER MATERIALS
- ☐ S. STEEL PUMP MATERIAL
- ☐ PVC PUMP MATERIAL
- ☐ GEOPROBE SCREEN
- ☐ TEFLON BLADDER
- ☐ OTHER
- ☐ OTHER
- ☐ OTHER

EQUIPMENT USED
- ☒ WL METER
- ☐ PID
- ☐ WQ METER
- ☒ TURB. METER
- ☒ PUMP
- ☐ OTHER
- ☐ FILTERS NO. ___ TYPE

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	☐	☒
NO-PURGE METHOD UTILIZED	☐	☐

NUMBER OF GALLONS GENERATED: 4

If yes, purged approximately 1 standing volume prior to sampling or ___ mL for this sample location.

NOTES: stabilization achieved, Sample collected

Sampler Signature:

Print Name:

Checked By:

Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME		LOCATION ID	DATE
DFSP VERONA		MW-33R	10/29/21
PROJECT NUMBER		**START TIME**	**END TIME**
14003.001		9:10	1254
SAMPLE ID	**SAMPLE TIME**	**SITE NAME/NUMBER**	**PAGE**
MW-33R	1254		1 OF 1

WELL DIAMETER (INCHES): [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [ ] 3/16 [ ] 1/4 [ ] 3/8 [ ] 1/2 [ ] OTHER

MEASUREMENT POINT (MP): [ ] TOP OF RISER (TOR) [X] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY	YES	NO	N/A
CAP	✓		
CASING	✓		
LOCKED	✓		
COLLAR	✓		

INITIAL DTW (BMP)	3.84 FT	FINAL DTW (BMP)	17.20 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	17.20 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	13.36 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	.55 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	.55 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	.71 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or ≤0.5)	TURBIDITY (ntu) (+/- 10% or < 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
9:10	3.84	200	12	2140	6.6	4.1	19.9	-41.9		
9:20	14.90	200	14	2314	7.6	1.73	33.9	-122.7		
9:25	16.52	200	14	2327	7.7	1.26	13.9	-125.4		
~~9:30~~	~~17.00~~	~~200~~								
1254	8.58	200	15	2272	7.7	2.20	50.3	-68.5		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [ ] LIQUINOX
- [ ] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS
- [ ] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [X] HDPE TUBING
- [ ] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

TUBING/PUMP/BLADDER MATERIALS
- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [✓] WL METER
- [ ] PID
- [ ] WQ METER
- [X] TURB. METER
- [X] PUMP
- [ ] OTHER
- [ ] FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
[ ]								
[ ]								
[ ]								

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: YES [ ] NO [X]

NO-PURGE METHOD UTILIZED: YES [ ] NO [ ]

NUMBER OF GALLONS GENERATED: .71

If yes, purged approximately 1 standing volume prior to sampling or ___ mL for this sample location.

NOTES:

Dry at 9:30, inadequate recovery at 9:00 10/29/21
Sample collected

Sampler Signature: Print Name:

Checked By: Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME: DFSP VERONA	LOCATION ID: MW-35
PROJECT NUMBER: 14003.001	DATE: 1200
SAMPLE ID: MW-35	START TIME: 1130
SAMPLE TIME: 1200	END TIME: 1200
SITE NAME/NUMBER:	PAGE: 1 OF 1

WELL DIAMETER (INCHES): [ ] 1 [X] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [ ] 3/16 [ ] 1/4 [ ] 3/8 [ ] 1/2 [ ] OTHER

MEASUREMENT POINT (MP): [ ] TOP OF RISER (TOR) [X] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	2.42 FT	FINAL DTW (BMP)	3.55 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	17.60 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	15.18 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	1.18 GAL	PID WELL MOUTH	FPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	2.48 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	3.96 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or ≤0.5)	TURBIDITY (ntu) (+/- 10% or < 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
1130	2.42	500	15	1096	7.4	4.20	166	120		
1140	3.52	500	14	1450	6.9	0.77	79.4	142.2		
1145	3.55	500	14	1488	6.9	0.59	48.1	137.0		
1150	3.55	500	14	1530	7.4	0.43	29.1	130.5		
1155	3.55	500	14	1528	7.5	0.31	27.6	128.2		
1200	3.55	500	14	1533	7.4	0.24	25.9	124.2		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER ____
- [ ] WATTERA
- [ ] OTHER ____
- [ ] OTHER ____

DECON FLUIDS USED
- [ ] LIQUINOX
- [ ] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS
- [ ] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [X] HDPE TUBING
- [ ] LDPE TUBING
- [ ] OTHER ____
- [ ] OTHER ____

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER ____
- [ ] OTHER ____
- [ ] OTHER ____

EQUIPMENT USED
- [X] WL METER ____
- [ ] PID ____
- [ ] WQ METER ____
- [X] TURB. METER ____
- [X] PUMP ____
- [ ] OTHER ____
- [ ] FILTERS NO. ____ TYPE ____

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[ ]

NUMBER OF GALLONS GENERATED: 4

If yes, purged approximately 1 standing volume prior to sampling or ____ mL for this sample location.

NOTES:
Stability achieved, sample collected

Sampler Signature: Print Name:
Checked By: Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME: DFSP VERONA		LOCATION ID: MW-36	DATE: 10/28/21
PROJECT NUMBER: 14003.001		START TIME: 12:22	END TIME: 1310
SAMPLE ID: MW-36	SAMPLE TIME: 1310	SITE NAME/NUMBER:	PAGE: 1 OF 1

WELL DIAMETER (INCHES): [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [ ] 3/16 [ ] 1/4 [ ] 3/8 [ ] 1/2 [ ] OTHER

MEASUREMENT POINT (MP): [ ] TOP OF RISER (TOR) [X] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	3.81 FT	FINAL DTW (BMP)	4.44 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	17.6 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	13.79 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	.03 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	.56 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	3.7 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or <0.5)	TURBIDITY (ntu) (+/- 10% or < 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
12:22	3.81	350	18	1223	6.7	2.41	94.2	-57.6		
12:33	4.30	350	18	1231	6.8	1.57	6.16	-59.9		
12:58	4.44	350	18	1376	6.9	.49	4.26	-71.3		
1:03	4.44	350	18	1401	6.9	.28	2.82	-72.3		
1:08	4.44	350	18	1409	6.9	.35	2.61	-74.0		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [ ] LIQUINOX
- [ ] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS
- [ ] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [X] HDPE TUBING
- [ ] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

TUBING/PUMP/BLADDER MATERIALS
- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER
- [ ] PID
- [ ] WQ METER
- [X] TURB. METER
- [X] PUMP
- [ ] OTHER
- [ ] FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[ ]

NUMBER OF GALLONS GENERATED: 3.7

If yes, purged approximately 1 standing volume prior to sampling or ___ mL for this sample location.

NOTES: Stability achieved, samples collected

Sampler Signature: Print Name:

Checked By: Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME		LOCATION ID	DATE
DFSP Verona		MW-38	10/29/21
PROJECT NUMBER		**START TIME**	**END TIME**
14003.001		955	1305
SAMPLE ID	**SAMPLE TIME**	**SITE NAME/NUMBER**	**PAGE**
MW-38			1 OF 1

WELL DIAMETER (INCHES): [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [ ] 3/16 [ ] 1/4 [ ] 3/8 [ ] 1/2 [ ] OTHER

MEASUREMENT POINT (MP): [ ] TOP OF RISER (TOR) [X] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	4.64 FT	FINAL DTW (BMP)	14.6 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	14.60 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	9.96 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	.41 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	.41 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	.5 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or ≤0.5)	TURBIDITY (ntu) (+/- 10% or ≤ 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
955	4.64	200	13	1172	6.7	3.2	79.8	22.3		
1003	13.4	200	13	1176	6.9	1.18	69.8	3.9		
1304	5.89	200	14	1284	6.9	1.51	38.7	6.9		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER _____
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [ ] LIQUINOX
- [ ] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS
- [ ] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [X] HDPE TUBING
- [ ] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER
- [ ] PID
- [ ] WQ METER
- [X] TURB. METER
- [X] PUMP
- [ ] OTHER
- [ ] FILTERS NO. ____ TYPE

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
[ ]								
[ ]								
[ ]								

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[ ]

NUMBER OF GALLONS GENERATED: .5

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

NOTES:
Dry at 10:10. Sampled at 1305

Sampler Signature: Print Name:
Checked By: Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME	DFSP VERONA
PROJECT NUMBER	14003.001
SAMPLE ID	MW-39
SAMPLE TIME	1055
LOCATION ID	MW-39
DATE	10/29/21
START TIME	10:30
END TIME	1055
SITE NAME/NUMBER	
PAGE	1 OF 1

WELL DIAMETER (INCHES): [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [ ] 3/16 [ ] 1/4 [ ] 3/8 [ ] 1/2 [ ] OTHER

MEASUREMENT POINT (MP): [ ] TOP OF RISER (TOR) [X] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	3.49 FT	FINAL DTW (BMP)	7.25 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	12.90 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	9.41 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well dinm. squared X 0.041)	.15 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	.38 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	3.96 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or ≤0.5)	TURBIDITY (ntu) (+/- 10% or < 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
1030	3.49	500	12	778	7.0	7.42	7.9	88.3		
1035	7.10	500	13	800	6.4	.98	1.8	53.0		
1040	7.20	500	13	805	6.3	.61	1.5	51.6		
1045	7.21	500	13	809	6.3	.42	1.2	51.5		
1050	7.23	500	13	810	6.2	.34	1.0	51.8		
1055	7.25	500	13	813	6.2	.29	0.8	52.0		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [ ] LIQUINOX
- [ ] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS
- [ ] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [X] HDPE TUBING
- [ ] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER
- [ ] PID
- [ ] WQ METER
- [X] TURB. METER
- [X] PUMP
- [ ] OTHER
- [ ] FILTERS NO. TYPE

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[ ]

NUMBER OF GALLONS GENERATED: 3.96

If yes, purged approximately 1 standing volume prior to sampling or mL for this sample location.

NOTES: Stabilization complete, samples taken

Sampler Signature: Print Name:

Checked By: Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME: DFSP VERONA	LOCATION ID: MW-40
PROJECT NUMBER: 14003.001	DATE: 10/29/21
SAMPLE ID: MW-40	SAMPLE TIME: 12:40
START TIME: 11:48	END TIME: 12:38
SITE NAME/NUMBER:	PAGE: OF

WELL DIAMETER (INCHES): [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [ ] 3/16 [ ] 1/4 [ ] 3/8 [ ] 1/2 [ ] OTHER

MEASUREMENT POINT (MP): [ ] TOP OF RISER (TOR) [X] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	2.6 FT	FINAL DTW (BMP)	6.75 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	10.5 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	7.9 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	.17 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	.32 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	6.14 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or <0.5)	TURBIDITY (ntu) (+/- 10% or < 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
11:48	2.6	450	15	1023	7.0	6.68	19.7	-36.2		
11:53	5.87	450	15	1047	6.7	2.41	45.6	-43.8		
11:58	5.95	450	15	1051	6.7	1.32	18.2	-47.5		
12:03	5.97	450	14	1046	6.7	1.20	11.6	-48.9		
12:08	6.02	450	14	1052	6.7	1.79	9.4	-51.5		
12:13	6.18	450	14	1052	6.7	.80	17.9	-56.1		
12:18	6.41	450	14	1053	6.6	1.04	17.4	-59.1		
12:23	6.75	500	14	1051	6.6	.51	17.5	-61.9		
12:28	6.75	500	14	1052	6.7	.43	6.01	-62.9		
12:32	6.75	500	14	1053	6.7	.36	5.98	-64.5		
12:38	6.75	500	14	1053	6.7	.34	5.78	-65.8		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [ ] LIQUINOX
- [ ] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS
- [ ] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [X] HDPE TUBING
- [ ] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

TUBING/PUMP/BLADDER MATERIALS
- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER
- [ ] PID
- [ ] WQ METER
- [X] TURB. METER
- [X] PUMP
- [ ] OTHER
- [ ] FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
[ ]								
[ ]								
[ ]								

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[ ]

NUMBER OF GALLONS GENERATED: 6.14

If yes, purged approximately 1 standing volume prior to sampling or ____ mL for this sample location.

NOTES:

Sampler Signature:
Checked By:
Print Name:
Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME: DFSP VERONA		LOCATION ID: MW-41	DATE: 10/29/21
PROJECT NUMBER: 14003.001		START TIME: 10:15	END TIME: 10:47
SAMPLE ID: MW-41	SAMPLE TIME: 10:47	SITE NAME/NUMBER:	PAGE: 1 OF 1

WELL DIAMETER (INCHES): [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [ ] 3/16 [ ] 1/4 [ ] 3/8 [ ] 1/2 [ ] OTHER

MEASUREMENT POINT (MP): [ ] TOP OF RISER (TOR) [X] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	7.04 FT	FINAL DTW (BMP)	8.58 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	12 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	4.96 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	.06 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	.2 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	2.2 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or <0.5)	TURBIDITY (ntu) (+/- 10% or < 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
10:15	7.04	250	14	805	6.7	2.48	78.1	-40.6		
10:20	8.58	250	14	805	6.6	2.15	41.5	-46.2		
10:25	8.58	250	14	807	6.6	1.97	17.9	-48.2		
10:30	8.58	350	15	808	6.5	1.68	5.33	-47.7		
10:35	8.58	400	15	811	6.5	1.56	3.75	-48.9		
10:40	8.58	400	15	813	6.5	1.48	2.15	-51.5		
10:45	8.58	400	15	813	6.5	1.46	2.33	-53.1		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [X] PERISTALTIC [ ] SUBMERSIBLE [ ] BLADDER [ ] WATTERA [ ] OTHER [ ] OTHER

DECON FLUIDS USED: [ ] LIQUINOX [ ] DEIONIZED WATER [ ] POTABLE WATER [ ] NITRIC ACID [ ] HEXANE [ ] METHANOL [ ] OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS: [ ] SILICON TUBING [ ] TEFLON TUBING [ ] TEFLON LINED TUBING [X] HDPE TUBING [ ] LDPE TUBING [ ] OTHER [ ] OTHER

[ ] S. STEEL PUMP MATERIAL [ ] PVC PUMP MATERIAL [ ] GEOPROBE SCREEN [ ] TEFLON BLADDER [ ] OTHER [ ] OTHER [ ] OTHER

EQUIPMENT USED: [X] WL METER [ ] PID [ ] WQ METER [X] TURB. METER [X] PUMP [ ] OTHER [ ] FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: YES [ ] NO [X]

NO-PURGE METHOD UTILIZED: YES [ ] NO [ ]

NUMBER OF GALLONS GENERATED: 2.2

If yes, purged approximately 1 standing volume prior to sampling or ___ mL for this sample location.

NOTES: Stability achieved, samples taken

Sampler Signature: Print Name:

Checked By: Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME: DFSP VERONA		LOCATION ID: MW-42	DATE: 10/29/21
PROJECT NUMBER: 14003.001		START TIME: 9:30	END TIME: 9:47
SAMPLE ID: MW-42	SAMPLE TIME: 9:47	SITE NAME/NUMBER:	PAGE: 1 OF 1

WELL DIAMETER (INCHES): [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [ ] 3/16 [ ] 1/4 [ ] 3/8 [ ] 1/2 [ ] OTHER

MEASUREMENT POINT (MP): [ ] TOP OF RISER (TOR) [X] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	7.12 FT	FINAL DTW (BMP)	9.40 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	10 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	2.88 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	.09 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	.12 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	.99 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or <0.5)	TURBIDITY (ntu) (+/- 10% or < 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
930	7.12	250	14	1047	6.3	.86	16.7	-36.0		
935	8.87	250	14	1030	6.6	.40	6.84	-52.2		
940	9.12	250	14	1024	6.7	.36	4.75	-61.5		
945	9.4	250	14	1023	6.7	.29	4.10	-65.0		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [ ] LIQUINOX
- [ ] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS
- [ ] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [X] HDPE TUBING
- [ ] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

TUBING/PUMP/BLADDER MATERIALS
- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER
- [ ] PID
- [ ] WQ METER
- [X] TURB. METER
- [X] PUMP
- [ ] OTHER
- [ ] FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[ ]

NUMBER OF GALLONS GENERATED: .996

If yes, purged approximately 1 standing volume prior to sampling or ___ mL for this sample location.

NOTES: Stabilization achieved, sample taken

Sampler Signature: Print Name:

Checked By: Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME		LOCATION ID	DATE
DFSP VERONA		MW-43	10/27/21
PROJECT NUMBER		**START TIME**	**END TIME**
14003.001		1609	1639
SAMPLE ID	**SAMPLE TIME**	**SITE NAME/NUMBER**	**PAGE**
MW-43	10/27/21		1 OF 1

WELL DIAMETER (INCHES): [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [ ] 3/16 [ ] 1/4 [ ] 3/8 [ ] 1/2 [ ] OTHER

MEASUREMENT POINT (MP): [ ] TOP OF RISER (TOR) [X] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	9.10 FT	FINAL DTW (BMP)	9.71 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	16.11 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	7.01 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	.02 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	.29 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	1.59 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or <0.5)	TURBIDITY (ntu) (+/- 10% or <5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
1609	9.10	200	15	731	6.4	2.57	20	-22.3		
1614	9.68	200	15	727	6.3	7.35	11	-33.3		
1621	9.70	200	15	730	6.3	7.33	9.39	-33.8		
1626	9.71	200	16	726	6.2	6.85	3.35	-34.2		
1631	9.71	200	15	725	6.2	6.69	3.89	-35.0		
1636	9.71	200	16	720	6.3	6.41	2.77	-36.9		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [X] PERISTALTIC [ ] SUBMERSIBLE [ ] BLADDER _____ [ ] WATTERA [ ] OTHER _____ [ ] OTHER _____

DECON FLUIDS USED: [ ] LIQUINOX [ ] DEIONIZED WATER [ ] POTABLE WATER [ ] NITRIC ACID [ ] HEXANE [ ] METHANOL [ ] OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS: [ ] SILICON TUBING [ ] TEFLON TUBING [ ] TEFLON LINED TUBING [X] HDPE TUBING [ ] LDPE TUBING [ ] OTHER _____ [ ] OTHER _____

[ ] S. STEEL PUMP MATERIAL [ ] PVC PUMP MATERIAL [ ] GEOPROBE SCREEN [ ] TEFLON BLADDER [ ] OTHER _____ [ ] OTHER _____ [ ] OTHER _____

EQUIPMENT USED: [X] WL METER _____ [ ] PID _____ [ ] WQ METER _____ [X] TURB. METER _____ [X] PUMP _____ [ ] OTHER _____ [ ] FILTERS NO. ___ TYPE _____

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: YES [ ] NO [X]

NO-PURGE METHOD UTILIZED: YES [ ] NO [ ]

NUMBER OF GALLONS GENERATED: 1.59

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

NOTES: Stabilization achieved, samples collected

Sampler Signature: Print Name:

Checked By: Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME: DFSP VERONA		LOCATION ID: MW-44	DATE: 10/27/21
PROJECT NUMBER: 14003.001		START TIME: 1351	END TIME: 1416
SAMPLE ID: MW-44	SAMPLE TIME: 1419	SITE NAME/NUMBER:	PAGE: 1 OF 1

WELL DIAMETER (INCHES): [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [ ] 3/16 [ ] 1/4 [ ] 3/8 [ ] 1/2 [ ] OTHER

MEASUREMENT POINT (MP): [ ] TOP OF RISER (TOR) [X] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	3.15 FT	FINAL DTW (BMP)	4.75 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	15 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	11.85 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	.075 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	.5 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	.325 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or ≤0.5)	TURBIDITY (ntu) (+/- 10% or < 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
1:51	4.34	200	14	842	6.5	.41	199	-70.1		
1:56	4.73	200	14	835	6.2	.24	37.3	-48.3		
2:01	4.75	200	14	834	6.2	.25	28.4	-48.3		
2:06	4.75	200	14	833	6.2	.27	10.5	-49.2		
2:11	4.75	200	14	834	6.1	.41	9.43	-52.4		
2:16	4.75	200	14	833	6.2	.44	8.88	-53.1		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [X] PERISTALTIC [ ] SUBMERSIBLE [ ] BLADDER [ ] _____ [ ] WATTERA [ ] OTHER [ ] OTHER

DECON FLUIDS USED: [ ] LIQUINOX [ ] DEIONIZED WATER [ ] POTABLE WATER [ ] NITRIC ACID [ ] HEXANE [ ] METHANOL [ ] OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS: [ ] SILICON TUBING [ ] TEFLON TUBING [ ] TEFLON LINED TUBING [X] HDPE TUBING [ ] LDPE TUBING [ ] OTHER [ ] OTHER

[ ] S. STEEL PUMP MATERIAL [ ] PVC PUMP MATERIAL [ ] GEOPROBE SCREEN [ ] TEFLON BLADDER [ ] OTHER [ ] OTHER [ ] OTHER

EQUIPMENT USED: [X] WL METER [ ] PID [ ] WQ METER [X] TURB. METER [X] PUMP [ ] OTHER [ ] FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
[ ]								
[ ]								
[ ]								

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: YES [ ] NO [X]

NO-PURGE METHOD UTILIZED: YES [ ] NO [ ]

NUMBER OF GALLONS GENERATED: .325G

If yes, purged approximately 1 standing volume prior to sampling or ___ mL for this sample location.

NOTES:

Sampler Signature: Print Name:

Checked By: Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME		LOCATION ID	DATE
DFSP VERONA		MW-45	10/28/21
PROJECT NUMBER		START TIME	END TIME
14003.001		1005	1602
SAMPLE ID	SAMPLE TIME	SITE NAME/NUMBER	PAGE
MW-45	10/28/21		1 OF 1

WELL DIAMETER (INCHES): [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [ ] 3/16 [ ] 1/4 [ ] 3/8 [ ] 1/2 [ ] OTHER

MEASUREMENT POINT (MP): [ ] TOP OF RISER (TOR) [X] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED COLLAR	X		

INITIAL DTW (BMP)	3.53 FT	FINAL DTW (BMP)	7.96 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	7.96 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	4.43 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	.18 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	.18 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	.32 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or <0.5)	TURBIDITY (ntu) (+/- 10% or < 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
1005	4.82	200	14	646	6.6	2.82	134	-47		
1010	7.14	200	15	718	6.8	1.12	268	-76.8		
1602	7.68	200	14	701	6.7	2.89	843	-39.4		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [X] PERISTALTIC [ ] SUBMERSIBLE [ ] BLADDER _____ [ ] WATTERA [ ] OTHER _____ [ ] OTHER _____

DECON FLUIDS USED: [ ] LIQUINOX [ ] DEIONIZED WATER [ ] POTABLE WATER [ ] NITRIC ACID [ ] HEXANE [ ] METHANOL [ ] OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS: [ ] SILICON TUBING [ ] TEFLON TUBING [ ] TEFLON LINED TUBING [X] HDPE TUBING [ ] LDPE TUBING [ ] OTHER _____ [ ] OTHER _____

[ ] S. STEEL PUMP MATERIAL [ ] PVC PUMP MATERIAL [ ] GEOPROBE SCREEN [ ] TEFLON BLADDER [ ] OTHER _____ [ ] OTHER _____ [ ] OTHER _____

EQUIPMENT USED: [X] WL METER _____ [ ] PID _____ [ ] WQ METER _____ [X] TURB. METER _____ [X] PUMP _____ [ ] OTHER _____ [ ] FILTERS NO. ___ TYPE _____

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: YES [ ] NO [X]

NO-PURGE METHOD UTILIZED: YES [ ] NO [ ]

NUMBER OF GALLONS GENERATED: .32

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

NOTES: well went dry at 1011
Sample collected

Sampler Signature: Print Name:

Checked By: Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME		LOCATION ID	DATE
DESP VERONA		MW-46	10/28/21
PROJECT NUMBER		**START TIME**	**END TIME**
14003.001		1030	1618
SAMPLE ID	**SAMPLE TIME**	**SITE NAME/NUMBER**	**PAGE**
MW-46	1618		1 OF 1

WELL DIAMETER (INCHES): [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [ ] 3/16 [ ] 1/4 [ ] 3/8 [ ] 1/2 [ ] OTHER

MEASUREMENT POINT (MP): [ ] TOP OF RISER (TOR) [X] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	3.70 FT	FINAL DTW (BMP)	8.1 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	8.1 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	4.40 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	.18 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	.18 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	.2 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or <0.5)	TURBIDITY (ntu) (+/- 10% or < 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
1030	3.7	200	14	650	6.2	.74	183	-66.3		
1418	5.41	200	14	667	6.1	1.80	238	-45.5		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [ ] LIQUINOX
- [ ] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS
- [ ] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [X] HDPE TUBING
- [ ] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER
- [ ] PID
- [ ] WQ METER
- [X] TURB. METER
- [X] PUMP
- [ ] OTHER
- [ ] FILTERS NO. TYPE

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[ ]

NUMBER OF GALLONS GENERATED: .3

If yes, purged approximately 1 standing volume prior to sampling or mL for this sample location.

NOTES: well went dry at 1034
Sample collected

Sampler Signature: Print Name:

Checked By: Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME: DFSP VERONA		LOCATION ID: MW-47	DATE: 10/29/24
PROJECT NUMBER: 14003.001		START TIME: 9:12	END TIME: 1107
SAMPLE ID: MW-47	SAMPLE TIME: 1107	SITE NAME/NUMBER:	PAGE: 1 OF 1

WELL DIAMETER (INCHES): [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [ ] 3/16 [ ] 1/4 [ ] 3/8 [ ] 1/2 [ ] OTHER

MEASUREMENT POINT (MP): [ ] TOP OF RISER (TOR) [X] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	6.35 FT	FINAL DTW (BMP)	12.23 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	12.23 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	5.88 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	.24 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	.24 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	.26 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or <0.5)	TURBIDITY (ntu) (+/- 10% or < 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
9:52	6.35	200	11	964	5.8	6.68	48.3	4.2		
1107	6.39	200	13	923	6.7	5.91	6.42	-31.2		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [ ] LIQUINOX
- [ ] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS
- [ ] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [X] HDPE TUBING
- [ ] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

TUBING/PUMP/BLADDER MATERIALS
- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER
- [ ] PID
- [X] WQ METER
- [X] TURB. METER
- [X] PUMP
- [ ] OTHER
- [ ] FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[ ]

NUMBER OF GALLONS GENERATED: .26

If yes, purged approximately 1 standing volume prior to sampling or ___ mL for this sample location.

NOTES: well went dry at 9:55
samples collected

Sampler Signature:
Checked By:
Print Name:
Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME: DFSP VERONA	LOCATION ID: MW-48
PROJECT NUMBER: 14003.001	DATE: 10/29/21
SAMPLE ID: MW-48	SAMPLE TIME: 1145
START TIME: 1120	END TIME: 1145
SITE NAME/NUMBER:	PAGE: 1 OF 1

WELL DIAMETER (INCHES): [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [ ] 3/16 [ ] 1/4 [ ] 3/8 [ ] 1/2 [ ] OTHER

MEASUREMENT POINT (MP): [ ] TOP OF RISER (TOR) [X] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	2.71 FT	FINAL DTW (BMP)	8.6 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	12.00 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	9.29 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	.24 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	.38 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	3.4 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or <0.5)	TURBIDITY (ntu) (+/- 10% or < 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
1120	2.71	500	14	992	6.3	5.38	333	115		
1130	7.90	500	14	1125	6.5	1.77	7999	66		
1135	8.16	500	14	1133	6.5	1.57	>999	64		
1140	8.33	500	14	1137	6.5	1.59	>999	63.9		
1145	8.60	500	14	1127	6.5	1.63	>999	64.6		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [ ] LIQUINOX
- [ ] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS
- [ ] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [X] HDPE TUBING
- [ ] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER
- [ ] PID
- [ ] WQ METER
- [X] TURB. METER
- [X] PUMP
- [ ] OTHER
- [ ] FILTERS NO. TYPE

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[ ]

NUMBER OF GALLONS GENERATED: 3.4

If yes, purged approximately 1 standing volume prior to sampling or mL for this sample location.

NOTES: Stabilization Complete, Sample taken

Sampler Signature: Print Name:

Checked By: Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME: DFSP VERONA	LOCATION ID: MW-51
PROJECT NUMBER: 14003.001	DATE: 10/28/21
SAMPLE ID: MW-51	SAMPLE TIME: 1350
START TIME: 1322	END TIME: 1350
SITE NAME/NUMBER:	PAGE: 1 OF 1

WELL DIAMETER (INCHES): [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [ ] 3/16 [ ] 1/4 [ ] 3/8 [ ] 1/2 [ ] OTHER

MEASUREMENT POINT (MP): [ ] TOP OF RISER (TOR) [X] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED COLLAR	X		

INITIAL DTW (BMP)	4.61 FT	FINAL DTW (BMP)	4.86 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	9.5 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	4.89 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	.01 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	.2 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	1.37 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or <0.5)	TURBIDITY (ntu) (+/- 10% or < 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
1322	4.61	200	16	1080	6.9	.8	96.3	-82.4		
1327	4.81	200	15	1081	6.6	.43	49.8	-71.3		
1332	4.86	200	15	1082	6.5	.4	12.8	-74.1		
1337	4.86	200	15	1066	6.5	.32	4.79	-75.6		
1342	4.86	200	15	1054	6.5	.28	3.35	-76.7		
1347	4.86	200	15	1050	6.8	.26	3.66	-77.5		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [ ] LIQUINOX
- [ ] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS
- [ ] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [ ] HDPE TUBING
- [ ] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER
- [ ] PID
- [ ] WQ METER
- [X] TURB. METER
- [X] PUMP
- [ ] OTHER
- [ ] FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[ ]

NUMBER OF GALLONS GENERATED: 1.37

If yes, purged approximately 1 standing volume prior to sampling or ___ mL for this sample location.

NOTES: Stabilization accomplished, Sample collected

Sampler Signature: Print Name:

Checked By: Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME: DFSP VERONA	LOCATION ID: MW-53
PROJECT NUMBER: 14003.001	DATE: 10/28/21
SAMPLE ID: MW-53	SAMPLE TIME: 1645
START TIME: 1610	END TIME: 1645
SITE NAME/NUMBER:	PAGE: OF

WELL DIAMETER (INCHES): [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [ ] 3/16 [ ] 1/4 [ ] 3/8 [ ] 1/2 [ ] OTHER

MEASUREMENT POINT (MP): [ ] TOP OF RISER (TOR) [X] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	3.39 FT	FINAL DTW (BMP)	3.42 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	12.00 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	8.61 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	0 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	.35 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	4.62 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or <0.5)	TURBIDITY (ntu) (+/- 10% or < 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
1610	3.39	500	16	1173	7.7	2.80	175	280.2		
1620	3.42	500	13	751	7.5	5.4	30	33.5		
1625	3.42	500	13	583	7.3	6.64	31.3	33.9		
1630	3.42	500	12	551	7.3	7.8	16.2	58.0		
1635	3.42	500	12	536	7.3	8.0	8.6	78.0		
1640	3.42	500	12	527	7.3	8.31	7.9	80.2		
1645	3.42	500	12	520	7.3	8.08	7.6	86.4		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [ ] LIQUINOX
- [ ] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS
- [ ] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [X] HDPE TUBING
- [ ] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER
- [ ] PID
- [ ] WQ METER
- [X] TURB. METER
- [X] PUMP
- [ ] OTHER
- [ ] FILTERS NO. ___ TYPE

ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS
[ ]								
[ ]								
[ ]								

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[ ]

NUMBER OF GALLONS GENERATED: 4.62

If yes, purged approximately 1 standing volume prior to sampling or ___ mL for this sample location.

NOTES: Stability achieved, samples collected

Sampler Signature: Print Name:

Checked By: Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME		LOCATION ID	DATE
DFSP VERONA		MW-55	10/29/21
PROJECT NUMBER		**START TIME**	**END TIME**
14003.001		10:55	11:32
SAMPLE ID	**SAMPLE TIME**	**SITE NAME/NUMBER**	**PAGE**
MW-55	1132		1 OF 1

WELL DIAMETER (INCHES): ☒ 1 ☐ 2 ☐ 4 ☐ 6 ☐ 8 ☐ OTHER

TUBING ID (INCHES): ☐ 1/8 ☐ 3/16 ☐ 1/4 ☐ 3/8 ☐ 1/2 ☐ OTHER

MEASUREMENT POINT (MP): ☐ TOP OF RISER (TOR) ☒ TOP OF CASING (TOC) ☐ OTHER

WELL INTEGRITY	YES	NO	N/A
CAP	N/A		
CASING			
LOCKED	N/A		
COLLAR			

INITIAL DTW (BMP)	3.20 FT	FINAL DTW (BMP)	4.89 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	4.89 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	1.69 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	.07 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	.07 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	.1 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or <0.5)	TURBIDITY (ntu) (+/- 10% or < 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
10:55	4.50	200	14	702	6.9	3.35	245	-19.1		
11:32	3.17	200	14	1017	6.5	3.85	65.9	-45.9		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- ☒ PERISTALTIC
- ☐ SUBMERSIBLE
- ☐ BLADDER
- ☐ WATTERA
- ☐ OTHER
- ☐ OTHER

DECON FLUIDS USED
- ☐ LIQUINOX
- ☐ DEIONIZED WATER
- ☐ POTABLE WATER
- ☐ NITRIC ACID
- ☐ HEXANE
- ☐ METHANOL
- ☐ OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS
- ☐ SILICON TUBING
- ☐ TEFLON TUBING
- ☐ TEFLON LINED TUBING
- ☒ HDPE TUBING
- ☐ LDPE TUBING
- ☐ OTHER
- ☐ OTHER

TUBING/PUMP/BLADDER MATERIALS
- ☐ S. STEEL PUMP MATERIAL
- ☐ PVC PUMP MATERIAL
- ☐ GEOPROBE SCREEN
- ☐ TEFLON BLADDER
- ☐ OTHER
- ☐ OTHER
- ☐ OTHER

EQUIPMENT USED
- ☒ WL METER
- ☐ PID
- ☐ WQ METER
- ☒ TURB. METER
- ☒ PUMP
- ☐ OTHER
- ☐ FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: YES ☐ NO ☒

NO-PURGE METHOD UTILIZED: YES ☐ NO ☐

NUMBER OF GALLONS GENERATED: .1

If yes, purged approximately 1 standing volume prior to sampling or ___ mL for this sample location.

NOTES: revisited at 4:10PM on 10/28/21. Insufficient recovery well went dry at 10:57

Sampler Signature: Print Name:

Checked By: Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME	DFSP VERONA
PROJECT NUMBER	14003.001
SAMPLE ID	MW-57
SAMPLE TIME	923
LOCATION ID	MW-57
DATE	10/28/21
START TIME	14:48
END TIME	9:23
SITE NAME/NUMBER	
PAGE	1 OF 1

WELL DIAMETER (INCHES): [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [ ] 3/16 [ ] 1/4 [ ] 3/8 [ ] 1/2 [ ] OTHER

MEASUREMENT POINT (MP): [ ] TOP OF RISER (TOR) [X] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY

	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	3.23 FT	FINAL DTW (BMP)	4.4 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	4.4 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	1.17 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	.05 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	.05 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	.06 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or ≤0.5)	TURBIDITY (ntu) (+/- 10% or ≤ 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
2:48	3.82	200	.14	219	8.1	4.17	285	-12.4		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] WATTERA
- [ ] OTHER
- [ ] OTHER

DECON FLUIDS USED
- [ ] LIQUINOX
- [ ] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [X] OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS
- [ ] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [X] HDPE TUBING
- [ ] LDPE TUBING
- [ ] OTHER
- [ ] OTHER

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER
- [ ] OTHER
- [ ] OTHER

EQUIPMENT USED
- [X] WL METER
- [ ] PID
- [ ] WQ METER
- [X] TURB. METER
- [X] PUMP
- [ ] OTHER
- [ ] FILTERS NO. TYPE

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[ ]

NUMBER OF GALLONS GENERATED: .06

If yes, purged approximately 1 standing volume prior to sampling or mL for this sample location.

NOTES:
Dry at 2:50, insufficient water for sample parameters

Sampler Signature:
Checked By:
Print Name:
Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME		LOCATION ID	DATE
DFSP VERONA		MW-59	10/27/21
PROJECT NUMBER		START TIME	END TIME
14003.001		13:45	1420
SAMPLE ID	SAMPLE TIME	SITE NAME/NUMBER	PAGE
MW-59	1420		1 OF 1

WELL DIAMETER (INCHES): [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [ ] 3/16 [ ] 1/4 [ ] 3/8 [ ] 1/2 [ ] OTHER

MEASUREMENT POINT (MP): [ ] TOP OF RISER (TOR) [X] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

INITIAL DTW (BMP)	2.6 FT	FINAL DTW (BMP)	3.37 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	6.3 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	3.7 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	.03 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	.15 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	1.85 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or <0.5)	TURBIDITY (ntu) (+/- 10% or < 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
1345	2.60	200	14	806	7.6	2.85	104	304.9		
1355	3.20	200	14	712	7.0	0.71	31.8	229.0		
1400	3.26	200	14	648	6.9	0.63	32.5	220.3		
1405	3.28	200	14	633	6.8	0.59	8.3	214.6		
1410	3.30	200	14	615	6.8	0.44	7.8	213.7		
1415	3.35	200	14	611	6.7	0.42	7.5	209.2		
1420	3.37	200	14	610	6.7	0.41	7.4	205.9		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP: [X] PERISTALTIC [ ] SUBMERSIBLE [ ] BLADDER [ ] WATTERA [ ] OTHER [ ] OTHER

DECON FLUIDS USED: [ ] LIQUINOX [ ] DEIONIZED WATER [ ] POTABLE WATER [ ] NITRIC ACID [ ] HEXANE [ ] METHANOL [X] OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS: [ ] SILICON TUBING [ ] TEFLON TUBING [ ] TEFLON LINED TUBING [X] HDPE TUBING [ ] LDPE TUBING [ ] OTHER [ ] OTHER

[ ] S. STEEL PUMP MATERIAL [ ] PVC PUMP MATERIAL [ ] GEOPROBE SCREEN [ ] TEFLON BLADDER [ ] OTHER [ ] OTHER [ ] OTHER

EQUIPMENT USED: [X] WL METER [ ] PID [ ] WQ METER [X] TURB. METER [X] PUMP [ ] OTHER [ ] FILTERS NO. ___ TYPE ___

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS

PURGE OBSERVATIONS

PURGE WATER CONTAINERIZED: YES [ ] NO [X]

NO-PURGE METHOD UTILIZED: YES [ ] NO [ ]

NUMBER OF GALLONS GENERATED: 1.85

If yes, purged approximately 1 standing volume prior to sampling or ___ mL for this sample location.

NOTES: stabilization achieved, samples collected

Sampler Signature:

Checked By:

Print Name:

Date:

LOW FLOW GROUNDWATER SAMPLING RECORD

TK&K SERVICES

PROJECT NAME		LOCATION ID	DATE
DFSP VERONA		MW-60	10/27/21
PROJECT NUMBER		START TIME	END TIME
14003.001		15:05	15:50
SAMPLE ID	SAMPLE TIME	SITE NAME/NUMBER	PAGE
MW-60	15:50		OF

WELL DIAMETER (INCHES): [X] 1 [ ] 2 [ ] 4 [ ] 6 [ ] 8 [ ] OTHER

TUBING ID (INCHES): [ ] 1/8 [ ] 3/16 [ ] 1/4 [ ] 3/8 [ ] 1/2 [ ] OTHER

MEASUREMENT POINT (MP): [ ] TOP OF RISER (TOR) [X] TOP OF CASING (TOC) [ ] OTHER

WELL INTEGRITY	YES	NO	N/A
CAP			
CASING			
LOCKED			
COLLAR			

INITIAL DTW (BMP)	2.45 FT	FINAL DTW (BMP)	3.05 FT	PROT. CASING STICKUP (AGS)	FT	TOC/TOR DIFFERENCE	FT
WELL DEPTH (BMP)	5.35 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	PPM	REFILL TIMER SETTING	N/A SEC
WATER COLUMN	2.9 FT	DRAWDOWN VOLUME (initial DTW- final DTW X well diam. squared X 0.041)	.02 GAL	PID WELL MOUTH	PPM	DISCHARGE TIMER SETTING	N/A SEC
CALCULATED GAL/VOL (column X well diameter squared X 0.041)	.12 GAL	TOTAL VOL. PURGED (mL per minute X total minutes X 0.00026 gal/mL)	2.37 GAL	DRAWDOWN/ TOTAL PURGED		PRESSURE TO PUMP	N/A PSI

FIELD PARAMETERS WITH PROGRAM STABILIZATION CRITERIA (AS LISTED IN THE QAPP)

TIME 3-5 Minutes	DTW (FT) 0.0-0.33 ft	PURGE RATE (mL/min)	TEMP. (°C) (+/- 3 %)	SP. CONDUCTANCE (mS/cm) (+/- 3%)	pH (units) (+/- 0.1 units)	DISS. O_2 (mg/L) (+/- 10% or <0.5)	TURBIDITY (ntu) (+/- 10% or < 5	ORP (mv) (+/- 10 mv)	PUMP INTAKE	COMMENTS
	BEGIN PURGING									
1505	2.45	200	13	110	7.1	5.30	159	311.1		
1515	3.05	200	13	74	6.0	3.40	85.8	221.6		
1520	3.06	200	13	69	5.8	5.28	71.4	216.2		
1525	3.06	200	13	65	5.6	6.15	77.8	221.6		
1530	3.10	200	13	67	5.8	6.49	90.0	206.3		
1535	3.10	200	13	64	5.4	6.66	83.9	223.6		
1540	3.10	200	13	62	5.4	7.30	90.7	223.4		
1545	3.00	200	13	60	5.3	7.76	86.6	223.5		
1550	3.10	200	13	59	5.2	8.05	85.6	223.0		

EQUIPMENT DOCUMENTATION

TYPE OF PUMP
- [X] PERISTALTIC
- [ ] SUBMERSIBLE
- [ ] BLADDER
- [ ] _____
- [ ] WATTERA
- [ ] OTHER _____
- [ ] OTHER _____

DECON FLUIDS USED
- [ ] LIQUINOX
- [ ] DEIONIZED WATER
- [ ] POTABLE WATER
- [ ] NITRIC ACID
- [ ] HEXANE
- [ ] METHANOL
- [ ] OTHER PFAS Free

TUBING/PUMP/BLADDER MATERIALS
- [ ] SILICON TUBING
- [ ] TEFLON TUBING
- [ ] TEFLON LINED TUBING
- [X] HDPE TUBING
- [ ] LDPE TUBING
- [ ] OTHER _____
- [ ] OTHER _____

- [ ] S. STEEL PUMP MATERIAL
- [ ] PVC PUMP MATERIAL
- [ ] GEOPROBE SCREEN
- [ ] TEFLON BLADDER
- [ ] OTHER _____
- [ ] OTHER _____
- [ ] OTHER _____

EQUIPMENT USED
- [X] WL METER _____
- [ ] PID _____
- [ ] WQ METER _____
- [X] TURB. METER _____
- [X] PUMP _____
- [ ] OTHER _____
- [ ] FILTERS NO. ___ TYPE _____

ANALYTICAL PARAMETERS

PARAMETER	METHOD NUMBER	FIELD FILTERED	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	QC COLLECTED	SAMPLE BOTTLE ID NUMBERS

PURGE OBSERVATIONS

	YES	NO
PURGE WATER CONTAINERIZED	[ ]	[X]
NO-PURGE METHOD UTILIZED	[ ]	[ ]

NUMBER OF GALLONS GENERATED: 2.37

If yes, purged approximately 1 standing volume prior to sampling or _____ mL for this sample location.

NOTES: stabilization achieved, sample taken

Sampler Signature: Print Name:

Checked By: Date:

Appendix D - Groundwater Laboratory Reports

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

TK&K Services

DFSP; 5449 W Main St, Verona, NY

SGS Job Number: FA90390

Sampling Dates: 10/27/21 - 10/29/21

Report to:

TK&K Services
719 Hale St
Beverly, MA 01915
eric.blomberg@tkandk.com; cam.po@tkandk.com;
brian.emery@tkandk.com
ATTN: Eric Blomberg

Total number of pages in report: 65

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AL, AK, AR, CT, IA, KY, MA, MI. MS, ND, NH, NV, OK, OR, UT, VT, WA, WV

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how we can serve you better at:
EHS.US.CustomerCare@sgs.com

Table of Contents

Table of Contents

SGS North America Inc.

Sample Summary

TK&K Services

Job No: FA90390

DFSP; 5449 W Main St, Verona, NY

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA90390-1	10/28/21	15:12	GEDM	11/02/21	AQ	Ground Water	MW-2R
FA90390-2	10/27/21	15:49	GEDM	11/02/21	AQ	Ground Water	MW-5
FA90390-3	10/28/21	10:35	GEDM	11/02/21	AQ	Ground Water	MW-13
FA90390-4	10/28/21	11:59	GEDM	11/02/21	AQ	Ground Water	MW-29
FA90390-5	10/28/21	11:59	GEDM	11/02/21	AQ	Ground Water	MW-30
FA90390-6	10/28/21	14:30	GEDM	11/02/21	AQ	Ground Water	MW-32
FA90390-7	10/28/21	14:30	GEDM	11/02/21	AQ	Ground Water	MW-32 DUP
FA90390-8	10/29/21	12:34	GEDM	11/02/21	AQ	Ground Water	MW-33R
FA90390-9	10/28/21	12:00	GEDM	11/02/21	AQ	Ground Water	MW-35
FA90390-10	10/28/21	13:10	GEDM	11/02/21	AQ	Ground Water	MW-36
FA90390-11	10/29/21	13:05	GEDM	11/02/21	AQ	Ground Water	MW-38
FA90390-12	10/29/21	10:55	GEDM	11/02/21	AQ	Ground Water	MW-39
FA90390-13	10/29/21	12:40	GEDM	11/02/21	AQ	Ground Water	MW-40

SGS North America Inc.

Sample Summary
(continued)

TK&K Services

Job No: FA90390

DFSP; 5449 W Main St, Verona, NY

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA90390-14	10/29/21	10:47	GEDM	11/02/21	AQ	Ground Water	MW-41
FA90390-15	10/29/21	10:47	GEDM	11/02/21	AQ	Ground Water	MW-41 DUP
FA90390-16	10/29/21	09:47	GEDM	11/02/21	AQ	Ground Water	MW-42
FA90390-17	10/27/21	16:39	GEDM	11/02/21	AQ	Ground Water	MW-43
FA90390-18	10/27/21	14:19	GEDM	11/02/21	AQ	Ground Water	MW-44
FA90390-19	10/28/21	16:03	GEDM	11/02/21	AQ	Ground Water	MW-45
FA90390-20	10/28/21	16:18	GEDM	11/02/21	AQ	Ground Water	MW-46
FA90390-21	10/29/21	11:07	GEDM	11/02/21	AQ	Ground Water	MW-47
FA90390-22	10/29/21	11:45	GEDM	11/02/21	AQ	Ground Water	MW-48
FA90390-23	10/29/21	13:40	GEDM	11/02/21	AQ	Ground Water	MW-24
FA90390-24	10/28/21	13:50	GEDM	11/02/21	AQ	Ground Water	MW-51
FA90390-25	10/28/21	16:45	GEDM	11/02/21	AQ	Ground Water	MW-53
FA90390-26	10/29/21	11:38	GEDM	11/02/21	AQ	Ground Water	MW-55

Sample Summary
(continued)

TK&K Services

Job No: FA90390

DFSP; 5449 W Main St, Verona, NY

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA90390-27	10/28/21	09:45	GEDM	11/02/21	AQ	Ground Water	MW-56
FA90390-28	10/27/21	14:20	GEDM	11/02/21	AQ	Ground Water	MW-59
FA90390-29	10/27/21	15:50	GEDM	11/02/21	AQ	Ground Water	MW-60
FA90390-30	10/29/21	10:05	GEDM	11/02/21	AQ	Equipment Blank	EQUIPMENT BLANK

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: TK&K Services **Job No:** FA90390

Site: DFSP; 5449 W Main St, Verona, NY **Report Date:** 11/29/2021 2:02:34

On 11/02/2021, 30 Sample(s), 0 Trip Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 1.2 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of FA90390 was Assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

MS Semi-volatiles By Method EPA 537M QSM5.3 B-15

Matrix: AQ **Batch ID:** OP88296

Sample(s) FA90390-10MS, FA90390-14DUP, FA90390-10MS were used as the QC samples indicated.

Matrix Spike Recovery(s) for Perfluorobutanesulfonic acid, Perfluorohexanesulfonic acid, Perfluorooctanesulfonic acid are outside control limits. Outside control limits due to high level in sample relative to spike amount.

Matrix Spike Recovery(s) for Perfluorohexanesulfonic acid, Perfluorooctanesulfonic acid are outside control limits. Outside control limits due to high level in sample relative to spike amount.

Sample(s) FA90390-20 have surrogates outside control limits.

FA90390-20 for 13C4-PFHpA: Outside control limits.

FA90390-20 for 13C8-PFOS: Outside control limits.

FA90390-20 for 13C9-PFNA: Outside control limits.

Matrix: AQ **Batch ID:** OP88477

Sample(s) FA90580-3MS, FA90580-3MSD were used as the QC samples indicated.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

Narrative prepared by:

_____

Kim Benham, Client Services *(Signature on File)*

Summary of Hits

Job Number: FA90390
Account: TK&K Services
Project: DFSP; 5449 W Main St, Verona, NY
Collected: 10/27/21 thru 10/29/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA90390-1	**MW-2R**					
Perfluoroheptanoic acid		0.128	0.0038	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid		0.0537	0.0038	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorononanoic acid		0.0055	0.0038	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.0321	0.0038	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		0.0819	0.0038	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		0.162	0.0038	0.0019	ug/l	EPA 537M QSM5.3 B-15
FA90390-2	**MW-5**					
Perfluoroheptanoic acid		0.126	0.0036	0.0018	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid		0.0633	0.0036	0.0018	ug/l	EPA 537M QSM5.3 B-15
Perfluorononanoic acid		0.0062	0.0036	0.0018	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.0010 J	0.0036	0.0018	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		0.0077	0.0036	0.0018	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		0.0078	0.0036	0.0018	ug/l	EPA 537M QSM5.3 B-15
FA90390-3	**MW-13**					
Perfluoroheptanoic acid		0.0063	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid		0.0078	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.0065	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		0.0554	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		0.150	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
FA90390-4	**MW-29**					
Perfluoroheptanoic acid		0.0018 J	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid		0.0011 J	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.0023 J	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		0.0042	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		0.0048	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
FA90390-5	**MW-30**					
Perfluoroheptanoic acid		0.0816	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid		0.0538	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorononanoic acid		0.0050	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.0203	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		0.433	0.0074	0.0037	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		0.621	0.0074	0.0037	ug/l	EPA 537M QSM5.3 B-15

Summary of Hits

Job Number: FA90390
Account: TK&K Services
Project: DFSP; 5449 W Main St, Verona, NY
Collected: 10/27/21 thru 10/29/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA90390-6	**MW-32**					
Perfluoroheptanoic acid		0.119	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid		0.0424	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorononanoic acid		0.0092	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.0133	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		0.298	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		0.361	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
FA90390-7	**MW-32 DUP**					
Perfluoroheptanoic acid		0.191	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid		0.0654	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorononanoic acid		0.0149	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.0155	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		0.323	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		0.449	0.019	0.0093	ug/l	EPA 537M QSM5.3 B-15
FA90390-8	**MW-33R**					
Perfluoroheptanoic acid		0.121	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid		0.0591	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorononanoic acid		0.0091	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.0265	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		0.156	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		1.01	0.019	0.0093	ug/l	EPA 537M QSM5.3 B-15
FA90390-9	**MW-35**					
No hits reported in this sample.						
FA90390-10	**MW-36**					
Perfluoroheptanoic acid		0.0239	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid		0.0482	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.121	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		0.332	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		3.08	0.074	0.037	ug/l	EPA 537M QSM5.3 B-15
FA90390-11	**MW-38**					
Perfluoroheptanoic acid		0.0323	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid		0.0092	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.143	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		0.112	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15

Summary of Hits

Job Number: FA90390
Account: TK&K Services
Project: DFSP; 5449 W Main St, Verona, NY
Collected: 10/27/21 thru 10/29/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Perfluorooctanesulfonic acid		0.0409	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
FA90390-12	**MW-39**					
Perfluoroheptanoic acid		0.177	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid		0.0819	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorononanoic acid		0.0085	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.0707	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		1.43	0.019	0.0093	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		1.31	0.019	0.0093	ug/l	EPA 537M QSM5.3 B-15
FA90390-13	**MW-40**					
Perfluoroheptanoic acid		0.507	0.037	0.019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid		0.251	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorononanoic acid		0.0345	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.0918	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		1.86	0.037	0.019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		3.09	0.037	0.019	ug/l	EPA 537M QSM5.3 B-15
FA90390-14	**MW-41**					
Perfluoroheptanoic acid		0.201	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid		0.135	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorononanoic acid		0.0215	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.0603	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		1.29	0.15	0.074	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		4.11	0.15	0.074	ug/l	EPA 537M QSM5.3 B-15
FA90390-15	**MW-41 DUP**					
Perfluoroheptanoic acid		0.193	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid		0.129	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorononanoic acid		0.0210	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.0581	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		1.35	0.074	0.037	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		3.97	0.074	0.037	ug/l	EPA 537M QSM5.3 B-15
FA90390-16	**MW-42**					
Perfluoroheptanoic acid		0.135	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid		0.120	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorononanoic acid		0.0054	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.280	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		1.64	0.037	0.019	ug/l	EPA 537M QSM5.3 B-15

Summary of Hits

Job Number: FA90390
Account: TK&K Services
Project: DFSP; 5449 W Main St, Verona, NY
Collected: 10/27/21 thru 10/29/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Perfluorooctanesulfonic acid		2.08	0.037	0.019	ug/l	EPA 537M QSM5.3 B-15
FA90390-17	**MW-43**					
Perfluoroheptanoic acid		0.506	0.037	0.019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid		0.362	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorononanoic acid		0.0246	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.224	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		1.98	0.037	0.019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		2.83	0.037	0.019	ug/l	EPA 537M QSM5.3 B-15
FA90390-18	**MW-44**					
Perfluoroheptanoic acid		0.142	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid		0.102	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorononanoic acid		0.0160	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.103	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		1.30	0.074	0.037	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		4.00	0.074	0.037	ug/l	EPA 537M QSM5.3 B-15
FA90390-19	**MW-45**					
Perfluoroheptanoic acid		0.0543	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid		0.0282	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorononanoic acid		0.0016 J	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.0658	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		0.442	0.019	0.0093	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		0.346	0.019	0.0093	ug/l	EPA 537M QSM5.3 B-15
FA90390-20	**MW-46**					
Perfluoroheptanoic acid		0.234 J	0.30	0.15	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid		0.236	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.126	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		6.54	0.30	0.15	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		14.9	0.30	0.15	ug/l	EPA 537M QSM5.3 B-15
FA90390-21	**MW-47**					
Perfluoroheptanoic acid		0.141	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid		0.0630	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorononanoic acid		0.0041	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.0334	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		0.401	0.037	0.019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		0.637	0.037	0.019	ug/l	EPA 537M QSM5.3 B-15

Summary of Hits

Job Number: FA90390
Account: TK&K Services
Project: DFSP; 5449 W Main St, Verona, NY
Collected: 10/27/21 thru 10/29/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA90390-22	**MW-48**					
Perfluoroheptanoic acid		0.115	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid		0.0396	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.0642	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		0.293	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		0.0027 J	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
FA90390-23	**MW-24**					
Perfluorobutanesulfonic acid		0.0025 J	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		0.0059	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		0.0076	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
FA90390-24	**MW-51**					
Perfluoroheptanoic acid		0.153	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid		0.146	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorononanoic acid		0.0209	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.0483	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		1.29	0.15	0.074	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		3.28	0.15	0.074	ug/l	EPA 537M QSM5.3 B-15
FA90390-25	**MW-53**					
Perfluorohexanesulfonic acid		0.0023 J	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		0.0032 J	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
FA90390-26	**MW-55**					
Perfluoroheptanoic acid		0.0196	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid		0.0051	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.0192	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		0.0548	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		0.0098	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
FA90390-27	**MW-56**					
Perfluoroheptanoic acid		0.0080	0.0038	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid		0.0037 J	0.0038	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.0029 J	0.0038	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		0.0078	0.0038	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		0.0134	0.0038	0.0019	ug/l	EPA 537M QSM5.3 B-15

Summary of Hits

Job Number: FA90390
Account: TK&K Services
Project: DFSP; 5449 W Main St, Verona, NY
Collected: 10/27/21 thru 10/29/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA90390-28	**MW-59**					
Perfluoroheptanoic acid		0.0032 J	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid		0.0015 J	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.0056	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		0.0139	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		0.0018 J	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
FA90390-29	**MW-60**					
Perfluorooctanoic acid		0.0011 J	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		0.0012 J	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid		0.0043	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid		0.0020 J	0.0037	0.0019	ug/l	EPA 537M QSM5.3 B-15
FA90390-30	**EQUIPMENT BLANK**					
No hits reported in this sample.						

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW-2R		
Lab Sample ID:	FA90390-1	**Date Sampled:**	10/28/21
Matrix:	AQ - Ground Water	**Date Received:**	11/02/21
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	**Percent Solids:**	n/a
Project:	DFSP; 5449 W Main St, Verona, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q80245.D	1	11/18/21 15:31	FS	11/11/21 08:00	OP88296	S2Q1134
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	1.0 ml
Run #2		

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.128	0.0038	0.0019	0.00096	ug/l	
335-67-1	Perfluorooctanoic acid	0.0537	0.0038	0.0019	0.00096	ug/l	
375-95-1	Perfluorononanoic acid	0.0055	0.0038	0.0019	0.00096	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.0321	0.0038	0.0019	0.00096	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.0819	0.0038	0.0019	0.00096	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.162	0.0038	0.0019	0.00096	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	89%		50-150%
	13C8-PFOA	94%		50-150%
	13C9-PFNA	93%		50-150%
	13C3-PFBS	90%		50-150%
	13C3-PFHxS	87%		50-150%
	13C8-PFOS	86%		50-150%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-5
Lab Sample ID: FA90390-2
Matrix: AQ - Ground Water
Method: EPA 537M QSM5.3 B-15 EPA 537 MOD
Project: DFSP; 5449 W Main St, Verona, NY

Date Sampled: 10/27/21
Date Received: 11/02/21
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q80246.D	1	11/18/21 15:49	FS	11/11/21 08:00	OP88296	S2Q1134
Run #2							

	Initial Volume	Final Volume
Run #1	280 ml	1.0 ml
Run #2		

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.126	0.0036	0.0018	0.00089	ug/l	
335-67-1	Perfluorooctanoic acid	0.0633	0.0036	0.0018	0.00089	ug/l	
375-95-1	Perfluorononanoic acid	0.0062	0.0036	0.0018	0.00089	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.0010	0.0036	0.0018	0.00089	ug/l	J
355-46-4	Perfluorohexanesulfonic acid	0.0077	0.0036	0.0018	0.00089	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.0078	0.0036	0.0018	0.00089	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	80%		50-150%
	13C8-PFOA	85%		50-150%
	13C9-PFNA	85%		50-150%
	13C3-PFBS	79%		50-150%
	13C3-PFHxS	79%		50-150%
	13C8-PFOS	80%		50-150%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-13
Lab Sample ID: FA90390-3
Matrix: AQ - Ground Water
Method: EPA 537M QSM5.3 B-15 EPA 537 MOD
Project: DFSP; 5449 W Main St, Verona, NY

Date Sampled: 10/28/21
Date Received: 11/02/21
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q80247.D	1	11/18/21 16:07	FS	11/11/21 08:00	OP88296	S2Q1134
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.0063	0.0037	0.0019	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.0078	0.0037	0.0019	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.0065	0.0037	0.0019	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.0554	0.0037	0.0019	0.00093	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.150	0.0037	0.0019	0.00093	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	75%		50-150%
	13C8-PFOA	78%		50-150%
	13C9-PFNA	75%		50-150%
	13C3-PFBS	74%		50-150%
	13C3-PFHxS	71%		50-150%
	13C8-PFOS	64%		50-150%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-29
Lab Sample ID: FA90390-4
Matrix: AQ - Ground Water
Method: EPA 537M QSM5.3 B-15 EPA 537 MOD
Project: DFSP; 5449 W Main St, Verona, NY

Date Sampled: 10/28/21
Date Received: 11/02/21
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q80248.D	1	11/18/21 16:25	FS	11/11/21 08:00	OP88296	S2Q1134
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.0018	0.0037	0.0019	0.00093	ug/l	J
335-67-1	Perfluorooctanoic acid	0.0011	0.0037	0.0019	0.00093	ug/l	J
375-95-1	Perfluorononanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.0023	0.0037	0.0019	0.00093	ug/l	J
355-46-4	Perfluorohexanesulfonic acid	0.0042	0.0037	0.0019	0.00093	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.0048	0.0037	0.0019	0.00093	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	90%		50-150%
	13C8-PFOA	93%		50-150%
	13C9-PFNA	93%		50-150%
	13C3-PFBS	87%		50-150%
	13C3-PFHxS	88%		50-150%
	13C8-PFOS	86%		50-150%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-30		
Lab Sample ID:	FA90390-5	**Date Sampled:**	10/28/21
Matrix:	AQ - Ground Water	**Date Received:**	11/02/21
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	**Percent Solids:**	n/a
Project:	DFSP; 5449 W Main St, Verona, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q80249.D	1	11/18/21 16:43	FS	11/11/21 08:00	OP88296	S2Q1134
Run #2	2Q80294.D	2	11/19/21 12:41	FS	11/11/21 08:00	OP88296	S2Q1135

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.0816	0.0037	0.0019	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.0538	0.0037	0.0019	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.0050	0.0037	0.0019	0.00093	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.0203	0.0037	0.0019	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.433 [a]	0.0074	0.0037	0.0019	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.621 [a]	0.0074	0.0037	0.0019	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	89%	90%	50-150%
	13C8-PFOA	93%	97%	50-150%
	13C9-PFNA	93%	97%	50-150%
	13C3-PFBS	88%	93%	50-150%
	13C3-PFHxS	86%	91%	50-150%
	13C8-PFOS	77%	83%	50-150%

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-32
Lab Sample ID: FA90390-6
Matrix: AQ - Ground Water
Method: EPA 537M QSM5.3 B-15 EPA 537 MOD
Project: DFSP; 5449 W Main St, Verona, NY

Date Sampled: 10/28/21
Date Received: 11/02/21
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q80392.D	1	11/22/21 13:38	FS	11/11/21 08:00	OP88296	S2Q1136
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.119	0.0037	0.0019	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.0424	0.0037	0.0019	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.0092	0.0037	0.0019	0.00093	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.0133	0.0037	0.0019	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.298	0.0037	0.0019	0.00093	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.361	0.0037	0.0019	0.00093	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	80%		50-150%
	13C8-PFOA	85%		50-150%
	13C9-PFNA	85%		50-150%
	13C3-PFBS	75%		50-150%
	13C3-PFHxS	79%		50-150%
	13C8-PFOS	83%		50-150%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-32 DUP		
Lab Sample ID:	FA90390-7	**Date Sampled:**	10/28/21
Matrix:	AQ - Ground Water	**Date Received:**	11/02/21
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	**Percent Solids:**	n/a
Project:	DFSP; 5449 W Main St, Verona, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q80251.D	1	11/18/21 17:20	FS	11/11/21 08:00	OP88296	S2Q1134
Run #2	2Q80295.D	5	11/19/21 12:59	FS	11/11/21 08:00	OP88296	S2Q1135

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.191	0.0037	0.0019	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.0654	0.0037	0.0019	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.0149	0.0037	0.0019	0.00093	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.0155	0.0037	0.0019	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.323	0.0037	0.0019	0.00093	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.449 [a]	0.019	0.0093	0.0046	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	81%	92%	50-150%
	13C8-PFOA	86%	100%	50-150%
	13C9-PFNA	82%	102%	50-150%
	13C3-PFBS	81%	91%	50-150%
	13C3-PFHxS	81%	101%	50-150%
	13C8-PFOS	71%	102%	50-150%

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-33R		
Lab Sample ID:	FA90390-8	**Date Sampled:**	10/29/21
Matrix:	AQ - Ground Water	**Date Received:**	11/02/21
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	**Percent Solids:**	n/a
Project:	DFSP; 5449 W Main St, Verona, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q80252.D	1	11/18/21 17:38	FS	11/11/21 08:00	OP88296	S2Q1134
Run #2	2Q80296.D	5	11/19/21 13:17	FS	11/11/21 08:00	OP88296	S2Q1135

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.121	0.0037	0.0019	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.0591	0.0037	0.0019	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.0091	0.0037	0.0019	0.00093	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.0265	0.0037	0.0019	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.156	0.0037	0.0019	0.00093	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	1.01 [a]	0.019	0.0093	0.0046	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	72%	95%	50-150%
	13C8-PFOA	77%	106%	50-150%
	13C9-PFNA	82%	112%	50-150%
	13C3-PFBS	69%	97%	50-150%
	13C3-PFHxS	78%	104%	50-150%
	13C8-PFOS	75%	102%	50-150%

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-35
Lab Sample ID: FA90390-9
Matrix: AQ - Ground Water
Method: EPA 537M QSM5.3 B-15 EPA 537 MOD
Project: DFSP; 5449 W Main St, Verona, NY

Date Sampled: 10/28/21
Date Received: 11/02/21
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q80255.D	1	11/18/21 18:32	FS	11/11/21 08:00	OP88296	S2Q1134
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	76%		50-150%
	13C8-PFOA	80%		50-150%
	13C9-PFNA	80%		50-150%
	13C3-PFBS	73%		50-150%
	13C3-PFHxS	75%		50-150%
	13C8-PFOS	76%		50-150%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-36		
Lab Sample ID:	FA90390-10	**Date Sampled:**	10/28/21
Matrix:	AQ - Ground Water	**Date Received:**	11/02/21
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	**Percent Solids:**	n/a
Project:	DFSP; 5449 W Main St, Verona, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q80256.D	1	11/18/21 18:50	FS	11/11/21 08:00	OP88296	S2Q1134
Run #2	2Q80297.D	20	11/19/21 13:35	FS	11/11/21 08:00	OP88296	S2Q1135

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.0239	0.0037	0.0019	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.0482	0.0037	0.0019	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.121	0.0037	0.0019	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.332	0.0037	0.0019	0.00093	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	3.08 [a]	0.074	0.037	0.019	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	78%	129%	50-150%
	13C8-PFOA	84%	148%	50-150%
	13C9-PFNA	76%	147%	50-150%
	13C3-PFBS	76%	137%	50-150%
	13C3-PFHxS	78%	136%	50-150%
	13C8-PFOS	67%	140%	50-150%

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-38
Lab Sample ID: FA90390-11
Matrix: AQ - Ground Water
Method: EPA 537M QSM5.3 B-15 EPA 537 MOD
Project: DFSP; 5449 W Main St, Verona, NY

Date Sampled: 10/29/21
Date Received: 11/02/21
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q80299.D	1	11/19/21 14:11	FS	11/11/21 08:00	OP88296	S2Q1135
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.0323	0.0037	0.0019	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.0092	0.0037	0.0019	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.143	0.0037	0.0019	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.112	0.0037	0.0019	0.00093	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.0409	0.0037	0.0019	0.00093	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	87%		50-150%
	13C8-PFOA	93%		50-150%
	13C9-PFNA	92%		50-150%
	13C3-PFBS	88%		50-150%
	13C3-PFHxS	86%		50-150%
	13C8-PFOS	88%		50-150%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-39		
Lab Sample ID:	FA90390-12	**Date Sampled:**	10/29/21
Matrix:	AQ - Ground Water	**Date Received:**	11/02/21
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	**Percent Solids:**	n/a
Project:	DFSP; 5449 W Main St, Verona, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q80259.D	1	11/18/21 19:44	FS	11/11/21 08:00	OP88296	S2Q1134
Run #2	2Q80300.D	5	11/19/21 14:29	FS	11/11/21 08:00	OP88296	S2Q1135

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.177	0.0037	0.0019	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.0819	0.0037	0.0019	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.0085	0.0037	0.0019	0.00093	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.0707	0.0037	0.0019	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	1.43 [a]	0.019	0.0093	0.0046	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	1.31 [a]	0.019	0.0093	0.0046	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	75%	99%	50-150%
	13C8-PFOA	84%	105%	50-150%
	13C9-PFNA	83%	105%	50-150%
	13C3-PFBS	77%	97%	50-150%
	13C3-PFHxS	73%	104%	50-150%
	13C8-PFOS	76%	102%	50-150%

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-40
Lab Sample ID: FA90390-13
Matrix: AQ - Ground Water
Method: EPA 537M QSM5.3 B-15 EPA 537 MOD
Project: DFSP; 5449 W Main St, Verona, NY

Date Sampled: 10/29/21
Date Received: 11/02/21
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q80260.D	1	11/18/21 20:02	FS	11/11/21 08:00	OP88296	S2Q1134
Run #2	2Q80301.D	10	11/19/21 14:47	FS	11/11/21 08:00	OP88296	S2Q1135

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.507 [a]	0.037	0.019	0.0093	ug/l	
335-67-1	Perfluorooctanoic acid	0.251	0.0037	0.0019	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.0345	0.0037	0.0019	0.00093	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.0918	0.0037	0.0019	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	1.86 [a]	0.037	0.019	0.0093	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	3.09 [a]	0.037	0.019	0.0093	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	80%	126%	50-150%
	13C8-PFOA	86%	137%	50-150%
	13C9-PFNA	86%	139%	50-150%
	13C3-PFBS	85%	129%	50-150%
	13C3-PFHxS	76%	128%	50-150%
	13C8-PFOS	76%	137%	50-150%

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-41		
Lab Sample ID:	FA90390-14	**Date Sampled:**	10/29/21
Matrix:	AQ - Ground Water	**Date Received:**	11/02/21
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	**Percent Solids:**	n/a
Project:	DFSP; 5449 W Main St, Verona, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q80261.D	1	11/18/21 20:20	FS	11/11/21 08:00	OP88296	S2Q1134
Run #2	2Q80397.D	40	11/22/21 15:26	FS	11/11/21 08:00	OP88296	S2Q1136

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.201	0.0037	0.0019	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.135	0.0037	0.0019	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.0215	0.0037	0.0019	0.00093	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.0603	0.0037	0.0019	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	1.29 [a]	0.15	0.074	0.037	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	4.11 [a]	0.15	0.074	0.037	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	81%	78%	50-150%
	13C8-PFOA	88%	88%	50-150%
	13C9-PFNA	80%	91%	50-150%
	13C3-PFBS	84%	83%	50-150%
	13C3-PFHxS	80%	90%	50-150%
	13C8-PFOS	70%	84%	50-150%

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-41 DUP		
Lab Sample ID:	FA90390-15	**Date Sampled:**	10/29/21
Matrix:	AQ - Ground Water	**Date Received:**	11/02/21
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	**Percent Solids:**	n/a
Project:	DFSP; 5449 W Main St, Verona, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q80263.D	1	11/18/21 20:56	FS	11/11/21 08:00	OP88296	S2Q1134
Run #2	2Q80308.D	20	11/19/21 16:58	FS	11/11/21 08:00	OP88296	S2Q1135

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.193	0.0037	0.0019	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.129	0.0037	0.0019	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.0210	0.0037	0.0019	0.00093	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.0581	0.0037	0.0019	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	1.35 [a]	0.074	0.037	0.019	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	3.97 [a]	0.074	0.037	0.019	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	69%	106%	50-150%
	13C8-PFOA	75%	112%	50-150%
	13C9-PFNA	68%	111%	50-150%
	13C3-PFBS	72%	102%	50-150%
	13C3-PFHxS	67%	105%	50-150%
	13C8-PFOS	57%	103%	50-150%

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-42		
Lab Sample ID:	FA90390-16	**Date Sampled:**	10/29/21
Matrix:	AQ - Ground Water	**Date Received:**	11/02/21
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	**Percent Solids:**	n/a
Project:	DFSP; 5449 W Main St, Verona, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q80264.D	1	11/18/21 21:14	FS	11/11/21 08:00	OP88296	S2Q1134
Run #2	2Q80309.D	10	11/19/21 17:16	FS	11/11/21 08:00	OP88296	S2Q1135

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.135	0.0037	0.0019	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.120	0.0037	0.0019	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.0054	0.0037	0.0019	0.00093	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.280	0.0037	0.0019	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	1.64 [a]	0.037	0.019	0.0093	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	2.08 [a]	0.037	0.019	0.0093	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	78%	121%	50-150%
	13C8-PFOA	84%	130%	50-150%
	13C9-PFNA	82%	129%	50-150%
	13C3-PFBS	81%	125%	50-150%
	13C3-PFHxS	76%	126%	50-150%
	13C8-PFOS	73%	114%	50-150%

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-43		
Lab Sample ID:	FA90390-17	**Date Sampled:**	10/27/21
Matrix:	AQ - Ground Water	**Date Received:**	11/02/21
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	**Percent Solids:**	n/a
Project:	DFSP; 5449 W Main St, Verona, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q80268.D	1	11/18/21 22:26	FS	11/11/21 08:00	OP88296	S2Q1134
Run #2	2Q80310.D	10	11/19/21 17:34	FS	11/11/21 08:00	OP88296	S2Q1135

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.506 [a]	0.037	0.019	0.0093	ug/l	
335-67-1	Perfluorooctanoic acid	0.362	0.0037	0.0019	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.0246	0.0037	0.0019	0.00093	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.224	0.0037	0.0019	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	1.98 [a]	0.037	0.019	0.0093	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	2.83 [a]	0.037	0.019	0.0093	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	77%	112%	50-150%
	13C8-PFOA	76%	120%	50-150%
	13C9-PFNA	80%	122%	50-150%
	13C3-PFBS	80%	110%	50-150%
	13C3-PFHxS	74%	113%	50-150%
	13C8-PFOS	67%	108%	50-150%

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-44		
Lab Sample ID:	FA90390-18	**Date Sampled:**	10/27/21
Matrix:	AQ - Ground Water	**Date Received:**	11/02/21
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	**Percent Solids:**	n/a
Project:	DFSP; 5449 W Main St, Verona, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q80269.D	1	11/18/21 22:44	FS	11/11/21 08:00	OP88296	S2Q1134
Run #2	2Q80312.D	20	11/19/21 18:10	FS	11/11/21 08:00	OP88296	S2Q1135

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.142	0.0037	0.0019	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.102	0.0037	0.0019	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.0160	0.0037	0.0019	0.00093	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.103	0.0037	0.0019	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	1.30 [a]	0.074	0.037	0.019	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	4.00 [a]	0.074	0.037	0.019	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	72%	104%	50-150%
	13C8-PFOA	78%	108%	50-150%
	13C9-PFNA	70%	112%	50-150%
	13C3-PFBS	73%	102%	50-150%
	13C3-PFHxS	70%	105%	50-150%
	13C8-PFOS	56%	107%	50-150%

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-45		
Lab Sample ID:	FA90390-19	**Date Sampled:**	10/28/21
Matrix:	AQ - Ground Water	**Date Received:**	11/02/21
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	**Percent Solids:**	n/a
Project:	DFSP; 5449 W Main St, Verona, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q80270.D	1	11/18/21 23:02	FS	11/11/21 08:00	OP88296	S2Q1134
Run #2	2Q80313.D	5	11/19/21 18:28	FS	11/11/21 08:00	OP88296	S2Q1135

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.0543	0.0037	0.0019	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.0282	0.0037	0.0019	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.0016	0.0037	0.0019	0.00093	ug/l	J
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.0658	0.0037	0.0019	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.442 [a]	0.019	0.0093	0.0046	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.346 [a]	0.019	0.0093	0.0046	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	70%	76%	50-150%
	13C8-PFOA	72%	81%	50-150%
	13C9-PFNA	69%	81%	50-150%
	13C3-PFBS	69%	82%	50-150%
	13C3-PFHxS	66%	75%	50-150%
	13C8-PFOS	57%	75%	50-150%

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-46		
Lab Sample ID:	FA90390-20	**Date Sampled:**	10/28/21
Matrix:	AQ - Ground Water	**Date Received:**	11/02/21
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	**Percent Solids:**	n/a
Project:	DFSP; 5449 W Main St, Verona, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q80271.D	1	11/18/21 23:20	FS	11/11/21 08:00	OP88296	S2Q1134
Run #2	2Q80473.D	80	11/23/21 15:45	FS	11/11/21 08:00	OP88296	S2Q1137

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.234 [a]	0.30	0.15	0.074	ug/l	J
335-67-1	Perfluorooctanoic acid	0.236	0.0037	0.0019	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.15 U [a]	0.30	0.15	0.074	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.126	0.0037	0.0019	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	6.54 [a]	0.30	0.15	0.074	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	14.9 [a]	0.30	0.15	0.074	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	48% [b]	109%	50-150%
	13C8-PFOA	71%	114%	50-150%
	13C9-PFNA	41% [b]	110%	50-150%
	13C3-PFBS	68%	107%	50-150%
	13C3-PFHxS	50%	105%	50-150%
	13C8-PFOS	34% [b]	111%	50-150%

(a) Result is from Run# 2
(b) Outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-47		
Lab Sample ID:	FA90390-21	**Date Sampled:**	10/29/21
Matrix:	AQ - Ground Water	**Date Received:**	11/02/21
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	**Percent Solids:**	n/a
Project:	DFSP; 5449 W Main St, Verona, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3Q49389.D	1	11/23/21 22:30	NG	11/22/21 08:30	OP88477	S3Q697
Run #2	4Q22632.D	10	11/24/21 20:18	NG	11/22/21 08:30	OP88477	S4Q310

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.141	0.0037	0.0019	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.0630	0.0037	0.0019	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.0041	0.0037	0.0019	0.00093	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.0334	0.0037	0.0019	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.401 [a]	0.037	0.019	0.0093	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.637 [a]	0.037	0.019	0.0093	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	88%	84%	50-150%
	13C8-PFOA	94%	79%	50-150%
	13C9-PFNA	95%	86%	50-150%
	13C3-PFBS	89%	82%	50-150%
	13C3-PFHxS	91%	84%	50-150%
	13C8-PFOS	93%	83%	50-150%

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-48
Lab Sample ID: FA90390-22
Matrix: AQ - Ground Water
Method: EPA 537M QSM5.3 B-15 EPA 537 MOD
Project: DFSP; 5449 W Main St, Verona, NY

Date Sampled: 10/29/21
Date Received: 11/02/21
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3Q49390.D	1	11/23/21 22:46	NG	11/22/21 08:30	OP88477	S3Q697
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.115	0.0037	0.0019	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.0396	0.0037	0.0019	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.0642	0.0037	0.0019	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.293	0.0037	0.0019	0.00093	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.0027	0.0037	0.0019	0.00093	ug/l	J

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	103%		50-150%
	13C8-PFOA	113%		50-150%
	13C9-PFNA	114%		50-150%
	13C3-PFBS	102%		50-150%
	13C3-PFHxS	108%		50-150%
	13C8-PFOS	111%		50-150%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-24		
Lab Sample ID:	FA90390-23	**Date Sampled:**	10/29/21
Matrix:	AQ - Ground Water	**Date Received:**	11/02/21
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	**Percent Solids:**	n/a
Project:	DFSP; 5449 W Main St, Verona, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3Q49391.D	1	11/23/21 23:03	NG	11/22/21 08:30	OP88477	S3Q697
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.0025	0.0037	0.0019	0.00093	ug/l	J
355-46-4	Perfluorohexanesulfonic acid	0.0059	0.0037	0.0019	0.00093	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.0076	0.0037	0.0019	0.00093	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	98%		50-150%
	13C8-PFOA	107%		50-150%
	13C9-PFNA	104%		50-150%
	13C3-PFBS	97%		50-150%
	13C3-PFHxS	104%		50-150%
	13C8-PFOS	105%		50-150%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-51		
Lab Sample ID:	FA90390-24	**Date Sampled:**	10/28/21
Matrix:	AQ - Ground Water	**Date Received:**	11/02/21
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	**Percent Solids:**	n/a
Project:	DFSP; 5449 W Main St, Verona, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3Q49392.D	1	11/23/21 23:19	NG	11/22/21 08:30	OP88477	S3Q697
Run #2	4Q22635.D	40	11/24/21 21:02	NG	11/22/21 08:30	OP88477	S4Q310

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.153	0.0037	0.0019	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.146	0.0037	0.0019	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.0209	0.0037	0.0019	0.00093	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.0483	0.0037	0.0019	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	1.29 [a]	0.15	0.074	0.037	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	3.28 [a]	0.15	0.074	0.037	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	88%	131%	50-150%
	13C8-PFOA	100%	127%	50-150%
	13C9-PFNA	85%	124%	50-150%
	13C3-PFBS	90%	121%	50-150%
	13C3-PFHxS	91%	123%	50-150%
	13C8-PFOS	77%	141%	50-150%

(a) Result is from Run# 2

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-53		
Lab Sample ID:	FA90390-25	**Date Sampled:**	10/28/21
Matrix:	AQ - Ground Water	**Date Received:**	11/02/21
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	**Percent Solids:**	n/a
Project:	DFSP; 5449 W Main St, Verona, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4Q22636.D	1	11/24/21 21:16	NG	11/22/21 08:30	OP88477	S4Q310
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.0023	0.0037	0.0019	0.00093	ug/l	J
1763-23-1	Perfluorooctanesulfonic acid	0.0032	0.0037	0.0019	0.00093	ug/l	J

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	73%		50-150%
	13C8-PFOA	74%		50-150%
	13C9-PFNA	74%		50-150%
	13C3-PFBS	70%		50-150%
	13C3-PFHxS	70%		50-150%
	13C8-PFOS	73%		50-150%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-55		
Lab Sample ID:	FA90390-26	**Date Sampled:**	10/29/21
Matrix:	AQ - Ground Water	**Date Received:**	11/02/21
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	**Percent Solids:**	n/a
Project:	DFSP; 5449 W Main St, Verona, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3Q49396.D	1	11/24/21 00:26	NG	11/22/21 08:30	OP88477	S3Q697
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.0196	0.0037	0.0019	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.0051	0.0037	0.0019	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.0192	0.0037	0.0019	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.0548	0.0037	0.0019	0.00093	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.0098	0.0037	0.0019	0.00093	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	104%		50-150%
	13C8-PFOA	115%		50-150%
	13C9-PFNA	114%		50-150%
	13C3-PFBS	103%		50-150%
	13C3-PFHxS	110%		50-150%
	13C8-PFOS	112%		50-150%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-56		
Lab Sample ID:	FA90390-27	**Date Sampled:**	10/28/21
Matrix:	AQ - Ground Water	**Date Received:**	11/02/21
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	**Percent Solids:**	n/a
Project:	DFSP; 5449 W Main St, Verona, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3Q49397.D	1	11/24/21 00:42	NG	11/22/21 08:30	OP88477	S3Q697
Run #2							

	Initial Volume	Final Volume
Run #1	260 ml	1.0 ml
Run #2		

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.0080	0.0038	0.0019	0.00096	ug/l	
335-67-1	Perfluorooctanoic acid	0.0037	0.0038	0.0019	0.00096	ug/l	J
375-95-1	Perfluorononanoic acid	0.0019 U	0.0038	0.0019	0.00096	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.0029	0.0038	0.0019	0.00096	ug/l	J
355-46-4	Perfluorohexanesulfonic acid	0.0078	0.0038	0.0019	0.00096	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.0134	0.0038	0.0019	0.00096	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	67%		50-150%
	13C8-PFOA	76%		50-150%
	13C9-PFNA	78%		50-150%
	13C3-PFBS	66%		50-150%
	13C3-PFHxS	75%		50-150%
	13C8-PFOS	78%		50-150%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-59
Lab Sample ID: FA90390-28
Matrix: AQ - Ground Water
Method: EPA 537M QSM5.3 B-15 EPA 537 MOD
Project: DFSP; 5449 W Main St, Verona, NY

Date Sampled: 10/27/21
Date Received: 11/02/21
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3Q49398.D	1	11/24/21 00:59	NG	11/22/21 08:30	OP88477	S3Q697
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.0032	0.0037	0.0019	0.00093	ug/l	J
335-67-1	Perfluorooctanoic acid	0.0015	0.0037	0.0019	0.00093	ug/l	J
375-95-1	Perfluorononanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.0056	0.0037	0.0019	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.0139	0.0037	0.0019	0.00093	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.0018	0.0037	0.0019	0.00093	ug/l	J

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	99%		50-150%
	13C8-PFOA	110%		50-150%
	13C9-PFNA	115%		50-150%
	13C3-PFBS	94%		50-150%
	13C3-PFHxS	109%		50-150%
	13C8-PFOS	114%		50-150%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-60
Lab Sample ID: FA90390-29
Matrix: AQ - Ground Water
Method: EPA 537M QSM5.3 B-15 EPA 537 MOD
Project: DFSP; 5449 W Main St, Verona, NY

Date Sampled: 10/27/21
Date Received: 11/02/21
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3Q49399.D	1	11/24/21 01:15	NG	11/22/21 08:30	OP88477	S3Q697
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.0011	0.0037	0.0019	0.00093	ug/l	J
375-95-1	Perfluorononanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.0012	0.0037	0.0019	0.00093	ug/l	J
355-46-4	Perfluorohexanesulfonic acid	0.0043	0.0037	0.0019	0.00093	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.0020	0.0037	0.0019	0.00093	ug/l	J

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	68%		50-150%
	13C8-PFOA	80%		50-150%
	13C9-PFNA	84%		50-150%
	13C3-PFBS	63%		50-150%
	13C3-PFHxS	77%		50-150%
	13C8-PFOS	82%		50-150%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EQUIPMENT BLANK		
Lab Sample ID:	FA90390-30	**Date Sampled:**	10/29/21
Matrix:	AQ - Equipment Blank	**Date Received:**	11/02/21
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	**Percent Solids:**	n/a
Project:	DFSP; 5449 W Main St, Verona, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3Q49400.D	1	11/24/21 01:32	NG	11/22/21 08:30	OP88477	S3Q697
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

Perfluorinated Carboxylic Acids and Sulfonates

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS							
375-85-9	Perfluoroheptanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
335-67-1	Perfluorooctanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
375-95-1	Perfluorononanoic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
PERFLUOROALKYLSULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.0019 U	0.0037	0.0019	0.00093	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFHpA	108%		50-150%
	13C8-PFOA	116%		50-150%
	13C9-PFNA	115%		50-150%
	13C3-PFBS	108%		50-150%
	13C3-PFHxS	113%		50-150%
	13C8-PFOS	112%		50-150%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

FA90390

SGS North America Inc - Orlando
Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL. 407-425-6700 FAX: 407-425-0707
www.sgs.com

SGS - ORLANDO JOB # :

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SGS - ORLANDO Quote #   SKIFF #

Client / Reporting Information

Company Name: Tk+k Services
Address: 719 Hale ST
City: Beverly State: MA Zip: 01915
Project Contact: Brian Emery Email: brian.emery@tkandk.com
Phone #: 857-286-7634
Sampler(s) Name(s) (Printed)
Sampler 1: ADIRONDACK Sampler 2:

Project Information

Project Name: DFSP Verona
Street: ~~5419 W. Main St~~
City: ~~Verona~~ Verona State: ~~NJ~~ NY
Project #: See p. 2
Fax #:
Client Purchase Order #: See p. 2

Analytical Information: EPA 537M 1083h 5.8 D15

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid

SGS Orlando Sample #	Field ID / Point of Collection	DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NAOH+ZNAC	DI WATER	MEOH	EPA 537M	LAB USE ONLY
1	MW-2R	10/28/21	1512	GE	GW	2										X	
2	MW-5	10/27/21	1549	GE	GW	2										X	
3	MW-13	10/28/21	1035	DM	GW	2										X	
4	MW-29	10/28/21	1159	GE	GW	2										X	
5	MW-30	10/28/21	1159	DM	GW	2										X	
6	MW-32	10/28/21	1430	DM	GW	2										X	
7	MW-32DUP	10/28/21	1430	DM	GW	2										X	
8	MW-33R	10/29/21	1254	GE	GW	2										X	
9	MW-35	10/28/21	1200	DM	GW	2										X	
10	MW-36	10/28/21	1310	GE	GW	2										X	INITIAL ASSESSMENT
11	MW-38	10/29/21	1305	GE	GW	2										X	
12	MW-39	10/29/21	1055	DA	GW	2										X	LABEL VERIFICATION

Turnaround Time (Business days)

10 Day (Business) ✓ — Approved By: / Date:
7 Day
5 Day
3 Day *RUSH*
2 Day *RUSH*
1 Day *RUSH*
Other
Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

☐ COMMERCIAL "A" (RESULTS ONLY)
☐ COMMERCIAL "B" (RESULTS PLUS QC)
☐ REDT1 (EPA LEVEL 3)
☐ FULLT1 (EPA LEVEL 4)
☐ EDD'S

Comments / Remarks

11/1 SGS Service Center Northborough, MA

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation		Relinquished By/Affiliation	Date Time:	Received By/Affiliation	
1 [signature]	10/29/21 14:08	2 [signature]	10-29-21 14:08	3 [signature]	11-1-2021 11:25A	4 [signature]	
Relinquished by Affiliation	**Date Time:**	**Received By/Affiliation**		**Relinquished By/Affiliation**	**Date Time:**	**Received By/Affiliation**	
5 [signature]	11/1/21 18:20	6 FedEx		7 FX		8 [signature]	11/2/21 1000

Lab Use Only : Cooler Temperature (s) Celsius (corrected): 0.6, 1.2-IR1 CS 02045, 02046

http://www.sgs.com/en/terms-and-conditions

ORLD-SMT-0001-03-FORM-COC (4).xls Rev 031318

FA90390: Chain of Custody
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SGS

CHAIN OF CUSTODY

FA90390

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SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: 2021 2175 | SGS Job #:

Client / Reporting Information

Company Name: TK&K Services
Street Address: 719 Hale Street
City / State / Zip: Beverly, MA 01915
Project Contact / E-mail: Brian Emery brian.emery@tkandk.com
Phone #: 857.286.7634
Sampler(s) Name(s) / Phone #: Adirondack

Project Information

Project Name: DFSP Verona
Street: 5449 W. Main Street
City / State: Verona, NY
Project #: 14003.001
Client Purchase Order #: 14003.000122
Project Manager: Eric Blomberg

Billing Information (If different from Report to)

Company Name: TK&K Services
Street Address: 5665 Atlanta Highway, Suite 103-211
City / State / Zip: Alpharetta, GA, 30004
Attention: Kelly Scott

Requested Analysis

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Grab (G) Comp (C)	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO_3	H_2SO_4	NONE	DI Water	MEOH	ENCORE	EPA 537M ID QSM 5.3 B-15	LAB USE ONLY
13	MW-40		10/29/21	1240	GE	G	GW	2									X	
14	MW-41		10/29/21	1047	GE	G	GW	2									X	
15	MW-41 Dup		10/29/21	1047	GE	G	GW	2									X	
16	MW-42		10/29/21	0947	GE	G	GW	2									X	
17	MW-43		10/27/21	1639	GE	G	GW	2									X	
18	MW-44		10/27/21	1419	GE	G	GW	2									X	
19	MW-45		10/28/21	1603	GE	G	GW	2									X	
20	MW-46		10/28/21	1618	GE	G	GW	2									X	
21	MW-47		10/29/21	1107	GE	G	GW	2									X	
22	MW-48		10/29/21	1145	DM	G	GW	2									X	
23	MW-~~24~~		10/29/21	1340	DM	G	GW	2									X	
24	MW-51		10/28/21	1350	GE	G	GW	2									X	

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB - Field Blank
EB-Equipment Blank
RB - Rinse Blank
TB - Trip Blank

Turn Around Time (Business Days)

Approved By (SGS PM): / Date:

- [x] 10 Business Days
- [ ] 5 Business Days
- [ ] 3 Business Days*
- [ ] 2 Business Days*
- [ ] 1 Business Day*
- [ ] Other

All data available via Lablink | * Approval needed for 1-3 Business Day TAT

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] NJ Reduced (Level 3)
- [ ] Full Tier I (Level 4)
- [ ] Commercial "C"
- [ ] NJ DKQP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] MA MCP Criteria
- [ ] CT RCP Criteria
- [ ] State Forms
- [ ] EDD Format

Commercial "A" = Results only; Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC Summary + Partial Raw data

Comments / Special Instructions

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by: 1	Date / Time: 11/1/21 11:25	Received By: 1	Relinquished By: 2	Date / Time: 11/1/21 18:30	Received By: 2 FedEx
Relinquished by: 3	Date / Time:	Received By: 3	Relinquished By: 4	Date / Time:	Received By: 4
Relinquished by: 5	Date / Time:	Received By: 5	Custody Seal #	Intact / Not Intact	Preserved where applicable / Absent / Therm. ID: / On Ice / Cooler Temp. °C

11/2/21 1000

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CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL. 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: 2021 2175 | SGS Job #:

Client / Reporting Information
Company Name: TK&K Services
Street Address: 719 Hale Street
City, State, Zip: Beverly, MA 01915
Project Contact: Brian Emery E-mail: brian.emery@tkandk.com
Phone #: 857.286.7634
Sampler(s) Name(s): Adirondack Phone #:

Project Information
Project Name: DFSP Verona
Street: 5449 W. Main Street
City, State: Verona, NY
Project #: 14003.001
Client Purchase Order #: 14003.000122
Project Manager: Eric Blomberg

Billing Information (if different from Report to)
Company Name: TK&K Services
Street Address: 5665 Atlanta Highway, Suite 103-211
City, State, Zip: Alpharetta, GA, 30004
Attention: Kelly Scott

Requested Analysis: EPA 537M ID QSM 5.3 B-15

Matrix Codes: DW - Drinking Water, GW - Ground Water, WW - Water, SW - Surface Water, SO - Soil, SL- Sludge, SED-Sediment, OI - Oil, LIQ - Other Liquid, AIR - Air, SOL - Other Solid, WP - Wipe, FB - Field Blank, EB-Equipment Blank, RB - Rinse Blank, TB - Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Date	Time	Sampled by	Grab (G) Comp (C)	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	EPA 537M ID QSM 5.3 B-15	LAB USE ONLY
	MW-53 (25)		10/28/21	1645	DM	G	GW	2									X	
	~~[illegible]~~ (26)																	
26	MW-55 (27)		10/29/21	1132	GE	G	GW	2									X	
27	~~[illegible]~~ MW-56 (28)		10/28/21	0945	GE	G	GW	2									X	
	~~[illegible]~~ (29)																	
28	MW-59 (30)		10/27/21	1420	DM	G	GW	2									X	
29	MW-60 (31)		10/27/21	1550	DM	G	GW	2									X	
30	Equipment Blank (32)		10/29/21	1009	GE	G	GW	2									X	

Turn Around Time (Business Days)
Approved By (SGS PM): / Date:
- [x] 10 Business Days
- [ ] 5 Business Days
- [ ] 3 Business Days*
- [ ] 2 Business Days*
- [ ] 1 Business Day*
- [ ] Other

All data available via Lablink
* Approval needed for 1-3 Business Day TAT

Data Deliverable Information
- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] NJ Reduced (Level 3)
- [ ] Full Tier I (Level 4)
- [ ] Commercial "C"
- [ ] NJ DKQP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] MA MCP Criteria______
- [ ] CT RCP Criteria______
- [ ] State Forms
- [ ] EDD Format ________

Commercial "A" = Results only; Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC Summary + Partial Raw data

Comments / Special Instructions

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished By:	Date / Time:	Received By:	Relinquished By:	Date / Time:	Received By:
1 [signature]	11/1/21 11:25	1 [signature] 11/2/21	2 [signature]	11/1/21 18:30	2 FedEx
3		3 [signature] 1000	4		4
5		5	Custody Seal #	☐ Intact ☐ Not intact	Preserved where applicable ☐ Absent ☐ Therm. ID: On Ice ☐ Cooler Temp. °C

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5.1

5

FA90390: Chain of Custody
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SGS Sample Receipt Summary

Job Number: FA90390 **Client:** TK&K SERVICES **Project:** DFSP VERONA

Date / Time Received: 11/2/2021 10:00:00 AM **Delivery Method:** FX **Airbill #'s:**

Therm ID: IR 1; **Therm CF:** 0.2; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 2: (1.0); Cooler 1: (0.4);

Cooler Temps (Corrected) °C: Cooler 2: (1.2); Cooler 1: (0.6);

Cooler Information	Y	N
1. Custody Seals Present	☑	☐
2. Custody Seals Intact	☑	☐
3. Temp criteria achieved	☑	☐
4. Cooler temp verification	IR Gun	
5. Cooler media	Ice (Bag)	

Trip Blank Information	Y	N	N/A
1. Trip Blank present / cooler	☐	☐	☑
2. Trip Blank listed on COC	☐	☐	☑

	W	S	N/A
3. Type Of TB Received	☐	☐	☑

Sample Information	Y	N	N/A
1. Sample labels present on bottles	☑	☐	
2. Samples preserved properly	☑	☐	
3. Sufficient volume/containers recvd for analysis:	☑	☐	
4. Condition of sample	Intact		
5. Sample recvd within HT	☑	☐	
6. Dates/Times/IDs on COC match Sample Label	☑	☐	
7. VOCs have headspace	☐	☐	☑
8. Bottles received for unspecified tests	☐	☑	
9. Compositing instructions clear	☐	☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐	☐	☑
11. % Solids Jar received?	☐	☐	☑
12. Residual Chlorine Present?	☐	☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: PETERH Date: 11/2/2021 10:00:00 A Reviewer: _____ Date: _____

QC Evaluation: DOD QSM5.x Limits

Job Number: FA90390
Account: TK&K Services
Project: DFSP; 5449 W Main St, Verona, NY
Collected: 10/27/21 thru 10/29/21

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP88296	EPA 537M QSM5.3 B-15						
OP88296-BS	375-85-9	Perfluoroheptanoic acid	BSP	REC	103	%	72-130
OP88296-BS	335-67-1	Perfluorooctanoic acid	BSP	REC	101	%	71-133
OP88296-BS	375-95-1	Perfluorononanoic acid	BSP	REC	100	%	69-130
OP88296-BS	375-73-5	Perfluorobutanesulfonic acid	BSP	REC	102	%	73-130
OP88296-BS	355-46-4	Perfluorohexanesulfonic acid	BSP	REC	108	%	68-131
OP88296-BS	1763-23-1	Perfluorooctanesulfonic acid	BSP	REC	100	%	65-140
OP88296-MS	375-85-9	Perfluoroheptanoic acid	MS	REC	87	%	72-130
OP88296-MS	335-67-1	Perfluorooctanoic acid	MS	REC	96	%	71-133
OP88296-MS	375-95-1	Perfluorononanoic acid	MS	REC	95	%	69-130
OP88296-MS	375-73-5	Perfluorobutanesulfonic acid	MS	REC	65	%	73-130
OP88296-MS	355-46-4	Perfluorohexanesulfonic acid	MS	REC	174 [a]	%	68-131
OP88296-MS	1763-23-1	Perfluorooctanesulfonic acid	MS	REC	810 [a]	%	65-140
OP88296-DUP	375-85-9	Perfluoroheptanoic acid	DUP	RPD	15	%	30
OP88296-DUP	335-67-1	Perfluorooctanoic acid	DUP	RPD	9	%	30
OP88296-DUP	375-95-1	Perfluorononanoic acid	DUP	RPD	9	%	30
OP88296-DUP	375-73-5	Perfluorobutanesulfonic acid	DUP	RPD	17	%	30
OP88296-DUP	355-46-4	Perfluorohexanesulfonic acid	DUP	RPD	3	%	30
OP88296-DUP	1763-23-1	Perfluorooctanesulfonic acid	DUP	RPD	6	%	30
OP88477	EPA 537M QSM5.3 B-15						
OP88477-BS	375-85-9	Perfluoroheptanoic acid	BSP	REC	88	%	72-130
OP88477-BS	335-67-1	Perfluorooctanoic acid	BSP	REC	85	%	71-133
OP88477-BS	375-95-1	Perfluorononanoic acid	BSP	REC	89	%	69-130
OP88477-BS	375-73-5	Perfluorobutanesulfonic acid	BSP	REC	88	%	73-130
OP88477-BS	355-46-4	Perfluorohexanesulfonic acid	BSP	REC	86	%	68-131
OP88477-BS	1763-23-1	Perfluorooctanesulfonic acid	BSP	REC	87	%	65-140
OP88477-MS*	375-85-9	Perfluoroheptanoic acid	MS	REC	92	%	72-130
OP88477-MS*	335-67-1	Perfluorooctanoic acid	MS	REC	90	%	71-133
OP88477-MS*	375-95-1	Perfluorononanoic acid	MS	REC	91	%	69-130
OP88477-MS*	375-73-5	Perfluorobutanesulfonic acid	MS	REC	95	%	73-130
OP88477-MS*	355-46-4	Perfluorohexanesulfonic acid	MS	REC	115	%	68-131
OP88477-MS*	1763-23-1	Perfluorooctanesulfonic acid	MS	REC	99	%	65-140
OP88477-MSD*	375-85-9	Perfluoroheptanoic acid	MSD	REC	84	%	72-130
OP88477-MSD*	375-85-9	Perfluoroheptanoic acid	MSD	RPD	6	%	30
OP88477-MSD*	335-67-1	Perfluorooctanoic acid	MSD	REC	82	%	71-133
OP88477-MSD*	335-67-1	Perfluorooctanoic acid	MSD	RPD	6	%	30
OP88477-MSD*	375-95-1	Perfluorononanoic acid	MSD	REC	86	%	69-130
OP88477-MSD*	375-95-1	Perfluorononanoic acid	MSD	RPD	5	%	30
OP88477-MSD*	375-73-5	Perfluorobutanesulfonic acid	MSD	REC	86	%	73-130
OP88477-MSD*	375-73-5	Perfluorobutanesulfonic acid	MSD	RPD	4	%	30
OP88477-MSD*	355-46-4	Perfluorohexanesulfonic acid	MSD	REC	87	%	68-131

* Sample used for QC is not from job FA90390

QC Evaluation: DOD QSM5.x Limits

Job Number: FA90390
Account: TK&K Services
Project: DFSP; 5449 W Main St, Verona, NY
Collected: 10/27/21 thru 10/29/21

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP88477-MSD*	355-46-4	Perfluorohexanesulfonic acid	MSD	RPD	5	%	30
OP88477-MSD*	1763-23-1	Perfluorooctanesulfonic acid	MSD	REC	68	%	65-140
OP88477-MSD*	1763-23-1	Perfluorooctanesulfonic acid	MSD	RPD	7	%	30

(a) Outside control limits due to high level in sample relative to spike amount.

* Sample used for QC is not from job FA90390

MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Instrument Blank

Job Number: FA90390
Account: TKKMAB TK&K Services
Project: DFSP; 5449 W Main St, Verona, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S2Q1134-IBLK	2Q80229.D	1	11/18/21	FS	n/a	n/a	S2Q1134

The QC reported here applies to the following samples: **Method:** EPA 537M QSM5.3 B-15

FA90390-1, FA90390-2, FA90390-3, FA90390-4, FA90390-5, FA90390-7, FA90390-8, FA90390-9, FA90390-10, FA90390-12, FA90390-13, FA90390-14, FA90390-15, FA90390-16, FA90390-17, FA90390-18, FA90390-19, FA90390-20

CAS No.	Compound	Result	RL	MDL	Units	Q
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0010	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	101%	50-150%
	13C5-PFPeA	101%	50-150%
	13C5-PFHxA	101%	50-150%
	13C4-PFHpA	102%	50-150%
	13C8-PFOA	106%	50-150%
	13C9-PFNA	106%	50-150%
	13C6-PFDA	109%	50-150%
	13C7-PFUnDA	112%	50-150%
	13C2-PFDoDA	107%	50-150%
	13C2-PFTeDA	103%	50-150%
	13C3-PFBS	103%	50-150%
	13C3-PFHxS	102%	50-150%
	13C8-PFOS	107%	50-150%
	13C8-FOSA	108%	50-150%
	d3-MeFOSAA	117%	50-150%
	d5-EtFOSAA	121%	50-150%
	13C2-4:2FTS	99%	50-150%
	13C2-6:2FTS	102%	50-150%
	13C2-8:2FTS	104%	50-150%

Instrument Blank

Job Number: FA90390
Account: TKKMAB TK&K Services
Project: DFSP; 5449 W Main St, Verona, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S2Q1135-IBLK	2Q80291.D	1	11/19/21	FS	n/a	n/a	S2Q1135

The QC reported here applies to the following samples: **Method:** EPA 537M QSM5.3 B-15

FA90390-5, FA90390-7, FA90390-8, FA90390-10, FA90390-11, FA90390-12, FA90390-13, FA90390-15, FA90390-16, FA90390-17, FA90390-18, FA90390-19

CAS No.	Compound	Result	RL	MDL	Units	Q
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0010	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	100%	50-150%
	13C5-PFPeA	102%	50-150%
	13C5-PFHxA	101%	50-150%
	13C4-PFHpA	101%	50-150%
	13C8-PFOA	107%	50-150%
	13C9-PFNA	108%	50-150%
	13C6-PFDA	107%	50-150%
	13C7-PFUnDA	109%	50-150%
	13C2-PFDoDA	103%	50-150%
	13C2-PFTeDA	104%	50-150%
	13C3-PFBS	102%	50-150%
	13C3-PFHxS	99%	50-150%
	13C8-PFOS	107%	50-150%
	13C8-FOSA	110%	50-150%
	d3-MeFOSAA	107%	50-150%
	d5-EtFOSAA	110%	50-150%
	13C2-4:2FTS	101%	50-150%
	13C2-6:2FTS	107%	50-150%
	13C2-8:2FTS	104%	50-150%

Instrument Blank

Job Number: FA90390
Account: TKKMAB TK&K Services
Project: DFSP; 5449 W Main St, Verona, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S2Q1136-IBLK	2Q80389.D	1	11/22/21	FS	n/a	n/a	S2Q1136

The QC reported here applies to the following samples: **Method:** EPA 537M QSM5.3 B-15

FA90390-6, FA90390-14

CAS No.	Compound	Result	RL	MDL	Units	Q
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0010	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	93%	50-150%
	13C5-PFPeA	94%	50-150%
	13C5-PFHxA	96%	50-150%
	13C4-PFHpA	96%	50-150%
	13C8-PFOA	100%	50-150%
	13C9-PFNA	100%	50-150%
	13C6-PFDA	102%	50-150%
	13C7-PFUnDA	105%	50-150%
	13C2-PFDoDA	100%	50-150%
	13C2-PFTeDA	100%	50-150%
	13C3-PFBS	93%	50-150%
	13C3-PFHxS	92%	50-150%
	13C8-PFOS	99%	50-150%
	13C8-FOSA	94%	50-150%
	d3-MeFOSAA	106%	50-150%
	d5-EtFOSAA	108%	50-150%
	13C2-4:2FTS	90%	50-150%
	13C2-6:2FTS	95%	50-150%
	13C2-8:2FTS	99%	50-150%

Instrument Blank

Job Number: FA90390
Account: TKKMAB TK&K Services
Project: DFSP; 5449 W Main St, Verona, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S2Q1137-IBLK	2Q80470.D	1	11/23/21	FS	n/a	n/a	S2Q1137

The QC reported here applies to the following samples: **Method:** EPA 537M QSM5.3 B-15

FA90390-20

CAS No.	Compound	Result	RL	MDL	Units	Q
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0010	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	97%	50-150%
	13C5-PFPeA	99%	50-150%
	13C5-PFHxA	100%	50-150%
	13C4-PFHpA	98%	50-150%
	13C8-PFOA	102%	50-150%
	13C9-PFNA	100%	50-150%
	13C6-PFDA	104%	50-150%
	13C7-PFUnDA	106%	50-150%
	13C2-PFDoDA	99%	50-150%
	13C2-PFTeDA	100%	50-150%
	13C3-PFBS	96%	50-150%
	13C3-PFHxS	98%	50-150%
	13C8-PFOS	100%	50-150%
	13C8-FOSA	102%	50-150%
	d3-MeFOSAA	114%	50-150%
	d5-EtFOSAA	118%	50-150%
	13C2-4:2FTS	95%	50-150%
	13C2-6:2FTS	99%	50-150%
	13C2-8:2FTS	103%	50-150%

Instrument Blank

Job Number: FA90390
Account: TKKMAB TK&K Services
Project: DFSP; 5449 W Main St, Verona, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S3Q697-IBLK	3Q49381.D	1	11/23/21	NG	n/a	n/a	S3Q697

The QC reported here applies to the following samples: **Method:** EPA 537M QSM5.3 B-15

FA90390-21, FA90390-22, FA90390-23, FA90390-24, FA90390-26, FA90390-27, FA90390-28, FA90390-29, FA90390-30

CAS No.	Compound	Result	RL	MDL	Units	Q
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0010	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	108%	50-150%
	13C5-PFPeA	109%	50-150%
	13C5-PFHxA	107%	50-150%
	13C4-PFHpA	109%	50-150%
	13C8-PFOA	118%	50-150%
	13C9-PFNA	120%	50-150%
	13C6-PFDA	122%	50-150%
	13C7-PFUnDA	117%	50-150%
	13C2-PFDoDA	111%	50-150%
	13C2-PFTeDA	120%	50-150%
	13C3-PFBS	111%	50-150%
	13C3-PFHxS	115%	50-150%
	13C8-PFOS	117%	50-150%
	13C8-FOSA	121%	50-150%
	d3-MeFOSAA	131%	50-150%
	d5-EtFOSAA	126%	50-150%
	13C2-4:2FTS	103%	50-150%
	13C2-6:2FTS	110%	50-150%
	13C2-8:2FTS	113%	50-150%
	13C3-HFPO-DA	102%	50-150%

Instrument Blank

Job Number: FA90390
Account: TKKMAB TK&K Services
Project: DFSP; 5449 W Main St, Verona, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q310-IBLK	4Q22608.D	1	11/24/21	NG	n/a	n/a	S4Q310

The QC reported here applies to the following samples: **Method:** EPA 537M QSM5.3 B-15

FA90390-21, FA90390-24, FA90390-25

CAS No.	Compound	Result	RL	MDL	Units	Q
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0010	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	87%	50-150%
	13C5-PFPeA	88%	50-150%
	13C5-PFHxA	88%	50-150%
	13C4-PFHpA	91%	50-150%
	13C8-PFOA	89%	50-150%
	13C9-PFNA	89%	50-150%
	13C6-PFDA	88%	50-150%
	13C7-PFUnDA	90%	50-150%
	13C2-PFDoDA	89%	50-150%
	13C2-PFTeDA	96%	50-150%
	13C3-PFBS	88%	50-150%
	13C3-PFHxS	88%	50-150%
	13C8-PFOS	89%	50-150%
	13C8-FOSA	81%	50-150%
	d3-MeFOSAA	81%	50-150%
	d5-EtFOSAA	81%	50-150%
	13C2-4:2FTS	81%	50-150%
	13C2-6:2FTS	79%	50-150%
	13C2-8:2FTS	82%	50-150%
	13C3-HFPO-DA	90%	50-150%

Method Blank Summary

Job Number: FA90390
Account: TKKMAB TK&K Services
Project: DFSP; 5449 W Main St, Verona, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP88296-MB	2Q80244.D	1	11/18/21	FS	11/11/21	OP88296	S2Q1134

The QC reported here applies to the following samples: **Method:** EPA 537M QSM5.3 B-15

FA90390-1, FA90390-2, FA90390-3, FA90390-4, FA90390-5, FA90390-6, FA90390-7, FA90390-8, FA90390-9, FA90390-10, FA90390-11, FA90390-12, FA90390-13, FA90390-14, FA90390-15, FA90390-16, FA90390-17, FA90390-18, FA90390-19, FA90390-20

CAS No.	Compound	Result	RL	MDL	Units	Q
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0010	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFHpA	86%	50-150%
	13C8-PFOA	91%	50-150%
	13C9-PFNA	88%	50-150%
	13C3-PFBS	85%	50-150%
	13C3-PFHxS	86%	50-150%
	13C8-PFOS	75%	50-150%

Method Blank Summary

Job Number: FA90390
Account: TKKMAB TK&K Services
Project: DFSP; 5449 W Main St, Verona, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP88477-MB	3Q49385.D	1	11/23/21	NG	11/22/21	OP88477	S3Q697

The QC reported here applies to the following samples: **Method:** EPA 537M QSM5.3 B-15

FA90390-21, FA90390-22, FA90390-23, FA90390-24, FA90390-25, FA90390-26, FA90390-27, FA90390-28, FA90390-29, FA90390-30

CAS No.	Compound	Result	RL	MDL	Units	Q
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0010	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	106%	50-150%
	13C5-PFPeA	113%	50-150%
	13C5-PFHxA	110%	50-150%
	13C4-PFHpA	112%	50-150%
	13C8-PFOA	120%	50-150%
	13C9-PFNA	121%	50-150%
	13C6-PFDA	120%	50-150%
	13C7-PFUnDA	116%	50-150%
	13C2-PFDoDA	106%	50-150%
	13C2-PFTeDA	109%	50-150%
	13C3-PFBS	110%	50-150%
	13C3-PFHxS	118%	50-150%
	13C8-PFOS	117%	50-150%
	13C8-FOSA	108%	50-150%
	d3-MeFOSA	73%	50-150%
	d3-MeFOSAA	125%	50-150%
	d5-EtFOSAA	120%	50-150%
	13C2-4:2FTS	103%	50-150%
	13C2-6:2FTS	111%	50-150%
	13C2-8:2FTS	115%	50-150%

Blank Spike Summary

Job Number: FA90390
Account: TKKMAB TK&K Services
Project: DFSP; 5449 W Main St, Verona, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP88296-BS	2Q80243.D	1	11/18/21	FS	11/11/21	OP88296	S2Q1134

The QC reported here applies to the following samples: **Method:** EPA 537M QSM5.3 B-15

FA90390-1, FA90390-2, FA90390-3, FA90390-4, FA90390-5, FA90390-6, FA90390-7, FA90390-8, FA90390-9, FA90390-10, FA90390-11, FA90390-12, FA90390-13, FA90390-14, FA90390-15, FA90390-16, FA90390-17, FA90390-18, FA90390-19, FA90390-20

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-85-9	Perfluoroheptanoic acid	0.08	0.0827	103	72-130
335-67-1	Perfluorooctanoic acid	0.08	0.0805	101	71-133
375-95-1	Perfluorononanoic acid	0.08	0.0800	100	69-130
375-73-5	Perfluorobutanesulfonic acid	0.08	0.0819	102	73-130
355-46-4	Perfluorohexanesulfonic acid	0.08	0.0862	108	68-131
1763-23-1	Perfluorooctanesulfonic acid	0.08	0.0801	100	65-140

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFHpA	67%	50-150%
	13C8-PFOA	71%	50-150%
	13C9-PFNA	69%	50-150%
	13C3-PFBS	66%	50-150%
	13C3-PFHxS	65%	50-150%
	13C8-PFOS	62%	50-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA90390
Account: TKKMAB TK&K Services
Project: DFSP; 5449 W Main St, Verona, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP88477-BS	3Q49384.D	1	11/23/21	NG	11/22/21	OP88477	S3Q697

The QC reported here applies to the following samples: **Method:** EPA 537M QSM5.3 B-15

FA90390-21, FA90390-22, FA90390-23, FA90390-24, FA90390-25, FA90390-26, FA90390-27, FA90390-28, FA90390-29, FA90390-30

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-85-9	Perfluoroheptanoic acid	0.08	0.0700	88	72-130
335-67-1	Perfluorooctanoic acid	0.08	0.0682	85	71-133
375-95-1	Perfluorononanoic acid	0.08	0.0710	89	69-130
375-73-5	Perfluorobutanesulfonic acid	0.08	0.0700	88	73-130
355-46-4	Perfluorohexanesulfonic acid	0.08	0.0688	86	68-131
1763-23-1	Perfluorooctanesulfonic acid	0.08	0.0692	87	65-140

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	93%	50-150%
	13C5-PFPeA	99%	50-150%
	13C5-PFHxA	96%	50-150%
	13C4-PFHpA	98%	50-150%
	13C8-PFOA	102%	50-150%
	13C9-PFNA	103%	50-150%
	13C6-PFDA	102%	50-150%
	13C7-PFUnDA	100%	50-150%
	13C2-PFDoDA	94%	50-150%
	13C2-PFTeDA	96%	50-150%
	13C3-PFBS	99%	50-150%
	13C3-PFHxS	103%	50-150%
	13C8-PFOS	103%	50-150%
	13C8-FOSA	91%	50-150%
	d3-MeFOSA	55%	50-150%
	d3-MeFOSAA	103%	50-150%
	d5-EtFOSAA	106%	50-150%
	13C2-4:2FTS	96%	50-150%
	13C2-6:2FTS	101%	50-150%
	13C2-8:2FTS	103%	50-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FA90390
Account: TKKMAB TK&K Services
Project: DFSP; 5449 W Main St, Verona, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP88296-MS	2Q80460.D	40	11/23/21	FS	11/11/21	OP88296	S2Q1136
FA90390-10	2Q80256.D	1	11/18/21	FS	11/11/21	OP88296	S2Q1134
FA90390-10	2Q80297.D	20	11/19/21	FS	11/11/21	OP88296	S2Q1135

The QC reported here applies to the following samples: **Method:** EPA 537M QSM5.3 B-15

FA90390-1, FA90390-2, FA90390-3, FA90390-4, FA90390-5, FA90390-6, FA90390-7, FA90390-8, FA90390-9, FA90390-10, FA90390-11, FA90390-12, FA90390-13, FA90390-14, FA90390-15, FA90390-16, FA90390-17, FA90390-18, FA90390-19, FA90390-20

CAS No.	Compound	FA90390-10 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
375-85-9	Perfluoroheptanoic acid	0.0239		0.0741	0.0881	87	72-130
335-67-1	Perfluorooctanoic acid	0.0482		0.0741	0.119	96	71-133
375-95-1	Perfluorononanoic acid	0.0037	U	0.0741	0.0705	95	69-130
375-73-5	Perfluorobutanesulfonic acid	0.121		0.0741	0.169	65*	73-130
355-46-4	Perfluorohexanesulfonic acid	0.332		0.0741	0.461	174* [a]	68-131
1763-23-1	Perfluorooctanesulfonic acid	3.08 [b]		0.0741	3.68	810* [a]	65-140

CAS No.	ID Standard Recoveries	MS	FA90390-10	FA90390-10	Limits
	13C4-PFHpA	96%	78%	129%	50-150%
	13C8-PFOA	99%	84%	148%	50-150%
	13C9-PFNA	94%	76%	147%	50-150%
	13C3-PFBS	97%	76%	137%	50-150%
	13C3-PFHxS	85%	78%	136%	50-150%
	13C8-PFOS	84%	67%	140%	50-150%

(a) Outside control limits due to high level in sample relative to spike amount.
(b) Result is from Run #2.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA90390
Account: TKKMAB TK&K Services
Project: DFSP; 5449 W Main St, Verona, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP88477-MS	3Q49404.D	1	11/24/21	NG	11/22/21	OP88477	S3Q697
OP88477-MSD	3Q49405.D	1	11/24/21	NG	11/22/21	OP88477	S3Q697
FA90580-3	4Q22639.D	1	11/24/21	NG	11/22/21	OP88477	S4Q310

The QC reported here applies to the following samples: **Method:** EPA 537M QSM5.3 B-15

FA90390-21, FA90390-22, FA90390-23, FA90390-24, FA90390-25, FA90390-26, FA90390-27, FA90390-28, FA90390-29, FA90390-30

CAS No.	Compound	FA90580-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
375-85-9	Perfluoroheptanoic acid	0.0679		0.16	0.215	92	0.16	0.203	84	6	72-130/30
335-67-1	Perfluorooctanoic acid	0.0605		0.16	0.204	90	0.16	0.192	82	6	71-133/30
375-95-1	Perfluorononanoic acid	0.0030	J	0.16	0.148	91	0.16	0.141	86	5	69-130/30
375-73-5	Perfluorobutanesulfonic acid	0.194		0.16	0.346	95	0.16	0.331	86	4	73-130/30
355-46-4	Perfluorohexanesulfonic acid	0.671		0.16	0.855	115	0.16	0.810	87	5	68-131/30
1763-23-1	Perfluorooctanesulfonic acid	0.603		0.16	0.762	99	0.16	0.712	68	7	65-140/30

CAS No.	ID Standard Recoveries	MS	MSD	FA90580-3	Limits
	13C4-PFBA	104%	100%	71%	50-150%
	13C5-PFPeA	106%	103%	77%	50-150%
	13C5-PFHxA	104%	100%	79%	50-150%
	13C4-PFHpA	105%	102%	79%	50-150%
	13C8-PFOA	115%	112%	79%	50-150%
	13C9-PFNA	117%	114%	80%	50-150%
	13C6-PFDA	115%	110%	79%	50-150%
	13C7-PFUnDA	111%	109%	76%	50-150%
	13C2-PFDoDA	103%	100%	74%	50-150%
	13C2-PFTeDA	112%	110%	84%	50-150%
	13C3-PFBS	104%	101%	77%	50-150%
	13C3-PFHxS	112%	109%	79%	50-150%
	13C8-PFOS	112%	110%	75%	50-150%
	13C8-FOSA	111%	107%	73%	50-150%
	d3-MeFOSA	88%	85%		50-150%
	d3-MeFOSAA	118%	116%	68%	50-150%
	d5-EtFOSAA	119%	119%	70%	50-150%
	13C2-4:2FTS	108%	104%	71%	50-150%
	13C2-6:2FTS	117%	115%	74%	50-150%
	13C2-8:2FTS	114%	112%	69%	50-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: FA90390
Account: TKKMAB TK&K Services
Project: DFSP; 5449 W Main St, Verona, NY

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP88296-DUP	2Q80542.D	20	11/24/21	FS	11/11/21	OP88296	S2Q1137
FA90390-14	2Q80261.D	1	11/18/21	FS	11/11/21	OP88296	S2Q1134
FA90390-14	2Q80397.D	40	11/22/21	FS	11/11/21	OP88296	S2Q1136

The QC reported here applies to the following samples: **Method:** EPA 537M QSM5.3 B-15

FA90390-1, FA90390-2, FA90390-3, FA90390-4, FA90390-5, FA90390-6, FA90390-7, FA90390-8, FA90390-9, FA90390-10, FA90390-11, FA90390-12, FA90390-13, FA90390-14, FA90390-15, FA90390-16, FA90390-17, FA90390-18, FA90390-19, FA90390-20

CAS No.	Compound	FA90390-14 ug/l	Q	DUP ug/l	Q	RPD	Limits
375-85-9	Perfluoroheptanoic acid	0.201		0.173		15	30
335-67-1	Perfluorooctanoic acid	0.135		0.123		9	30
375-95-1	Perfluorononanoic acid	0.0215		0.0196	J	9	30
375-73-5	Perfluorobutanesulfonic acid	0.0603		0.0507	J	17	30
355-46-4	Perfluorohexanesulfonic acid	1.29 [a]		1.25		3	30
1763-23-1	Perfluorooctanesulfonic acid	4.11 [a]		3.89		6	30

CAS No.	ID Standard Recoveries	DUP	FA90390-14	FA90390-14	Limits
	13C4-PFHpA	116%	81%	78%	50-150%
	13C8-PFOA	120%	88%	88%	50-150%
	13C9-PFNA	121%	80%	91%	50-150%
	13C3-PFBS	115%	84%	83%	50-150%
	13C3-PFHxS	116%	80%	90%	50-150%
	13C8-PFOS	114%	70%	84%	50-150%

(a) Result is from Run #2.

* = Outside of Control Limits.