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SUPPLEMENTAL SITE ASSESSMENT REPORT

Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
ERIC_7413
FDEP Contract HW683, Task Assignment PA213

Prepared for

Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Prepared by

Geosyntec Consultants, Inc.
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Project FR9428

5 September 2023

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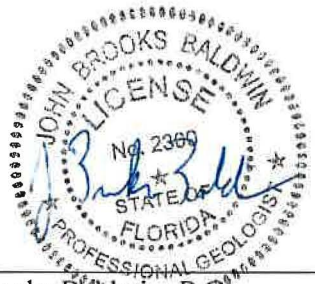

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1 INTRODUCTION

1.1 Overview

Geosyntec Consultants, Inc. (Geosyntec) has prepared this Supplemental Site Assessment Report for the Tallahassee Fire Department (TFD; "the Site") located at 2964 Municipal Way, Tallahassee, Leon County, Florida, Tallahassee, Florida (**Figure 1** and **Figure 2**). This work was completed on behalf of the Florida Department of Environmental Protection (FDEP) in accordance with Task Assignment PA213 under Contract HW683 between Geosyntec and the FDEP.

1.2 Objectives

The objective of this investigation was to evaluate the horizontal and vertical extents and magnitude of affected groundwater that was previously determined to be impacted with per- and polyfluoroalkyl substances (PFAS).

1.3 PFAS Overview

The Interstate Technology and Regulatory Council (ITRC) has developed fact sheets and guidance documents to summarize the latest science and emerging technologies for PFAS. According to the ITRC PFAS Technical and Regulatory Guidance, it is estimated that PFAS may consist of 5,000 to 10,000 manmade fluorinated organic chemical compounds that have been extensively manufactured since the mid-20th century (ITRC, 2021).

PFAS are widely used due to their unique physical and chemical properties (e.g., surfactant, oil-repelling, water-repelling, etc.) (ITRC, 2021; USEPA, 2017). One widely recognized use of PFAS is as a component in aqueous film forming foam (AFFF) (USEPA, 2017). AFFF has been stored and used by the military, airports, and other firefighting and fire-training facilities to extinguish hydrocarbon fires (ITRC, 2020; USEPA, 2017). PFAS are emerging environmental contaminants of concern due to evidence of their potential human health effects or environmental risks. When released to the environment, some PFAS have been shown to be stable, mobile, persistent, and bioaccumulative (ITRC 2020; USEPA 2017).

PFAS have been manufactured using two major processes: electrochemical fluorination (ECF) and fluorotelomerization (ITRC, 2021). Both perfluoroalkyl substances and polyfluoroalkyl substances may be manufactured using ECF and fluorotelomerization. Perfluoroalkyl substances are fully fluorinated and include perfluoroalkyl acids (PFAAs) and perfluoroalkane sulfonamides (FASAs). Polyfluoroalkyl substances are partially fluorinated and have a non-fluorine atom attached to at least one of the carbon atoms (ATSDR, 2017; ITRC, 2021). PFOS and PFOA are two perfluoroalkyl substances (specifically PFAAs) (ITRC, 2021; USEPA, 2017).

PFAAs are considered to be less complex compared to other PFAS and essentially do not degrade under normal environmental conditions. As a result, they are much more persistent compared to other PFAS and have been the focus of the majority of regulatory screening criteria. PFAAs may be found at sites from the use and release of products that contain these molecules or may be found in the environment as the result of polyfluoroalkyl substance degradation. Polyfluoroalkyl substances that degrade into PFAAs are referred to as "precursors." According to ITRC, longer

chain PFAAs are not known to degrade to shorter chain PFAAs in the environment. However, FASAs can degrade to form PFAAs (ITRC, 2021).

PFAAs are divided into two major subgroups: perfluoroalkyl carboxylic acids (PFCAs) and perfluoroalkane sulfonic acids (PFSAs). PFSAs are produced only using the ECF process, but PFCAs are produce using both ECF and fluorotelomerization. Additionally, PFSAs and PFCAs may also be found in the environment from the transformation of different precursors. Because of the persistence of PFAAs in the environment, some have been phased out of production and replaced with other PFAS chemistries (ITRC, 2021).

1.4 Assessment Overview

The FDEP completed a Preliminary Contamination Assessment in June 2019, including the collection of 40 soil samples from 20 boring locations, 2 groundwater samples from 2 temporary monitoring wells, and 1 "surface water" sample. Results indicated that concentrations of PFOA and/or PFOS were detected above FDEP's provisional groundwater cleanup target levels (GCTLs) in soil and groundwater (see **Section 1.5** regarding provisional GCTLs).

Geosyntec continued assessment activities between February and December 2020, on behalf of City of Tallahassee, and collected a total of 65 soil samples from 12 boring locations (SB-21 through SB-32, **Figure 3**) and quality assurance and quality control (QA/QC) samples. Additionally, Geosyntec oversaw the installation of 13 monitoring wells [MW001 (10-25') through MW013 (255-275'), **Figure 3**], and collected groundwater samples from the wells, which have been sampled periodically. Well construction details are presented in **Table 1**.

Assessment activities performed by Geosyntec resumed on 2023, on behalf of FDEP, and the following sections of this report summarize activities from the Supplemental Site Assessment investigation conducted between March and May 2023, including monitoring well installation and groundwater sampling activities, horizontal and vertical delineation of groundwater impacts off Site using rotosonic drilling methodology. Details regarding these sampling activities are further discussed in **Section 4**.

Prior to each assessment event, Geosyntec prepared a Work Plan that described the proposed sampling activities for FDEP review. The Work Plans included figures showing the proposed sampling locations and tables summarizing the sampling locations, matrices, depth intervals, sampling methods, laboratory analyses, rationale, and screening criteria. A comprehensive table listing samples collected at the Site to-date is provided as **Table 2**.

1.5 Laboratory Analysis and Data Screening Process

Samples collected from environmental media (groundwater) were packed on wet ice and transported under chain-of-custody to the FDEP Laboratory. Samples were analyzed for up to 36 PFAS using United States Environmental Protection Agency Method 8321B and FDEP Standard Operating Procedure (SOP) LC-001-3.

CTLs for individual PFAS have not been promulgated under Chapter 62-777 of the Florida Administrative Code (FAC). However, following the procedures promulgated in Chapter 62-777 FAC, Chapter 62-780 FAC, and at the request of FDEP, the University of Florida (UF) calculated

provisional SCTLs for residential-direct exposure (R-), SCTLs for commercial/industrial-direct exposure (I-), and leachability(L)-SCTLs for PFOA and PFOS. Following the promulgated procedures, UF also calculated provisional groundwater cleanup target levels (GCTLs) for PFOA and PFOS. The formulas, assumptions, and chemical-specific parameters used in the calculations are presented in letters prepared by UF included in **Appendix A**. The following table summarizes the provisional CTLs.

Provisional Cleanup Target Level	**PFOA**	**PFOS**	**PFOA+PFOS**	**Units****
R-SCTL	1,300	1,300	Not applicable	µg/kg
I-SCTL	25,000	25,000	Not applicable	µg/kg
L-SCTL	2	7	Not applicable	µg/kg
Groundwater	70	70	70	ng/L

** µg/kg indicates micrograms per kilogram and ng/L indicates nanograms per liter.

The provisional CTLs were used as the primary screening criteria to evaluate the nature and extent of PFAS constituents in soil and groundwater. The analytical results of the media sampled at the Site were evaluated to identify PFOA and PFOS present at concentrations that exceed applicable screening criteria and assess areas of the Site that may require further investigation. For general Site characterization, both soil and groundwater were screened against human health criteria. Soil data were compared to the provisional L-, R-, and I-SCTLs, and groundwater data were compared to the provisional GCTLs.

2 SITE DESCRIPTION AND HISTORY

2.1 Site Location

The Site is located at 2964 Municipal Way, Leon County, Florida, Tallahassee, Florida. The Site lies within Section 33, Township 1 North, and Range 1 West and encompasses approximately 7.5 acres. Within the training center, the environmental assessment area includes an open, rectangular grass training center with a large burn tower training building and a paved road on the four sides of the open grassed area. On the north and south sides of the grass open areas are additional training props. Administrative and training buildings are located in the western portion of the Site. The Site is bordered to the east, south, and west by private businesses, county offices, apartment buildings and Tallahassee Community College (TCC). Most residents and business within a 1-mile radius receive potable water from the COT. The United States Geological Survey topographic map showing the Site location is provided as **Figure 1**. The Site Vicinity Map is presented in **Figure 2**.

2.2 Site Utilities

Multiple underground utility types including public water supply lines, electric, natural gas lines (used for fire training purposes), sewer, and stormwater pipes are located within the area of environmental assessment activities at the Site. The Site is served by a municipal water-supply system for facility drinking water, water for fire trucks, and water for firefighting training activities.

2.3 Topography and Drainage

The topography of the Site is generally flat with an elevation of 62 ft above mean sea level (**Figure 1**). A stormwater retention pond is located on the east side of the Site and is dry the majority of the time.

2.4 Potable Water Wells

A potable well desktop survey was conducted in March 2021, within a 1-mile radius of the Site, through the Florida Department of Health (FDOH) website (FDOH, 7 January 2020). No potable wells were identified within a 0.5-mile radius, and 6 potable wells were identified between a 0.5- and 1-mile radius from the Site. Three potable wells were identified between 1- to 1.5-mile radius, including a COT production well (CW-15) that is located 1.35 miles to the east/southeast of the Site. The FDOH potable well sampling results are provided in **Appendix B**. **Table 3** includes detailed information of the potable wells sampled from the FDOH website.

Geosyntec conducted a water well desktop survey within a 1-mile radius of TFD property in August 2023 through the FDOH (2022) and Northwest Florida Water Management District (NWFWMD, 2023) websites. A total of 9 FDOH and 602 NWFWMD permits were identified within a 1.5-mile radius of the Site. The approximate locations of the NWFWMD wells are presented in **Attachment B**.

2.5 Operational Description

A summary of the property and facility was provided in the Preliminary Contamination Assessment Report (PCAR, August 2019) and was based on their interview with facility personnel. According to the FDEP report, the facility conducts fire training activities where AFFF has been used historically at this facility, but no records about usage or the amount used are available. Before the TFD facility was constructed and made operational, the parcel was part of the Dale Mabry Army Airfield, which operated from 1928 to 1961. The TFD was remodeled during 2002 and or 2003 and is occasionally used by Lively Vocational and TCC for minimum standards training. Facility managers stated that most of the training conducted with AFFF was used on an overturned tanker located at the north end of the property and in a grassy area located within the center of the Site. The retention pond accepts stormwater from surface run-off; no collection system involving grates is located on-Site. It was also reported that foam was believed to be last used at this facility around 2015.

2.6 Previous Investigations

According to the FDEP Information Portal website, no known environmental investigations for PFAS or other constituents of concern have been previously conducted or reported to the FDEP for the Site (FDEP, 2021b). Assessment activities conducted by the FDEP and Geosyntec beginning in June 2019 (see **Section 1.4**) mark the initial environmental investigations at the Site.

3 GEOLOGY AND HYDROGEOLOGY

3.1 Regional Geology and Hydrogeology

The Site is located in the southernmost extent of the Tallahassee Hills, a Miocene-Pliocene delta plain surface modified by surface water features and karst. The hills are composed of weakly cemented clays, silts, and sands of the Miccosukee Formation and Hawthorn Formation, which are underlain by the St. Mark's Limestone (Hendry & Sproul, 1966).

The Site lies in the central southwestern side of Leon County. The surficial aquifer in Leon County is comprised of undifferentiated surficial Pliocene deposits, weakly cemented clays, silts, and sands of the Miccosukee Formation, and the Hawthorn Group sediments comprised of clay and sandy clay. Based on the Geology of Leon County (Florida Geological Survey, 1966), the Site is located in an area where the Miccosukee Formation is present, and the Hawthorn is largely eroded.

The principal water-bearing units in the region are from the Floridan Aquifer. The underlying Floridan Aquifer is divided into two major water bearing zones comprised of the St. Marks Limestone (lower Miocene) and the lower Suwannee Limestone Formation (Oligocene). The thickness of the St. Marks in Leon County ranges between 0 to 200 ft, and Suwannee Limestone formation ranges up to over 200 ft thick. The deposits of the St. Marks formation are predominately fine to medium silty to sandy limestones that have undergone some degree of secondary dolomitization. The St. Marks Formation unconformably overlies the Suwannee Limestone and is evidenced by distinct lithologic and faunal differences; the Suwannee Limestone has abundant macro and microfossils and is partially recrystallized limestone and appears to be partially dolomitized throughout the entire section.

3.2 Site-Specific Geology

Geosyntec documented lithology from monitoring well installations (**Figure 4**), and two cross sections transect were drawn to generalize Site lithology from north to south (**Figure 5**) and west to east (**Figure 6**). The deepest, continuous soil borings were collected to 275 ft BLS at MW012 (200-220) and MW013 (255-275).

The general lithology observed during monitoring well installation at TFD and the surrounding areas consisted of a clayey sand (fine to very fine grains) and sand with generally unsaturated conditions. The upper 5 to 8 ft consists of a light to dark brown clayey fine sand that is poorly sorted and loose. Below this interval, the lithology is primarily interbedded clayey sand and sandy clay that exhibits brown and orange mottling, which is firm, stiff, and more cohesive with depth. At the western and southern locations [(DEPMW-23 (70-90) and DEPMW-30 (130-150)], these interbedded units are underlain by a firm cohesive brown/orange mottled clay from approximately 42 to 60 ft BLS [DEPMW-23 (70-90] and 40 to 55 ft BLS [DEPMW-30 (130-150)]. This lithology is indicative of the Miccosukee Formation.

Underlying the Miccosukee Formation is the limestone of the St. Marks Formation, which ranges from depths of 48 ft BLS [(MW007 (60-70)] to 80 ft BLS [(DEPMW-21 (70-90)]. The upper part of this formation is described as a marly limestone, cream white mudstone ranging in thickness from 10 to 19 feet. At depths ranging from 60 to 80 ft BLS, a more competent limestone with

interbedded limestone fragments, chert nodules, and limestone disks become more prevalent in the St. Marks Formation. The St. Marks is underlain at the Site by the Suwannee Formation, which was encountered at approximately 120 ft BLS and extends to the total depth of 275 ft BLS. The Suwannee limestone is characterized by increased fossil content, partially dolomitized limestone, and recrystallization in the upper part of the formation. The Suwannee Limestone in Leon County is generally very porous and permeable, is the principal aquifer, and most of the water supply wells in Leon County penetrate this formation.

Several voids were encountered in the deeper monitoring wells that were installed to 150 ft BLS. MW009 encountered a void from approximately 130 to 140 ft BLS and MW010 from approximately 136 to 142 ft BLS. These voids reflect high flow zones that are typical of the Suwannee Limestone Formation. The lithology described from the deeper upper Floridan boring from 150 to 275 feet can generally be described as interbedded limestone with clay, clayey sands, and sand units with decreasing solution features and lower fossil content with depth.

3.3 Site-Specific Hydrogeology

Geosyntec collected depth-to-groundwater (DTW) measurements across the Site in April 2023 prior to groundwater sampling and results are discussed in **Section 4.5**. The shallow surficial aquifer extends down to the top St. Marks formation between 48 ft to 80 ft BLS. The Site-specific hydrogeology has been defined as consisting of the upper surficial aquifer which extends to the top of St. Marks formation where monitoring wells are screened between 10 to 25 ft BLS. DTW within the surficial at the Site generally ranges from 11 to 21 ft BLS in the surficial aquifer monitoring wells.

The upper Floridan (St. Marks) Aquifer where monitoring wells are screened between 60 to 90 ft BLS, and deep upper Floridan Aquifer (Suwannee) where monitoring wells are screened between 130 to 150, 200 to 220, and 255 to 275 ft BLS. The upper Floridan generally exhibits more interbedded clays and weathered limestone of the St. Marks Formation, and the lower Floridan unit is characterized by higher flow zones and fossiliferous limestone of the Suwannee Limestone Formation. The DTW in the upper Florida Aquifer monitoring wells ranges from 40 to 44 ft BLS.

Based on previous groundwater sampling events conducted in 2020 at the Site, groundwater in wells screened from 10 to 25 ft BLS generally flowed to the northwest and southeast, wells screened from 60 to 90 ft BLS exhibited fluctuating flow directions, alternating between southeast and southwest, contingent on the time of year. Wells screened from 130 to 275 ft BLS generally flowed southeast across the Site.

Based on data from the wells installed by Geosyntec on behalf of City of Tallahassee (MW001 through MW013) and on behalf of FDEP (DEPMW-14 through DEPMW-30), the difference in the vertical hydraulic gradients between shallow (i.e., screened across the water table) and deeper wells (i.e., monitoring wells with submerged screens) in each well pair typically ranged from negative (downward) 0.57 ft/ft to negative (downward) 0.38 ft/ft, which indicates that a strong vertical hydraulic gradient is present (see **Table 4**). Conversely, the vertical hydraulic gradient between each well pair screened in the upper and lower Floridian aquifers varied from negative (downward) 0.0035 ft/ft to positive (upward) 0.0039 ft/ft. This range indicates the absence of a significant vertical hydraulic gradient.

Surface groundwater contour maps from the April and May 2023 groundwater sampling event are provided in **Figure 7** (screened 10-25 ft BLS), **Figure 8** (screened from 60 to 90 ft BLS) and **Figure 9** (screened > 120 ft BLS).

4 SITE CHARACTERIZATION

4.1 Overview

Field activities were performed in general accordance with FDEP SOPs for Field Activities and internal SOPs for PFAS sampling that were developed by Geosyntec. The sampling locations (including QA/QC samples), matrices, depth intervals, sampling methods, laboratory analyses, rationale, and screening criteria used during the assessment activities are summarized on **Table 1**, which reflects any deviations from past Site Assessment Work Plans (and which are further discussed in the sections below). On-Site sampling locations are depicted on **Figure 3**, and monitoring well locations are depicted on **Figure 4**. Field forms are provided in **Appendix C**, and laboratory analytical reports are provided in **Appendix D**.

Geosyntec prepared a Site-specific Health and Safety Plan (HASP) in January 2023 to address project-specific hazards that were known or suspected to be present due to existing conditions and work to be performed at the Site. This HASP revision met the requirements specified in the Occupational Safety and Health Administration Hazardous Waste Operations and Emergency Response program and Geosyntec's internal health and safety standards. Geosyntec maintained the HASP on-Site during assessment activities.

4.2 Utility Locate

Geosyntec observed GeoView, Inc. (GeoView) perform an underground utility survey on 2 March 2023. During the survey, GeoView utilized electromagnetic induction and ground penetrating radar to identify any potential subsurface utilities or obstructions. The suspected underground utilities were marked on land surface and sampling or monitoring well locations were repositioned as necessary to avoid potential subsurface conflicts.

For northern well locations (DEPMW-21 and DEPMW-14) in the West Pensacola Street right-of-way (ROW), Sunshine 811 utility locates were completed. A Maintenance of Traffic (MOT) plan was prepared, and ROW use permits and were also obtained prior to initiating drilling activities. The suspected underground utilities identified by the public locators and GeoView were marked on land surface. Locations were repositioned as necessary to avoid potential subsurface conflicts, and each location was hand cleared prior to initiating drilling activities. MOT was implemented with a temporary closed lane of traffic for ingress and egress of the drilling rig from Pensacola Street to install the monitoring wells in the ROW near the existing Wendy's restaurant.

4.3 Soil Assessment

No additional soil sampling was conducted for laboratory analysis during 2023 assessment activities. Previous soil sample locations and analytical results are presented in **Figure 10**. Lithology collected from March 2023 assessment activities from each soil boring location is presented in **Appendix C** (see general descriptions in **Section 3.2**).

As discussed in **Section 1.4**, during FDEP SIS investigation in June 2019, a total of 40 soil samples from 20 boring locations were collected. The results of the PCAR indicated that soil was impacted with PFOS and PFOA. Detections were observed in soil from samples collected at 0 to 1 and 1-2 ft BLS and were above L-SCTLS in SS-1 through SS-3, SS-5 through SS-13, and SS-16 (**Table 5**).

Most locations with PFAS exceedances were located in the central portion of the Site. Soil analytic results did not exceed R- or I-SCTLs in the collected samples.

Soil assessment activities continued, conducted by Geosyntec, in February and June 2020 (Geosyntec, 2021). A total of 65 samples from 12 boring locations (**Table 5**) were collected, and the extent of PFAS-affected soil was horizontally and vertically delineated. The soil analytical data showed that L-SCTL exceedances extends to a maximum depth of 12 ft BLS at SB-26 and does not extend to the water table at approximately 15 ft BLS. Concentrations of PFAS at this location were below provisional L-SCTLs at depths greater than 12 feet BLS and only extended to a maximum depth of 8 ft BLS at other soil boring locations, which confirmed that a source of PFAS at the water table is not present. **Figure 11A** through **15B** depict PFOS and PFOA impacts in soil at distinct depths, obtained in 2020 investigation.

Based on previous soil analytical results, the horizontal and vertical extent of PFAS-affected soil has been delineated to the L-SCTLs and no exceedances of R-SCTLs have been observed at the Site.

4.3.1 Soil Sampling Methodology

To date, a total of 269 discrete soil samples from 58 boring locations have been collected for laboratory analysis by both FDEP and Geosyntec. No additional soil sampling was conducted during the February and March 2023 assessment activities. Soil samples were collected using decontaminated stainless-steel hand augers and decontaminated DPT equipment.

Completed soil borings were backfilled with the unused soil cuttings corresponding to the specific soil boring location and interval from which the soil was removed. Soil sample intervals and identifications are included in **Table 5**.

4.3.2 Soil Results and Conclusions

Comprehensive soil laboratory analytical results are summarized in **Table 3** and depicted on **Figures 10** through **15B**.

The greatest soil impacts across the Site are associated with PFOS and the broadest horizontal extent of impacted soil generally occurs in the 2 to 4 ft BLS depth interval. Soil impacts at the Site are greater than provisional L-SCTLs and below provisional R-SCTLs. The Former FTF Operational Area was redeveloped, and earth-moving activities were apparently conducted during construction activities. Impacted soil from 0 to 2 ft BLS may have been removed or redistributed by earth-moving activities. The delineation of soil is considered complete and meets the requirements of Chapter 62-780, FAC.

The comprehensive soil results (**Figure 10**) indicate PFAS soil impacts are present at multiple depth intervals from land surface to approximately 12 ft BLS across the Site. All soil impacts at the Site less than R-SCTLs and delineation of soil impacts is complete.

4.4 Surface Water Assessment

No additional surface water sample was collected for laboratory analysis during March 2023 assessment activities. Previous “surface water” sample location is presented in **Figure 3**.

A "surface water" sample (SW-1) was collected at the north end of the stormwater retention pond in the proximity of a concrete ditch. "Surface water" was not present during the reconnaissance performed on June 10, 2019, but subsequent rain events formed a shallow pond from which the surface water sample was collected on June 12, 2019. The result is summarized in **Table 6**.

Surface water screening levels are not applicable at this Site, because samples were collected from a stormwater feature. In addition, the surface water screening levels are based on the consumption of freshwater and estuarine finfish and shellfish, which are not present in the stormwater feature.

The FDEP concluded that the concentrations of PFOA and PFOS in the samples collected from the stormwater retention pond were below the provisional GCTLs but could represent a potential exposure pathway. No sediment samples were collected by FDEP as the retention pond is covered in grass and does not appear to contain sediment.

4.5 Groundwater Assessment

Previous groundwater assessment activities included installing and sampling (by the FDEP in June 2019) two temporary monitoring wells (TMW-1 and TMW-2) and installing and sampling 13 monitoring wells (MW001 through MW013). The focus of recent groundwater assessment activities was to horizontally and vertically delineate the extent of PFAS-affected groundwater, and Geosyntec installed and sampled 17 new monitoring wells (DEPMW-14 through DEPMW-30). Additionally, Geosyntec sampled 13 existing monitoring wells (MW001 through MW013), in March through May 2023. Well construction details are summarized in **Table 1**. Monitoring well locations are presented on **Figure 3** and **Figure 4**.

For the purpose of this investigation, Geosyntec has defined three depth interval zones at 10 to 25 ft BLS within the surficial aquifer and 60 to 90, and greater than 120 ft BLS within the upper Floridan Aquifer to differentiate groundwater impacts. These zones are based on the vertical distribution of PFAS compounds in groundwater and the depths of low permeability silts and/or clays at 35 to 65 ft BLS. These intervals may change as additional data are collected at the Site, data gaps are filled, and the CSM is updated. Each zone, the criteria used to define the zone are described below.

Surficial Aquifer (wells screened from 10 to 25 ft BLS) – The surficial aquifer is an unconfined saturated zone that extends from top of the water table from approximately 10 to 21 ft BLS to a depth ranging from 60 to 80 ft BLS, which is the approximate top of the upper Floridan Aquifer. The lithology in the surficial generally consists of sandy clay/clayey sand with relatively low hydraulic conductivity.

Upper Floridan Aquifer (wells screened from 60 to 90 ft BLS)– The upper Floridan Aquifer is a semi-confined aquifer that extends from approximately 60 to 80 ft BLS to a depth of approximately 120 ft BLS, and this interval generally corresponds to the St. Marks Formation. The lithology of the St. Marks formation consists of limestone and interbedded sand and clay units that exhibit higher hydraulic conductivity than the surficial zone. The screen interval of the upper Floridan Aquifer wells were placed in the upper 10 ft of the of the St. Marks formation.

Upper Floridan Aquifer (lower portion, wells screened >130ft BLS) - The upper Floridan Aquifer is a semi-confined aquifer that extends from approximately 120 feet ft BLS to a depth of at least

275 ft BLS at the Site, and this interval generally corresponds to the Suwannee Formation. The lithology of the Suwannee Formation is characterized by increased fossil content, partially dolomitized limestone, and recrystallization near the top of the formation that exhibit higher hydraulic conductivities and high flow zones than the St. Marks Formation.

4.5.1 Monitoring Well Installation Methodology

To date, Geosyntec has installed 30 permanent monitoring wells. Since the 2021 Interim Site Assessment Report, Geosyntec has installed 17 of the 30 monitoring wells, which are discussed in this report. Monitoring well locations are presented on **Figure 4** and well construction details are presented in **Table 1**.

Geosyntec subcontracted PDS to install the 17 monitoring wells [DEPMW-14 (10-25') to DEPMW-30 (130-150')] at varying in depths from 25 to 150 ft BLS using the rotosonic technique from 2 March through 28 March 2023. PDS utilized a post-hole digger and/or a hand auger to confirm the absence of subsurface utilities to a depth of up to 5 ft BLS or refusal prior to installing the monitoring wells. Based on these lithologic descriptions, seven monitoring wells (DEPMW-14 through DEPMW-20) are considered to be installed in the unconfined surficial aquifer. Wells within the surficial aquifer were installed to depths of 25 ft BLS and were constructed with 15 ft of screen. Seven monitoring wells (DEPMW-21 through DEPMW-27) are considered to be installed in the upper Floridan aquifer. The depth of each upper Floridan Aquifer well was based on the depth of where competent, hard limestone was observed in the lithologic boring. Wells within upper Floridan Aquifer were installed to a depth of 90 ft BLS, with the exception of DEPMW-22 that was installed to a depth of 84 ft BLS. Three monitoring wells (DEPMW-28 through DEPMW-30) are considered to be installed in the lower portion of the upper Floridian Aquifer. Wells within the lower portion of the upper Floridian Aquifer were installed to depths of 150 ft BLS and were constructed with 20 ft of screen. Field boring logs containing lithologic descriptions are included in **Appendix C**.

Monitoring wells were constructed with either 15 ft (surficial aquifer) or 20 ft (upper Floridan Aquifer) of 2-inch diameter polyvinyl chloride (PVC) well screen slotted at 0.010 inches and varying lengths of 2-inch diameter PVC riser to land surface. During installation of vertical-extent monitoring wells with submerged screens (i.e., not surficial aquifer monitoring wells), a temporary 8-inch-diameter override casing was installed to at least 10 ft above the proposed screened interval to prevent vertical drag-down. The depth of the override casing was determined in the field based on observed lithology, drilling conditions, and depths of other monitoring wells in a cluster. Filter packs consisting of 20/30 silica sand were added from the well terminus to at least 2 ft above the top of the well screens. Fine sand seals (30/65 sand) were added to the water-table monitoring wells (surficial aquifer monitoring wells). Bentonite seals were added to the vertical-extent monitoring wells with submerged screens to at least 4 ft above the top of the filter pack. The remaining annular space in each borehole above the seal was completed using Portland cement to land surface. If voids were present within the surface seal interval, boreholes were completed using a combination of Portland cement, uncoated bentonite, and pea gravel.

The monitoring wells were completed as flush mounts with 8-inch bolt-down manhole covers in 2-ft by 2-ft concrete well pads. The monitoring wells were developed using a submersible pump

until the water was relatively free of sediment. Purge water generated during well development activities was containerized and transported off-Site for disposal (see **Section 4.7**). Well construction and development field forms are presented in **Appendix C**.

QA/QC samples collected during the monitoring well installation activities in March 2023 consisted of 1 equipment blank (EQB-10) collected from decontaminated rotosonic drilling rods and 1 field reagent blank (FRB-4) collected near the decontamination area. PFOA and PFOS were not detected in these blanks.

4.5.2 Monitoring Well Surveying

Meridian Surveying & Mapping, Inc., a Florida-licensed surveyor, conducted a survey of the top-of-casing (TOC) elevations (North American Vertical Datum of 1988) and horizontal coordinates (Florida State Plane Coordinate System, East Zone, North American Datum of 1983) at the 17 newly installed monitoring wells. Monitoring well TOC elevations are included on **Table 7** and in **Appendix E**. **Figure 4** and **Figure** 5 depicts the locations of the monitoring wells using the surveyed horizontal coordinates.

4.5.3 Depth-to-Groundwater and Monitoring Well Sampling Methodology

Prior to groundwater sampling activities on 24 April 2023, Geosyntec measured DTW in the 29 wells within the TFD monitoring well network [MW001 (10-25') through DEPMW-30 (130-150')]. The depth to water was not measured in MW005 because it was covered with fire department equipment. Groundwater levels were measured to the nearest 0.01 ft using an electronic water-level indicator.

Groundwater samples were collected from the 30 monitoring wells in April and May 2023 using peristaltic and electric submersible pumps after stabilization of water quality parameters (i.e., temperature, conductivity, pH, turbidity, and dissolved oxygen). Three duplicate samples were collected at monitoring wells MW011 [sample labeled MW011-DUP], DEPMW-16 [sample labeled DEPMW-16-DUP], and DEPMW-21 [sample labeled DEPMW-21-DUP]. During the sampling process, the duplicate samples from MW001 and DEPMW-21 were not appropriately labeled as duplicate samples on the Chain of Custody (CoC). Consequently, the laboratory results derived from the analysis of samples from these wells were not reported or accounted for as duplicates. Groundwater sampling logs and calibration forms are included with the field notes in **Appendix C**. The laboratory analytical reports are provided in **Appendix D**. Purge water generated during well sampling activities was containerized in drums and transported off-Site for disposal (see **Section 4.7**).

QA/QC samples from the April and May 2023 event associated with monitoring well sampling consisted of 1 field reagent blank (FRB-5) that was collected for monitoring well sampling and 3 equipment blanks (EQB-14 through EQB-16) that was collected through the peristaltic pumps used for sampling. PFOA and/or PFOS were not detected in these field reagent blanks or equipment blanks.

4.5.4 Groundwater Elevation Results

DTW measurements and the surveyed top-of-casing elevations were used to calculate groundwater elevations presented in **Table 7**. Potentiometric contours for surface water and groundwater

elevations for the 10 to 25 ft BLS interval are depicted on **Figure 7**, contours for groundwater elevations for the 60 to 90 ft BLS interval are depicted on **Figure 8** and contours for groundwater elevations for greater than 120 ft BLS interval are depicted on **Figure 9**.

4.5.4.1 Surficial Aquifer Wells Screened 10 to 25 ft BLS

Groundwater elevations indicate that groundwater within the 10 to 25 ft BLS interval generally flows towards the northwest and southeast, depending on location in the surficial aquifer. The previous groundwater flow direction on the surficial aquifer was generally towards the northwest with localized components to the north and west, depending on location in the surficial aquifer. The average horizontal gradient towards the northwest was approximately 0.008 ft/ft and 0.045 ft/ft towards the southeast.

4.5.4.2 Upper Florian Aquifer Wells Screened 60 to 90 ft BLS

The groundwater elevation contour map from April 2023, shows the general groundwater flow direction in the upper Florida monitoring wells (60 to 90 ft BLS) towards the southeast. Previous groundwater flow directions in the 60 to 90 ft BLS zone has varied from the southwest to southeast.

4.5.4.3 Lower Portion of the Upper Floridan Aquifer Wells Screened 130 to 150 ft BLS

The groundwater elevation contour map from April 2023, shows the general groundwater flow direction in the lower portion of the upper Floridan Aquifer monitoring wells (130-150 ft BLS) towards southeast. The southeast groundwater flow direction is consistent with previous sampling events.

The groundwater flow direction could not be established in the 200 to 220 and 255 to 275 ft BLS zones because only one monitoring well was installed in each zone.

4.5.4.4 Vertical Hydraulic Gradients

- As discussed in **Section 3.3,** the difference in the vertical hydraulic gradients between shallow (i.e., screened across the water table) and deeper wells (i.e., monitoring wells with submerged screens) in each well pair across the Site typically ranged from negative (downward) 0.57 ft/ft to negative (downward) 0.38 ft/ft, which indicates that a strong vertical hydraulic gradient was present. The presence of a permeable fine-grained lithology observed within shallower depths may facilitate a downward migration of the dissolved plume.

Conversely, the vertical hydraulic gradient between each well pair screened in the upper Floridian Aquifer and lower portion of the upper Floridian Aquifer across the Site varied from negative (downward) 0.005 ft/ft to positive (upward) 0.0002 ft/ft, which indicates the absence of a significant vertical hydraulic gradient. This is consistent with the firm less permeable cohesive clay observed from approximately 42 to 60 ft BLS [e.g.; DEPMW-23 (70-90] and 40 to 55 ft BLS [e.g.; DEPMW-30 (130-150)]. At depths ranging from 60 to 80 ft BLS, a more competent limestone was noticed, prevalent in the St. Marks Formation.

A minor upward vertical gradient was observed between newly installed monitoring wells (DEPMW-26 [70-90'] and DEPMW-29 [130-150]) southeastern the Site property boundaries.

4.5.5 Groundwater Sampling Results and Data Evaluation

As discussed in **Section 1.2**, the goal of the groundwater sampling activities during this event was to evaluate the horizontal and vertical delineation of PFOA+PFOS in groundwater. Laboratory analytical results from groundwater samples from the monitoring wells are summarized in **Table 8**. A summary of the analytical results for PFOA, PFOS, and PFOA+PFOS are depicted on **Figure 16** (Summary of Analytical Results in Groundwater). The maximum concentrations of PFOA+PFOS and approximate horizontal extents of impacted groundwater in each groundwater zone are discussed below and presented on **Figure 17** (Summary of Maximum Concentrations of PFOA+PFOS in Groundwater – 10 to 25 ft BLS), **Figure 18** (Summary of Maximum Concentrations of PFOA+PFOS in Groundwater – 60 to 90 ft BLS), and **Figure 19** (Summary of Maximum Concentrations of PFOA+PFOS in Groundwater – Greater than 130 ft BLS). The maximum concentrations of PFOA+PFOS and approximate horizontal extent of impacted groundwater for all depth intervals is depicted on **Figure 20**. The vertical extent of PFOA and PFOS from groundwater collected in May and April 2023 is depicted across A-A' in **Figure 21** and B-B' in **Figure 22**.

The data for each groundwater zone and the CSM are discuss in the sections below.

4.5.5.1 Summary of Concentrations in the Surficial Aquifer (10 to 25 ft BLS)

Concentrations of PFOA+PFOS exceeded their respective provisional GCLTs in April and May 2023 at MW001 (10-25'), MW002 (10-25'), MW003 (10-25'), MW004 (10-25'), MW005 (10-25'), and DEPMW-14(10-25'). The PFAS exceedances in the surficial aquifer apparently extend off-Site to the north. The off-Site exceedances in the monitoring wells to the north are most likely the result of the north-northwest groundwater flow component in the shallow surficial aquifer. The highest concentration of PFOA+PFOS in the 10 to 25 ft BLS interval was detected in the central portion of the Site at MW003. Groundwater impacts in the 10 to 25 ft BLS interval appear to be delineated to west, east, and south, but not to the north. Additional investigation may be warranted to the north and northeast to delineate the horizontal extent of impacted groundwater. The newly installed off-Site shallow monitoring wells should be resampled to confirm the analytical results.

4.5.5.2 Summary of Concentrations in the Upper Floridan Aquifer (60 to 90 ft BLS)

Concentrations of PFOA+PFOS exceeded their respective provisional GCLTs in April and May 2023 at MW006 (60-80'), MW007 (60-70'), MW008 (80-90'), DEPMW-21 (70-90'), and DEPMW-27 (70-90'). The highest concentration of PFOA+PFOS in the 60 to 90 ft BLS interval was detected along the northern property boundary at MW006 (60-80'). Groundwater impacts in the 60 to 90 ft BLS interval appear to be delineated to the west and south, but not to the north and east. A strong vertical gradient between the 10 to 25 ft BLS interval monitoring wells and the 60 to 90 ft BLS interval monitoring wells is most likely contributing to the downward migration of the PFOA+PFOS. Additional investigation may be warranted to the north, east, and southeast to delineate the horizontal extent of impacted groundwater. The highest concentrations of PFOA+PFOS in the surficial aquifer was detected in the central portion of the Site, and no wells

are installed in the upper Floridan Aquifer in this area. Monitoring well(s) screened in the upper Floridan Aquifer is (are) warranted in the central portion of the Site adjacent to monitoring well MW003 to confirm vertical delineation.

4.5.5.3 Summary of Concentrations in the Lower Portion of the Upper Floridan Aquifer (greater than 130 ft BLS)

Concentrations of PFOA+PFOS exceeded their respective provisional GCLTs in April and May 2023 at MW009 (130-150'), MW011 (130-150'), DEPMW-29 (130-150'). Monitoring wells MW009 (130-150') and MW011 (130-150') are located on-Site along the northern and southern property boundaries, and DEPMW-29 (130-150') is located off-Site to the southeast. The highest concentration of PFOA and PFOS in the 130 to 150 ft BLS interval was detected along the northern property boundary at MW009 (130-150'). A decrease in concentrations of PFOA+PFOS is observed between the 60 to 90 ft BLS and 130 to 150 ft BLS intervals is likely the result of a nearly static vertical gradient. Groundwater impacts in the 130 to 150 ft BLS interval appear to be delineated to the west and south, but not to the north and south-east. The off-Site exceedances to the east-southeast is likely attributed to the groundwater flow direction. Notably, no monitoring wells were installed in the 130 to 150 ft BLS zone to the north. Additional investigation are warranted to the north and southeast to delineate the horizontal extent of impacted groundwater in the 130 to 150 ft BLS zone. Due to the spacing between sampling locations and depending on future decisions regarding the closure strategy, additional investigations may be warranted in all directions to refine the horizontal extent of impacted groundwater.

Concentrations of PFOA+PFOS slightly exceeded their respective provisional GCLTs at the on-Site monitoring well MW012 (200-220') and was below provisional GCLTs at monitoring well MW013 (225-275'). These results provide vertical delineation along the northern property boundary. Further investigation horizontally beyond a depth of 150 ft BLS is likely warranted due to the concentrations observed in MW012 (200 to 220 ft BLS).

4.5.5.4 Groundwater Conceptual Site Model

The overall extent of PFOA+PFOS-impacted groundwater is depicted on **Figure 20** and extends approximately 1,200 feet from north to southeast and 900 feet from east to west. Concentrations of PFOA+PFOS in soil exceed the L-SCTLs over a large portion of the TFD property (**Figure 8A**), specifically near areas where training is or has occurred in the center of the Site. The highest concentrations of PFOA+PFOS in soil were detected above L-SCTLs, but below the R- SCTLS in the center of the Site and represent a significant source area.

The highest concentrations of PFOA+PFOS in groundwater were also detected in the center of the Site in the surficial aquifer. The overall, horizontal extent of the plume appears to be more largely controlled by groundwater flow directions with a southeast-northwest trending plume in shallow aquifer and a northwest-southeast trending plume in the upper and lower Floridan aquifers, respectively as depicted on **Figure 13** and **Figure 14** (see **Section 4.5.4**). The vertical extent of

the plume is largely controlled by the strong vertical gradient between the shallow surficial and upper Florida aquifers.

4.6 Decontamination Procedures

Decontamination activities were performed in accordance with Geosyntec internal SOPs for PFAS sampling either at a designated staging and laydown area or at each monitoring well location. Decontaminated equipment was staged on clean plastic sheeting prior to use. Decontamination fluids were drummed as investigation derived waste (IDW) and disposed off-Site. Water utilized during this event was sourced from hydrants at the FTF following approval from the FDEP in February 2023. This approval was granted based on the combined concentrations of PFOS+ PFOA being below 4 ng/L. Geosyntec recommend continuing collected QA/QC blanks to show that the low level PFAS water are not impacting results. Detailed laboratory results can be accessed in **Appendix D**.

Decontamination procedures utilized for non-disposable, reusable groundwater sampling equipment included decontaminating the sampling equipment in 5-gallon HDPE buckets. This sampling equipment was first submerged and scrubbed in one 5-gallon HDPE bucket filled with a solution of Liquinox detergent and low level PFAS (< 4 ng/L) water and then submerged in two 5-gallon HDPE buckets filled with low level PFAS (< 4 ng/L) water. For submersible pump decontamination, soapy, low level PFAS (< 4 ng/L) water was pumped through the pump and re-circulated within the bucket. The equipment was rinsed with low level PFAS (< 4 ng/L) water in spray bottles after the first and third buckets. Analytical results collected from the on-Site water source is provided in **Appendix D**.

Decontamination procedures followed for screen point groundwater sampling and rotosonic well installation equipment included pressure washing and scrubbing tooling, casing, and samplers. Drilling equipment was decontaminated using a pressure washer and Liquinox detergent followed by a series of rinses using low level PFAS (<4 ng/L) water over a constructed wooden decontamination pit covered in plastic sheeting that collected decontamination fluids. During decontamination both the exterior and interior of the drill tooling was scrubbed using a combination of clean rags and wire brushes. Decontaminated equipment was staged on clean plastic sheeting prior to use. Decontamination fluids were drummed as IDW and disposed off-Site.

The collection of equipment blanks and results to evaluate decontamination procedures are discussed in **Sections 4.5.1**, **4.5.3**.

4.7 Investigation Derived Waste

A total of 109 drums of IDW (21 containing soil and 88 containing liquid/mud) were generated during March through May 2023 assessment events from decontamination activities, monitoring well installation and monitoring well purge water. Field drum logs are provided in **Appendix C**. Erwin Remediation removed the 109 drums for off-Site disposal during 4 separate mobilizations from March through May 2023. The final IDW manifests are provided in **Appendix F**.

5 CONCLUSIONS

During assessment activities, Geosyntec collected samples of Site media (groundwater) for laboratory analysis of PFAS. The concentrations of PFOA and PFOS in soil and groundwater were screened against provisional GCTLs. Geosyntec's conclusions based on the comprehensive assessment results to date are discussed in the sections below.

5.1 Soil

- The results indicate PFOA and PFOS soil impacts are horizontally and vertically delineated, and PFAS soil impacts are present at multiple depth intervals from land surface to approximately 8 ft BLS.
- The highest concentrations of PFOS were detected in the training area in center of TFD site and exceeded the provisional L-SCTL and were below the R- and I-provisional SCTLs.

5.2 Groundwater Flow

- Groundwater elevations results in monitoring wells screened from 10 to 25 feet BLS in the surficial aquifer indicates groundwater flows towards the northwest and southeast, depending on location in the surficial aquifer. The historical groundwater flow direction on the surficial aquifer was generally towards the northwest with localized components to the north and west, depending on location in the surficial aquifer. The depth to water in the surficial aquifer typically ranged from 15 to 20 feet BLS.
- Groundwater elevations results in monitoring wells screened from 60 to 90 feet BLS in the upper Floridan aquifer suggests a general southeastern flow. Historical observations were generally to the south with a eastern component. The depth to water in the upper Floridan aquifer was approximately 40 feet BLS.
- Groundwater elevations results in monitoring wells screened from 130 to 150 feet BLS in the lower portion of the upper Floridan Aquifer suggests a general southeastern flow. The groundwater flow is consistent with previous observations. The depth to water in the upper Floridan aquifer was approximately 40 feet BLS.

5.3 Groundwater Quality

- The extent of PFOA+PFOS-impacted groundwater has not been delineated horizontally.
- Based on current data, PFOA+PFOS-impacted groundwater extends approximately 1,200 feet from north to southeast and approximately 900 feet from east to west.
- The highest concentrations of PFOA+PFOS in groundwater were detected in training areas in the center of the Site, which corresponds to the area with the highest concentrations of PFOA and PFOS in soil.
- The overall, horizontal extent of the plume appears to be largely controlled by groundwater flow direction in both the surficial and upper and lower portions of the Floridan aquifers. The plumes in the surficial and Florida aquifers are representative of the groundwater flow components observed.

6 RECOMMENDATIONS

Assessment activities indicate that requirements for Site assessment in Rule 62-780.600, FAC have not been met, and additional investigations are warranted. Geosyntec's recommendations based on the comprehensive assessment results to date are discussed below.

- Another round of samples should be collected from the newly installed off-Site monitoring wells and select on-Site wells to confirm the most recent groundwater results. PFOA and/or PFOS concentrations at several of the newly installed were slightly below the provisional GCTL.
- Additional investigation is warranted in 10 to 25 ft BLS zone to the north and northeast; in the 60 to 90 ft BLS zone to the north and east; and the greater than 130 ft BLS zone to north and southeast.
- Following discussions with the FDEP, a Work Plan summarizing the proposed sampling activities will be submitted under a separate cover.

7 REFERENCES

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TABLES

TABLE 1: WELL CONSTRUCTION DETAILS

Tallahassee Fire Department (ERIC_7413)

Well ID	Date Installed	Installation Method	Type	Top of Casing Elevation (ft NAVD 88)	Total Depth (ft BLS)	Screened Interval (ft BLS)	Well Diameter (inches)	Lithology of Screened Interval
MW001 (10-25')	2/28/2020	Sonic	Permanent	61.94	25.00	10-25	2.00	Clayey sand
MW002 (10-25')	2/25/2020			63.10	25.00	10-25	2.00	Clayey sand
MW003 (10-25')	2/28/2020			62.40	25.00	10-25	2.00	Clayey sand
MW004 (10-25')	2/24/2020			60.68	25.00	10-25	2.00	Clayey sand
MW005 (10-25')	2/21/2020			61.72	25.00	10-25	2.00	Clayey sand
MW006 (70-80')	2/27/2020			62.01	80.00	70-80	2.00	Limestone with mark and weathered limestone
MW007 (60-70')	2/25/2020			62.94	70.00	60-70	2.00	Limestone with mark and weathered limestone
MW008 (80-90')	2/26/2020			61.53	90.00	80-90	2.00	Limestone with mark and weathered limestone
MW009 (130-150')	6/16/2020			61.86	150.00	130-150	2.00	Limestone with fossils and voids
MW010 (130-150')	6/11/2020			62.80	150.00	130-150	2.00	Limestone with fossils and voids
MW011 (130-150')	6/10/2020			61.34	150.00	130-150	2.00	Limestone with fossils and voids
MW012 (200-220')	12/10/2020			61.93	220.00	200-220	2.00	Limestone with fossils and voids
MW013 (255-275')	12/9/2020			61.95	275.00	255-275	2.00	Limestone with fossils and voids
Fleet-MW-3	unknown	unknown		60.10	25.00	10-25	1.25	Clayey Sand
Fleet-DW-1	unknown	unknown		NM	40.00	30-40	1.25	Clayey Sand
DEPMW-14 (10-25')	03/27/2023	Sonic		63.31	25.00	10-25	2.00	Clayey sand
DEPMW-15 (10-25')	03/24/2023			63.73	25.00	10-25	2.00	Clayey sand / Sandy clay
DEPMW-16 (10-25')	03/22/2023			63.81	25.00	10-25	2.00	Clayey sand / Sandy clay
DEPMW-17 (10-25')	03/20/2023			64.32	25.00	10-25	2.00	Clayey sand
DEPMW-18 (10-25')	03/06/2023			61.65	25.00	10-25	2.00	Clayey sand
DEPMW-19 (10-25')	03/10/2023			60.41	25.00	10-25	2.00	Sandy clay
DEPMW-20 (10-25')	03/15/2023			58.81	25.00	10-25	2.00	Sand with clay and PEAT
DEPMW-21 (70-90')	03/27/2023			63.59	90.00	70-90	2.00	Sandy clay and Limestone with fossils
DEPMW-22 (64-84')	03/23/2023			63.77	84.00	64-84	2.00	Limestone with fossils and clay lenses
DEPMW-23 (70-90')	03/21/2023			63.63	90.00	70-90	2.00	Weathered limestone with fossils and void
DEPMW-24 (70-90')	03/17/2023			64.21	90.00	70-90	2.00	Weathered limestone with fossils and void
DEPMW-25 (70-90')	03/06/2023			61.63	90.00	70-90	2.00	Weathered limestone with fossils and lenses of clay and sand
DEPMW-26 (70-90')	03/10/2023			60.42	90.00	70-90	2.00	Weathered limestone with fossils
DEPMW-27 (70-90')	03/15/2023			58.76	90.00	70-90	2.00	Limestone with fossils and lenses of clay and sand
DEPMW-28 (130-150')	03/03/2023			61.62	150.00	130-150	2.00	Weathered limestone with fossils and dolomite
DEPMW-29 (130-150')	03/08/2023			60.56	150.00	130-150	2.00	Limestone with fossils, lenses of clay and dolomite
DEPMW-30 (130-150')	03/14/2023			58.75	150.00	130-150	2.00	Weathered limestone with fossils, lenses of clay, voids and dolomite

Notes:

1. ft BLS indicates feet below land surface.
2. ft NAVD 88 indicates feet relative to North American Vertical Datum 1988 (NAVD 88).
3. NM indicates not measured.

TABLE 2: SAMPLING LOCATIONS, MATRICES, ANALYTES, RATIONALE, AND CRITERIA

Tallahassee Fire Department (ERIC_7413)

Area of Concern (AOC)	Location ID	Sample ID	Matrix	Depth (ft BLS)	Drilling Method	Analyses	Rationale	Criteria
Site Boundary	SB-21	SB-21 (0-0.5')	Soil	0-0.5	HA/Sonic	PFAS	Delineation Sampling	Provisional Soil Cleanup Target Levels
		SB-21 (0.5-2')		0.5-2				
		SB-21 (2-4')		2-4				
		SB-21 (4-6')		4-6				
		SB-21 (6-8')		6-8				
		SB-21 (8-10')		8-10				
	SB-22	SB-22 (0-0.5')		0-0.5				
		SB-22 (0.5-2')		0.5-2				
		SB-22 (2-4')		2-4				
		SB-22 (4-6')		4-6				
		SB-22 (6-8')		6-8				
		SB-22 (8-10')		8-10				
Training Area (near TMW-1)	SB-23	SB-23 (0-0.5')		0-0.5				
		SB-23 (0.5-2')		0.5-2				
		SB-23 (2-4')		2-4				
		SB-23 (4-6')		4-6				
		SB-23 (6-8')		6-8				
		SB-23 (8-10')		8-10				
Site Boundary	SB-24	SB-24 (0-0.5')		0-0.5				
		SB-24 (0.5-2')		0.5-2				
		SB-24 (2-4')		2-4				
		SB-24 (4-6')		4-6				
		SB-24 (6-8')		6-8				
		SB-24 (8-10')		8-10				
	SB-25	SB-25 (0-0.5')		0-0.5				
		SB-25 (0.5-2')		0.5-2				
		SB-25 (2-4')		2-4				
		SB-25 (4-6')		4-6				
		SB-25 (6-8')		6-8				
		SB-25 (8-10')		8-10				
Training Area	SB-26	SB-26 (0-0.5')		0-0.5				
		SB-26 (0.5-2')		0.5-2				
		SB-26 (2-4')		2-4				
		SB-26 (4-6')		4-6				
		SB-26((6-8')		6-8				
		SB-26 (8-10')		8-10				
		SB-26 (10-12')		10-12				
		SB-26 (12-14')		12-14				
		SB-26 (14-16')		14-16				
Training Area	SB-27	SB-27 (0-0.5')		0-0.5				
		SB-27 (0.5-2')		0.5-2				
		SB-27 (2-4')		2-4				
		SB-27 (4-6')		4-6				
		SB-27 (6-8')		6-8				
		SB-27 (8-10')		8-10				
		SB-27 (10-12')		10-12				
		SB-27(12-14')		12-14				
		SB-27(14-16')		14-16				
	SB-28	SB-28 (0-0.5')		0-0.5				
		SB-28(0.5-2')		0.5-2				
		SB-28 (2-4')		2-4				
		SB-28 (4-6')		4-6				
		SB-28 (6-8')		6-8				
		SB-28 (8-10')		8-10				
		SB-28 (10-12')		10-12				
		SB-28 (12-14')		12-14				
		SB-28 (14-16')		14-16				
Site Boundary	SB-29	SB-29 (0-0.5')		0-0.5				
		SB-29 (0.5-2')		0.5-2				
Fire Station #4 Building	SB-30	SB-30 (0-0.5')		0-0.5				
		SB-30 (0.5-2')		0.5-2				
Production Sample Building	SB-31	SB-31 (0-0.5')		0-0.5				
		SB-31 (0.5-2')		0.5-2				
Site Boundary	SB-32	SB-32 (0-0.5')		0-0.5				
		SB-32(0.5-2')		0.5-2				

TABLE 2: SAMPLING LOCATIONS, MATRICES, ANALYTES, RATIONALE, AND CRITERIA

Tallahassee Fire Department (ERIC_7413)

Area of Concern (AOC)	Location ID	Sample ID	Matrix	Depth (ft BLS)	Drilling Method	Analyses	Rationale	Criteria
Monitoring Wells								
Site-Wide Monitoring Well Network	MW001 (10-25')	MW001 (10-25')	Groundwater	10-25	Sonic	PFAS	Site-Wide Groundwater Monitoring	Provisional Groundwater Cleanup Target Levels
	MW002 (10-25')	MW002 (10-25')						
	MW003 (10-25')	MW003 (10-25')						
	MW004 (10-25')	MW004 (10-25')						
	MW005 (10-25')	MW005 (10-25')						
	MW006 (70-80')	MW006 (70-80')		70-80				
	MW007 (60-70')	MW007 (60-70')		60-70				
	MW008 (80-90')	MW008 (80-90')		80-90				
	MW009 (130-150')	MW009D (130-150')		130-150				
	MW010 (130-150')	MW010D (130-150')						
	MW011 (130-150')	MW011 (130-150')						
	MW012 (200-220')	MW012 (200-220')		200-220				
	MW013 (255-275')	MW013 (255-275')		255-275				
Off-Site Monitoring Well Network	DEPMW-14 (10-25')	DEPMW-14 (10-25')		10-25			Delineation Sampling	
	DEPMW-15 (10-25')	DEPMW-15 (10-25')						
	DEPMW-16 (10-25')	DEPMW-16 (10-25')						
	DEPMW-17 (10-25')	DEPMW-17 (10-25')						
	DEPMW-18 (10-25')	DEPMW-18 (10-25')						
	DEPMW-19 (10-25')	DEPMW-19 (10-25')						
	DEPMW-20 (10-25')	DEPMW-20 (10-25')						
	DEPMW-21 (70-90')	DEPMW-21 (70-90')		70-90				
	DEPMW-22 (64-84')	DEPMW-22 (64-84')		64-84				
	DEPMW-23 (70-90')	DEPMW-23 (70-90')		70-90				
	DEPMW-24 (70-90')	DEPMW-24 (70-90')						
	DEPMW-25 (70-90')	DEPMW-25 (70-90')						
	DEPMW-26 (70-90')	DEPMW-26 (70-90')						
	DEPMW-27 (70-90')	DEPMW-27 (70-90')						
	DEPMW-28 (130-150')	DEPMW-28 (130-150')		130-150				
	DEPMW-29 (130-150')	DEPMW-29 (130-150')						
	DEPMW-30 (130-150')	DEPMW-30 (130-150')						
Laboratory Quality Assurance/Quality Control Samples								
Sample Type	**Activity**	**Sample ID**	**Matrix**	**Equipment Sampled**		**Analyses**	**Rationale**	**Criteria**
Equipment Blanks (ratio of 1:10)	Soil Sampling	EQB-1	Water	HA		PFAS	Assess potential sources of contamination from monitoring well installation and HA sampling equipment	N/A
		EQB-2						
	Monitoring Well Sampling	EQB-3		Peristaltic pump				
		EQB-4						
	Soil Sampling	EQB-5		HA				
		EQB-6						
		EQB-7						
	Monitoring Well Sampling	EQB-8		Submersible pump				
		EQB-9						
	Monitoring Well Installation	EQB-10		Sonic Tooling				
	Monitoring Well Sampling	EQB-14		Peristaltic pump				
		EQB-15						
		EQB-16						
Field Reagent Blanks	Monitoring Well Installation	FRB-1		N/A			Evaluate potential impact of sample cross-contamination	
	Monitoring Well Sampling	FRB-2						
	Monitoring Well Installation	FRB-4						
	Monitoring Well Sampling	FRB-5						
Investigation Derived Waste Sample								
	Drum Number	**Sample ID**	**Matrix**	**IDW Source**		**Analysis**	**Rationale**	**Criteria**
	Composite*	IDW-Soil	Soil	Soil Cuttings		VOCs, SVOCs, RCRA metals, PFAS	Waste characterization	N/A
	Composite*	IDW-GW	Water	Monitoring well purging and decontamination				

*Completed February to June 2020

Notes:

1. Sonic indicates sonic drill rig.
2. ft BLS indicates feet below land surface.
3. SB indicates soil boring.
4. MW indicates monitoring well.
5. HA indicates hand auger.
6. PFAS indicates per- and polyfluoroalkyl substances.
7. N/A indicates not applicable.
8. DUP indicates duplicate.
9. EQB indicates equipment blank.
10. FRB indicates field reagent blank.
11. IDW indicates investigation derived waste.
12. VOCs indicate volatile organic compounds.
13. SVOCs indicate semi-volatile organic compounds.
14. RCRA indicates Resource Conservation and Recovery Act.

TABLE 3: FDOH WATER WELLS WITHIN A 1-MILE RADIUS

Tallahassee Fire Department (ERIC_7413)

Map ID	Florida Unique Well Identification	Range from Site (miles)	Total Depth (ft BLS)	Casing Length (feet)	Well Diameter (inches)	Status	Address
1	AAA0270	0.5 to 1	--	--	--	Active	PO BOX 1679
2	AAA3098	0.5 to 1	--	--	2	Inactive	4003 W Pensacola
3	AAK9841	0.5 to 1	--	--	4	Active	4317 W Pensacola St
4	AAK9842	0.5 to 1	--	--	4	Active	4210 Jackson Bluff Rd
5	AAK9844	0.5 to 1	--	--	4	Active	317 Blountstown Hwy
6	AAK9845	0.5 to 1	--	--	4	Active	730 Blountstown St
7	AAK9843	0.5 to 1	--	--	4	Active	4206 Jackson Bluff Rd

Notes:

1. FDOH indicates Florida Department of Health.
2. ft BLS indicates feet below land surface.
3. -- indicates information not specified through FDOH Well Surveillance Program website.
4. Active indcates the well is used on a regular basis or will be used within a reasonable period of time (2 to 3 months).
5. Inactive indicates the well has not been regularly used within the past 6 to 12 months but is maintained in such a state that it could be used.

TABLE 4: SUMMARY OF VERTICAL GRADIENTS IN EACH WELL CLUSTER

Tallahassee Fire Training Department (ERIC_7413)

Cluster No.	Well ID	Water Table Well	Screen Interval (ft BLS)	TOC Elevation (ft NAVD88)	April 2023		
					Depth to Water (ft BTOC)	Groundwater Elevation (ft NAVD88)	Vertical Gradient (ft/ft)
1	MW001 (10-25')	X	10 to 25	61.94	16.23	45.71	--
	MW006 (70-80')		70 to 80	62.01	41.82	20.19	-0.4699
	MW009 (130-150')		130 to 150	61.86	41.90	19.96	-0.0035
	MW012 (200-220')		200 to 220	61.93	41.70	20.23	0.0039
	MW013 (255-275')		255 to 275	61.95	41.75	20.20	-0.0005
2	MW002 (10-25')	X	10 to 25	63.10	17.75	45.35	--
	MW007 (60-70')		60 to 70	62.94	42.8	20.14	-0.5758
	MW010 (130-150')		130 to 150	62.80	42.8	20.00	-0.0019
3	MW005 (10-25')	X	10 to 25	61.72	NM	NM	--
	MW008 (80-90')		80 to 90	61.53	41.61	19.92	NM
	MW011 (130-150')		130 to 150	61.34	41.61	19.73	-0.0034
4	DEPMW-14 (10-25')	X	10 to 25	63.31	20.25	43.06	--
	DEPMW-21 (70-90')		70 to 90	63.59	43.39	20.20	-0.4004
5	DEPMW-15 (10-25')	X	10 to 25	63.73	21.58	42.15	--
	DEPMW-22 (64-84')		64 to 84	63.77	43.55	20.22	-0.4328
6	DEPMW-16 (10-25')	X	10 to 25	63.81	16.72	47.09	--
	DEPMW-23 (70-90')		70 to 90	63.63	43.41	20.22	-0.4530
7	DEPMW-17 (10-25')	X	10 to 25	64.32	16.5	47.82	--
	DEPMW-24 (70-90')		70 to 90	64.21	44.03	20.18	-0.4656
8	DEPMW-18 (10-25')	X	10 to 25	61.65	15.31	46.34	--
	DEPMW-25 (70-90')		70 to 90	61.63	41.71	19.92	-0.4413
	DEPMW-28 (130-150')		130 to 150	61.62	41.7	19.92	0.0000
9	DEPMW-19 (10-25')	X	10 to 25	60.41	18.35	42.06	--
	DEPMW-26 (70-90')		70 to 90	60.42	40.52	19.90	-0.3800
	DEPMW-29 (130-150')		130 to 150	60.56	40.65	19.91	0.0002
10	DEPMW-20 (10-25')	X	10 to 25	58.81	11.94	46.87	--
	DEPMW-27 (70-90')		70 to 90	58.76	38.85	19.91	-0.4378
	DEPMW-30 (130-150')		130 to 150	58.75	38.84	19.91	0.0000

Notes:

1. ft BLS indicates feet below land surface.
2. ft NAVD88 indicates feet relative to the North American Vertical Datum 1988.
3. ft BTOC indicates feet below top of casing.
4. Vertical gradients are calculated using the vertical distance between the mid-point of the two screens divided by the difference between the groundwater elevations. Negative gradients indicate a downward direction.
5. "--" indicates the vertical gradient was not calculated.
6. NM indicates not measured.

TABLE 5: SOIL ANAYTICAL RESULTS FOR PFAS

Tallahassee Fire Department (ERIC_7413)

Sample Location	Field Sample ID	Sample Date	Sample Interval (ft BLS)	PFOA	PFOS	PFBA	PFPeA	PFHxA	PFHpA	PFNA	PFDA	PFUnA	PFDoA	PFTriA	PFTeA	4:2 FTS	6:2 FTS	8:2 FTS	PFPrS	PFBS	PFPeS
			Class	PFCA	PFSA	PFCA	PFCA	PFCA	PFCA	PFCA	PFCA	PFCA	PFCA	PFCA	PFCA	PFCA Precursor	PFCA Precursor	PFCA Precursor	PFSA	PFSA	PFSA
			Carbon Chain Length	8	8	4	5	6	7	9	10	11	12	13	14	4	6	8	3	4	5
			Provisional Residential SCTL (µg/kg)	1,300	1,300	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			Provisional Industrial SCTL (µg/kg)	25,000	25,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			Provisional Leachability SCTL (µg/kg)	2	7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SS-1	SS-1(0-1')	06/12/2019	0 to 1	0.33	**14**	0.84	1.6	0.83	0.51	0.35	0.20 I	0.32	0.12 I	0.06 I	0.07 U	NA	NA	NA	NA	0.05 I	NA
	SS-1(1-2')	06/12/2019	1 to 2	0.28	**74**	0.32 V	0.63	0.72	0.30	0.46	0.09 I	0.04 I	0.07 U	0.05 U	0.05 U	NA	NA	NA	NA	0.03 U	NA
SS-2	SS-2(0-1')	06/12/2019	0 to 1	**6.1**	7.2	0.61	1.0	0.84	0.44	0.66	0.86	1.2	0.68	0.39 J	0.24	NA	NA	NA	NA	0.03 I	NA
	SS-2(1-2')	06/12/2019	1 to 2	1.3	**290**	0.21 IV	0.55 I	0.81 I	0.19 I	0.30 I	0.30 I	0.42 I	0.32 U	0.24 U	0.26 U	NA	NA	NA	NA	0.12 U	NA
SS-3	SS-3(0-1')	06/12/2019	0 to 1	1.2	**56**	0.66	1.1	1.6	0.30	0.44	0.59	2.9	1.6	0.60	0.59	NA	NA	NA	NA	0.86	NA
	SS-3(1-2')	06/12/2019	1 to 2	0.30	**120**	0.32 V	0.47	0.99	0.13 I	0.50	1.2	0.46	0.13 I	0.06 I	0.06 U	NA	NA	NA	NA	0.24	NA
SS-4	SS-4(0-1')	06/12/2019	0 to 1	0.95	1.9	0.68	1.0	0.81	1.1	0.95	7.5	13	7.8	1.5	1.5	NA	NA	NA	NA	0.03 U	NA
	SS-4(1-2')	06/12/2019	1 to 2	0.50	2.0	0.34 V	0.50	0.50	0.60	1.1	23	1.8	0.47	0.07 I	0.08 I	NA	NA	NA	NA	0.03 U	NA
SS-5	SS-5(0-1')	06/12/2019	0 to 1	0.85	**12**	0.40 V	0.64	0.34	0.30	0.37	0.39	0.70	0.39	0.18 I	0.16 I	NA	NA	NA	NA	0.04 I	NA
	SS-5(1-2')	06/12/2019	1 to 2	0.27	**22**	0.12 IV	0.46	0.20	0.15 I	0.43	0.45	0.80	0.15 I	0.05 U	0.05 U	NA	NA	NA	NA	0.03 U	NA
SS-6	SS-6(0-1')	06/12/2019	0 to 1	**5.9**	**280**	1.5	3.3	8.8	2.2	3.7	3.4	1.6	0.79	0.32	0.25	NA	NA	NA	NA	2.0	NA
	SS-6(1-2')	06/12/2019	1 to 2	**3.7**	**970**	0.48	1.2	2.9	1.2	5.8	2.1	0.51	0.17 I	0.08 I	0.06 I	NA	NA	NA	NA	0.69	NA
SS-7	SS-7(0-1')	06/12/2019	0 to 1	2.1	**83**	0.90	1.5	1.7	0.63	2.1	1.9	0.91	0.37	0.14 I	0.10 I	NA	NA	NA	NA	0.54	NA
	SS-7(1-2')	06/12/2019	1 to 2	1.3	**500**	0.30 V	0.40	0.44	0.21	5.0	0.36	0.06 I	0.07 U	0.05 U	0.06 U	NA	NA	NA	NA	0.06 I	NA
SS-8	SS-8(0-1')	06/12/2019	0 to 1	0.30	**9.3**	0.39 V	0.56	0.70	0.15 I	0.24 I	0.18 I	0.22 I	0.13 I	0.07 U	0.07 U	NA	NA	NA	NA	0.13 I	NA
	SS-8(1-2')	06/12/2019	1 to 2	0.26	**46**	0.44	0.51	0.69	0.13 I	0.29	0.11 I	0.06 I	0.07 U	0.06 U	0.06 U	NA	NA	NA	NA	0.06 I	NA
SS-9	SS-9(0-1')	06/12/2019	0 to 1	0.67	**18**	0.21 V	0.29	0.34	0.18 I	0.73	0.88	1.0	0.71	0.25	0.27	NA	NA	NA	NA	0.05 I	NA
	SS-9(1-2')	06/12/2019	1 to 2	1.6	**18**	0.28 V	0.79	0.66	0.51	1.5	0.43	0.34	0.19 I	0.07 I	0.08 I	NA	NA	NA	NA	0.07 I	NA
SS-10	SS-10(0-1')	06/12/2019	0 to 1	1.7	**120**	0.47	0.77	0.71	0.40	3.2	0.58	0.51 J	0.23	0.10 I	0.14 I	NA	NA	NA	NA	0.21 I	NA
	SS-10(1-2')	06/12/2019	1 to 2	**3.6**	**30**	0.20 IV	0.76	0.69	0.51	1.2	0.30	0.28	0.12 I	0.08 I	0.07 I	NA	NA	NA	NA	0.16 I	NA
SS-11	SS-11(0-1')	06/12/2019	0 to 1	0.51	**74**	0.67	0.64	0.66	0.14 I	0.24	0.16 I	0.12 I	0.08 U	0.06 U	0.06 U	NA	NA	NA	NA	0.10 I	NA
	SS-11(1-2')	06/12/2019	1 to 2	0.56	**100**	0.62	0.44	0.75	0.18 I	0.12 I	0.02 U	0.04 U	0.07 U	0.05 U	0.06 U	NA	NA	NA	NA	0.05 I	NA
SS-12	SS-12(0-1')	06/12/2019	0 to 1	0.18 I	**30**	0.17 IV	0.25	0.12 I	0.09 I	0.60	0.16 I	0.14 I	0.08 U	0.06 U	0.06 U	NA	NA	NA	NA	0.03 U	NA
	SS-12(1-2')	06/12/2019	1 to 2	0.18 I	**19**	0.07 IV	0.17 I	0.08 I	0.07 I	0.43	0.06 I	0.03 I	0.06 U	0.05 U	0.05 U	NA	NA	NA	NA	0.02 U	NA
SS-13	SS-13(0-1')	06/12/2019	0 to 1	0.28	**18**	0.15 IV	0.28	0.20 I	0.19 I	0.81	0.25	0.20 I	0.10 I	0.06 U	0.06 U	NA	NA	NA	NA	0.03 U	NA
	SS-13(1-2')	06/12/2019	1 to 2	0.57	**11**	0.15 IV	0.26	0.24	0.15 I	0.59	0.05 I	0.04 U	0.07 U	0.05 U	0.06 U	NA	NA	NA	NA	0.03 U	NA
SS-14	SS-14(0-1')	06/12/2019	0 to 1	1.3	2.9	2.9	6.1	4.6	1.5	3.0	2.4	0.72	0.41	0.13 I	0.20 I	NA	NA	NA	NA	0.03 U	NA
	SS-14(1-2')	06/12/2019	1 to 2	1.3	1.7	1.6	2.2	2.2	0.95	0.98	0.40	0.16 I	0.12 I	0.06 U	0.07 I	NA	NA	NA	NA	0.03 U	NA
SS-15	SS-15(0-1')	06/12/2019	0 to 1	0.68	1.9	1.2	2.5	1.6	1.1	0.53	0.18 I	0.04 U	0.09 I	0.06 U	0.06 U	NA	NA	NA	NA	0.03 U	NA
	SS-15(1-2')	06/12/2019	1 to 2	0.71	1.9	0.76	1.7	1.5	1.4	0.27	0.07 I	0.04 U	0.08 U	0.06 U	0.06 U	NA	NA	NA	NA	0.03 U	NA
SS-16	SS-16(0-1')	06/12/2019	0 to 1	**3.3**	4.9	2.9	8.6	8.5	4.0	3.4	6.0	1.4	1.2	0.27	0.58	NA	NA	NA	NA	0.03 U	NA
	SS-16(1-2')	06/12/2019	1 to 2	**4.3**	3.9	1.5	4.9	5.3	4.3	0.47	0.23	0.07 I	0.08 U	0.06 U	0.06 U	NA	NA	NA	NA	0.03 U	NA
SS-17	SS-17(0-1')	06/12/2019	0 to 1	0.81	6.3	0.68	2.1	1.2	1.1	0.25	0.10 I	0.14 I	0.10 I	0.06 U	0.15 I	NA	NA	NA	NA	0.03 U	NA
	SS-17(1-2')	06/12/2019	1 to 2	0.36	1.0	0.87	1.2	1.1	0.99	0.09 I	0.03 U	0.04 U	0.08 U	0.06 U	0.06 U	NA	NA	NA	NA	0.03 U	NA
SS-18	SS-18(0-1')	06/12/2019	0 to 1	0.27	0.83	0.23 IV	0.56	0.19 I	0.13 I	0.11 I	0.69	0.62	0.67	0.18 I	0.26	NA	NA	NA	NA	0.03 U	NA
	SS-18(1-2')	06/12/2019	1 to 2	0.11 U	0.25 U	0.17 IV	0.11 I	0.05 U	0.04 I	0.05 U	0.20 I	0.18 I	0.09 U	0.07 U	0.07 U	NA	NA	NA	NA	0.03 U	NA
SS-19	SS-19(0-1')	06/12/2019	0 to 1	0.10 I	1.8	0.03 U	0.35	0.08 I	0.05 I	0.08 I	0.17 I	0.35	0.16 I	0.05 U	0.06 I	NA	NA	NA	NA	0.03 U	NA
	SS-19(1-2')	06/12/2019	1 to 2	0.09 U	0.84	0.11 IV	0.08 U	0.04 U	0.03 U	0.04 U	0.12 I	0.04 U	0.07 U	0.05 U	0.06 U	NA	NA	NA	NA	0.03 U	NA
SS-20	SS-20(0-1')	06/12/2019	0 to 1	0.47	2.0	0.54 V	0.59	0.49	0.41	0.35	1.1	1.8	1.4	0.38	0.51	NA	NA	NA	NA	0.03 U	NA
	SS-20(1-2')	06/12/2019	1 to 2	0.21 I	0.75	0.55 V	0.13 I	0.14 I	0.14 I	0.23 I	0.86	0.77	0.10 I	0.06 U	0.07 U	NA	NA	NA	NA	0.03 U	NA
SB-21	SB-21 (0-0.5')	02/26/2020	0 to 0.5	0.59	1.9	0.85	1.4	0.70	0.41	0.77	0.42	0.32	0.18 I	0.05 U	0.08 I	NA	0.16 U	0.26 U	NA	0.03 U	NA
	SB-21 (0.5-2')	02/26/2020	0.5 to 2	0.40	1.8	0.89	1.7	0.93	0.63	0.28	0.16 I	0.11 I	0.08 I	0.05 U	0.06 IJ	NA	0.15 U	0.26 U	NA	0.03 U	NA
	SB-21 (2-4')	02/26/2020	2 to 4	0.20	1.3	0.69	1.4	0.98	0.55	0.11 I	0.02 U	0.04 U	0.07 U	0.05 U	0.05 U	NA	0.15 U	0.25 U	NA	0.03 U	NA
	SB-21 (4-6')	02/26/2020	4 to 6	0.12 I	0.97	0.15 IV	0.43	0.54	0.38	0.04 I	0.02 U	0.04 U	0.07 U	0.05 U	0.06 U	NA	0.15 U	0.25 U	NA	0.03 U	NA
	SB-21 (6-8')	02/26/2020	6 to 8	0.42	2.9	1.0	4.4	3.6	1.1	0.10 I	0.03 U	0.05 I	0.08 U	0.06 U	0.06 U	NA	0.97 I	0.28 U	NA	0.07 I	NA
	SB-21 (8-10')	02/26/2020	8 to 10	0.46	2.7	1.2	6.3	5.2	1.7	0.04 I	0.03 U	0.04 U	0.08 U	0.06 U	0.06 U	NA	2.0 I	0.28 U	NA	0.10 I	NA
SB-22	SB-22 (0-0.5')	02/24/2020	0 to 0.5	0.09 I	2.4	0.12 IV	0.15 I	0.07 I	0.07 I	0.15 I	0.08 I	0.09 I	0.07 U	0.05 U	0.06 U	NA	0.16 U	0.26 U	NA	0.03 U	NA
	SB-22 (0.5-2')	02/24/2020	0.5 to 2	0.12 I	0.42 I	0.17 IV	0.16 I	0.08 I	0.07 I	0.04 U	0.02 U	0.04 U	0.07 U	0.06 U	0.06 U	NA	0.17 U	0.28 U	NA	0.03 U	NA
	SB-22 (2-4')	02/24/2020	2 to 4	0.09 U	0.21 I	0.11 IV	0.08 U	0.05 U	0.03 U	0.04 U	0.02 U	0.04 U	0.07 U	0.06 U	0.06 U	NA	0.16 U	0.27 U	NA	0.03 U	NA
	SB-22 (4-6')	02/24/2020	4 to 6	0.10 U	0.28 I	0.12 IV	0.10 I	0.09 I	0.05 I	0.04 U	0.03 U	0.04 U	0.08 U	0.06 U	0.07 U	NA	0.18 U	0.30 U	NA	0.03 U	NA
	SB-22 (6-8')	02/24/2020	6 to 8	0.10 U	0.24 U	0.24 V	0.15 I	0.14 I	0.07 I	0.04 U	0.03 U	0.04 U	0.08 U	0.06 U	0.06 U	NA	0.18 U	0.29 U	NA	0.03 U	NA
	SB-22 (8-10')	02/24/2020	8 to 10	0.11 U	0.24 U	0.14 IV	0.09 U	0.07 I	0.04 U	0.04 U	0.03 U	0.04 U	0.08 U	0.06 U	0.07 U	NA	0.18 U	0.31 U	NA	0.03 U	NA

TABLE 5: SOIL ANAYTICAL RESULTS FOR PFAS

Tallahassee Fire Department (ERIC_7413)

Sample Location	Field Sample ID	Sample Date	Sample Interval (ft BLS)	PFHxS	PFHpS	PFNS	PFDS	FBSA	FHxSA	FOSA	NEtFOSAA	NMeFOSAA	ADONA	11Cl-PF3OUdS	9Cl-PF3ONS	HFPO-DA	PFMPA	PFMBA	PFECHS	PFEESA	NFDHA
			Class	PFSA	PFSA	PFSA	PFSA	PFSA Precursor	PFSA Precursor	PFSA Precursor	PFSA Precursor	PFSA Precursor	Replacement	Replacement	Replacement	Replacement	Misc.	Misc.	Misc.	Misc.	Misc.
			Carbon Chain Length	6	7	9	10	4	6	8	8	8	*	*	*	*	*	*	*	*	*
			Provisional Residential SCTL (µg/kg)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			Provisional Industrial SCTL (µg/kg)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			Provisional Leachability SCTL (µg/kg)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SS-1	SS-1(0-1')	06/12/2019	0 to 1	0.62	0.07 I	NA	0.31	NA	NA	0.10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SS-1(1-2')	06/12/2019	1 to 2	0.65	0.19 I	NA	0.08 I	NA	NA	0.10 I	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SS-2	SS-2(0-1')	06/12/2019	0 to 1	0.54	0.06 I	NA	0.28	NA	NA	0.09 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SS-2(1-2')	06/12/2019	1 to 2	5.8	2.1	NA	1.0	NA	NA	0.61 I	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SS-3	SS-3(0-1')	06/12/2019	0 to 1	18	1.6	NA	0.97	NA	NA	7.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SS-3(1-2')	06/12/2019	1 to 2	9.2	0.73	NA	0.06 I	NA	NA	0.73	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SS-4	SS-4(0-1')	06/12/2019	0 to 1	0.18 I	0.04 U	NA	0.05 U	NA	NA	0.09 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SS-4(1-2')	06/12/2019	1 to 2	0.06 I	0.04 U	NA	0.04 U	NA	NA	0.08 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SS-5	SS-5(0-1')	06/12/2019	0 to 1	0.65	0.09 I	NA	0.25	NA	NA	0.13 I	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SS-5(1-2')	06/12/2019	1 to 2	0.87	0.16 I	NA	0.69	NA	NA	0.11 I	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SS-6	SS-6(0-1')	06/12/2019	0 to 1	42	2.5	NA	1.3	NA	NA	7.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SS-6(1-2')	06/12/2019	1 to 2	22	2.9	NA	0.73	NA	NA	1.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SS-7	SS-7(0-1')	06/12/2019	0 to 1	14	0.86	NA	0.24	NA	NA	1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SS-7(1-2')	06/12/2019	1 to 2	5.0	1.3	NA	0.04 U	NA	NA	0.11 I	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SS-8	SS-8(0-1')	06/12/2019	0 to 1	3.8	0.17 I	NA	0.51	NA	NA	0.69	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SS-8(1-2')	06/12/2019	1 to 2	5.9	0.35	NA	0.10 I	NA	NA	0.61	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SS-9	SS-9(0-1')	06/12/2019	0 to 1	1.2	0.19 I	NA	0.17 I	NA	NA	0.09 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SS-9(1-2')	06/12/2019	1 to 2	4.4	0.30	NA	0.07 I	NA	NA	0.09 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SS-10	SS-10(0-1')	06/12/2019	0 to 1	8.5	2.6	NA	0.15 IJ	NA	NA	0.17 I	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SS-10(1-2')	06/12/2019	1 to 2	19	3.0	NA	0.10 I	NA	NA	0.09 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SS-11	SS-11(0-1')	06/12/2019	0 to 1	2.3	0.21 I	NA	0.35	NA	NA	0.33	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SS-11(1-2')	06/12/2019	1 to 2	1.3	0.41	NA	0.04 U	NA	NA	0.09 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SS-12	SS-12(0-1')	06/12/2019	0 to 1	0.58	0.10 I	NA	0.05 I	NA	NA	0.10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SS-12(1-2')	06/12/2019	1 to 2	0.65	0.26	NA	0.04 U	NA	NA	0.08 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SS-13	SS-13(0-1')	06/12/2019	0 to 1	0.32	0.14 I	NA	0.07 I	NA	NA	0.09 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SS-13(1-2')	06/12/2019	1 to 2	0.33	0.50	NA	0.04 U	NA	NA	0.09 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SS-14	SS-14(0-1')	06/12/2019	0 to 1	0.10 I	0.04 U	NA	0.04 U	NA	NA	0.09 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SS-14(1-2')	06/12/2019	1 to 2	0.04 U	0.04 U	NA	0.04 U	NA	NA	0.09 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SS-15	SS-15(0-1')	06/12/2019	0 to 1	0.08 I	0.04 U	NA	0.05 U	NA	NA	0.10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SS-15(1-2')	06/12/2019	1 to 2	0.19 I	0.12 I	NA	0.04 U	NA	NA	0.09 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SS-16	SS-16(0-1')	06/12/2019	0 to 1	0.07 I	0.04 U	NA	0.04 U	NA	NA	0.09 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SS-16(1-2')	06/12/2019	1 to 2	0.73	0.13 I	NA	0.05 U	NA	NA	0.09 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SS-17	SS-17(0-1')	06/12/2019	0 to 1	1.5	0.15 I	NA	0.04 U	NA	NA	0.09 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SS-17(1-2')	06/12/2019	1 to 2	0.53	0.04 U	NA	0.04 U	NA	NA	0.09 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SS-18	SS-18(0-1')	06/12/2019	0 to 1	0.07 I	0.04 U	NA	0.13 I	NA	NA	0.10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SS-18(1-2')	06/12/2019	1 to 2	0.04 U	0.04 U	NA	0.05 U	NA	NA	0.10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SS-19	SS-19(0-1')	06/12/2019	0 to 1	0.21	0.04 U	NA	0.12 I	NA	NA	0.09 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SS-19(1-2')	06/12/2019	1 to 2	0.04 I	0.04 U	NA	0.04 U	NA	NA	0.09 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SS-20	SS-20(0-1')	06/12/2019	0 to 1	0.41	0.05 I	NA	0.34	NA	NA	0.22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SS-20(1-2')	06/12/2019	1 to 2	0.19 I	0.04 U	NA	0.05 I	NA	NA	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-21	SB-21 (0-0.5')	02/26/2020	0 to 0.5	0.11 I	0.04 U	NA	0.04 U	NA	NA	0.09 U	0.39 U	0.41 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-21 (0.5-2')	02/26/2020	0.5 to 2	0.08 I	0.04 U	NA	0.04 U	NA	NA	0.08 U	0.38 U	0.40 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-21 (2-4')	02/26/2020	2 to 4	0.12 I	0.04 U	NA	0.04 U	NA	NA	0.08 U	0.37 U	0.39 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-21 (4-6')	02/26/2020	4 to 6	0.13 I	0.04 U	NA	0.04 U	NA	NA	0.08 U	0.38 U	0.40 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-21 (6-8')	02/26/2020	6 to 8	0.91	0.04 U	NA	0.04 U	NA	NA	0.09 U	0.42 U	0.44 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-21 (8-10')	02/26/2020	8 to 10	1.5	0.04 I	NA	0.04 U	NA	NA	0.09 U	0.41 U	0.44 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-22	SB-22 (0-0.5')	02/24/2020	0 to 0.5	0.06 I	0.04 U	NA	0.04 U	NA	NA	0.09 U	0.39 U	0.41 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-22 (0.5-2')	02/24/2020	0.5 to 2	0.04 I	0.04 U	NA	0.04 U	NA	NA	0.09 U	0.41 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-22 (2-4')	02/24/2020	2 to 4	0.03 U	0.04 U	NA	0.04 U	NA	NA	0.09 U	0.40 U	0.42 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-22 (4-6')	02/24/2020	4 to 6	0.05 I	0.04 U	NA	0.05 U	NA	NA	0.10 U	0.45 U	0.47 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-22 (6-8')	02/24/2020	6 to 8	0.09 I	0.04 U	NA	0.05 U	NA	NA	0.10 U	0.44 U	0.46 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-22 (8-10')	02/24/2020	8 to 10	0.08 I	0.04 U	NA	0.05 U	NA	NA	0.10 U	0.45 U	0.48 U	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 5: SOIL ANAYTICAL RESULTS FOR PFAS

Tallahassee Fire Department (ERIC_7413)

Sample Location	Field Sample ID	Sample Date	Sample Interval (ft BLS)	PFOA	PFOS	PFBA	PFPeA	PFHxA	PFHpA	PFNA	PFDA	PFUnA	PFDoA	PFTriA	PFTeA	4:2 FTS	6:2 FTS	8:2 FTS	PFPrS	PFBS	PFPeS
			Class	PFCA	PFSA	PFCA	PFCA	PFCA	PFCA	PFCA	PFCA	PFCA	PFCA	PFCA	PFCA	PFCA Precursor	PFCA Precursor	PFCA Precursor	PFSA	PFSA	PFSA
			Carbon Chain Length	8	8	4	5	6	7	9	10	11	12	13	14	4	6	8	3	4	5
			Provisional Residential SCTL (µg/kg)	1,300	1,300	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			Provisional Industrial SCTL (µg/kg)	25,000	25,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-23	SB-23 (0-0.5')	02/26/2020	0 to 0.5	0.45	**37**	0.36	0.54	0.53	0.25	1.1	1.4	0.62	0.31	0.10 I	0.08 I	NA	0.69 I	2.2	NA	0.03 I	NA
	SB-23 (0.5-2')	02/26/2020	0.5 to 2	**2.6**	**75**	0.24 V	0.73	0.72	0.56	3.6	0.35	0.21	0.10 I	0.06 U	0.06 U	NA	0.16 U	0.27 U	NA	0.13 I	NA
	SB-23 (2-4')	02/26/2020	2 to 4	1.3	3.8	0.07 IV	0.18 I	0.27	0.36	0.17 I	0.02 U	0.04 U	0.07 U	0.05 U	0.06 U	NA	0.15 U	0.25 U	NA	0.03 I	NA
	SB-23 (4-6')	02/26/2020	4 to 6	0.75	1.8	0.08 IV	0.16 I	0.21	0.14 I	0.11 I	0.02 U	0.04 U	0.07 U	0.05 U	0.06 U	NA	0.15 U	0.26 U	NA	0.03 I	NA
	SB-23 (6-8')	02/26/2020	6 to 8	0.84	2.9	0.11 IV	0.20 I	0.21 I	0.08 I	0.07 I	0.02 U	0.04 IJ	0.07 U	0.06 U	0.06 U	NA	0.16 I	0.27 U	NA	0.03 I	NA
	SB-23 (8-10')	02/26/2020	8 to 10	1.0	4.7	0.24 V	0.53	0.60	0.23	0.11 I	0.03 I	0.04 U	0.07 U	0.06 U	0.06 U	NA	0.63 I	0.27 U	NA	0.16 I	NA
SB-24	SB-24 (0.5')	02/24/2020	0.5 to 0.5	0.10 I	0.85	0.07 IV	0.50	0.05 I	0.03 I	0.06 I	0.11 I	0.09 I	0.07 U	0.05 U	0.06 U	NA	0.15 U	0.25 U	NA	0.12 I	NA
	SB-24 (0.5-2')	02/24/2020	0.5 to 2	0.84	3.1	0.31	0.71	0.63	0.30	0.15 I	0.02 U	0.04 U	0.07 U	0.05 U	0.06 U	NA	0.15 U	0.26 U	NA	0.03 U	NA
	SB-24 (2-4')	02/24/2020	2 to 4	0.19 I	0.76	0.11 I	0.14 I	0.11 I	0.04 I	0.04 U	0.02 U	0.04 U	0.07 U	0.06 U	0.06 U	NA	0.16 U	0.27 U	NA	0.09 I	NA
	SB-24 (4-6')	02/24/2020	4 to 6	1.1	6.7	0.32	0.66	0.69	0.31	0.10 I	0.03 I	0.04 U	0.08 U	0.06 U	0.06 U	NA	0.17 U	0.28 U	NA	0.08 I	NA
	SB-24 (6-8')	02/24/2020	6 to 8	0.38	1.0	0.09 I	0.32	0.14 I	0.08 I	0.07 I	0.08 I	0.07 I	0.07 U	0.06 U	0.06 U	NA	0.16 U	0.27 U	NA	0.03 I	NA
	SB-24 (8-10')	02/24/2020	8 to 10	0.11 I	1.6	0.06 I	0.13 I	0.11 I	0.07 I	0.04 U	0.03 U	0.04 U	0.08 U	0.06 U	0.06 U	NA	0.18 U	0.29 U	NA	0.10 I	NA
SB-25	SB-25 (0-0.5')	02/26/2020	0 to 0.5	1.3	1.5	0.05 I	0.53	0.13 I	0.09 I	0.11 I	0.52	0.46	0.19 I	0.13 I	0.08 I	NA	0.17 U	0.28 U	NA	0.03 U	NA
	SB-25 (0.5-2')	02/26/2020	0.5 to 2	0.28	1.3	0.21	0.21	0.12 I	0.15 I	0.31	0.08 I	0.04 U	0.07 U	0.05 U	0.06 U	NA	0.16 U	0.26 U	NA	0.03 U	NA
	SB-25 (2-4')	02/26/2020	2 to 4	0.13 I	0.47 I	0.08 I	0.13 I	0.07 I	0.11 I	0.08 I	0.02 U	0.04 U	0.07 U	0.06 U	0.06 U	NA	0.17 U	0.28 U	NA	0.03 U	NA
	SB-25 (4-6')	02/26/2020	4 to 6	0.12 U	0.59 I	0.08 I	0.11 I	0.06 U	0.07 I	0.08 I	0.03 U	0.05 U	0.10 U	0.07 U	0.08 U	NA	0.22 U	0.36 U	NA	0.04 U	NA
	SB-25 (6-8')	02/27/2020	6 to 8	0.10 U	0.56	0.05 I	0.09 U	0.05 U	0.04 I	0.06 I	0.02 U	0.04 U	0.07 U	0.06 U	0.06 U	NA	0.17 I	0.28 U	NA	0.03 U	NA
	SB-25 (8-10')	02/27/2020	8 to 10	0.10 U	0.81	0.07 I	0.09 I	0.05 U	0.05 I	0.06 I	0.03 U	0.04 U	0.08 U	0.06 U	0.06 U	NA	0.34 I	0.29 U	NA	0.03 U	NA
SB-26	SB-26 (0-0.5')	06/08/2020	0 to 0.5	1.3	4.6	1.3 V	1.8	1.0	0.47	0.69	1.6	1.5 J3	0.87	0.32	0.33	NA	0.44	1.7 J3	NA	0.03 U	NA
	SB-26 (0.5-2')	06/08/2020	0.5 to 2	1.6	**26**	0.41 V	0.60	1.0	0.31	0.49	0.63	0.85	0.29	0.06	0.05 U	NA	0.76	1.3	NA	0.30	NA
	SB-26 (2-4')	06/08/2020	2 to 4	0.26	**40**	0.17 IV	0.11 I	0.18 I	0.26	0.18 I	0.13 I	0.04 U	0.07 U	0.05 U	0.06 U	NA	0.15 U	0.26 U	NA	0.03 U	NA
	SB-26 (4-6)	06/08/2020	4 to 6	0.29	**31**	0.28	0.18 I	0.27	0.10 I	0.14 I	0.14 I	0.04 U	0.08 U	0.06 U	0.07 U	NA	0.18 U	0.67 I	NA	0.03 I	NA
	SB-26 (6-8')	06/08/2020	6 to 8	0.64	6.2	0.72	1.4	1.7	0.55	0.13 I	0.03 IJ	0.04 U	0.07 U	0.06 U	0.06 U	NA	4.0	0.72 I	NA	1.5	NA
	SB-26 (8-10')	06/08/2020	8 to 10	0.82	**16**	0.62	1.1	1.6	0.63	0.18 I	0.03 U	0.04 U	0.08 U	0.06 U	0.06 U	NA	3.4	1.7 I	NA	0.77	NA
	SB-26 (10-12')	06/08/2020	10 to 12	0.36	**14**	0.44	1.1	1.1	0.30	0.11 I	0.07 I	0.04 U	0.08 U	0.06 U	0.06 U	NA	2.8	0.73 I	NA	0.19 I	NA
	SB-26 (12-14')	06/08/2020	12 to 14	0.49	7.2	0.57	1.7	1.7	0.52	0.18 I	0.03 U	0.04 U	0.08 U	0.06 U	0.06 U	NA	3.8	0.29 U	NA	0.24	NA
	SB-26 (14-16)	06/08/2020	14 to 16*	0.40	5.0	0.46	1.1	1.2	0.41	0.10 I	0.03 U	0.05 U	0.08 U	0.06 U	0.07 U	NA	2.2 I	0.31 U	NA	0.19 I	NA
SB-27	SB-27 (0-0.5')	06/08/2020	0 to 0.5	**5.1**	**92**	0.82 V	0.84	1.1	0.49	2.5	3.2	2.3	0.54	0.26	0.18 I	NA	5.5	30	NA	0.20 I	NA
	SB-27 (0.5-2)	06/08/2020	0.5 to 2	**3.0**	**530**	0.27 V	0.41	0.65	0.49	5.8	0.50	0.24	0.08 I	0.06 I	0.06 I	NA	3.7	4.0	NA	0.12 I	NA
	SB-27 (2-4)	06/08/2020	2 to 4	**4.9**	**210**	0.40 V	0.67	1.3	2.1	2.6	0.08 I	0.05 I	0.07 U	0.06 U	0.06 U	NA	4.7	1.3 I	NA	0.25	NA
	SB-27 (4-6)	06/08/2020	4 to 6	**2.6**	5.4 J	1.1	2.5	4.1	0.90	0.08 I	0.03 U	0.04 U	0.08 U	0.06 U	0.06 U	NA	23 L	0.28 U	NA	1.9	NA
	SB-27 (6-8)	06/08/2020	6 to 8	**2.6**	4.5	1.4	3.1	4.4	1.3	0.10 I	0.02 U	0.04 U	0.07 U	0.05 U	0.06 U	NA	18	0.27 U	NA	3.5	NA
	SB-27 (8-10)	06/08/2020	8 to 10	1.9	3.7	1.4	2.8	4.0	1.1	0.09 I	0.02 U	0.04 U	0.07 U	0.06 U	0.06 U	NA	13	0.28 U	NA	2.6	NA
	SB-27 (10-12)	06/08/2020	10 to 12	2.3	6.6	1.3 V	2.6	3.8	1.1	0.15 I	0.02 U	0.04 U	0.07 U	0.06 U	0.06 U	NA	16	0.27 U	NA	2.6	NA
	SB-27 (12-14)	06/08/2020	12 to 14	1.2	3.5	1.0 V	1.9	2.9	0.75	0.08 I	0.02 U	0.04 U	0.07 U	0.06 U	0.06 U	NA	8.9	0.28 U	NA	2.6	NA
	SB-27 (14-16)	06/08/2020	14 to 16*	0.55	2.7	0.81 V	1.4	2.0	0.44	0.06 I	0.02 U	0.04 U	0.07 U	0.06 U	0.06 U	NA	2.7 J3	0.27 U	NA	3.1 J3	NA
SB-28	SB-28 (0-0.5)	06/08/2020	0 to 0.5	**55**	**63**	0.82 V	1.1	2.0	1.1	1.6	4.0	2.7	0.79	0.35	0.33	NA	2.1 I	9.4	NA	0.15 I	NA
	SB-28 (0.5-2.0')	06/08/2020	0.5 to 2	1.1	**520**	0.38 V	0.46	0.69	0.20	4.8	0.63	0.18 I	0.07 I	0.05 U	0.05 U	NA	1.0 I	0.79 I	NA	0.14 I	NA
	SB-28 (2-4')	06/08/2020	2 to 4	0.83	**57**	0.22 V	0.20 I	0.27	0.30	1.1	0.09 I	0.07 I	0.07 U	0.05 U	0.06 U	NA	0.36 I	0.56 I	NA	0.05 I	NA
	SB-28 (4-6)	06/08/2020	4 to 6	0.19 I	0.77 V	0.30 V	0.24	0.26	0.05 I	0.04 U	0.03 U	0.04 U	0.08 U	0.06 U	0.06 U	NA	0.17 U	0.28 U	NA	0.10 I	NA
	SB-28 (6-8)	06/08/2020	6 to 8	0.30	0.44 IV	0.58 V	0.79	0.85	0.26	0.04 U	0.03 U	0.04 U	0.08 U	0.06 U	0.07 U	NA	0.19 I	0.31 U	NA	0.78	NA
	SB-28 (8-10)	06/08/2020	8 to 10	0.34	0.73 V	0.61 V	1.0	1.1	0.31	0.04 U	0.03 U	0.04 U	0.08 U	0.06 U	0.07 U	NA	0.22 I	0.30 U	NA	1.0	NA
	SB-28 (10-12)	06/08/2020	10 to 12	0.32	0.61 V	0.69 V	1.1	1.1	0.30	0.04 U	0.03 U	0.04 U	0.08 U	0.06 U	0.06 U	NA	0.31 I	0.29 U	NA	1.1	NA
	SB-28 (12-14)	06/08/2020	12 to 14	0.28	0.30 IV	0.69 V	1.1	1.2	0.32	0.05 U	0.03 U	0.05 U	0.09 U	0.07 U	0.07 U	NA	0.37 I	0.32 U	NA	1.2	NA
	SB-28 (14-16)	06/08/2020	14 to 16*	0.20 I	0.24 U	0.86 V	1.5	1.4	0.35	0.04 U	0.03 U	0.04 U	0.08 U	0.06 U	0.07 U	NA	0.18 I	0.30 U	NA	1.7	NA
SB-29	SB-29 (0.0-0.5)	06/08/2020	0 to 0.5	0.42 Q	1.3 Q	0.61 Q	1.1 Q	0.43 Q	0.34 Q	0.43 Q	0.32 Q	0.41 Q	0.44 Q	0.24 Q	0.34 Q	NA	0.26 IQ	0.64 IQ	NA	0.07 IQ	NA
	SB-29 (0.5-2)	06/08/2020	0.5 to 2	0.10 U	2.2 V	0.19 IV	0.09 U	0.05 U	0.04 I	0.09 I	0.04 I	0.04 U	0.07 U	0.06 U	0.06 U	NA	0.17 U	0.28 U	NA	0.03 U	NA
SB-30	SB-30 (0-0.5)	06/08/2020	0 to 0.5	0.09 U	0.85 V	1.5 V	0.08 U	0.05 U	0.03 U	0.04 U	0.02 U	0.78	0.45	0.11 IJ	0.21 I	NA	1.9 I	1.6 I	NA	0.03 U	NA
	SB-30 (0.5-2)	06/08/2020	0.5 to 2	0.10 I	1.1 V	0.21 IV	0.19 I	0.17 I	0.09 I	0.40	0.71	0.17 I	0.13 I	0.06 U	0.07 I	NA	0.17 U	0.31 I	NA	0.03 U	NA
SB-31	SB-31 (0-0.5)	06/08/2020	0 to 0.5	0.54	0.22 U	0.94 V	1.2	0.68	0.75	0.77	2.7	2.8	2.0	0.32	0.69	NA	11	11	NA	0.03 U	NA
	SB-31 (0.5-2)	06/08/2020	0.5 to 2	0.34	0.22 U	0.30 V	0.27	0.18 I	0.23	0.94	5.4	0.28	0.27	0.06 I	0.09 I	NA	1.5 I	13	NA	0.03 U	NA
SB-32	SB-32 (0-0.5)	06/08/2020	0 to 0.5	0.19 I	5.9	0.30 V	0.33	0.29	0.16 I	0.22 I	0.35	1.4	0.58	0.27	0.25	NA	0.21 I	0.46 I	NA	0.03 U	NA
	SB-32 (0.5-2.0)	06/08/2020	0.5 to 2	0.13 I	**9.4**	0.19 IV	0.15 I	0.12 I	0.12 I	0.16 I	0.43	0.06 I	0.08 U	0.06 U	0.06 U	NA	0.27 I	0.28 U	NA	0.03 U	NA

TABLE 5: SOIL ANAYTICAL RESULTS FOR PFAS

Tallahassee Fire Department (ERIC_7413)

Sample Location	Field Sample ID	Sample Date	Sample Interval (ft BLS)	PFHxS	PFHpS	PFNS	PFDS	FBSA	FHxSA	FOSA	NEtFOSAA	NMeFOSAA	ADONA	11Cl-PF3OUdS	9Cl-PF3ONS	HFPO-DA	PFMPA	PFMBA	PFECHS	PFEESA	NFDHA
			Class	PFSA	PFSA	PFSA	PFSA	PFSA Precursor	PFSA Precursor	PFSA Precursor	PFSA Precursor	PFSA Precursor	Replacement	Replacement	Replacement	Replacement	Misc.	Misc.	Misc.	Misc.	Misc.
			Carbon Chain Length	6	7	9	10	4	6	8	8	8	*	*	*	*	*	*	*	*	*
			Provisional Residential SCTL (µg/kg)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			Provisional Industrial SCTL (µg/kg)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SB-23	SB-23 (0-0.5')	02/26/2020	0 to 0.5	1.0	0.19 I	NA	0.13 I	NA	NA	0.09 U	0.40 U	0.42 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-23 (0.5-2')	02/26/2020	0.5 to 2	9.7	4.1	NA	0.18 I	NA	NA	0.09 U	0.40 U	0.42 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-23 (2-4')	02/26/2020	2 to 4	3.9	0.49	NA	0.04 U	NA	NA	0.08 U	0.37 U	0.39 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-23 (4-6')	02/26/2020	4 to 6	0.83	0.49	NA	0.04 U	NA	NA	0.08 U	0.38 U	0.40 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-23 (6-8')	02/26/2020	6 to 8	0.95	0.34	NA	0.04 U	NA	NA	0.09 U	0.40 U	0.42 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-23 (8-10')	02/26/2020	8 to 10	7.9	0.27	NA	0.04 U	NA	NA	0.09 U	0.40 U	0.42 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-24	SB-24 (0.5')	02/24/2020	0.5 to 0.5	0.09 I	0.04 U	NA	0.04 U	NA	NA	0.08 U	0.37 U	0.39 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-24 (0.5-2')	02/24/2020	0.5 to 2	0.11 I	0.04 U	NA	0.04 U	NA	NA	0.08 U	0.38 U	0.40 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-24 (2-4')	02/24/2020	2 to 4	1.1	0.04 U	NA	0.04 U	NA	NA	0.09 U	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-24 (4-6')	02/24/2020	4 to 6	0.69	0.04 U	NA	0.04 U	NA	NA	0.09 U	0.41 U	0.44 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-24 (6-8')	02/24/2020	6 to 8	0.14 I	0.04 U	NA	0.04 U	NA	NA	0.09 U	0.40 U	0.42 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-24 (8-10')	02/24/2020	8 to 10	0.23 I	0.04 U	NA	0.05 U	NA	NA	0.10 U	0.43 U	0.46 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-25	SB-25 (0-0.5')	02/26/2020	0 to 0.5	0.07 I	0.04 U	NA	0.04 U	NA	NA	0.09 U	0.42 U	0.44 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-25 (0.5-2')	02/26/2020	0.5 to 2	0.06 I	0.04 U	NA	0.04 U	NA	NA	0.09 U	0.39 U	0.41 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-25 (2-4')	02/26/2020	2 to 4	0.04 I	0.04 U	NA	0.04 U	NA	NA	0.09 U	0.41 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-25 (4-6')	02/26/2020	4 to 6	0.05 U	0.05 U	NA	0.06 U	NA	NA	0.12 U	0.54 U	0.57 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-25 (6-8')	02/27/2020	6 to 8	0.05 I	0.04 U	NA	0.04 U	NA	NA	0.09 U	0.41 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-25 (8-10')	02/27/2020	8 to 10	0.08 I	0.04 U	NA	0.05 U	NA	NA	0.09 U	0.42 U	0.45 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-26	SB-26 (0-0.5')	06/08/2020	0 to 0.5	0.32	0.05	NA	0.15	NA	NA	0.10 U	0.45 U	0.48 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-26 (0.5-2')	06/08/2020	0.5 to 2	2.8	0.33	NA	2.0	NA	NA	7.1	0.36 U	0.38 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-26 (2-4')	06/08/2020	2 to 4	1.3	0.27	NA	0.07 I	NA	NA	0.25	0.38 U	0.40 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-26 (4-6)	06/08/2020	4 to 6	0.58	0.27	NA	0.18 I	NA	NA	1.3	0.44 U	0.47 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-26 (6-8')	06/08/2020	6 to 8	8.0	0.22	NA	0.04 U	NA	NA	0.09 U	0.40 U	0.42 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-26 (8-10')	06/08/2020	8 to 10	7.0	0.29	NA	0.05 I	NA	NA	0.42	0.42 U	0.45 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-26 (10-12')	06/08/2020	10 to 12	0.95	0.09 I	NA	0.09 I	NA	NA	0.82	0.42 U	0.44 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-26 (12-14')	06/08/2020	12 to 14	1.4	0.06 I	NA	0.05 U	NA	NA	0.10 U	0.43 U	0.45 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-26 (14-16)	06/08/2020	14 to 16*	1.3	0.06 I	NA	0.05 U	NA	NA	0.10 U	0.46 U	0.48 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-27	SB-27 (0-0.5')	06/08/2020	0 to 0.5	5.7	1.0	NA	1.2	NA	NA	3.6	0.45 U	0.47 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-27 (0.5-2)	06/08/2020	0.5 to 2	14	4.4	NA	0.26	NA	NA	0.25	0.40 U	0.42 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-27 (2-4)	06/08/2020	2 to 4	42	6.3	NA	0.04 U	NA	NA	0.09 U	0.40 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-27 (4-6)	06/08/2020	4 to 6	15	1.1	NA	0.04 U	NA	NA	0.09 U	0.41 U	0.44 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-27 (6-8)	06/08/2020	6 to 8	22	0.76	NA	0.04 U	NA	NA	0.09 U	0.39 U	0.42 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-27 (8-10)	06/08/2020	8 to 10	17	0.49	NA	0.04 U	NA	NA	0.09 U	0.41 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-27 (10-12)	06/08/2020	10 to 12	19	0.67	NA	0.04 U	NA	NA	0.09 U	0.41 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-27 (12-14)	06/08/2020	12 to 14	13	0.30	NA	0.04 U	NA	NA	0.09 U	0.41 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-27 (14-16)	06/08/2020	14 to 16*	7.6 J3	0.13 I	NA	0.04 U	NA	NA	0.09 U	0.40 U	0.42 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-28	SB-28 (0-0.5)	06/08/2020	0 to 0.5	7.6	0.89	NA	0.25	NA	NA	1.3	0.41 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-28 (0.5-2.0')	06/08/2020	0.5 to 2	6.5	2.0	NA	0.08 I	NA	NA	0.11 I	0.36 U	0.38 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-28 (2-4')	06/08/2020	2 to 4	15	0.68	NA	0.04 U	NA	NA	0.09 U	0.39 U	0.41 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-28 (4-6)	06/08/2020	4 to 6	1.3	0.07 I	NA	0.04 U	NA	NA	0.09 U	0.42 U	0.44 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-28 (6-8)	06/08/2020	6 to 8	3.2	0.07 I	NA	0.05 U	NA	NA	0.10 U	0.46 U	0.48 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-28 (8-10)	06/08/2020	8 to 10	3.6	0.09 I	NA	0.05 U	NA	NA	0.10 U	0.45 U	0.47 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-28 (10-12)	06/08/2020	10 to 12	3.7	0.09 I	NA	0.05 U	NA	NA	0.10 U	0.43 U	0.45 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-28 (12-14)	06/08/2020	12 to 14	3.2	0.05 I	NA	0.05 U	NA	NA	0.10 U	0.47 U	0.50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-28 (14-16)	06/08/2020	14 to 16*	2.6	0.04 U	NA	0.05 U	NA	NA	0.10 U	0.44 U	0.47 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-29	SB-29 (0.0-0.5)	06/08/2020	0 to 0.5	0.17 IQ	0.04 U	NA	0.05 U	NA	NA	0.09 U	0.43 U	0.45 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-29 (0.5-2)	06/08/2020	0.5 to 2	0.08 I	0.04 U	NA	0.04 U	NA	NA	0.09 U	0.41 U	0.43 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-30	SB-30 (0-0.5)	06/08/2020	0 to 0.5	0.03 U	0.04 U	NA	0.04 U	NA	NA	0.09 U	0.40 U	0.42 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-30 (0.5-2)	06/08/2020	0.5 to 2	0.06 I	0.04 U	NA	0.04 U	NA	NA	0.09 U	0.41 U	0.44 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-31	SB-31 (0-0.5)	06/08/2020	0 to 0.5	0.03 U	0.04 U	NA	0.04 U	NA	NA	0.09 U	0.40 U	0.42 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-31 (0.5-2)	06/08/2020	0.5 to 2	0.03 U	0.04 U	NA	0.04 U	NA	NA	0.09 U	0.40 U	0.42 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
SB-32	SB-32 (0-0.5)	06/08/2020	0 to 0.5	0.34	0.05 I	NA	0.51	NA	NA	0.15 I	0.47 U	0.49 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	SB-32 (0.5-2.0)	06/08/2020	0.5 to 2	1.1	0.08 I	NA	0.04 U	NA	NA	0.09 U	0.42 U	0.44 U	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 5: SOIL ANAYTICAL RESULTS FOR PFAS
Tallahassee Fire Department (ERIC_7413)

Notes:

1. PFAS indicates per- and polyfluoroalkyl substances.
2. Results and screening critieria are presented in micrograms per kilogram (µg/kg).
3. Sample depths are presented in feet below land surface (ft BLS).
4. U indicates that the compound was analyzed for but not detected above the laboratory method detection limit (MDL) shown.
5. I indicates the result is between the laboratory MDL and the practical quantitation limit.
6. J indicates estimated value and/or the analysis did not meet the quality control criteria.
7. J3 indicates an estimated value; value may not be accurate. Spike recovery or Relative Percent Difference outside of criteria.
8. L indicates off-scale high. Actual value is known to be greater than the value given.
9. Q indicates sample held beyond the accepted holding time.
10. V indicates analyte was detected in both sample and method blank.
11. * indicates saturated soil sample; results not compared to FDEP Provisional SCTLs.
12. Grey shaded, bold text indicates an exceedance of the Florida Department of Environmental Protection Provisional Leachability SCTL.
13. -- indicates no applicable cleanup target level.
14. NA indicates constituent was not analyzed for.
15. PFCA indicates perfluoroalkyl carboxylic acids.
16. PFSA indicates perfluorosulfonic acids.

Analyte	Acronym	Class	Carbon Chain Length
PFOA	PFOA	PFCA	8
PFOS	PFOS	PFSA	8
PFBA	PFBA	PFCA	4
PFPeA	PFPeA	PFCA	5
PFHxA	PFHxA	PFCA	6
PFHpA	PFHpA	PFCA	7
PFNA	PFNA	PFCA	9
PFDA	PFDA	PFCA	10
PFUnA	PFUnA	PFCA	11
PFDoA	PFDoA	PFCA	12
PFTriA	PFTriA	PFCA	13
PFTeA	PFTeA	PFCA	14
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	4:2 FTS	PFCA Precursor	4
6:2 FTS	6:2 FTS	PFCA Precursor	6
8:2 FTS	8:2 FTS	PFCA Precursor	8
Perfluoropropanesulfonic acid	PFPrS	PFSA	3
PFBS	PFBS	PFSA	4
Perfluoropentanesulfonic acid (PFPeS)	PFPeS	PFSA	5
PFHxS	PFHxS	PFSA	6
PFHpS	PFHpS	PFSA	7
Perfluorononanesulfonic acid (PFNS)	PFNS	PFSA	9
PFDS	PFDS	PFSA	10
Perfluoro-1-butane sulfonamide	FBSA	PFSA Precursor	4
Perfluoro-1-hexane sulfonamide	FHxSA	PFSA Precursor	6
FOSA	FOSA	PFSA Precursor	8
NEtFOSAA	NEtFOSAA	PFSA Precursor	8
NMeFOSAA	NMeFOSAA	PFSA Precursor	8
4,8-Dioxa-3H-perfluorononanoic acid	ADONA	Replacement	*
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	11Cl-PF3OUdS	Replacement	*
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	9Cl-PF3ONS	Replacement	*
Hexafluoropropylene oxide dimer acid	HFPO-DA	Replacement	*
Perfluoro-3-methoxypropanoic acid	PFMPA	Misc.	*
Perfluoro-4-methoxybutanoic acid	PFMBA	Misc.	*
Perfluoro-4-ethylcyclohexanesulfonic acid	PFECHS	Misc.	*
Perfluoro(2-ethoxyethane)sulfonic acid	PFEESA	Misc.	*
Nonafluoro-3,6-dioxaheptanoic acid	NFDHA	Misc.	*

TABLE 6: SURFACE WATER ANALYTICAL RESULTS FOR PFAS

Tallahassee Fire Department (ERIC_7413)

Sample Location	Field Sample ID	Sample Date	PFOA	PFOS	PFBA	PFPeA	PFHxA	PFHpA	PFNA	PFDA	PFUnA	PFDoA	PFTriA	PFTeA	4:2 FTS	6:2 FTS	8:2 FTS	PFPrS	PFBS	PFPeS	PFHxS	PFHpS
		Class	PFCA	PFSA	PFCA	PFCA	PFCA	PFCA	PFCA	PFCA	PFCA	PFCA	PFCA	PFCA	PFCA Precursor	PFCA Precursor	PFCA Precursor	PFSA	PFSA	PFSA	PFSA	PFSA
		Carbon Chain Length	8	8	4	5	6	7	9	10	11	12	13	14	4	6	8	3	4	5	6	7
SW-1	SW-1	06/12/2019	11	7.9	10	17	12	6.5	2.8	7.4	2.3	3.9	1.3 U	0.96 I	NA	NA	NA	NA	2.4	NA	3.9	0.18 I

TABLE 6: SURFACE WATER ANALYTICAL RESULTS FOR PFAS

Tallahassee Fire Department (ERIC_7413)

Sample Location	Field Sample ID	Sample Date	PFNS	PFDS	FBSA	FHxSA	FOSA	NEtFOSAA	NMeFOSAA	ADONA	11Cl-PF3OUdS	9Cl-PF3ONS	HFPO-DA	PFMPA	PFMBA	PFECHS	PFEESA	NFDHA
		Class	PFSA	PFSA	PFSA Precursor	PFSA Precursor	PFSA Precursor	PFSA Precursor	PFSA Precursor	Replacement	Replacement	Replacement	Replacement	Misc.	Misc.	Misc.	Misc.	Misc.
		Carbon Chain Length	9	10	4	6	8	8	8	*	*	*	*	*	*	*	*	*
SW-1	SW-1	06/12/2019	NA	0.31 U	NA	NA	0.34 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

1. PFAS indicates per- and polyfluoroalkyl substances.
2. Results and screening critieria are presented in nanograms per liter (ng/L).
3. U indicates analyte was not detected in the specified sample. The reported value for individual analytes is the
4. I indicates the result is between the laboratory MDL and the practical quantitation limit.
5. NA indicates constituent was not analyzed for.
6. PFCA indicates perfluoroalkyl carboxylic acids.
7. PFSA indicates perfluorosulfonic acids.

Analyte	Acronym	Class	Carbon Chain Length
Perfluorooctanoic acid	PFOA	PFCA	8
Perfluorooctane sulfonate	PFOS	PFSA	8
Perfluorobutanoic acid (PFBA)	PFBA	PFCA	4
Perfluoropentanoic acid (PFPeA)	PFPeA	PFCA	5
Perfluorohexanoic acid (PFHxA)	PFHxA	PFCA	6
Perfluoroheptanoic acid (PFHpA)	PFHpA	PFCA	7
Perfluorononanoic acid (PFNA)	PFNA	PFCA	9
Perfluorodecanoic acid (PFDA)	PFDA	PFCA	10
Perfluoroundecanoic acid (PFUnA)	PFUnA	PFCA	11
Perfluorododecanoic acid (PFDoA)	PFDoA	PFCA	12
Perfluorotridecanoic acid (PFTriA)	PFTriA	PFCA	13
Perfluorotetradecanoic acid (PFTeA)	PFTeA	PFCA	14
Perfluorobutanesulfonic acid (PFBS)	PFBS	PFSA	4
Perfluorohexanesulfonic acid (PFHxS)	PFHxS	PFSA	6
Perfluoroheptanesulfonic Acid (PFHpS)	PFHpS	PFSA	7
Perfluorodecanesulfonic acid (PFDS)	PFDS	PFSA	10
Perfluorooctanesulfonamide (PFOSA)	FOSA	PFSA Precursor	8

TABLE 7: GROUNDWATER ELEVATION SUMMARY

Tallahassee Fire Department (ERIC_7413)

WELL ID	MW001 (10-25')		MW002 (10-25')		MW003 (10-25')		MW004 (10-25')		MW005 (10-25')		MW006 (70-80')		Fleet-MW-3		Fleet-DW-1	
DIAMETER (inches)	2		2		2		2		2		2		1.5		1.5	
WELL DEPTH (ft BLS)	25		25		25		25		25		80		25		40	
SCREEN INTERVAL (ft BLS)	10 to 25		10 to 25		10 to 25		10 to 25		10 to 25		70 to 80		10 to 25		30 to 40	
TOC ELEVATION (ft NAVD88)	61.94		63.10		62.40		60.68		61.72		62.01		60.10		NM	
DATE	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV
3/4 - 3/5/2020	17.25	44.69	20.04	43.06	10.33	52.07	8.29	52.39	7.07	54.65	42.33	19.68	NM		NM	
04/01/2020	16.45	45.49	19.35	43.75	12.88	49.52	13.12	47.56	15.39	46.33	42.44	19.57	NM		NM	
06/18/2020	15.68	46.26	19.59	43.51	9.56	52.84	7.37	53.31	6.37	55.35	40.93	21.08	9.55	50.55	15.92	NM
12/22/21	15.97	45.97	17.47	45.63	13.19	49.21	10.56	50.12	13.47	48.25	40.62	21.39	NM		NM	
04/24/23	16.23	45.71	17.75	45.35	13.48	48.92	11.30	49.38	NM		41.82	20.19	NM		NM	

WELL ID	MW007 (60-70')		MW008 (80-90')		MW009 (130-150')		MW010 (130-150')		MW011 (130-150')		MW012 (200-220')		MW013 (255-275')		DEPMW-14 (10-25')	
DIAMETER (inches)	2		2		2		2		2		2		2		2	
WELL DEPTH (ft BLS)	70		90		150		150		150		220		275		25	
SCREEN INTERVAL (ft BLS)	60 to 70		80 to 90		130 to 150		130 to 150		130 to 150		200 to 220		265 to 275		10 to 25	
TOC ELEVATION (ft NAVD88)	62.94		61.53		61.86		62.80		61.34		61.93		61.95		63.31	
DATE	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV
3/4 - 3/5/2020	43.55	19.39	42.12	19.41	NI	NI	NI	NI	NI	NI	NM		NM		NI	NI
04/01/2020	43.43	19.51	42.27	19.26	NI	NI	NI	NI	NI	NI	NM		NM		NI	NI
06/18/2020	41.99	20.95	40.71	20.82	41.02	20.84	41.93	20.87	40.65	20.69	NM		NM		NI	NI
12/22/21	41.61	21.33	40.48	21.05	40.73	21.13	41.58	21.22	40.41	20.93	40.47	21.46	40.56	21.39	NI	NI
04/24/23	42.80	20.14	41.61	19.92	41.90	19.96	42.80	20.00	41.61	19.73	41.70	20.23	41.75	20.20	20.25	43.06

TABLE 7: GROUNDWATER ELEVATION SUMMARY

Tallahassee Fire Department (ERIC_7413)

WELL ID	DEPMW-15 (10-25')		DEPMW-16 (10-25')		DEPMW-17 (10-25')		DEPMW-18 (10-25')		DEPMW-19 (10-25')		DEPMW-20 (10-25')		DEPMW-21 (70-90')		DEPMW-22 (64-84')	
DIAMETER (inches)	2		2		2		2		2		2		2		2	
WELL DEPTH (ft BLS)	25		25		25		25		25		25		90		84	
SCREEN INTERVAL (ft BLS)	10 to 25		10 to 25		10 to 25		10 to 25		10 to 25		10 to 25		70 to 90		64 to 84	
TOC ELEVATION (ft NAVD88)	63.73		63.81		64.32		61.65		60.41		58.81		63.59		63.77	
DATE	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV
3/4 - 3/5/2020	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
04/01/2020	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
06/18/2020	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
12/22/21	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
04/24/23	21.58	42.15	16.72	47.09	16.50	47.82	15.31	46.34	18.35	42.06	11.94	46.87	43.39	20.20	43.55	20.22

WELL ID	DEPMW-23 (70-90')		DEPMW-24 (70-90')		DEPMW-25 (70-90')		DEPMW-26 (70-90')		DEPMW-27 (70-90')		DEPMW-28 (130-150')		DEPMW-29 (130-150')		DEPMW-30 (130-150')	
DIAMETER (inches)	2		2		2		2		2		2		2		2	
WELL DEPTH (ft BLS)	90		90		90		90		90		150		150		150	
SCREEN INTERVAL (ft BLS)	70 to 90		70 to 90		70 to 90		70 to 90		70 to 90		130 to 150		130 to 150		130 to 150	
TOC ELEVATION (ft NAVD88)	63.63		64.21		61.63		60.42		58.76		61.62		60.56		58.75	
DATE	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV	DTW	ELEV
3/4 - 3/5/2020	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
04/01/2020	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
06/18/2020	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
12/22/21	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
04/24/23	43.41	20.22	44.03	20.18	41.71	19.92	40.52	19.90	38.85	19.91	41.70	19.92	40.65	19.91	38.84	19.91

Notes:

1. ft BLS indicates feet below land surface.
2. Northing and Easting are recorded in United States Plane North American Datum of 1983, Florida North, US Survey Feet.
3. TOC indicates top-of-casing.
4. ft NAVD88 indicates feet relative to North American Vertical Datum 1988.
5. DTW indicates depth-to-water in feet below top-of-casing.
6. ELEV indicates surveyed elevation in feet relative to NAVD88.
7. NI indicates not installed.
8. NM indicates measured.

TABLE 8: GROUNDWATER MONITORING WELL ANALYTICAL RESULTS FOR PFAS

Tallahassee Fire Department (ERIC_7413)

Sample Location	Field Sample ID	Sample Date	Sample Interval (ft BLS)	PFOA	PFOS	PFOA+ PFOS	PFBA	PFPeA	PFHxA	PFHpA	PFNA	PFDA	PFUnA	PFDoA	PFTriA	PFTeA	4:2 FTS	6:2 FTS	8:2 FTS	PFPrS	PFBS	PFPeS
			Class	PFCA	PFSA	NA	PFCA	PFCA	PFCA	PFCA	PFCA	PFCA	PFCA	PFCA	PFCA	PFCA	PFCA Precursor	PFCA Precursor	PFCA Precursor	PFSA	PFSA	PFSA
			Carbon Chain Length	8	8	NA	4	5	6	7	9	10	11	12	13	14	4	6	8	3	4	5
			Provisional GCTL	70	70	70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TMW-1 (10-20')	TMW-1	06/12/2019		**5,000**	**42,000**	**47,000**	3,200	8,100	11,000	2,700	330	28 U	100 U	50 U	120 U	27 U	NA	NA	NA	NA	15,000	NA
TMW-2 (10-20')	TMW-2	06/12/2019		**560**	**5,200**	**5,760**	2,300	10,000	6,900	1,700	64	3.2	0.99 U	0.50 U	1.2 U	0.26 U	NA	NA	NA	NA	680	NA
MW001 (10-25')	MW-001 (10-25')	03/04/2020	10 to 25	**550**	**4,000**	**4,550**	1,200	4,500	3,000	1,100	51	1.2 I	0.98 U	0.49 U	1.2 U	0.26 U	NA	3,300	18	NA	410	NA
	MW-001	06/18/2020	10 to 25	**720**	**7,300**	**8,020**	1,700	6,600	5,000	1,500	78 I	28 U	98 U	49 U	120 U	26 U	NA	4,400	180 U	NA	720	NA
	MW001	05/03/2023	10 to 25	**400**	**6,700**	**7,100**	770	3,900	2,000	1,000	140	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	77	3,900 I	52	200	310	440
MW002 (10-25')	MW-002 (10-25')	03/04/2020	10 to 25	63	**980**	**1,043**	36	50	58	25	23	0.28 U	1.0 U	0.50 U	1.2 U	0.26 U	NA	6.9 I	1.8 U	NA	11	NA
	MW-002	06/18/2020	10 to 25	**89**	**4,100**	**4,189**	140	240	310	130	42	3.7	0.98 U	0.49 U	1.2 U	0.26 U	NA	7.1 I	1.8 U	NA	48	NA
	MW002	05/02/2023	10 to 25	**71**	**1,700**	**1,771**	85	280	120	75	38	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.7 I	82	2.0 U	8.1 I	19	27
MW003 (10-25')	MW-003 (10-25')	03/05/2020	10 to 25	**3,000**	**45,000**	**48,000**	1,400	3,900	4,400	1,300	230	2.1	0.98 U	0.49 U	1.2 U	0.26 U	NA	5,100	21	NA	4,900	NA
	MW-003	06/19/2020	10 to 25	**2,700**	**24,000**	**26,700**	1,300	3,400	4,300	1,100	120 I	28 U	98 U	49 U	120 U	26 U	NA	4,100	180 U	NA	5,500	NA
	MW003	05/02/2023	10 to 25	**1,900**	**32,000**	**33,900**	1,200	3,500	3,600	1,000	190	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	140	5,800 I	6.5 I	3,100	4,700	4,200
MW004 (10-25')	MW-004 (10-25)	03/05/2020	10 to 25	21	**250**	**271**	29	58	57	26	7.3	2.0	0.99 U	0.50 U	1.2 U	0.35 IV	NA	8.4 I	1.8 U	NA	69	NA
	MW004	06/18/2020	10 to 25	18	**290**	**308**	29	50	54	24	7.3	2.2	0.95 U	0.47 U	1.1 U	0.25 U	NA	1.7 U	1.7 U	NA	63	NA
	MW004-DUP1	06/18/2020	10 to 25	19	**280**	**299**	28	50	54	24	6.9	2.2	0.98 U	0.49 U	1.2 U	0.26 U	NA	1.8 U	1.8 U	NA	63	NA
	MW004	05/01/2023	10 to 25	40	**290**	**330**	180	330	460	150	9.0	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	16 U	2.0 U	4.0 U	18	18
MW005 (10-25')	MW-005 (10-25')	03/04/2020	10 to 25	15	51	66	20	28	17	12	4.4	0.41 I	1.0 U	0.50 U	1.2 U	0.26 U	NA	1.8 U	1.8 U	NA	4.3	NA
	DUP-1 (10-25')	03/04/2020	10 to 25	16	47	63	19	26	16	12	4.6	0.54 I	0.99 U	0.49 U	1.2 U	0.26 U	NA	1.8 U	1.8 U	NA	4.2	NA
	MW005	06/18/2020	10 to 25	15	50	65	21	36	30	15	5.4	0.72 I	0.94 U	0.47 U	1.1 U	0.25 U	NA	1.7 U	1.7 U	NA	5.7	NA
	MW005	05/02/2023	10 to 25	17	**74**	**91**	19	28	21	16	7.1 I	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	16 U	2.0 U	4.0 U	4.1	0.96 I
MW006 (70-80")	MW-006D (60-70')	03/05/2020	60 to 90	**360**	**8,800**	**9,160**	140	450	710	190	21	0.65 I	1.0 U	0.50 U	1.2 U	0.26 U	NA	800	11 I	NA	750	NA
	MW006D	06/19/2020	60 to 90	**380**	**8,800**	**9,180**	150	390	650	200	25	0.59 I	0.97 U	0.48 U	1.1 U	0.26 U	NA	900 I	12 I	NA	710	NA
	MW006D-DUP2	06/19/2020	60 to 90	**380**	**7,900**	**8,280**	140	380	750	190	23	0.61 I	0.97 U	0.49 U	1.2 U	0.26 U	NA	950 I	12 I	NA	830	NA
	MW006	05/03/2023	60 to 90	**270**	**5,500**	**5,770**	150	320	380	160	17	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	7.8 I	660	14	260	500	560
MW007 (60-70')	MW-007D (60-70')	03/04/2020	60 to 90	**950**	**230**	**1,180**	170	760	520	250	14	0.58 I	1.0 U	0.51 U	1.2 U	0.36 IV	NA	1,900	16 I	NA	48	NA
	MW007D	06/18/2020	60 to 90	**1,000**	**310**	**1,310**	200	760	610	310	17	0.85 I	0.97 U	0.48 U	1.1 U	0.26 U	NA	2,200	22	NA	47	NA
	MW007	05/02/2023	60 to 90	**850**	**480**	**1,330**	470	2,300	990	600	49	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	330	5,600 I	78	30	68	84
MW008 (80-90')	MW-008D (60-70')	03/05/2020	60 to 90	**200**	**710**	**910**	110	280	230	84	8.9	0.77 I	1.0 U	0.51 U	1.2 U	0.27 U	NA	150	1.8 U	NA	99	NA
	MW008D	06/18/2020	60 to 90	**250**	**660**	**910**	100	280	250	85	8.0	0.73 I	0.97 U	0.48 U	1.1 U	0.26 U	NA	150	1.8 U	NA	93	NA
	MW008	05/01/2023	60 to 90	**230**	**590**	**820**	95	420	140	67	5.0 I	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	150	2.0 U	37	95	100
MW009 (130-150')	MW009DD	06/26/2020	130 to 150	**94**	**1,200 L**	**1,294**	110	380 L	350 L	120	12	0.78 I	0.93 U	0.49 I	1.1 U	0.52 IV	NA	720 L	6.2 I	NA	200	NA
	MW009	05/03/2023	130 to 150	**140**	**920**	**1,060**	130	310	240	160	15	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	5.4 I	410 I	5.3 I	62	190	210
MW010 (130-150')	MW010DD	06/26/2020	130 to 150	9.5	33	43	7.1	18	15	7.5	0.71 I	0.26 U	0.92 U	0.46 U	1.1 U	0.24 U	NA	9.1 I	1.7 U	NA	4.4	NA
	MW010	05/02/2023	130 to 150	6.1 I	23	29	6.8 I	12	11	5.8 I	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	16 U	2.0 U	4.0 U	3.9	1.9
MW011 (130-150')	MW011DD	06/26/2020	130 to 150	**200**	**540 L**	**740**	95	280	240	130	9.7	1.1 I	0.91 U	0.46 U	1.1 U	0.24 U	NA	230	3.9 I	NA	57	NA
	MW011	05/01/2023	130 to 150	**180**	**410**	**590**	100	210	200	130 J	13	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.2 I	250	2.6 I	32	77	80
MW012 (200-220')	DUP01	12/18/2020	200 to 220	6.8	**78**	**85**	6.1	21	18	9.4	0.69 I	0.28 U	0.99 U	0.50 U	1.2 U	0.66 U	NA	28	0.86 I	NA	10	NA
	MW012 (200-220)	12/18/2020	200 to 220	6.7	**79**	**86**	5.4	22	19	9.6	0.61 I	0.28 U	0.99 U	0.49 U	1.2 U	0.66 U	NA	24	1.1 I	NA	11	NA
	MW012	05/03/2023	200 to 220	11	**150**	**161**	13 I	37	27	19	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	37 I	2.0 I	6.2 I	14	15
MW013 (255-275')	MW013 (255-275)	12/18/2020	255 to 275	0.77 U	2.4	2.4	2.2 U	0.61 I	0.53 U	0.28 I	0.25 U	0.28 U	1.0 U	0.50 U	1.2 U	0.66 U	NA	2.3 U	0.42 U	NA	0.39 I	NA
	MW013	05/03/2023	255 to 275	2.0 U	2.1 I	2.1	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	16 U	2.0 U	4.0 U	0.40 U	0.40 U
DEPMW-14 (10-25')	DEPMW-14	04/24/2023	10 to 25	60	**300**	**360**	61	130	110	60	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	76	2.0 U	42	190	230
DEPMW-15 (10-25')	DEPMW-15	04/28/2023	10 to 25	2.1 U	3.9 I	3.9	6.7 I	2.1 U	2.1 U	2.1 U	2.1 U	4.3 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	17 U	2.1 U	4.3 U	3.4	0.43 U
DEPMW-16 (10-25')	DEPMW-16	04/28/2023	10 to 25	15	16	31	8.0 I	29	17	10	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	16 U	2.0 U	4.0 U	2.9	1.4 I
	DEPMW-16-DUP	04/28/2023	10 to 25	16	18	34	11 I	27	16	11	2.1 U	4.3 U	2.1 U	2.1 U	2.1 U	2.1 U	2.1 U	17 U	2.1 U	4.3 U	3.2	1.4 I
DEPMW-17 (10-25')	DEPMW-17	04/26/2023	10 to 25	2.0 U	2.0 U	4.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	16 U	2.0 U	4.0 U	1.6	0.40 U
DEPMW-18 (10-25')	DEPMW-18	04/24/2023	10 to 25	2.0 U	8.3	8.3	5.9 I	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	16 U	2.0 U	4.0 U	2.8	0.40 U
DEPMW-19 (10-25')	DEPMW-19	04/25/2023	10 to 25	2.0 U	36	36	5.4 I	3.1 I	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	16 U	2.0 U	4.0 U	16	1.4 I
DEPMW-20 (10-25')	DEPMW-20	04/26/2023	10 to 25	2.0 U	65	65	4.4 I	4.0 I	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	16 U	2.0 U	4.0 U	4.6	1.6
DEPMW-21 (70-90')	DEPMW-21	05/01/2023	70 to 90	**320**	**2,900**	**3,220**	300	690	520	460	51	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	19	1,600	16	350	550	540
DEPMW-22 (64-84')	DEPMW-22	04/28/2023	64 to 84	2.0 U	2.0 U	4.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	16 U	2.0 U	4.0 U	0.40 U	0.40 U
DEPMW-23 (70-90')	DEPMW-23	04/28/2023	70 to 90	12	30	42	17	43	36	16	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	16 U	2.0 U	4.0 U	7.4	6.0
DEPMW-24 (70-90')	DEPMW-24	04/26/2023	70 to 90	2.0 U	11	11	4.0 U	6.9 I	2.0 U	2.8 I	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	16 U	2.0 U	4.0 U	3.5	0.40 U
DEPMW-25 (70-90')	DEPMW-25	04/25/2023	70 to 90	5.4 I	15	20	4.7 I	2.6 I	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	16 U	2.0 U	4.0 U	2.5	0.94 I
DEPMW-26 (70-90')	DEPMW-26	04/25/2023	70 to 90	8.7	51	60	6.4 I	8.8	2.0 U	4.6 I	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	16 U	2.0 U	4.0 U	18	1.2 I
DEPMW-27 (70-90')	DEPMW-27	04/26/2023	70 to 90	29	**320**	**349**	33	75	72	19	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	16 I	2.0 U	4.0 U	26	29
DEPMW-28 (130-150')	DEPMW-28	04/25/2023	130 to 150	9.6	45	55	10 I	19	8.5	7.9 I	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	16 U	2.0 U	4.0 U	4.3	3.5
DEPMW-29 (130-150')	DEPMW-29	04/25/2023	130 to 150	32	**260**	**292**	27	84	70	40	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	120	2.0 U	4.0 U	30	39
DEPMW-30 (130-150')	DEPMW-30	04/26/2023	130 to 150	2.0 U	16	16	4.0 U	2.4 I	2.0 U	2.0 U	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	16 U	2.0 U	4.0 U	1.7	2.7
Fleet-MW-3	FLEET-MW-3	06/19/2020	10 to 25	7.2	5.9	13	20	17	13	7.2	2.1	0.29 U	1.0 U	0.51 U	1.2 U	0.27 U	NA	1.8 U	1.8 U	NA	2.5	NA
Fleet-DW-1	FLEET-DW-1	06/19/2020	30 to 40	0.84 I	6.3	7.1	2.3	0.48 I	0.52 U	0.22 U	0.24 U	0.28 U	0.99 U	0.49 U	1.2 U	0.26 U	NA	1.8 U	1.8 U	NA	1.9	NA

TABLE 8: GROUNDWATER MONITORING WELL ANALYTICAL RESULTS FOR PFAS

Tallahassee Fire Department (ERIC_7413)

Sample Location	Field Sample ID	Sample Date	Sample Interval (ft BLS)	PFHxS	PFHpS	PFNS	PFDS	FBSA	FHxSA	FOSA	NEtFOSAA	NMeFOSAA	ADONA	11Cl-PF3OUdS	9Cl-PF3ONS	HFPO-DA	PFMPA	PFMBA	PFECHS	PFEESA	NFDHA
			Class	PFSA	PFSA	PFSA	PFSA	PFSA Precursor	PFSA Precursor	PFSA Precursor	PFSA Precursor	PFSA Precursor	Replacement	Replacement	Replacement	Replacement	Misc.	Misc.	Misc.	Misc.	Misc.
			Carbon Chain Length	6	7	9	10	4	6	8	8	8	*	*	*	*	*	*	*	*	*
			Provisional GCTL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TMW-1 (10-20')	TMW-1	06/12/2019		59,000	2,300	NA	29 U	NA	NA	32 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TMW-2 (10-20')	TMW-2	06/12/2019		4,600	160	NA	0.29 UJ	NA	NA	0.96 I	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW001 (10-25')	MW-001 (10-25')	03/04/2020	10 to 25	4,500	150	NA	0.29 U	NA	NA	0.31 U	1.7 U	2.8 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-001	06/18/2020	10 to 25	5,600	160 I	NA	29 U	NA	NA	31 U	170 U	280 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW001	05/03/2023	10 to 25	3,400	210	0.40 U	0.40 U	190	280	0.60 I	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
MW002 (10-25')	MW-002 (10-25')	03/04/2020	10 to 25	270	60	NA	0.29 U	NA	NA	0.32 U	1.7 U	2.8 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-002	06/18/2020	10 to 25	1,300	49	NA	0.28 U	NA	NA	0.37 I	1.7 U	2.7 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW002	05/02/2023	10 to 25	330	20	0.40 U	0.40 U	3.9	2.0 I	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
MW003 (10-25')	MW-003 (10-25')	03/05/2020	10 to 25	25,000	1,500	NA	0.29 U	NA	NA	0.31 U	1.7 U	2.8 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW-003	06/19/2020	10 to 25	19,000	1,100	NA	29 U	NA	NA	31 U	170 U	280 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW003	05/02/2023	10 to 25	17,000	1,200	0.40 U	0.40 U	8,900	9,000	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	1.9 I	3.2 I	0.80 U	0.80 U	8.0 U
MW004 (10-25')	MW-004 (10-25)	03/05/2020	10 to 25	150	4.6	NA	0.29 U	NA	NA	0.32 U	1.7 U	2.8 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW004	06/18/2020	10 to 25	140	4.5	NA	0.28 U	NA	NA	0.30 U	1.6 U	2.7 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW004-DUP1	06/18/2020	10 to 25	140	4.6	NA	0.28 U	NA	NA	0.31 I	1.7 U	2.8 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW004	05/01/2023	10 to 25	91	2.7 I	0.40 U	0.40 U	3.5	2.3 I	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
MW005 (10-25')	MW-005 (10-25')	03/04/2020	10 to 25	8.1	0.43 I	NA	0.29 U	NA	NA	0.32 U	1.7 U	2.8 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	DUP-1 (10-25')	03/04/2020	10 to 25	7.0	0.40 I	NA	0.29 U	NA	NA	0.31 U	1.7 U	2.8 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW005	06/18/2020	10 to 25	7.1	0.27 I	NA	0.27 U	NA	NA	0.30 U	1.6 U	2.6 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW005	05/02/2023	10 to 25	8.0	0.80 U	0.40 U	0.40 U	0.80 U	0.80 U	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
MW006 (70-80")	MW-006D (60-70')	03/05/2020	60 to 90	4,300	250	NA	0.29 U	NA	NA	0.35 I	1.7 U	2.8 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW006D	06/19/2020	60 to 90	4,300	240	NA	0.28 U	NA	NA	0.31 I	1.7 U	2.7 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW006D-DUP2	06/19/2020	60 to 90	4,300	260	NA	0.28 U	NA	NA	1.3 I	1.7 U	2.7 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW006	05/03/2023	60 to 90	2,500	130	0.40 U	0.40 U	410	360	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
MW007 (60-70')	MW-007D (60-70')	03/04/2020	60 to 90	310	9.5	NA	0.29 U	NA	NA	0.32 U	1.7 U	2.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW007D	06/18/2020	60 to 90	330	11	NA	0.28 U	NA	NA	0.31 U	1.7 U	2.7 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW007	05/02/2023	60 to 90	380	14	0.40 U	0.40 U	36	19	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
MW008 (80-90')	MW-008D (60-70')	03/05/2020	60 to 90	570	19	NA	0.30 U	NA	NA	0.33 I	1.8 U	2.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW008D	06/18/2020	60 to 90	540	19	NA	0.28 U	NA	NA	1.3 I	1.7 U	2.7 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW008	05/01/2023	60 to 90	390	15	0.40 U	0.40 U	50	15	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
MW009 (130-150')	MW009DD	06/26/2020	130 to 150	1,100 L	31	NA	0.27 I	NA	NA	0.75 IV	1.6 U	2.6 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW009	05/03/2023	130 to 150	790	26	0.40 U	0.40 U	160	110	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
MW010 (130-150')	MW010DD	06/26/2020	130 to 150	21	0.83 I	NA	0.27 U	NA	NA	0.67 IV	1.6 U	2.6 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW010	05/02/2023	130 to 150	13	0.80 U	0.40 U	0.40 U	1.8 I	0.80 U	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
MW011 (130-150')	MW011DD	06/26/2020	130 to 150	340 L	12	NA	0.27 U	NA	NA	0.88 IV	1.6 U	2.6 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW011	05/01/2023	130 to 150	300	12	0.40 U	0.40 U	72	19	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
MW012 (200-220')	DUP01	12/18/2020	200 to 220	48	1.7 I	NA	0.29 U	NA	NA	0.88 U	1.2 U	1.1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW012 (200-220)	12/18/2020	200 to 220	51	1.7 I	NA	0.29 U	NA	NA	0.88 U	1.2 U	1.1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW012	05/03/2023	200 to 220	73	2.4 I	0.40 U	0.40 U	31	33	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
MW013 (255-275')	MW013 (255-275)	12/18/2020	255 to 275	1.6 I	0.17 U	NA	0.29 U	NA	NA	0.89 U	1.2 U	1.1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
	MW013	05/03/2023	255 to 275	1.1 I	0.80 U	0.40 U	0.40 U	0.80 U	0.80 U	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
DEPMW-14 (10-25')	DEPMW-14	04/24/2023	10 to 25	570	20	0.40 U	0.40 U	390	340	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
DEPMW-15 (10-25')	DEPMW-15	04/28/2023	10 to 25	3.0 I	0.85 U	0.43 U	0.43 U	0.85 U	0.85 U	0.43 U	0.85 U	0.85 U	0.43 U	2.1 U	2.1 U	4.3 U	0.85 U	0.85 U	0.85 U	0.85 U	8.5 U
DEPMW-16 (10-25')	DEPMW-16	04/28/2023	10 to 25	9.6	0.90 I	0.40 U	0.40 U	0.80 U	0.80 U	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
	DEPMW-16-DUP	04/28/2023	10 to 25	11	0.88 I	0.43 U	0.43 U	0.85 U	0.85 U	0.43 U	0.85 U	0.85 U	0.43 U	2.1 U	2.1 U	4.3 U	0.85 U	0.85 U	0.85 U	0.85 U	8.5 U
DEPMW-17 (10-25')	DEPMW-17	04/26/2023	10 to 25	2.4 I	0.80 U	0.40 U	0.40 U	0.80 U	0.80 U	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
DEPMW-18 (10-25')	DEPMW-18	04/24/2023	10 to 25	1.3 I	0.80 U	0.40 U	0.40 U	0.80 U	0.80 U	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
DEPMW-19 (10-25')	DEPMW-19	04/25/2023	10 to 25	4.5	0.80 U	0.40 U	0.40 U	0.80 U	0.80 U	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
DEPMW-20 (10-25')	DEPMW-20	04/26/2023	10 to 25	11	0.80 U	0.40 U	0.40 U	0.80 U	0.80 U	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
DEPMW-21 (70-90')	DEPMW-21	05/01/2023	70 to 90	2,700	120	0.40 U	0.40 U	400	440	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
DEPMW-22 (64-84')	DEPMW-22	04/28/2023	64 to 84	0.80 U	0.80 U	0.40 U	0.40 U	0.80 U	0.80 U	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
DEPMW-23 (70-90')	DEPMW-23	04/28/2023	70 to 90	46	0.80 U	0.40 U	0.40 U	0.80 U	2.4 I	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
DEPMW-24 (70-90')	DEPMW-24	04/26/2023	70 to 90	3.8	0.80 U	0.40 U	0.40 U	0.80 U	0.80 U	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
DEPMW-25 (70-90')	DEPMW-25	04/25/2023	70 to 90	3.1 I	0.80 U	0.40 U	0.40 U	0.80 U	0.80 U	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
DEPMW-26 (70-90')	DEPMW-26	04/25/2023	70 to 90	6.6	0.80 U	0.40 U	0.40 U	0.80 U	0.80 U	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
DEPMW-27 (70-90')	DEPMW-27	04/26/2023	70 to 90	160	0.80 U	0.40 U	0.40 U	10	0.80 U	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
DEPMW-28 (130-150')	DEPMW-28	04/25/2023	130 to 150	23	0.80 U	0.40 U	0.40 U	0.80 U	0.80 U	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
DEPMW-29 (130-150')	DEPMW-29	04/25/2023	130 to 150	220	2.1 I	0.40 U	0.40 U	31	10	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
DEPMW-30 (130-150')	DEPMW-30	04/26/2023	130 to 150	12	0.80 U	0.40 U	0.40 U	0.80 U	0.80 U	0.40 U	0.80 U	0.80 U	0.40 U	2.0 U	2.0 U	4.0 U	0.80 U	0.80 U	0.80 U	0.80 U	8.0 U
Fleet-MW-3	FLEET-MW-3	06/19/2020	10 to 25	1.1 IJV	0.17 U	NA	0.29 U	NA	NA	0.51 I	1.7 U	2.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fleet-DW-1	FLEET-DW-1	06/19/2020	30 to 40	5.4	0.17 U	NA	0.29 U	NA	NA	0.31 U	1.7 U	2.8 U	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 8: GROUNDWATER MONITORING WELL ANALYTICAL RESULTS FOR PFAS

Tallahassee Fire Department (ERIC_7413)

Notes:

1. PFAS indicates per- and polyfluoroalkyl substances.
2. Results and screening critieria are presented in nanograms per liter (ng/L).
3. Sample depths are presented in feet below land surface (ft BLS).
4. PFOA + PFOS indicates the summation of PFOA and PFOS concentrations calculated based on guidance provided by the Florida Department of Environmental Protection on 16 November 2022. For results where both PFOA and PFOS were detected, PFOA+PFOS was calculated by summing the two detections. For results where either PFOA or PFOS was detected and the other was not, PFOA+PFOS was calculated by assuming the non-detect result was 0. For results where neither PFOA nor PFOS were detected, the PFOA+PFOS value presented is the sum of the method detection limits (MDLs) for each constituent.
5. U indicates analyte was not detected in the specified sample. The reported value for individual analytes is the MDL for the sample analyzed. For PFOA+PFOS calculations presented with a “U”, this indicates neither PFOS nor PFOA were detected in the specified sample and thus the calculated value is the sum of the two MDLs (see Note 4).
6. I indicates the result is between the laboratory MDL and the practical quantitation limit.
7. J indicates estimated value and/or the analysis did not meet the quality control criteria.
8. L indicates off-scale high and the actual value is known to be greater than the value given.
9. V indicates analyte was detected in both sample and method blank.
10. DUP indicates duplicate sample.
11. Blue shaded, bold text indicates an exceedance of the Florida Department of Environmental Protection (FDEP) Provisional Groundwater Cleanup Target Level (GCTL).
12. -- indicates no applicable cleanup target level.
13. NA indicates constituent was not analyzed for.
14. PFCA indicates perfluoroalkyl carboxylic acids.
15. PFSA indicates perfluorosulfonic acids.

Analyte	Acronym	Class	Carbon Chain Length
Perfluorooctanoic acid	PFOA	PFCA	8
Perfluorooctane sulfonate	PFOS	PFSA	8
Perfluorobutanoic acid (PFBA)	PFBA	PFCA	4
Perfluoropentanoic acid (PFPeA)	PFPeA	PFCA	5
Perfluorohexanoic acid (PFHxA)	PFHxA	PFCA	6
Perfluoroheptanoic acid (PFHpA)	PFHpA	PFCA	7
Perfluorononanoic acid (PFNA)	PFNA	PFCA	9
Perfluorodecanoic acid (PFDA)	PFDA	PFCA	10
Perfluoroundecanoic acid (PFUnA)	PFUnA	PFCA	11
Perfluorododecanoic acid (PFDoA)	PFDoA	PFCA	12
Perfluorotridecanoic acid (PFTriA)	PFTriA	PFCA	13
Perfluorotetradecanoic acid (PFTeA)	PFTeA	PFCA	14
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	4:2 FTS	PFCA Precursor	4
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	6:2 FTS	PFCA Precursor	6
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	8:2 FTS	PFCA Precursor	8
Perfluoropropanesulfonic acid	PFPrS	PFSA	3
Perfluorobutanesulfonic acid (PFBS)	PFBS	PFSA	4
Perfluoropentanesulfonic acid (PFPeS)	PFPeS	PFSA	5
Perfluorohexanesulfonic acid (PFHxS)	PFHxS	PFSA	6
Perfluoroheptanesulfonic Acid (PFHpS)	PFHpS	PFSA	7
Perfluorononanesulfonic acid (PFNS)	PFNS	PFSA	9
Perfluorodecanesulfonic acid (PFDS)	PFDS	PFSA	10
Perfluoro-1-butane sulfonamide	FBSA	PFSA Precursor	4
Perfluoro-1-hexane sulfonamide	FHxSA	PFSA Precursor	6
Perfluorooctanesulfonamide (PFOSA)	FOSA	PFSA Precursor	8
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	NEtFOSAA	PFSA Precursor	8
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	NMeFOSAA	PFSA Precursor	8
4,8-Dioxa-3H-perfluorononanoic acid	ADONA	Replacement	*
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	11Cl-PF3OUdS	Replacement	*
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	9Cl-PF3ONS	Replacement	*
Hexafluoropropylene oxide dimer acid	HFPO-DA	Replacement	*
Perfluoro-3-methoxypropanoic acid	PFMPA	Misc.	*
Perfluoro-4-methoxybutanoic acid	PFMBA	Misc.	*
Perfluoro-4-ethylcyclohexanesulfonic acid	PFECHS	Misc.	*
Perfluoro(2-ethoxyethane)sulfonic acid	PFEESA	Misc.	*
Nonafluoro-3,6-dioxaheptanoic acid	NFDHA	Misc.	*

FIGURES

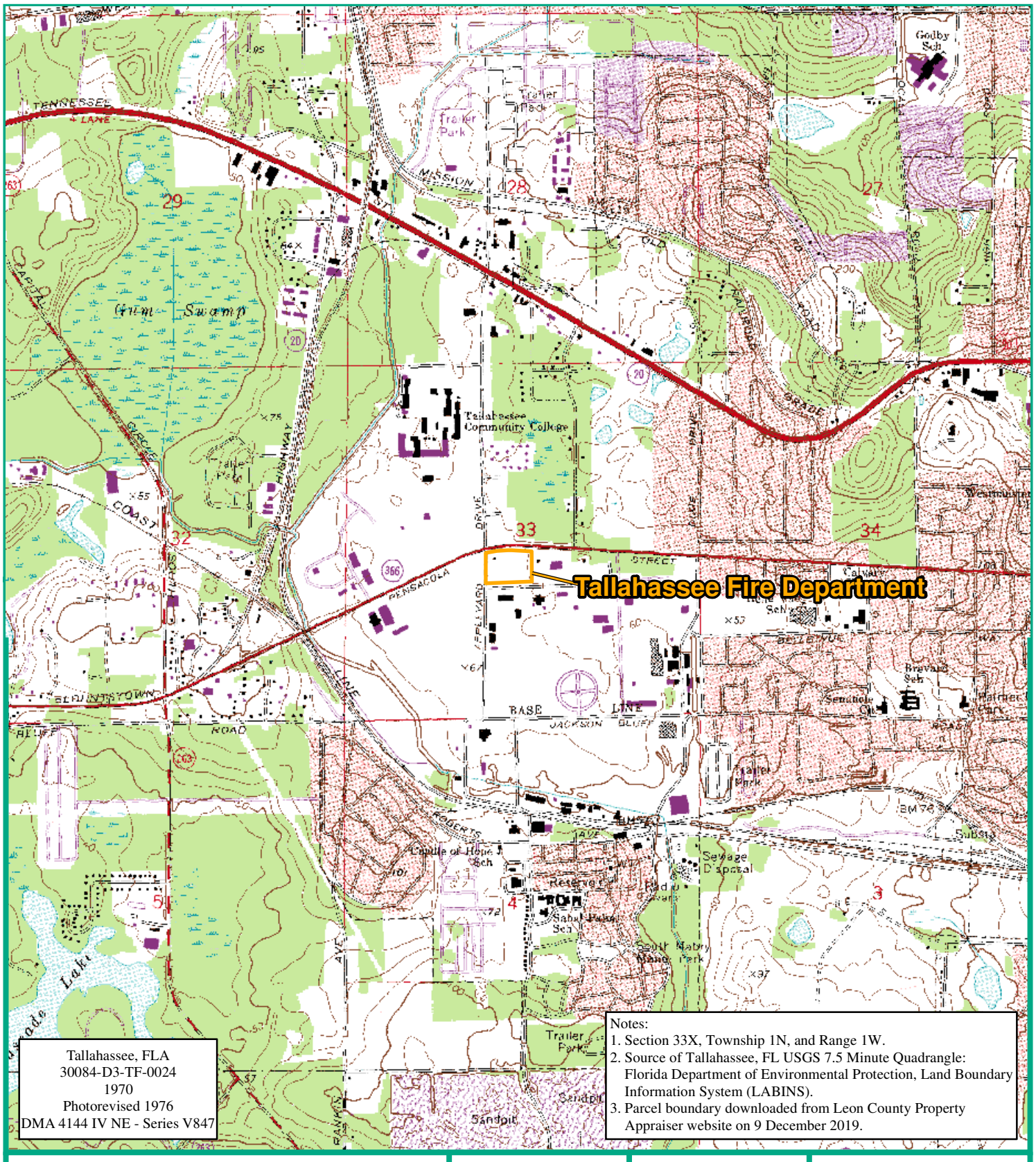


Figure 1
USGS Site Topographic Map
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility No. ERIC_7413

Date: August 07, 2023

2,000 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

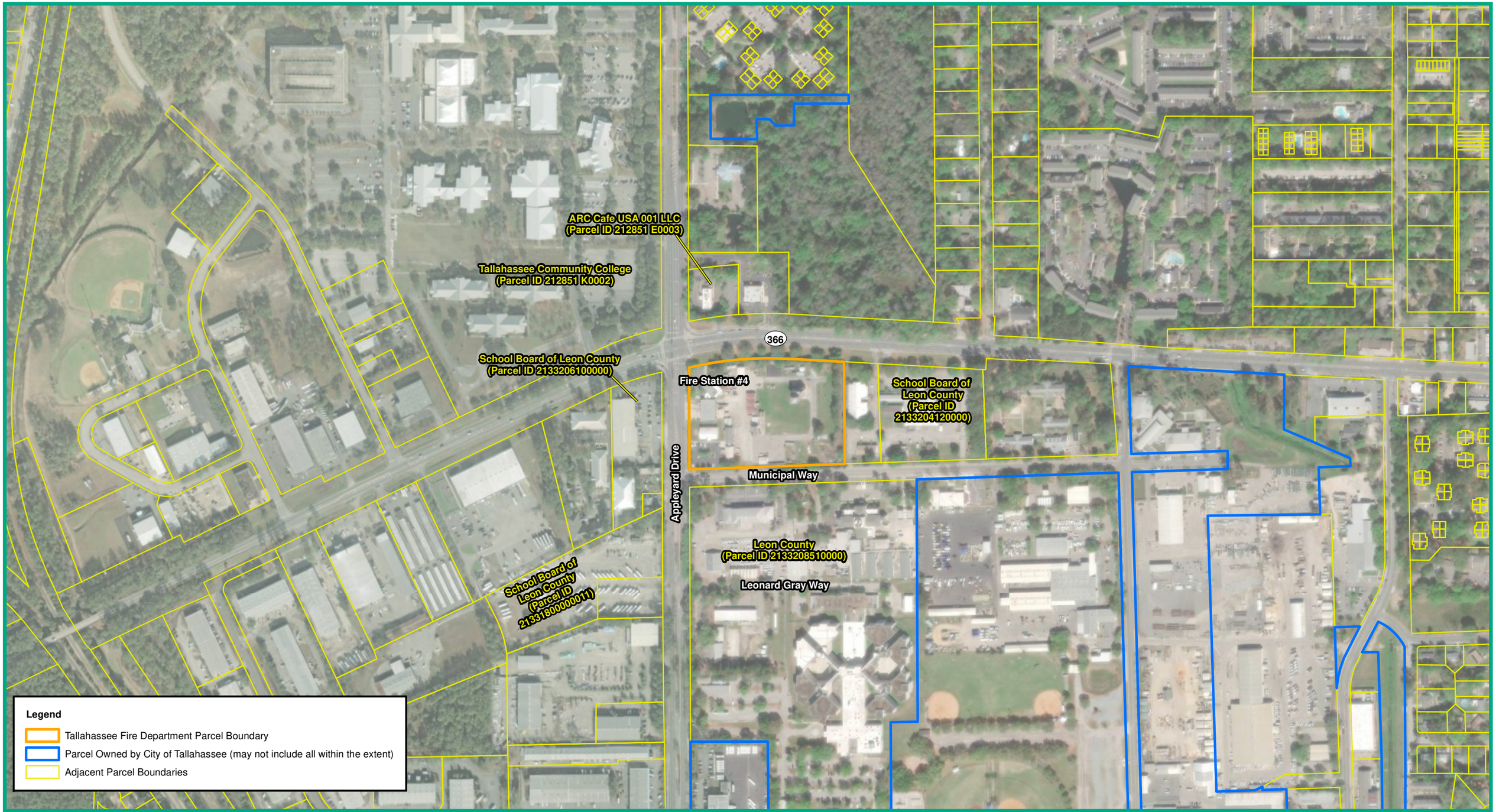


Figure 2
Site Vicinity Map
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Notes:
1. Parcel boundaries downloaded from Leon County Property Appraiser website on 9 December 2019, ownership based on information obtained from Leon County Property Appraiser website 11 August 2023.
2. 2023 World Imagery Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community.

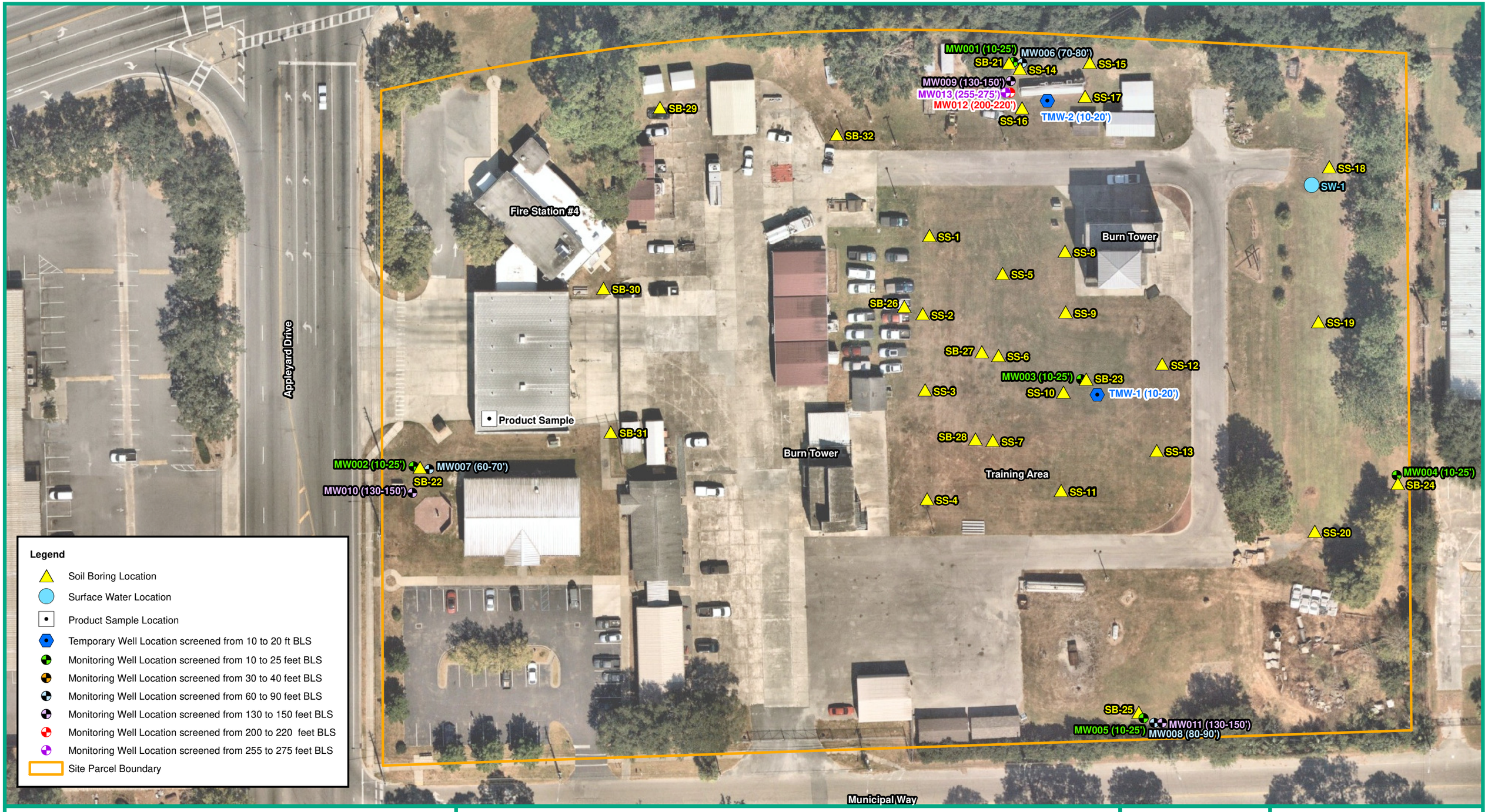
Date: August 11, 2023

N

400 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Path: (Titusville-01\DATA) T:\0GIS\FR3734_TFTD\MXDs\202307\Site_Vicinity_202308.mxd 11 August 2023. Last Edited by: mhensley



Legend

- Soil Boring Location
- Surface Water Location
- Product Sample Location
- Temporary Well Location screened from 10 to 20 ft BLS
- Monitoring Well Location screened from 10 to 25 feet BLS
- Monitoring Well Location screened from 30 to 40 feet BLS
- Monitoring Well Location screened from 60 to 90 feet BLS
- Monitoring Well Location screened from 130 to 150 feet BLS
- Monitoring Well Location screened from 200 to 220 feet BLS
- Monitoring Well Location screened from 255 to 275 feet BLS
- Site Parcel Boundary

Figure 3
On-Site Sampling Locations
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Notes:
1. Screen interval is presented in feet (') below land surface (BLS).
2. Site Investigation Section (SIS) soil boring (labeled SS-#), surface water, and temporary well locations with the exception of the product sample were provided by the Florida Department of Environmental Protection. The product sample was approximated based on Figure 4 as presented in SIS Preliminary Contamination Assessment Report issued August 2019.
3. Parcel boundary downloaded from Leon County Property Appraiser website on 9 December 2019.
2. Aerial Source: Nearmap, HERE; captured 8 October 2022.

Date: August 15, 2023

N

60 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Path: (Tlusville-01\DATA) T:\0GIS\FR3734_TFTD\MXDs\202308\Onsite_sampling_locs_202306.mxd 15 August 2023. Last Edited by: mhensley

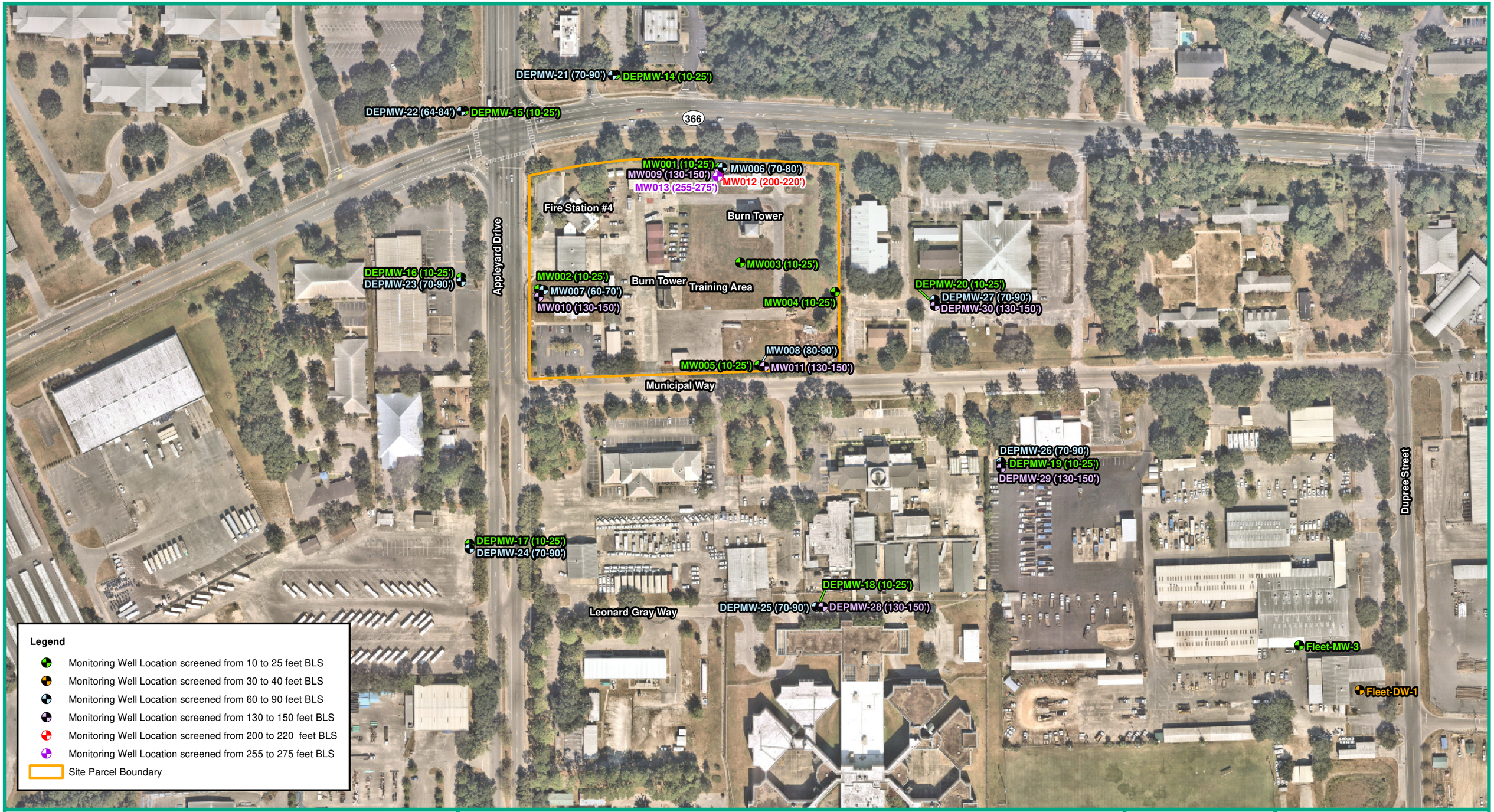


Figure 4
Monitoring Well Locations
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Notes:
1. Screen interval is presented in feet (') below land surface (BLS).
2. Parcel boundary downloaded from Leon County Property Appraiser website on 9 December 2019.
3. Aerial Source: Nearmap, HERE; captured 8 October 2022.

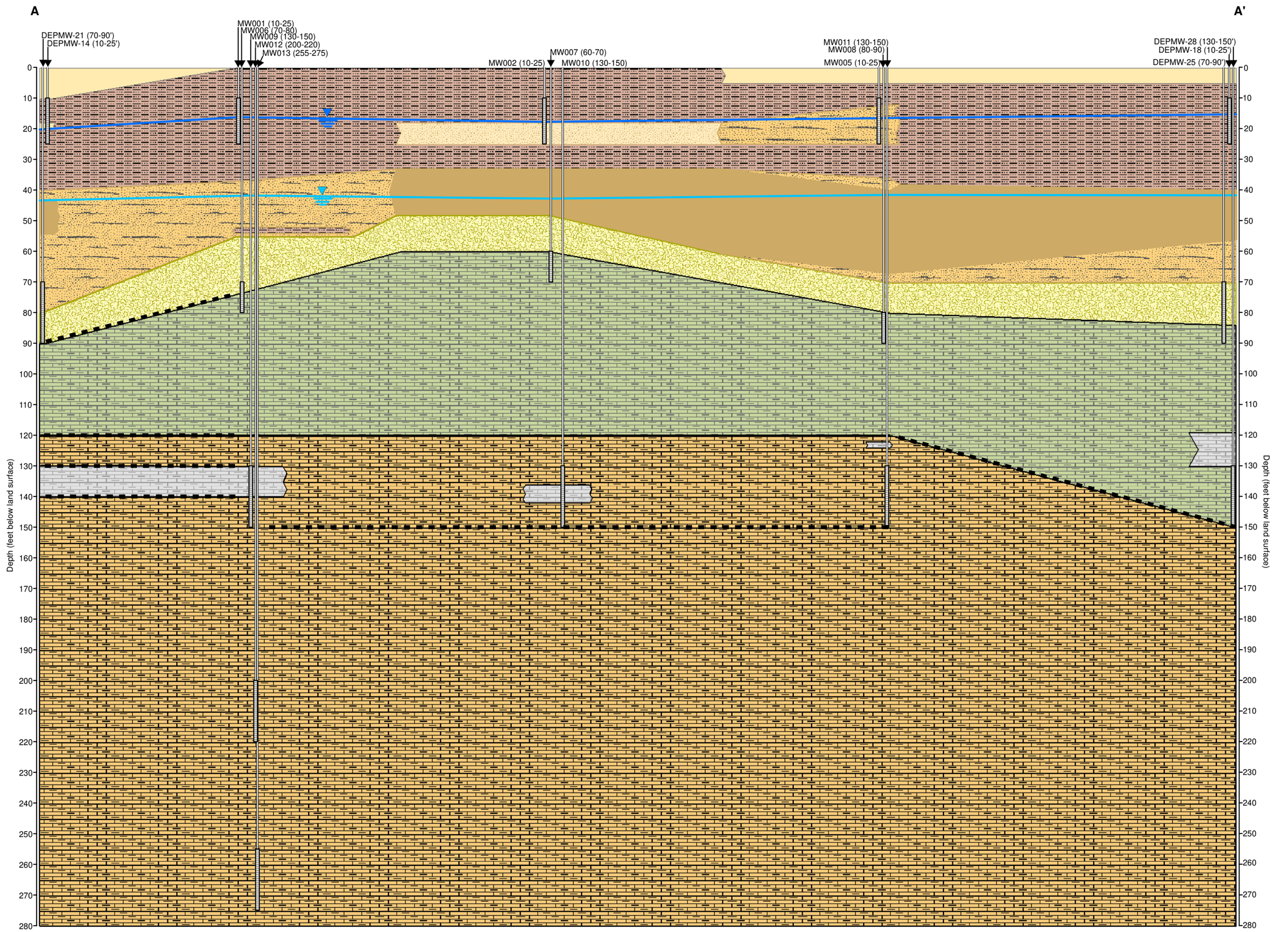
Date: August 15, 2023

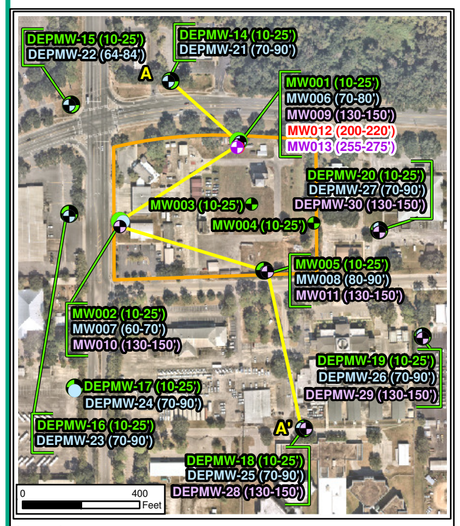
N

200 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Path: (Titusville-01\DATA) T:\0GIS\FR3734_TFTD\MXDs\202306\MW_locs_202306.mxd 15 August 2023. Last Edited by: mhensley





Legend

- Monitoring Well Location screened from 10 to 25 ft BLS
- Monitoring Well Location screened from 60 to 90 ft BLS
- Monitoring Well Location screened from 130 to 150 ft BLS
- Monitoring Well Location screened from 200 to 220 ft BLS
- Monitoring Well Location screened from 255 to 275 ft BLS
- Cross Section A to A'
- Site Parcel Boundary

Notes:
1. ft BLS indicates feet below land surface.
2. Parcel boundary downloaded from Leon County Property Appraiser website on 9 December 2019.
3. Aerial Source: Nearmap, HERE; captured 8 October 2022.

Legend

- Approximate Water Table - Surficial Aquifer
- Approximate Potentiometric Surface - Florida Aquifer
- Inferred Lithology

Lithology

- SAND
- Clayey SAND
- Fine SAND
- CLAY
- Sandy CLAY
- Limestone, marly/weathered
- Interbedded Limestone Fragments with weathered marly limestone
- Limestone, increase of fossiles with depth, interbedded with Fine SAND and marly limestone
- Void

- Monitoring Well
- Screen Interval

N

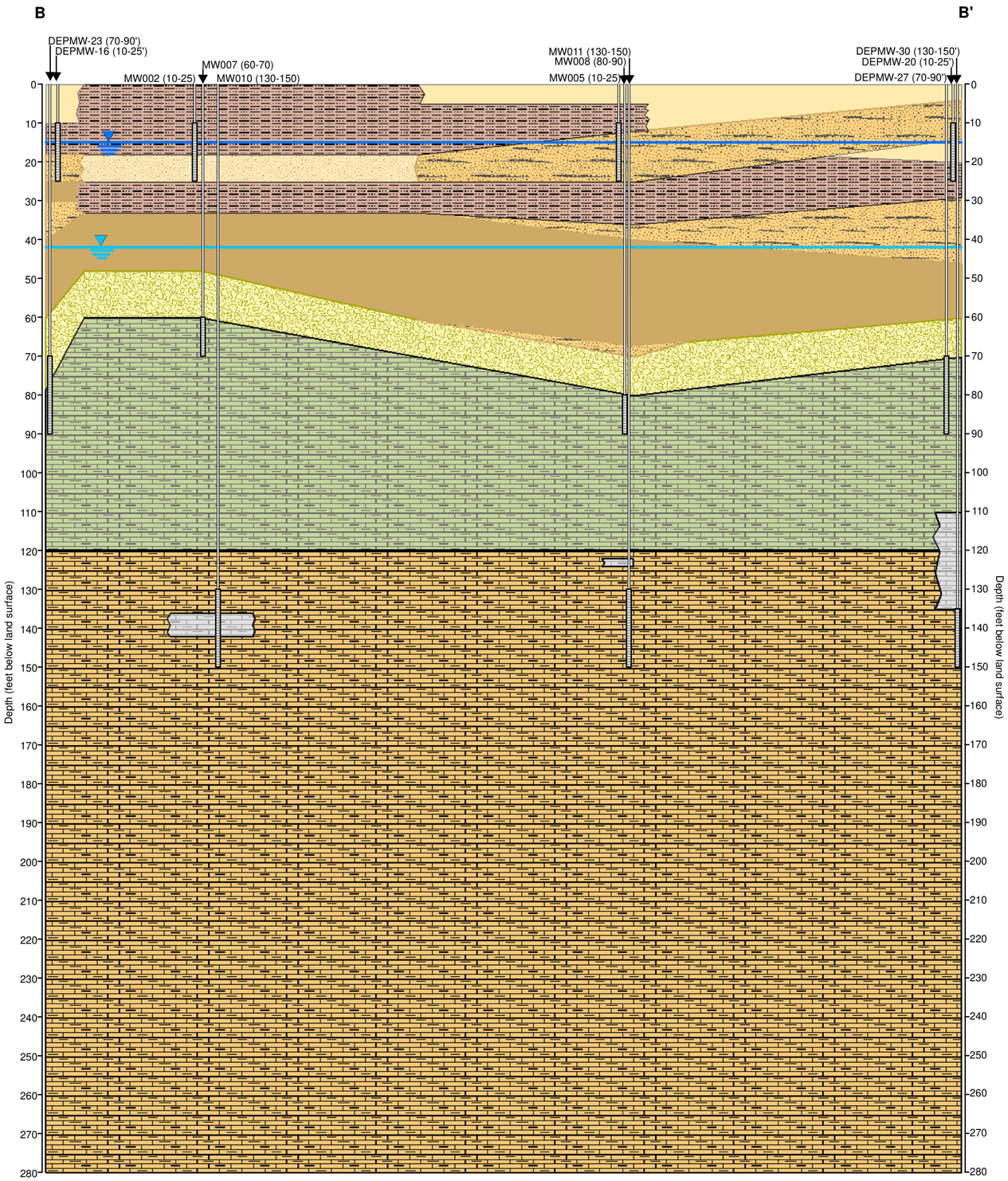
120 Feet

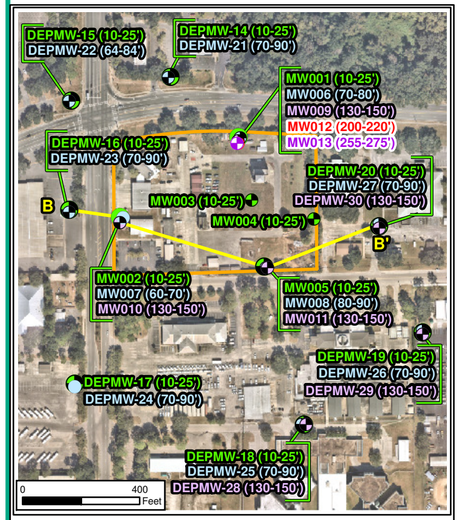
Vertical Exaggeration = 5

Figure 5
General Lithologic Cross Section A-A'
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Date: August 15, 2023

Path: (Tlbusville-01\DATA) T:\GIS\FR3734_TFTD\MXDs\202307\CrossSectionA_A_202307.mxd 15 August 2023 MAH





Legend

- Monitoring Well Location screened from 10 to 25 ft BLS
- Monitoring Well Location screened from 60 to 90 ft BLS
- Monitoring Well Location screened from 130 to 150 ft BLS
- Monitoring Well Location screened from 200 to 220 ft BLS
- Monitoring Well Location screened from 255 to 275 ft BLS
- Cross Section B to B'
- Site Parcel Boundary

Notes:
1. ft BLS indicates feet below land surface.
2. Parcel boundary downloaded from Leon County Property Appraiser website on 9 December 2019.
3. Aerial Source: Nearmap, HERE; captured 8 October 2022.

Legend

- Approximate Water Table - Surficial Aquifer
- Approximate Potentiometric Surface - Florida Aquifer

Lithology

- SAND
- Clayey SAND
- Fine SAND
- CLAY
- Sandy CLAY
- Limestone, marly/weathered
- Interbedded Limestone Fragments with weathered marly limestone
- Limestone, increase of fossiles with depth, interbedded with Fine SAND and marly limestone
- Void

Monitoring Well

Screen Interval

N

120 Feet

Vertical Exaggeration = 5

Date: August 15, 2023

Figure 6
General Lithologic Cross Section B-B'
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Path: (\\tlsville-01\DATA) T:\OGIS\FR3734_TFTD\MXDs\202307\CrossSectionB_B_202307.mxd 15 August 2023 MAH

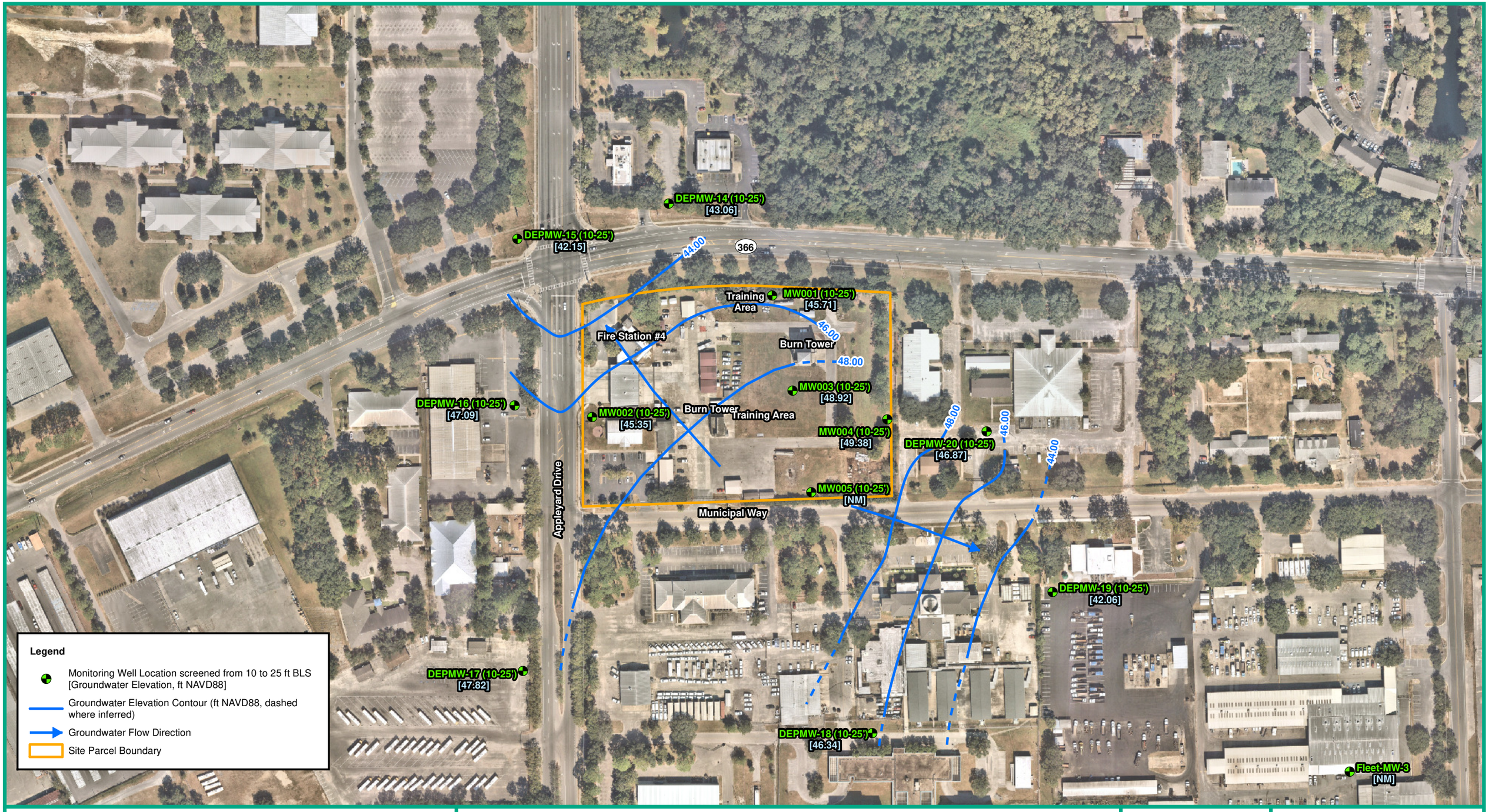


Figure 7
Groundwater Elevation Map from 10 to 25 ft BLS
April 2023
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Notes:
1. Groundwater elevation is presented in North American Vertical Datum of 1988 (NAVD88), feet (ft).
2. NM indicates not measured.
3. Screen interval is presented in feet (') below land surface (BLS).
4. Parcel boundary downloaded from Leon County Property Appraiser website on 9 December 2019.
5. Aerial Source: Nearmap, HERE; captured 8 October 2022.

Date: August 25, 2023

N

200 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Path: (Titusville-01\DATA) T:\0GIS\FR3734_TFTD\MXDs\202306\GW_elev_10_to_25ftBLS_Apr2023.mxd 25 August 2023. Last Edited by: mhensley

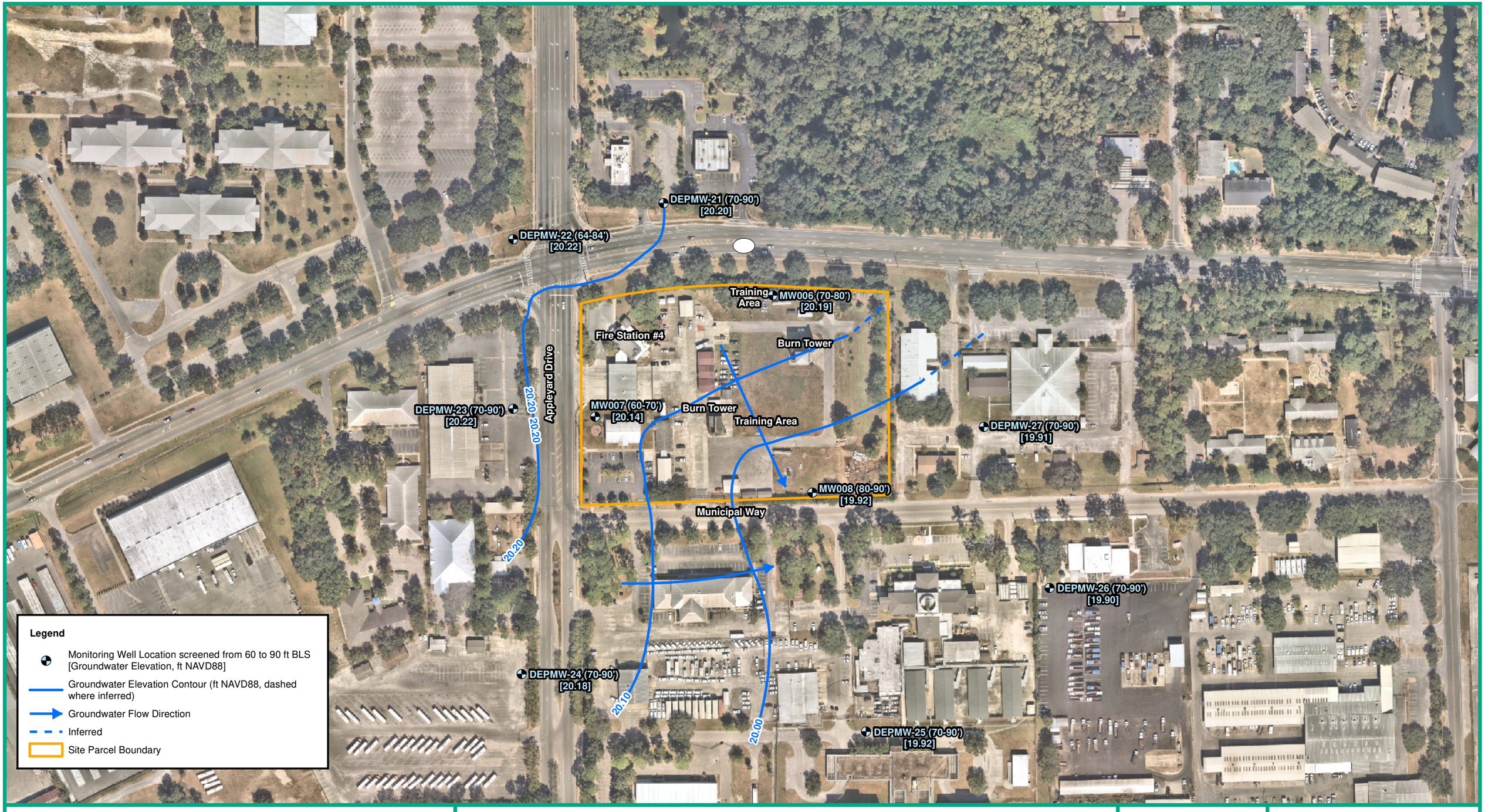


Figure 8
Groundwater Elevation Map from 60 to 90 ft BLS
April 2023
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Notes:
1. Groundwater elevation is presented in North American Vertical Datum of 1988 (NAVD88), feet (ft).
2. NM indicates not measured.
3. Screen interval is presented in feet (') below land surface (BLS).
4. Parcel boundary downloaded from Leon County Property Appraiser website on 9 December 2019.
5. Aerial Source: Nearmap, HERE; captured 8 October 2022.

Date: August 25, 2023

N

200 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Path: {Tlusville-01\DATA} T:\0GIS\FR3734_TFTD\MXDs\202306\GW_elev_60_to_90ftBLS_Apr2023.mxd 25 August 2023. Last Edited by: mhensley

Figure 9
Groundwater Elevation Map from Greater than 120 ft BLS
April 2023
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Notes:
1. Groundwater elevation is presented in North American Vertical Datum of 1988 (NAVD88), feet (ft).
2. * indicates not used to generate contours.
3. Screen interval is presented in feet (') below land surface (BLS).
4. Parcel boundary downloaded from Leon County Property Appraiser website on 9 December 2019.
5. Aerial Source: Nearmap, HERE; captured 8 October 2022.

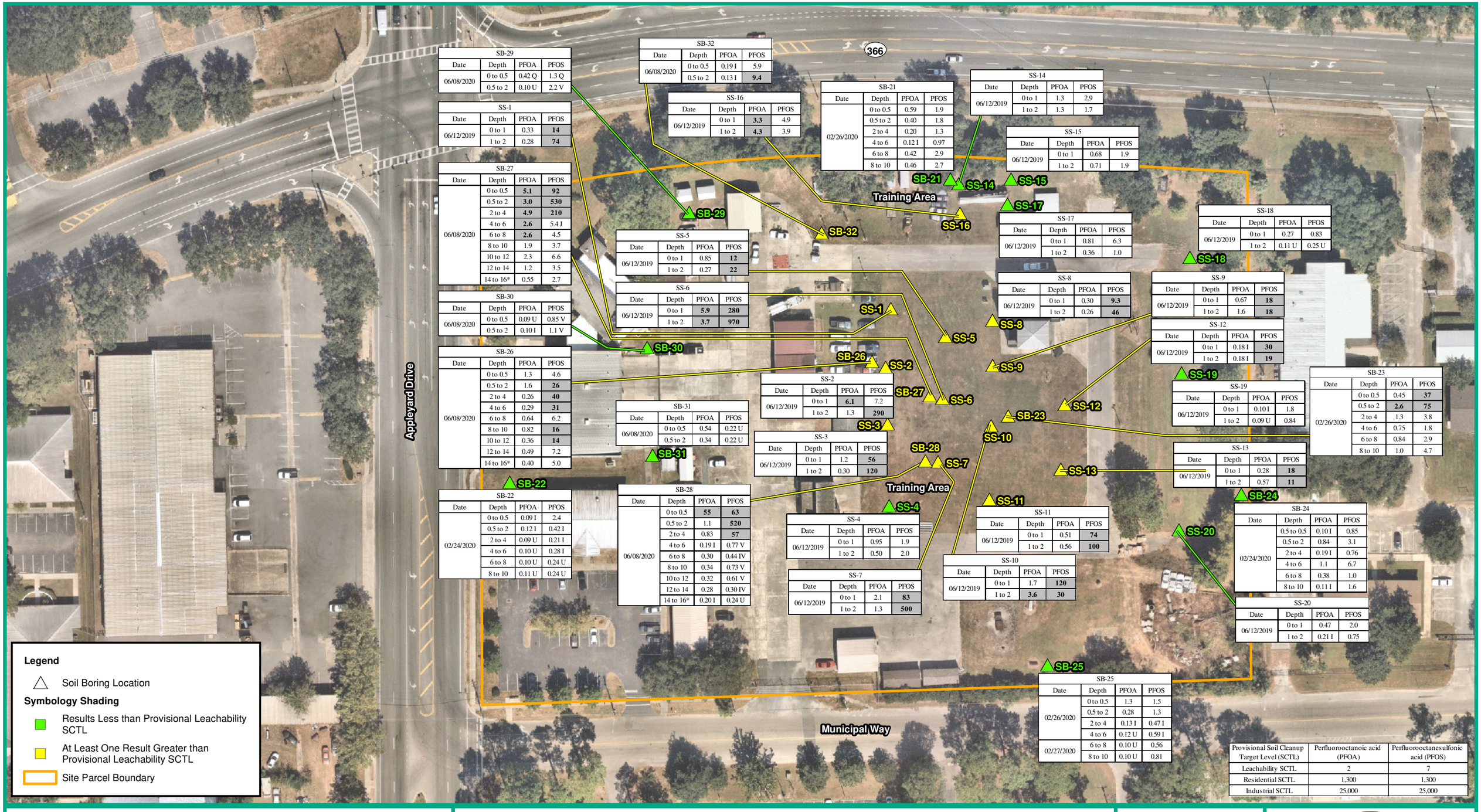
Date: August 25, 2023

N

200 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Path: {Tlusville-01\DATA} T:\0GIS\FR3734_TFTD\MXDs\202308\GW_elev_greater_than120ftBLS_Apr2023.mxd 25 August 2023. Last Edited by: mhensley



SB-29			
Date	Depth	PFOA	PFOS
06/08/2020	0 to 0.5	0.42 Q	1.3 Q
	0.5 to 2	0.10 U	2.2 V

SB-32			
Date	Depth	PFOA	PFOS
06/08/2020	0 to 0.5	0.19 I	5.9
	0.5 to 2	0.13 I	**9.4**

SS-16			
Date	Depth	PFOA	PFOS
06/12/2019	0 to 1	**3.3**	4.9
	1 to 2	**4.3**	3.9

SB-21			
Date	Depth	PFOA	PFOS
02/26/2020	0 to 0.5	0.59	1.9
	0.5 to 2	0.40	1.8
	2 to 4	0.20	1.3
	4 to 6	0.12 I	0.97
	6 to 8	0.42	2.9
	8 to 10	0.46	2.7

SS-14			
Date	Depth	PFOA	PFOS
06/12/2019	0 to 1	1.3	2.9
	1 to 2	1.3	1.7

SS-15			
Date	Depth	PFOA	PFOS
06/12/2019	0 to 1	0.68	1.9
	1 to 2	0.71	1.9

SS-1			
Date	Depth	PFOA	PFOS
06/12/2019	0 to 1	0.33	**14**
	1 to 2	0.28	**74**

SB-27			
Date	Depth	PFOA	PFOS
06/08/2020	0 to 0.5	**5.1**	**92**
	0.5 to 2	**3.0**	**530**
	2 to 4	**4.9**	**210**
	4 to 6	**2.6**	5.4 J
	6 to 8	**2.6**	4.5
	8 to 10	1.9	3.7
	10 to 12	2.3	6.6
	12 to 14	1.2	3.5
	14 to 16*	0.55	2.7

SS-17			
Date	Depth	PFOA	PFOS
06/12/2019	0 to 1	0.81	6.3
	1 to 2	0.36	1.0

SS-18			
Date	Depth	PFOA	PFOS
06/12/2019	0 to 1	0.27	0.83
	1 to 2	0.11 U	0.25 U

SS-5			
Date	Depth	PFOA	PFOS
06/12/2019	0 to 1	0.85	**12**
	1 to 2	0.27	**22**

SS-8			
Date	Depth	PFOA	PFOS
06/12/2019	0 to 1	0.30	**9.3**
	1 to 2	0.26	**46**

SS-9			
Date	Depth	PFOA	PFOS
06/12/2019	0 to 1	0.67	**18**
	1 to 2	1.6	**18**

SS-6			
Date	Depth	PFOA	PFOS
06/12/2019	0 to 1	**5.9**	**280**
	1 to 2	**3.7**	**970**

SS-12			
Date	Depth	PFOA	PFOS
06/12/2019	0 to 1	0.18 I	**30**
	1 to 2	0.18 I	**19**

SB-30			
Date	Depth	PFOA	PFOS
06/08/2020	0 to 0.5	0.09 U	0.85 V
	0.5 to 2	0.10 I	1.1 V

SS-19			
Date	Depth	PFOA	PFOS
06/12/2019	0 to 1	0.10 I	1.8
	1 to 2	0.09 U	0.84

SB-23			
Date	Depth	PFOA	PFOS
02/26/2020	0 to 0.5	0.45	**37**
	0.5 to 2	**2.6**	**75**
	2 to 4	1.3	3.8
	4 to 6	0.75	1.8
	6 to 8	0.84	2.9
	8 to 10	1.0	4.7

SB-26			
Date	Depth	PFOA	PFOS
06/08/2020	0 to 0.5	1.3	4.6
	0.5 to 2	1.6	**26**
	2 to 4	0.26	**40**
	4 to 6	0.29	**31**
	6 to 8	0.64	6.2
	8 to 10	0.82	**16**
	10 to 12	0.36	**14**
	12 to 14	0.49	7.2
	14 to 16*	0.40	5.0

SS-2			
Date	Depth	PFOA	PFOS
06/12/2019	0 to 1	**6.1**	7.2
	1 to 2	1.3	**290**

SB-31			
Date	Depth	PFOA	PFOS
06/08/2020	0 to 0.5	0.54	0.22 U
	0.5 to 2	0.34	0.22 U

SS-3			
Date	Depth	PFOA	PFOS
06/12/2019	0 to 1	1.2	**56**
	1 to 2	0.30	**120**

SS-13			
Date	Depth	PFOA	PFOS
06/12/2019	0 to 1	0.28	**18**
	1 to 2	0.57	**11**

SB-22			
Date	Depth	PFOA	PFOS
02/24/2020	0 to 0.5	0.09 I	2.4
	0.5 to 2	0.12 I	0.42 I
	2 to 4	0.09 U	0.21 I
	4 to 6	0.10 U	0.28 I
	6 to 8	0.10 U	0.24 U
	8 to 10	0.11 U	0.24 U

SB-28			
Date	Depth	PFOA	PFOS
06/08/2020	0 to 0.5	**55**	**63**
	0.5 to 2	1.1	**520**
	2 to 4	0.83	**57**
	4 to 6	0.19 I	0.77 V
	6 to 8	0.30	0.44 IV
	8 to 10	0.34	0.73 V
	10 to 12	0.32	0.61 V
	12 to 14	0.28	0.30 IV
	14 to 16*	0.20 I	0.24 U

SS-4			
Date	Depth	PFOA	PFOS
06/12/2019	0 to 1	0.95	1.9
	1 to 2	0.50	2.0

SS-11			
Date	Depth	PFOA	PFOS
06/12/2019	0 to 1	0.51	**74**
	1 to 2	0.56	**100**

SS-7			
Date	Depth	PFOA	PFOS
06/12/2019	0 to 1	2.1	**83**
	1 to 2	1.3	**500**

SS-10			
Date	Depth	PFOA	PFOS
06/12/2019	0 to 1	1.7	**120**
	1 to 2	**3.6**	**30**

SB-24			
Date	Depth	PFOA	PFOS
02/24/2020	0.5 to 0.5	0.10 I	0.85
	0.5 to 2	0.84	3.1
	2 to 4	0.19 I	0.76
	4 to 6	1.1	6.7
	6 to 8	0.38	1.0
	8 to 10	0.11 I	1.6

SS-20			
Date	Depth	PFOA	PFOS
06/12/2019	0 to 1	0.47	2.0
	1 to 2	0.21 I	0.75

SB-25			
Date	Depth	PFOA	PFOS
02/26/2020	0 to 0.5	1.3	1.5
	0.5 to 2	0.28	1.3
	2 to 4	0.13 I	0.47 I
	4 to 6	0.12 U	0.59 I
02/27/2020	6 to 8	0.10 U	0.56
	8 to 10	0.10 U	0.81

Legend

Soil Boring Location

Symbology Shading

Results Less than Provisional Leachability SCTL

At Least One Result Greater than Provisional Leachability SCTL

Site Parcel Boundary

Provisional Soil Cleanup Target Level (SCTL)	Perfluorooctanoic acid (PFOA)	Perfluorooctanesulfonic acid (PFOS)
Leachability SCTL	2	7
Residential SCTL	1,300	1,300
Industrial SCTL	25,000	25,000

Figure 10
Summary of Analytical Results in Soil
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Notes:

1. Results and screening critiera are presented in micorgrams per kilogram (µg/Kg).
2. Depth is provided in feet below land surface (ft BLS).
3. I indicates result is between the laboratory method detection limit (MDL) and the laboratory practical quantitation limit.
4. U indicates material was analyzed for but not detected. The reported value is the MDL for the sample analyzed.
5. J indicates result is an estimated value and/or the analysis did not meet established quality control criteria.
6. Q indicates sample held beyond the accepted holding time.
7. V indicates analyte was detected in both sample and method blank.
8. Gray shaded, bold text indicates an exceedance of the Florida Department of Environmental Protection Provisional Leachability soil cleanup target level (SCTL).
9. * indicates saturated soil sample; results not compared to FDEP Provisional SCTLs.
10. Site Investigation Section (SIS) soil borings (labeled SS-#) were provided by the Florida Department of Environmental Protection.
11. Parcel boundary downloaded from Leon County Property Appraiser website on 9 December 2019.
12. Aerial Source: Nearmap, HERE; captured 8 October 2022.

Date: August 25, 2023

N

80 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Path: (Titusville-01\DATA) T:\0GIS\FR3734_TFTD\MXDs\202308\Soil_Results_Jun2020_202308.mxd 25 August 2023. Last Edited by: mhensley

Provisional Cleanup Target Level	Perfluorooctanesulfonic acid (PFOS)
Leachability SCTL	7
Residential SCTL	1,300
Industrial SCTL	25,000

Figure 11A
Summary of PFOS in Soil from 0 to 0.5 ft BLS
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Notes:
1. Results and screening critieria are presented in micrograms per kilogram (µg/kg).
2. ft BLS indicates feet below land surface.
3. Q indicates sample held beyond the accepted holding time.
4. U indicates material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
5. V indicates analyte was detected in both sample and method blank.
6. * indicates location was collected during 2019 preliminary assessment activities from 0 to 1 feet (ft) below land surface (BLS).
7. SCTL indicates soil cleanup target level.
8. Site Investigation Section (SIS) soil boring (labeled SS-#), were provided by the Florida Department of Environmental Protection. The product sample was approximated based on Figure 4 as presented in SIS Preliminary Contamination Assessment Report issued August 2019.
9. Parcel boundary downloaded from Leon County Property Appraiser website on 9 December 2019.
10. Aerial Source: Nearmap, HERE; captured 8 October 2022.

Date: August 25, 2023

N

80 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Path: (Titusville-01\DATA) T:\0GIS\FR3734_TFTD\MXDs\202308\PFOS_Soil_0_to_0_5ft BLS_202308.mxd 25 August 2023. Last Edited by: mhensley

Legend

Summary of PFOA in Soil

- Result Less than the Provisional Leachability SCTL
- Result Greater than the Provisional Leachability SCTL
- PFOA Greater than the FDEP Provisional L-SCTL (2 µg/kg) Isocontour
- Site Parcel Boundary

Provisional Cleanup Target Level	Perfluorooctanoic acid (PFOA)
Leachability SCTL	2
Residential SCTL	1,300
Industrial SCTL	25,000

Figure 11B
Summary of PFOA in Soil from 0 to 0.5 ft BLS
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Notes:
1. Results and screening critieria are presented in micrograms per kilogram (µg/kg).
2. ft BLS indicates feet below land surface.
3. Q indicates sample held beyond the accepted holding time.
4. U indicates material was analyzed for but not detected. The reported value is the method detection limit (MDL) for the sample analyzed.
5. I Indicates result is between the laboratory MDL and the laboratory practical quantitation limt.
6. * indicates location was collected during 2019 preliminary assessment activities from 0 to 1 feet (ft) below land surface (BLS).
7. SCTL indicates soil cleanup target level.
8. Site Investigation Section (SIS) soil boring (labeled SS-#), were provided by the Florida Department of Environmental Protection. The product sample was approximated based on Figure 4 as presented in SIS Preliminary Contamination Assessment Report issued August 2019.
9. Parcel boundary downloaded from Leon County Property Appraiser website on 9 December 2019.
10. Aerial Source: Nearmap, HERE; captured 8 October 2022.

Date: August 25, 2023

N

80 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Path: (Titusville-01\DATA) T:\0GIS\FR3734_TFTD\MXDs\202308\PFOA_Soil_0_to_0_5ft BLS_202308.mxd 25 August 2023. Last Edited by: mhensley

Provisional Cleanup Target Level	Perfluorooctanesulfonic acid (PFOS)
Leachability SCTL	7
Residential SCTL	1,300
Industrial SCTL	25,000

Figure 12A
Summary of PFOS in Soil from 0.5 to 2 ft BLS
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Notes:
1. Results and screening critieria are presented in micrograms per kilogram (µg/kg).
2. ft BLS indicates feet below land surface.
3. U indicates material was analyzed for but not detected. The reported value is the method detection limit (MDL) for the sample analyzed.
4. I indicates result is between the laboratory MDL and the laboratory practical quantitation limit.
5. V indicates analyte was detected in both sample and method blank.
6. * indicates location was collected during 2019 preliminary assessment activities from 1 to 2 feet (ft) below land surface (BLS).
7. SCTL indicates soil cleanup target level.
8. Site Investigation Section (SIS) soil boring (labeled SS-#), were provided by the Florida Department of Environmental Protection. The product sample was approximated based on Figure 4 as presented in SIS Preliminary Contamination Assessment Report issued August 2019.
9. Parcel boundary downloaded from Leon County Property Appraiser website on 9 December 2019.
10. Aerial Source: Nearmap, HERE; captured 8 October 2022.

Date: August 25, 2023

N

80 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Provisional Cleanup Target Level	Perfluorooctanoic acid (PFOA)
Leachability SCTL	2
Residential SCTL	1,300
Industrial SCTL	25,000

Figure 12B
Summary of PFOA in Soil from 0.5 to 2 ft BLS
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Notes:
1. Results and screening critieria are presented in micrograms per kilogram (µg/kg).
2. ft BLS indicates feet below land surface.
3. U indicates material was analyzed for but not detected. The reported value is the method detection limit (MDL) for the sample analyzed.
4. I indicates result is between the laboratory MDL and the laboratory practical quantitation limit.
5. * indicates location was collected during 2019 preliminary assessment activities from 1 to 2 feet (ft) below land surface (BLS).
6. SCTL indicates soil cleanup target level.
7. Site Investigation Section (SIS) soil boring (labeled SS-#), were provided by the Florida Department of Environmental Protection. The product sample was approximated based on Figure 4 as presented in SIS Preliminary Contamination Assessment Report issued August 2019.
8. Parcel boundary downloaded from Leon County Property Appraiser website on 9 December 2019.
9. Aerial Source: Nearmap, HERE; captured 8 October 2022

Date: August 25, 2023

N

80 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Path: (Titusville-01\DATA) T:\0GIS\FR3734_TFTD\MXDs\202308\PFOA_Soil_0_5_to_2ft BLS_202308.mxd 25 August 2023. Last Edited by: mhensley

Provisional Cleanup Target Level	Perfluorooctanesulfonic acid (PFOS)
Leachability SCTL	7
Residential SCTL	1,300
Industrial SCTL	25,000

Figure 13A
Summary of PFOS in Soil from 2 to 4 ft BLS
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Notes:
1. Results and screening critieria are presented in micrograms per kilogram (µg/kg).
2. I indicates result is between the laboratory method detection limit and the laboratory practical quantitation limit.
3. ft BLS indicates feet below land surface.
4. SCTL indicates soil cleanup target level.
5. Site Investigation Section (SIS) soil boring (labeled SS-#), were provided by the Florida Department of Environmental Protection. The product sample was approximated based on Figure 4 as presented in SIS Preliminary Contamination Assessment Report issued August 2019.
6. Parcel boundary downloaded from Leon County Property Appraiser website on 9 December 2019.
7. Aerial Source: Nearmap, HERE; captured 8 October 2022.

Date: August 25, 2023

N

80 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Path: (Titusville-01\DATA) T:\0GIS\FR3734_TFTD\MXDs\202308\PFOS_Soil_2_to_4ft BLS_202308.mxd 25 August 2023. Last Edited by: mhensley

Provisional Cleanup Target Level	Perfluorooctanoic acid (PFOA)
Leachability SCTL	2
Residential SCTL	1,300
Industrial SCTL	25,000

Figure 13B
Summary of PFOA in Soil from 2 to 4 ft BLS
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Notes:
1. Results and screening critieria are presented in micrograms per kilogram (µg/kg).
2. I indicates result is between the laboratory method detection limit and the laboratory practical quantitation limit.
3. ft BLS indicates feet below land surface.
4. SCTL indicates soil cleanup target level.
5. Site Investigation Section (SIS) soil boring (labeled SS-#), were provided by the Florida Department of Environmental Protection. The product sample was approximated based on Figure 4 as presented in SIS Preliminary Contamination Assessment Report issued August 2019.
6. Parcel boundary downloaded from Leon County Property Appraiser website on 9 December 2019.
7. Aerial Source: Nearmap, HERE; captured 8 October 2022.

Date: August 25, 2023

N

80 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Path: (Titusville-01\DATA) T:\0GIS\FR3734_TFTD\MXDs\202308\PFOA_Soil_2_to_4ft BLS_202308.mxd 25 August 2023. Last Edited by: mhensley

Provisional Cleanup Target Level	Perfluorooctanesulfonic acid (PFOS)
Leachability SCTL	7
Residential SCTL	1,300
Industrial SCTL	25,000

Figure 14A
Summary of PFOS in Soil from 4 to 6 ft BLS
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Notes:
1. Results and screening critieria are presented in micrograms per kilogram (µg/kg).
2. I indicates result is between the laboratory method detection limit and the laboratory practical quantitation limit.
3. J indicates an estimated value.
4. V indicates analyte was detected in both sample and method blank.
5. ft BLS indicates feet below land surface.
6. SCTL indicates soil cleanup target level.
7. Site Investigation Section (SIS) soil boring (labeled SS-#), were provided by the Florida Department of Environmental Protection. The product sample was approximated based on Figure 4 as presented in SIS Preliminary Contamination Assessment Report issued August 2019.
8. Parcel boundary downloaded from Leon County Property Appraiser website on 9 December 2019.
9. Aerial Source: Nearmap, HERE; captured 8 October 2022.

Date: August 25, 2023

N

80 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Path: (Titusville-01\DATA) T:\0GIS\FR3734_TFTD\MXDs\202308\PFOS_Soil_4_to_6ft BLS_202308.mxd 25 August 2023. Last Edited by: mhensley

SB-21 (0.12 I)
SS-15
Training Area
SS-14
SS-17
SS-16
SB-29
SB-32
SS-18
Fire Station #4
SS-1
Burn Tower
SS-8
SS-5
SB-30
SB-26 (0.29)
SS-2
SS-9
SS-19
SB-27 (2.6)
SS-6
SS-12
SB-23 (0.75)
SS-3
SS-10
Appleyard Drive
SB-31
SB-28 (0.19 I)
SS-7
Burn Tower
SS-13
SB-22 (0.10 U)
Training Area
SB-24 (1.1)
SS-11
SS-4
SS-20
SB-25 (0.12 U)
Municipal Way

Legend

Summary of PFOA in Soil

- Result Less than the Provisional Leachability SCTL
- Result Greater than the Provisional Leachability SCTL
- No Data for this Depth Interval
- PFOA Greater than the FDEP Provisional L-SCTL (2 µg/kg) Isocontour
- Site Parcel Boundary

Provisional Cleanup Target Level	Perfluorooctanoic acid (PFOA)
Leachability SCTL	2
Residential SCTL	1,300
Industrial SCTL	25,000

Figure 14B
Summary of PFOA in Soil from 4 to 6 ft BLS
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Notes:
1. Results and screening critieria are presented in micrograms per kilogram (µg/kg).
2. U indicates material was analyzed for but not detected. The reported value is the method detection limit (MDL) for the sample analyzed.
3. I indicates result is between the laboratory MDL and the laboratory practical quantitation limit.
4. ft BLS indicates feet below land surface.
5. SCTL indicates soil cleanup target level.
6. Site Investigation Section (SIS) soil boring (labeled SS-#), were provided by the Florida Department of Environmental Protection. The product sample was approximated based on Figure 4 as presented in SIS Preliminary Contamination Assessment Report issued August 2019.
7. Parcel boundary downloaded from Leon County Property Appraiser website on 9 December 2019.
8. Aerial Source: Nearmap, HERE; captured 8 October 2022.

Date: August 25, 2023

N

80 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Path: (Titusville-01\DATA) T:\0GIS\FR3734_TFTD\MXDs\202308\PFOA_Soil_4_to_6ft BLS_202308.mxd 25 August 2023. Last Edited by: mhensley

Provisional Cleanup Target Level	Perfluorooctanesulfonic acid (PFOS)
Leachability SCTL	7
Residential SCTL	1,300
Industrial SCTL	25,000

Figure 15A
Summary of PFOS in Soil from 6 to 8 ft BLS
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Notes:
1. Results and screening critieria are presented in micrograms per kilogram (µg/kg).
2. I indicates result is between the laboratory method detection limit and the laboratory practical quantitation limit.
3. U indicates material was analyzed for but not detected. The reported value is the MDL for the sample analyzed.
4. V indicates analyte was detected in both sample and method blank.
5. ft BLS indicates feet below land surface.
6. SCTL indicates soil cleanup target level.
7. Site Investigation Section (SIS) soil boring (labeled SS-#), were provided by the Florida Department of Environmental Protection. The product sample was approximated based on Figure 4 as presented in SIS Preliminary Contamination Assessment Report issued August 2019.
8. Parcel boundary downloaded from Leon County Property Appraiser website on 9 December 2019.
9. Aerial Source: Nearmap, HERE; captured 8 October 2022.

Date: August 25, 2023

N

80 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Path: (Titusville-01\DATA) T:\0GIS\FR3734_TFTD\MXDs\202308\PFOS_Soil_6_to_8ft BLS.mxd_202308.mxd 25 August 2023. Last Edited by: mhensley

Legend

Summary of PFOA in Soil

- Result Less than the Provisional Leachability SCTL
- Result Greater than the Provisional Leachability SCTL
- No Data for this Depth Interval
- PFOA Greater than the FDEP Provisional L-SCTL (2 µg/kg) Isocontour
- Site Parcel Boundary

Provisional Cleanup Target Level	Perfluorooctanoic acid (PFOA)
Leachability SCTL	2
Residential SCTL	1,300
Industrial SCTL	25,000

Figure 15B
Summary of PFOA in Soil from 6 to 8 ft BLS
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Notes:
1. Results and screening critieria are presented in micrograms per kilogram (µg/kg).
2. ft BLS indicates feet below land surface.
3. SCTL indicates soil cleanup target level.
4. Site Investigation Section (SIS) soil boring (labeled SS-#), were provided by the Florida Department of Environmental Protection. The product sample was approximated based on Figure 4 as presented in SIS Preliminary Contamination Assessment Report issued August 2019.
5. Parcel boundary downloaded from Leon County Property Appraiser website on 9 December 2019.
6. Aerial Source: Nearmap, HERE; captured 8 October 2022.

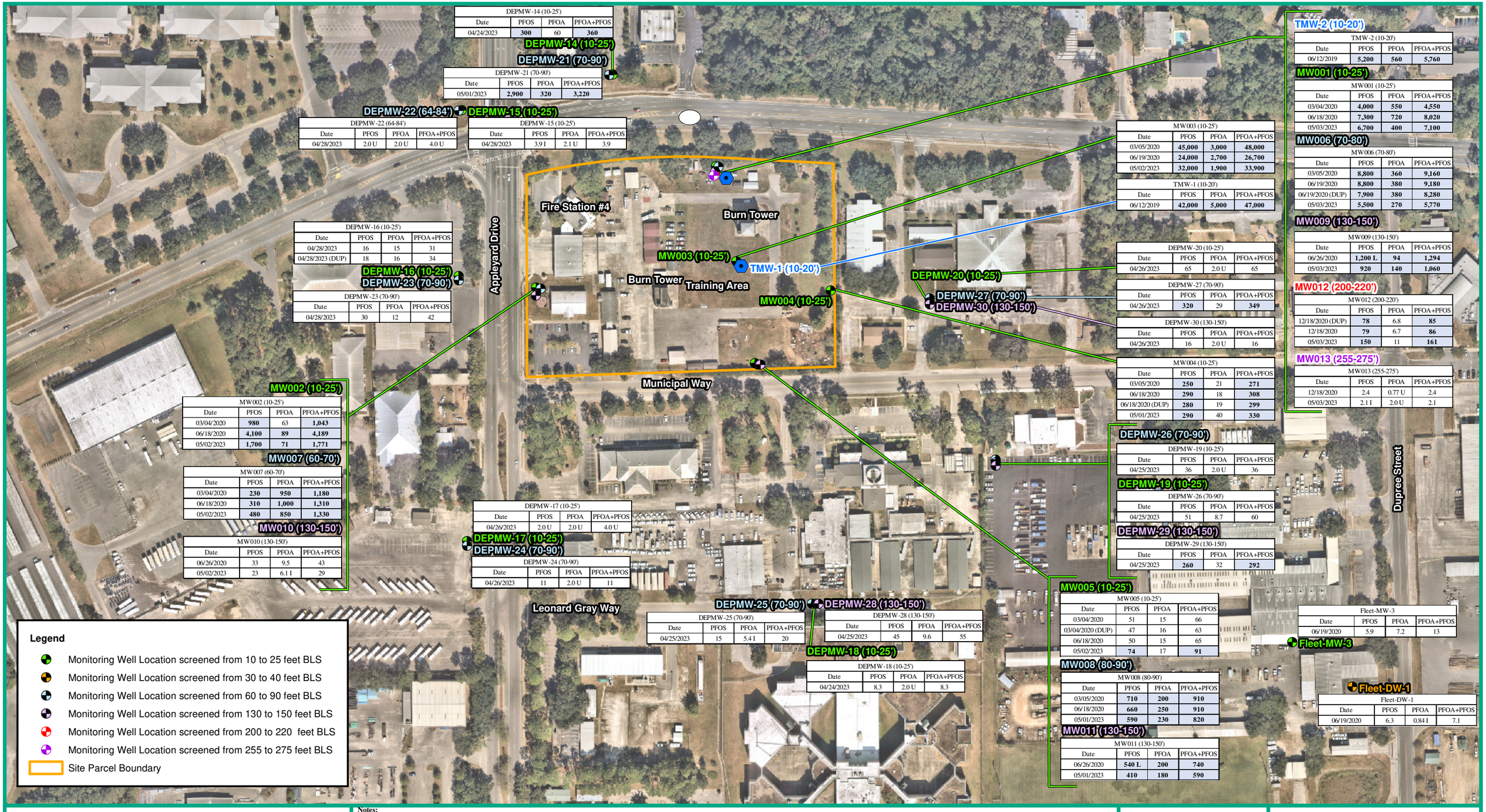
Date: August 25, 2023

N

80 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Path: (Titusville-01\DATA) T:\0GIS\FR3734_TFTD\MXDs\202308\PFOA_Soil_6_to_8ft BLS_202308.mxd 25 August 2023. Last Edited by: mhensley



DEPMW-14 (10-25')

Date	PFOS	PFOA	PFOA+PFOS
04/24/2023	**300**	60	**360**

DEPMW-21 (70-90')

Date	PFOS	PFOA	PFOA+PFOS
05/01/2023	**2,900**	**320**	**3,220**

DEPMW-22 (64-84')

Date	PFOS	PFOA	PFOA+PFOS
04/28/2023	2.0 U	2.0 U	4.0 U

DEPMW-15 (10-25')

Date	PFOS	PFOA	PFOA+PFOS
04/28/2023	3.9 I	2.1 U	3.9

DEPMW-16 (10-25')

Date	PFOS	PFOA	PFOA+PFOS
04/28/2023	16	15	31
04/28/2023 (DUP)	18	16	34

DEPMW-23 (70-90')

Date	PFOS	PFOA	PFOA+PFOS
04/28/2023	30	12	42

MW003 (10-25')

Date	PFOS	PFOA	PFOA+PFOS
03/05/2020	**45,000**	**3,000**	**48,000**
06/19/2020	**24,000**	**2,700**	**26,700**
05/02/2023	**32,000**	**1,900**	**33,900**

TMW-1 (10-20')

Date	PFOS	PFOA	PFOA+PFOS
06/12/2019	**42,000**	**5,000**	**47,000**

DEPMW-20 (10-25')

Date	PFOS	PFOA	PFOA+PFOS
04/26/2023	65	2.0 U	65

DEPMW-27 (70-90')

Date	PFOS	PFOA	PFOA+PFOS
04/26/2023	**320**	29	**349**

DEPMW-30 (130-150')

Date	PFOS	PFOA	PFOA+PFOS
04/26/2023	16	2.0 U	16

MW004 (10-25')

Date	PFOS	PFOA	PFOA+PFOS
03/05/2020	**250**	21	**271**
06/18/2020	**290**	18	**308**
06/18/2020 (DUP)	**280**	19	**299**
05/01/2023	**290**	40	**330**

TMW-2 (10-20')

Date	PFOS	PFOA	PFOA+PFOS
06/12/2019	**5,200**	**560**	**5,760**

MW001 (10-25')

Date	PFOS	PFOA	PFOA+PFOS
03/04/2020	**4,000**	**550**	**4,550**
06/18/2020	**7,300**	**720**	**8,020**
05/03/2023	**6,700**	**400**	**7,100**

MW006 (70-80')

Date	PFOS	PFOA	PFOA+PFOS
03/05/2020	**8,800**	**360**	**9,160**
06/19/2020	**8,800**	**380**	**9,180**
06/19/2020 (DUP)	**7,900**	**380**	**8,280**
05/03/2023	**5,500**	**270**	**5,770**

MW009 (130-150')

Date	PFOS	PFOA	PFOA+PFOS
06/26/2020	**1,200 L**	**94**	**1,294**
05/03/2023	**920**	**140**	**1,060**

MW012 (200-220')

Date	PFOS	PFOA	PFOA+PFOS
12/18/2020 (DUP)	**78**	6.8	**85**
12/18/2020	**79**	6.7	**86**
05/03/2023	**150**	11	**161**

MW013 (255-275')

Date	PFOS	PFOA	PFOA+PFOS
12/18/2020	2.4	0.77 U	2.4
05/03/2023	2.1 I	2.0 U	2.1

MW002 (10-25')

Date	PFOS	PFOA	PFOA+PFOS
03/04/2020	**980**	63	**1,043**
06/18/2020	**4,100**	**89**	**4,189**
05/02/2023	**1,700**	**71**	**1,771**

MW007 (60-70')

Date	PFOS	PFOA	PFOA+PFOS
03/04/2020	**230**	**950**	**1,180**
06/18/2020	**310**	**1,000**	**1,310**
05/02/2023	**480**	**850**	**1,330**

MW010 (130-150')

Date	PFOS	PFOA	PFOA+PFOS
06/26/2020	33	9.5	43
05/02/2023	23	6.1 I	29

DEPMW-17 (10-25')

Date	PFOS	PFOA	PFOA+PFOS
04/26/2023	2.0 U	2.0 U	4.0 U

DEPMW-24 (70-90')

Date	PFOS	PFOA	PFOA+PFOS
04/26/2023	11	2.0 U	11

DEPMW-25 (70-90')

Date	PFOS	PFOA	PFOA+PFOS
04/25/2023	15	5.4 I	20

DEPMW-28 (130-150')

Date	PFOS	PFOA	PFOA+PFOS
04/25/2023	45	9.6	55

DEPMW-18 (10-25')

Date	PFOS	PFOA	PFOA+PFOS
04/24/2023	8.3	2.0 U	8.3

DEPMW-26 (70-90')

DEPMW-19 (10-25')

Date	PFOS	PFOA	PFOA+PFOS
04/25/2023	36	2.0 U	36

DEPMW-26 (70-90')

Date	PFOS	PFOA	PFOA+PFOS
04/25/2023	51	8.7	60

DEPMW-29 (130-150')

Date	PFOS	PFOA	PFOA+PFOS
04/25/2023	**260**	32	**292**

MW005 (10-25')

Date	PFOS	PFOA	PFOA+PFOS
03/04/2020	51	15	66
03/04/2020 (DUP)	47	16	63
06/18/2020	50	15	65
05/02/2023	**74**	17	**91**

MW008 (80-90')

Date	PFOS	PFOA	PFOA+PFOS
03/05/2020	**710**	**200**	**910**
06/18/2020	**660**	**250**	**910**
05/01/2023	**590**	**230**	**820**

MW011 (130-150')

Date	PFOS	PFOA	PFOA+PFOS
06/26/2020	**540 L**	**200**	**740**
05/01/2023	**410**	**180**	**590**

Fleet-MW-3

Date	PFOS	PFOA	PFOA+PFOS
06/19/2020	5.9	7.2	13

Fleet-DW-1

Date	PFOS	PFOA	PFOA+PFOS
06/19/2020	6.3	0.84 I	7.1

Legend

- Monitoring Well Location screened from 10 to 25 feet BLS
- Monitoring Well Location screened from 30 to 40 feet BLS
- Monitoring Well Location screened from 60 to 90 feet BLS
- Monitoring Well Location screened from 130 to 150 feet BLS
- Monitoring Well Location screened from 200 to 220 feet BLS
- Monitoring Well Location screened from 255 to 275 feet BLS
- Site Parcel Boundary

Figure 16
Summary of Groundwater PFAS Analytical Results
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Notes:

1. Screen interval is presented in feet (') below land surface (BLS).
2. Results are presented in nanograms per liter (ng/L).
3. I indicates result is between the laboratory method detection limit (MDL) and the laborator practical quantitation limit.
4. U indicates analyte was not detected in the specified sample. The reported value for individual analytes is the MDL for the sample analyzed. For PFOA+PFOS calculations presented with a "U", this indicates neither PFOS nor PFOA were detected in the specified sample and thus the calculated value is the sum of the two MDLs (see Note 7).
5. L indicates off-scale high and the actual value is known to be greater than the value given.
6. DUP indicates duplicate sample.
7. PFOA + PFOS indicates the summation of perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) concentrations calculated based on guidance provided by the Florida Department of Environmental Protection (FDEP) on 16 November 2022. For results where both PFOA and PFOS were detected, PFOA+PFOS was calculated by summing the two detections. For results where either PFOA or PFOS was detected and the other was not, PFOA+PFOS was calculated by assuming the non-detect result was 0. For results where neither PFOA nor PFOS were detected, the PFOA+PFOS value presented is the sum of the method detection limits (MDLs) for each constituent.
8. Blue shaded, bold text indicates an exceedance of the Florida Department of Environmental Protection provisional groundwater cleanup target level (GCTL) of 70 ng/L.
9. Site Investigation Section (SIS) temporary well locations with the exception of the product sample were provided by the Florida Department of Environmental Protection. The product sample was approximated based on Figure 4 as presented in SIS Preliminary Contamination Assessment Report issued August 2019.
10. Parcel boundary downloaded from Leon County Property Appraiser website on 9 December 2019.
11. Aerial Source: Nearmap, HERE; captured 8 October 2022.

Date: August 15, 2023

N

200 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

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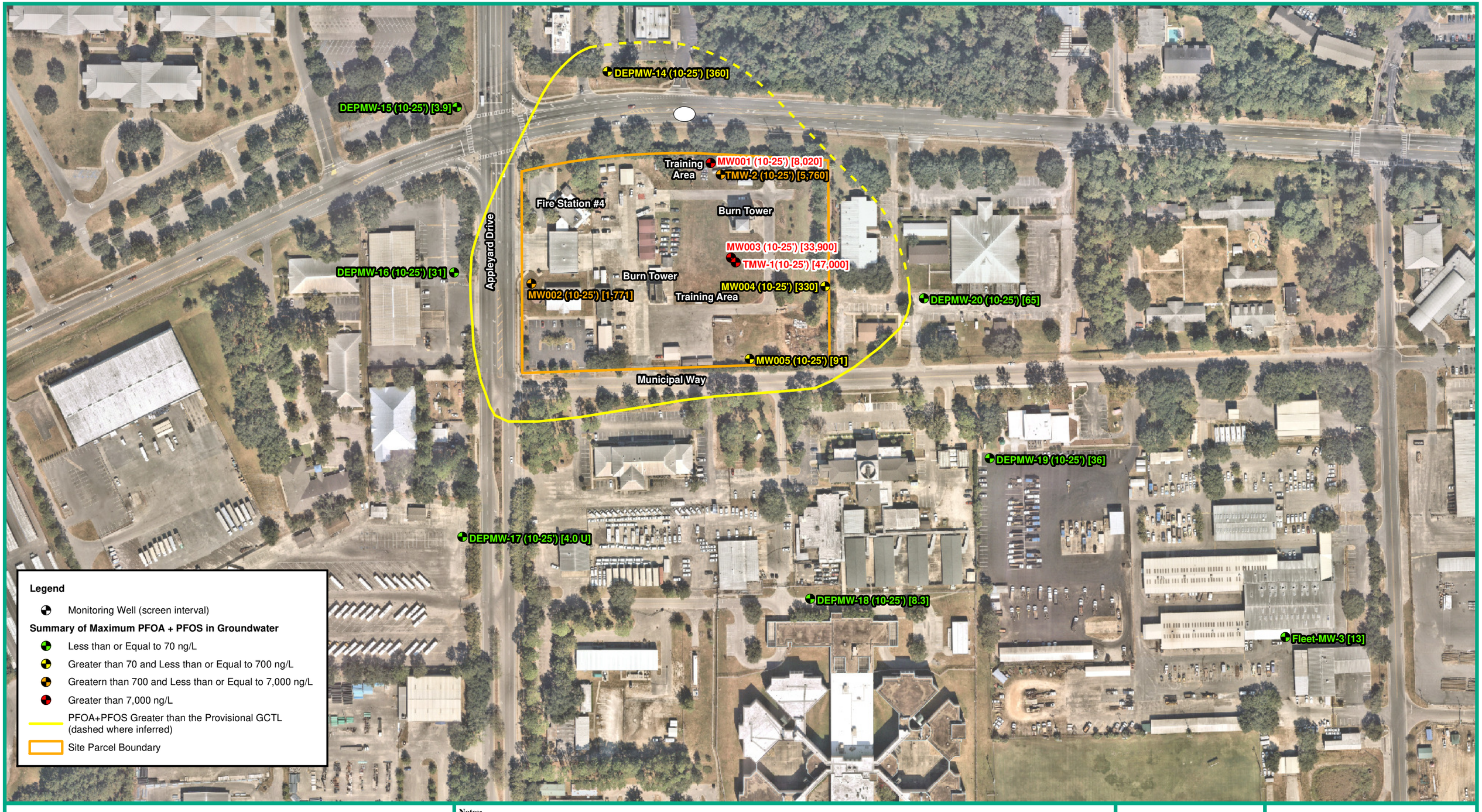


Figure 17
Summary of Maximum Concentrations of PFOA + PFOS in Groundwater - 10 to 25 ft BLS
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Notes:
1. Results are presented in nanograms per liter (ng/L).
2. Screen interval is presented in feet (') below land surface (BLS).
3. PFOA + PFOS indicates the summation of perfluorooctanic acid (PFOA) and perfluorooctanesulfonic acid (PFOS).
4. PFOA + PFOS indicates the summation of PFOA and PFOS concentrations calculated based on guidance provided by the Florida Department of Environmental Protection on 16 November 2022. For results where both PFOA and PFOS were detected, PFOA+PFOS was calculated by summing the two detections. For results where either PFOA or PFOS was detected and the other was not, PFOA+PFOS was calculated by assuming the non-detect result was 0. For results where neither PFOA nor PFOS were detected, the PFOA+PFOS value presented is the sum of the method detection limits (MDLs) for each constituent.
5. U indicates analyte was not detected in the specified sample. The reported value for individual analytes is the MDL for the sample analyzed. For PFOA+PFOS calculations presented with a "U", this indicates neither PFOS nor PFOA were detected in the specified sample and thus the calculated value is the sum of the two MDLs (see Note 4).
6. Screening based on the Florida Department of Environmental Protection provisional groundwater cleanup target level (GCTL) of 70 ng/L.
7. Parcel boundary downloaded from Leon County Property Appraiser website on 9 December 2019.
8. Aerial Source: Nearmap, HERE; captured 8 October 2022.

Date: August 21, 2023

N

200 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Path: (Tilusville-01\DATA) T:\0GIS\FR3734_TFTD\MXDs\202308\MAX_GW_RESULTS_10_to_25ftBLS_202308.mxd 21 August 2023. Last Edited by: mhensley

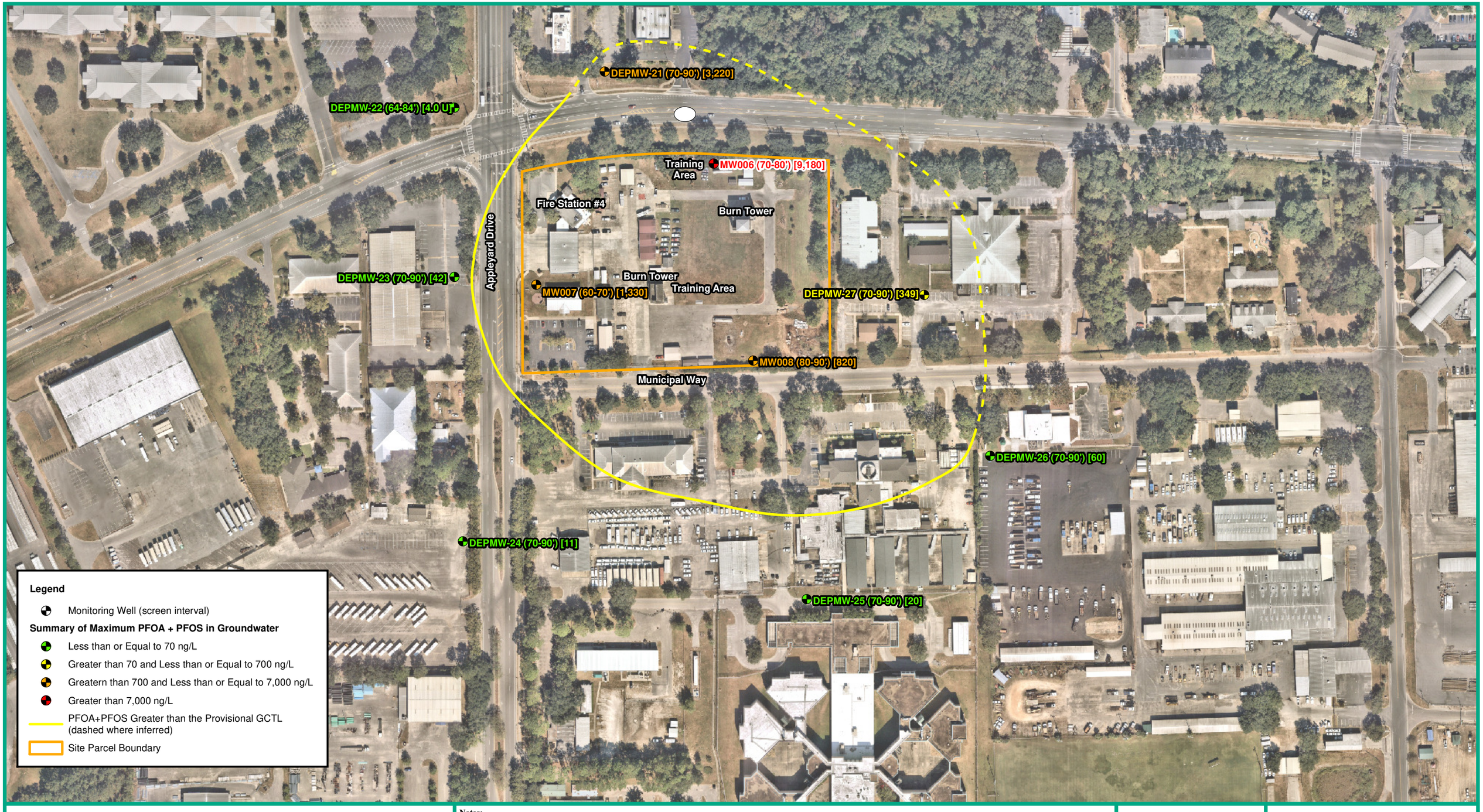


Figure 18
Summary of Maximum Concentrations of PFOA + PFOS in Groundwater - 60 to 90 ft BLS
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Notes:
1. Results are presented in nanograms per liter (ng/L).
2. Screen interval is presented in feet (') below land surface (BLS).
3. PFOA + PFOS indicates the summation of perfluorooctanic acid (PFOA) and perfluorooctanesulfonic acid (PFOS).
4. PFOA + PFOS indicates the summation of PFOA and PFOS concentrations calculated based on guidance provided by the Florida Department of Environmental Protection on 16 November 2022. For results where both PFOA and PFOS were detected, PFOA+PFOS was calculated by summing the two detections. For results where either PFOA or PFOS was detected and the other was not, PFOA+PFOS was calculated by assuming the non-detect result was 0. For results where neither PFOA nor PFOS were detected, the PFOA+PFOS value presented is the sum of the method detection limits (MDLs) for each constituent.
5. U indicates analyte was not detected in the specified sample. The reported value for individual analytes is the MDL for the sample analyzed. For PFOA+PFOS calculations presented with a "U", this indicates neither PFOS nor PFOA were detected in the specified sample and thus the calculated value is the sum of the two MDLs (see Note 4).
6. Screening based on the Florida Department of Environmental Protection provisional groundwater cleanup target level (GCTL) of 70 ng/L.
7. Parcel boundary downloaded from Leon County Property Appraiser website on 9 December 2019.
8. Aerial Source: Nearmap, HERE; captured 8 October 2022.

Date: August 21, 2023

N

200 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Path: (Titusville-01\DATA) T:\0GIS\FR3734_TFTD\MXDs\202308\MAX_GW_RESULTS_60_to_90ftBLS_202308.mxd 21 August 2023. Last Edited by: mhensley

Figure 19
Summary of Maximum Concentrations of PFOA + PFOS in Groundwater - Greater than 130 ft BLS
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Notes:
1. Results are presented in nanograms per liter (ng/L).
2. Screen interval is presented in feet (') below land surface (BLS).
3. PFOA + PFOS indicates the summation of perfluorooctanic acid (PFOA) and perfluorooctanesulfonic acid (PFOS).
4. PFOA + PFOS indicates the summation of PFOA and PFOS concentrations calculated based on guidance provided by the Florida Department of Environmental Protection on 16 November 2022. For results where both PFOA and PFOS were detected, PFOA+PFOS was calculated by summing the two detections. For results where either PFOA or PFOS was detected and the other was not, PFOA+PFOS was calculated by assuming the non-detect result was 0. For results where neither PFOA nor PFOS were detected, the PFOA+PFOS value presented is the sum of the method detection limits (MDLs) for each constituent.
5. Screening based on the Florida Department of Environmental Protection provisional groundwater cleanup target level (GCTL) of 70 ng/L.
6. Parcel boundary downloaded from Leon County Property Appraiser website on 9 December 2019.
7. Aerial Source: Nearmap, HERE; captured 8 October 2022.

Date: August 21, 2023

N

200 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Path: (Titusville-01\DATA) T:\0GIS\FR3734_TFTD\MXDs\202308\MAX_GW_RESULTS_GREATER_120ftBLS_202308.mxd 21 August 2023. Last Edited by: mhensley

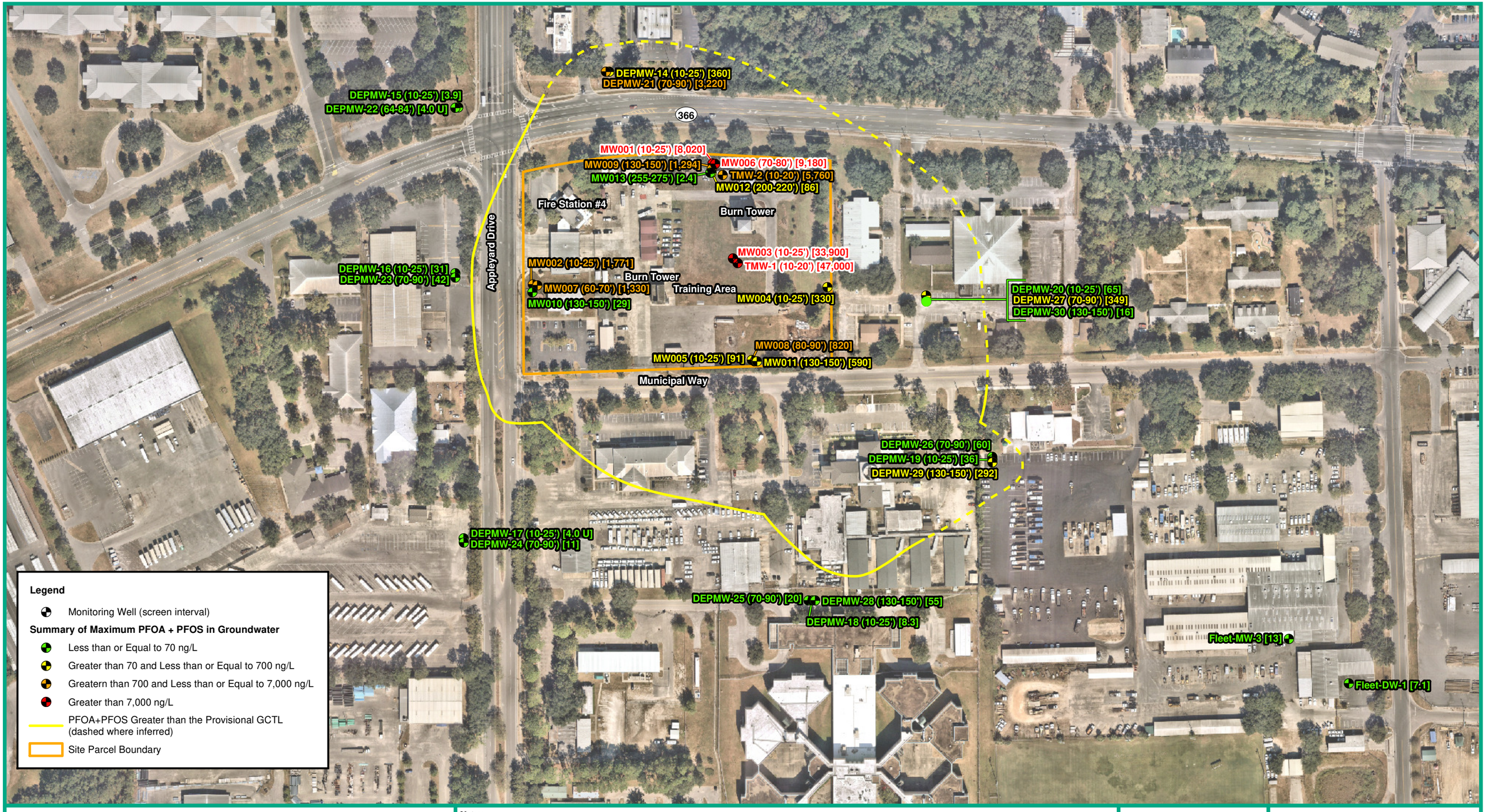


Figure 20
Summary of Maximum Concentrations of PFOA + PFOS in Groundwater
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Notes:
1. Results are presented in nanograms per liter (ng/L).
2. Screen interval is presented in feet (') below land surface (BLS).
3. PFOA + PFOS indicates the summation of perfluorooctanic acid (PFOA) and perfluorooctanesulfonic acid (PFOS).
4. PFOA + PFOS indicates the summation of PFOA and PFOS concentrations calculated based on guidance provided by the Florida Department of Environmental Protection on 16 November 2022. For results where both PFOA and PFOS were detected, PFOA+PFOS was calculated by summing the two detections. For results where either PFOA or PFOS was detected and the other was not, PFOA+PFOS was calculated by assuming the non-detect result was 0. For results where neither PFOA nor PFOS were detected, the PFOA+PFOS value presented is the sum of the method detection limits (MDLs) for each constituent.
5. U indicates analyte was not detected in the specified sample. The reported value for individual analytes is the MDL for the sample analyzed. For PFOA+PFOS calculations presented with a "U", this indicates neither PFOS nor PFOA were detected in the specified sample and thus the calculated value is the sum of the two MDLs (see Note 4).
6. Screening based on the Florida Department of Environmental Protection provisional groundwater cleanup target level (GCTL) of 70 ng/L.
7. Parcel boundary downloaded from Leon County Property Appraiser website on 9 December 2019.
8. Aerial Source: Nearmap, HERE; captured 8 October 2022.

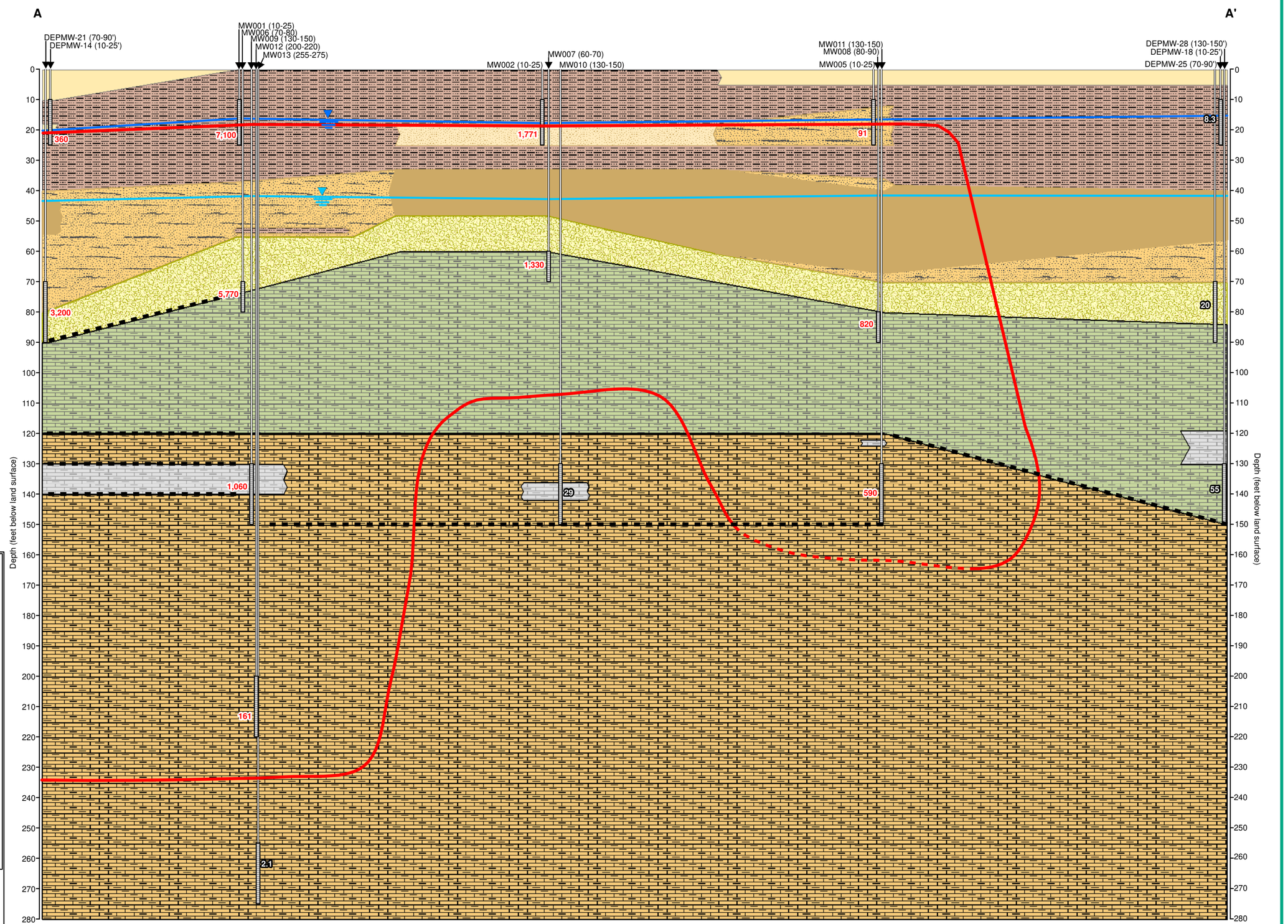
Date: August 21, 2023

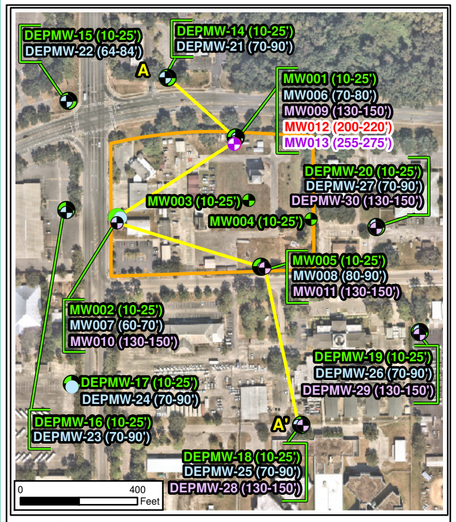
N

200 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Path: (Titusville-01\DATA) T:\0GIS\FR3734_TFTD\MXDs\202308\MAX_GW_RESULTS_ALL_DEPTHS_202308.mxd 21 August 2023. Last Edited by: mhensley





Legend

- Monitoring Well Location screened from 10 to 25 ft BLS
- Monitoring Well Location screened from 60 to 90 ft BLS
- Monitoring Well Location screened from 130 to 150 ft BLS
- Monitoring Well Location screened from 200 to 220 ft BLS
- Monitoring Well Location screened from 255 to 275 ft BLS
- Cross Section A to A'
- Site Parcel Boundary

Notes:
1. ft BLS indicates feet below land surface.
2. Parcel boundary downloaded from Leon County Property Appraiser website on 9 December 2019.
3. Aerial Source: Nearmap, HERE; captured 8 October 2022.

Figure 21
Vertical Extent of PFOA and PFOS in Groundwater from Cross Section A-A'
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Legend

- Inferred Lithology
- PFOA+PFOS 70 ng/L Groundwater Cleanup Target Level Isocontour (dashed where inferred)
- Approximate Water Table - Surficial Aquifer
- Approximate Potentiometric Surface - Florida Aquifer

Lithology

- SAND
- Clayey SAND
- Fine SAND
- CLAY
- Sandy CLAY
- Limestone, marly/weathered
- Interbedded Limestone Fragments with weathered marly limestone
- Limestone, increase of fossiles with depth, interbedded with Fine SAND and marly limestone
- Void

Monitoring Well
PFOA+PFOS (ng/L)
Screen Interval

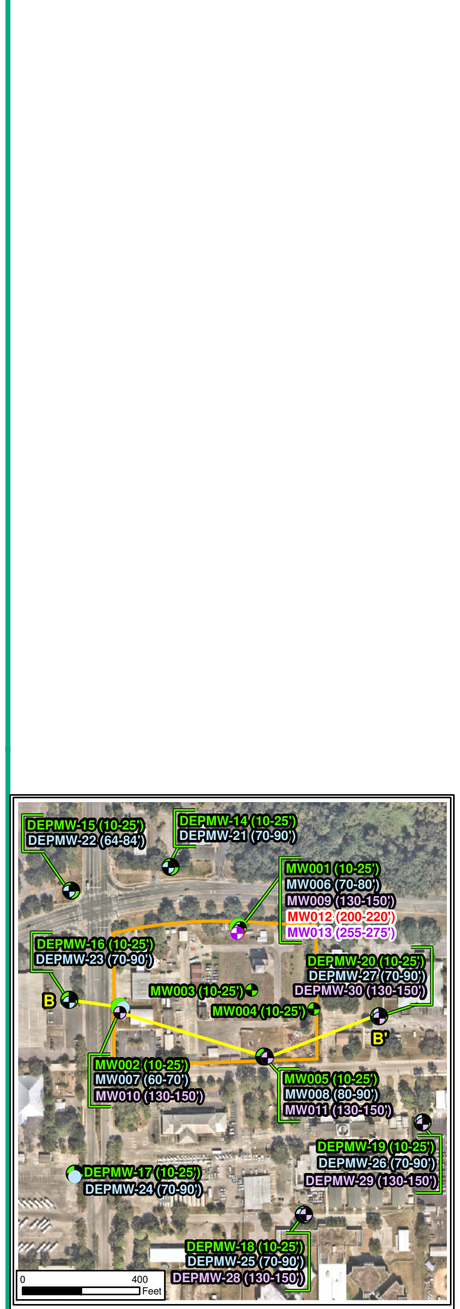
Notes:
1. Results are provided in nanograms per liter (ng/L).
2. PFOA + PFOS indicates the summation of perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) concentrations calculated based on guidance provided by the Florida Department of Environmental Protection (FDEP) on 16 November 2022. For results where both PFOA and PFOS were detected, PFOA + PFOS was calculated by summing the two detections. For results where either PFOA or PFOS was detected and the other was not, PFOA + PFOS was calculated by assuming the non-detect result was 0. For results where neither PFOA nor PFOS were detected, the PFOA + PFOS value presented is the sum of the method detection limits for each constituent.
3. The FDEP provisional groundwater cleanup target level (GCTL) for the summation of PFOA and PFOS is 70 ng/L.
4. Contours were generated using the summation concentration of PFOA + PFOS. The highest concentration between a sample and its duplicate was utilized.
5. Red text indicates result is greater than the PFOA+PFOS GCTL.

Date: August 21, 2023

N
120
Feet
Vertical Exaggeration = 5

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

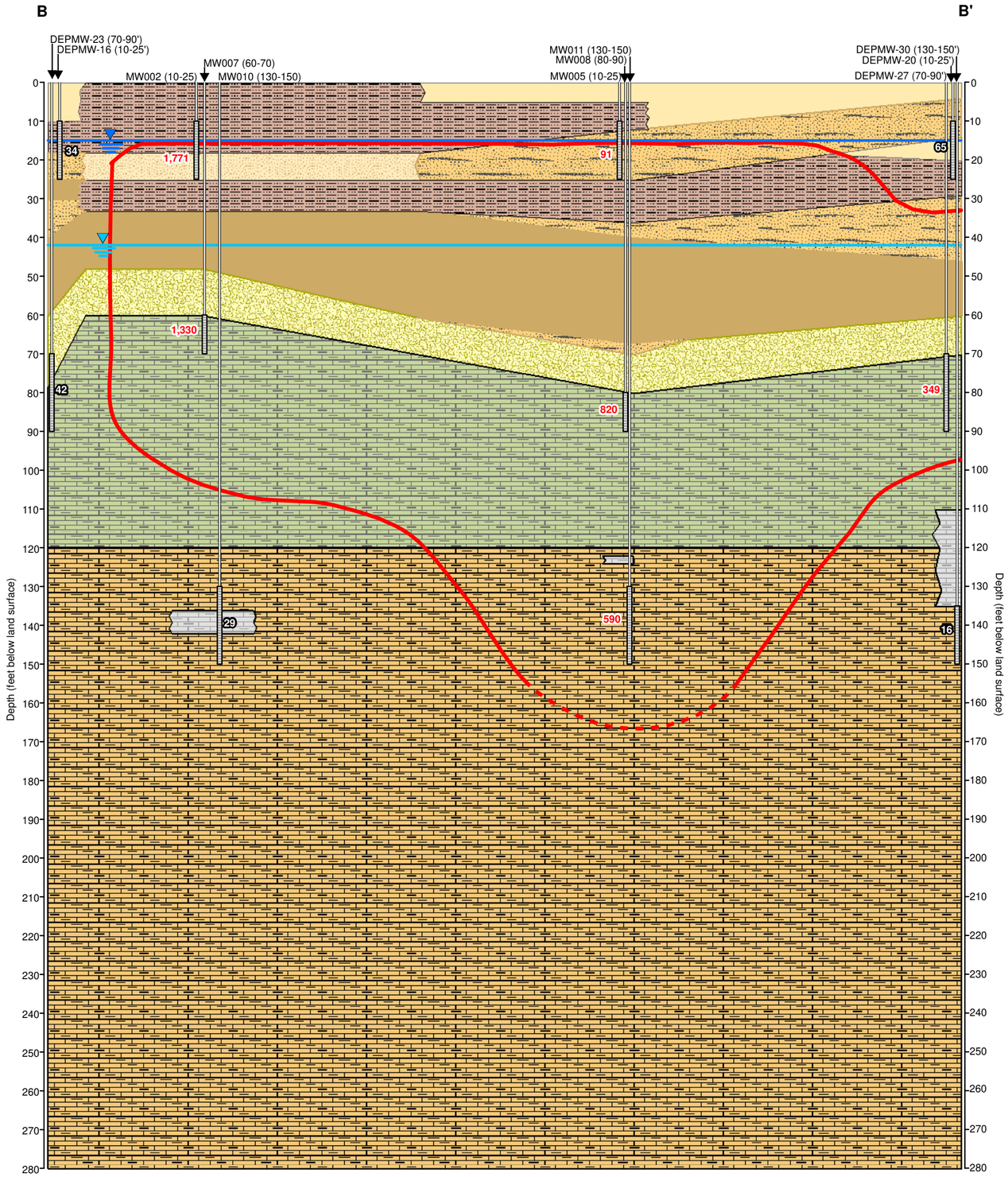
Path: (\tlsville-01\DATA) T:\0GIS\FR3734_TFTD\MXDs\202307\CrossSectionA_A_202307_VerticalExtent.mxd 21 August 2023 MAH



Legend

- Monitoring Well Location screened from 10 to 25 ft BLS
- Monitoring Well Location screened from 60 to 90 ft BLS
- Monitoring Well Location screened from 130 to 150 ft BLS
- Monitoring Well Location screened from 200 to 220 ft BLS
- Monitoring Well Location screened from 255 to 275 ft BLS
- Cross Section B to B'
- Site Parcel Boundary

Notes:
1. ft BLS indicates feet below land surface.
2. Parcel boundary downloaded from Leon County Property Appraiser website on 9 December 2019.
3. Aerial Source: Nearmap, HERE; captured 8 October 2022.



Legend

- PFOA+PFOS 70 ng/L Groundwater Cleanup Target Level Isocontour (dashed where inferred)
- Approximate Water Table - Surficial
- Approximate Potentiometric Surface - Florida Aquifer

Lithology

- SAND
- Clayey SAND
- Fine SAND
- CLAY
- Sandy CLAY
- Limestone, marly/weathered
- Interbedded Limestone Fragments with weathered marly limestone
- Limestone, increase of fossiles with depth, interbedded with Fine SAND and marly limestone
- Void

Monitoring Well
PFOA+PFOS (ng/L)
Screen Interval

Notes:
1. Results are provided in nanograms per liter (ng/L).
2. PFOA + PFOS indicates the summation of perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) concentrations calculated based on guidance provided by the Florida Department of Environmental Protection (FDEP) on 16 November 2022. For results where both PFOA and PFOS were detected, PFOA + PFOS was calculated by summing the two detections. For results where either PFOA or PFOS was detected and the other was not, PFOA + PFOS was calculated by assuming the non-detect result was 0. For results where neither PFOA nor PFOS were detected, the PFOA + PFOS value presented is the sum of the method detection limits for each constituent.
3. The FDEP provisional groundwater cleanup target level (GCTL) for the summation of PFOA and PFOS is 70 ng/L.
4. Contours were generated using the summation concentration of PFOA + PFOS. The highest concentration between a sample and its duplicate was utilized.
5. Red text indicates result is greater than the PFOA+PFOS GCTL.

N
120
Feet
Vertical Exaggeration = 5

Figure 22
Vertical Extent of PFOA and PFOS in Groundwater from Cross Section B-B'
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Date: August 21, 2023

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APPENDIX A

University of Florida Letters for Screening and Provisional Cleanup Target Levels

UF | UNIVERSITY of FLORIDA

Center for Environment & Human Toxicology

PO Box 110885
Gainesville, FL 32611-0885
352-392-2243 Tel
352-392-4707 Fax

April 16, 2018

Brian Dougherty, PhD
Program Manager
District and Business Support Program
Division of Waste Management
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Development of alternative soil cleanup target levels for PFOA and PFOS

Dear Dr. Dougherty:

At your request, we have developed alternative soil cleanup target levels (ASCTLs) for perfluorooctanoic acid (PFOA; CAS# 335-67-1) and perfluorooctane sulfonate (PFOS; CAS# 1763-23-1). PFOA and PFOS are perfluoroalkyl substances (PFASs). PFASs are used to make products resistant to stains, grease, and water. Before production was phased out at the end of 2015, PFOA was used in carpets, leathers, textiles, upholstering, and as a waterproofing or stain-resistant agent (USEPA, 2016a). In 2002, the only major US manufacturer of PFOS agreed to phase out production. However, PFOA and PFOS degrade slowly and are persistent in the environment. Most contamination by PFOA and PFOS is a result of releases from manufacturing sites, industrial sites, fire training areas, and waste sites where these chemicals were disposed (USEPA, 2016a & 2016b). Derivation of the ASCTLs for each chemical is described below.

Perfluorooctanoic Acid (PFOA)

The United States Environmental Protection Agency (USEPA) summarized toxicity studies for PFOA in the Drinking Water Health Advisory for PFOA (USEPA, 2016a). For reference dose (RfD) development, several candidate studies and health effect endpoints were evaluated (Perkins et al., 2004; Lau et al., 2006; Wolf et al., 2007; White et al., 2009; DeWitt et al., 2008; Butenhoff et al., 2004). A total of six candidate RfDs were considered based upon endpoints including increased liver weight and necrosis in rats, decreased pup weight from gestational exposure in mice, immunosuppression in mice, reduced ossification and accelerated male puberty in offspring of mice, and reduced body weight and increased kidney weight (relative and absolute) in rats. For each animal toxicity study, human equivalent average serum PFOA concentrations were derived using a pharmacokinetic model by Wambaugh et al. (2013). An oral reference dose (RfD) was derived for each human equivalent no observed adverse effect level (NOAEL) or lowest observed adverse effect level (LOAEL) using study-specific uncertainty factors. Three endpoints resulted in a RfD of 2E-05 mg/kg-d (the lowest calculated RfD). Among these, reduced ossification of the proximal phalanges and accelerated puberty in offspring from treated dams in the study by Lau et al. (2006) were selected as the critical

effect(s). Other studies producing the same or similar RfD values are considered supportive. Data were not considered adequate to derive a reference concentration (RfC) for inhalation exposure.

In the Lau et al. (2006) study, pregnant CD-1 mice were dosed with 1, 3, 5, 10, 20, or 40 mg/kg PFOA by oral gavage daily from gestational day 1 to 17. Decreased ossification of pup (both sexes) proximal phalanges and accelerated preputial separation were seen at 1 mg/kg PFOA. The USEPA calculated a human equivalent point of departure of 5.3E-03 mg/kg-d for these endpoints. An uncertainty factor of 300 (3 for extrapolation from animal to human, 10 for extrapolation from LOAEL to NOAEL, and 10 for sensitive individuals) was applied to derive an oral RfD of 2E-05 mg/kg-d. Greater than 95% of PFOA is absorbed by the gastrointestinal tract (ATSDR, 2015). Therefore, a gastrointestinal absorption factor of 1 was used to extrapolate the toxicity to other routes of exposure.

PFOA is also carcinogenic and has been shown to be tumorigenic in the liver, testes, and pancreas of rats. In humans, there is epidemiological evidence for an association between serum PFOA and kidney and testicular tumors (USEPA, 2016a). The USEPA developed an oral cancer slope factor of 7E-02 per mg/kg-d based on the development of testicular tumors in rats. They concluded that the drinking water health advisory based on non-cancer effects was protective for the cancer endpoint. We also calculated ASCTLs based on the oral cancer slope factor of 7E-02 per mg/kg-d (ASCTLs not shown). These ASCTLs were higher than those protective of non-cancer endpoints confirming that ASCTLs based on non-cancer effects are protective of the cancer endpoint.

Direct exposure ASCTLs for residential and commercial/industrial scenarios were calculated using the formula presented in Figure 5 of Chapter 62-777, Florida Administrative Code (F.A.C.). The equation is shown in Figure 1. Default assumptions listed in Table 1 were taken from OSWER Directive 9200.1-120 (USEPA, 2014) and Table 3 of Chapter 62-777, F.A.C. Chemical-specific parameters are presented in Table 2. **The residential ASCTL for PFOA is 1.3 mg/kg and the commercial/industrial ASCTL is 25 mg/kg.** A leachability ASCTL was derived using the formula presented in Figure 8 of Chapter 62-777, FAC. The equation is shown in Figure 2 and inputs are listed in Table 1. **The ASCTL for leachability to groundwater is 0.004 mg/kg** (based on an alternative groundwater cleanup target level of 0.1 µg/L provided to you in a letter dated April 12, 2017).

Perfluorooctane Sulfonate (PFOS)

The USEPA summarized toxicity studies for PFOS in the Drinking Water Health Advisory for PFOS (USEPA, 2016b). Six candidate studies and seven endpoints were identified for the derivation of an RfD for PFOS (Seacat et al., 2002 & 2003; Luebker et al., 2005a & 2005b; Butenhoff et al, 2009; Lau et al., 2003). Candidate endpoints included: 1) increased liver weight and histopathology, decreased body weight, and thyroid hormone disturbances in monkeys; 2) increased liver weight and histopathology, and increased liver enzymes and blood urea nitrogen in serum in male rats; 3) decreased body weight of rat pups; 4) another study showing decreased body weight in rat pups; 5) decreased maternal body weight, gestation length, and pup survival in rats; 6) developmental neurotoxicity in rats; and 7) decreased pup survival and decreased maternal and pup body weight in rats. For each animal toxicity study, human equivalent average serum PFOS concentrations were derived using a pharmacokinetic model by Wambaugh et al. (2013). An oral RfD was derived for each human equivalent NOAEL or LOAEL using study-specific uncertainty factors. Data were not considered adequate to derive a

reference concentration (RfC) for inhalation exposure. The USEPA selected reduced pup weight from a two-generation study in rats as the critical effect. Low body weight was considered to be a marker for developmental effects, including effects that may not be manifested until later in life. This effect is considered relevant to humans because PFOS has been measured in the blood of newborns, in breast milk, and in blood of older children.

The developmental toxicity study by Luebker et al. (2005a) resulted in a RfD of 2E-05 mg/kg-d (the lowest calculated RfD). In this study, male and female rats were dosed with 0, 0.1, 0.4, 1.6, or 3.2 mg/kg-d by gavage from six weeks prior to mating, during mating, and, for females, through gestation and lactation across two generations. Rat pup weight was significantly decreased at 1.6 mg/kg-d PFOS in the F1 generation. The USEPA calculated a human equivalent point of departure of 5.1E-04 mg/kg-d based on decreased rat pup weight in the F1 generation. An uncertainty factor of 30 (3 for extrapolation from animal to human and 10 for sensitive subpopulations) was applied to derive an oral RfD of 2E-05 mg/kg-d. No data are available regarding the gastrointestinal absorption of PFOS. Therefore, a gastrointestinal absorption factor of 1 was used to extrapolate the toxicity to other routes of exposure.

There is also suggestive evidence that PFOS is carcinogenic in humans based on chronic studies in rats that result in liver and thyroid adenomas. However, the tumor data lack a dose-response relationship and could not be used by the USEPA to develop a cancer slope factor. Therefore, the critical effect for PFOS is developmental toxicity.

Direct exposure ASCTLs for residential and commercial/industrial scenarios were calculated using the formula presented in Figure 5 of Chapter 62-777, Florida Administrative Code (F.A.C.). The equation is shown in Figure 1. Default assumptions listed in Table 1 were taken from OSWER Directive 9200.1-120 (USEPA, 2014) and Table 3 of Chapter 62-777, F.A.C. Chemical-specific parameters are presented in Table 2. **The residential ASCTL for PFOS is 1.3 mg/kg and the commercial/industrial ASCTL is 25 mg/kg.** A leachability ASCTL was derived using the formula presented in Figure 8 of Chapter 62-777, FAC. The equation is shown in Figure 2 and inputs are listed in Table 1. **The ASCTL for leachability to groundwater is 0.01 mg/kg** (based on an alternative groundwater cleanup target level of 0.1 µg/L provided to you in a letter dated April 12, 2017).

As with the PFOA and PFOS alternative groundwater cleanup target levels (AGCTLs) provided to you previously, these ASCTLs have been calculated using default equations and exposure assumptions from Chapter 62-777, F.A.C. (the ASCTLs also include updated exposure assumptions from OSWER Directive 9200.1-120). Recently, the USEPA and a number of states have modified their calculation of PFOA and PFOS criteria based upon the critical effects, which are developmental in nature, and/or the availability of serum concentration data for these chemicals. For example, the USEPA Health Advisories for PFOA and PFOS in drinking water are based upon a water consumption rate for a lactating woman to protect the breast fed infant rather than a standard adult drinking water consumption rate. This higher rate of consumption leads to a lower acceptable drinking water concentration (0.07 µg/L rather than 0.1 µg/L calculated with Chapter 62-777 F.A.C. assumptions). New Jersey and Minnesota have both used serum concentration data rather than the USEPA oral reference dose to derive acceptable concentrations of PFOA and PFOS in drinking water that are lower than the USEPA Health Advisories. The Minnesota approach specifically targets serum concentrations in the breast fed infant. Other than a general protection of children when developing SCTLs, Florida has not typically tailored calculation of cleanup target levels (CTLs) to address sensitive life stages when they have been identified. With increased attention to the issue of sensitive life stages in the context of PFOA and PFOS exposure, the Florida Department of Environmental

Protection (FDEP) may want to consider as a general matter when and to what extent sensitive life stages should be addressed in CTL development.

Please let us know if you have any questions regarding the development of these ASCTLs.

Sincerely,

Leah D. Stuchal, Ph.D.

Stephen M. Roberts, Ph.D.

References:

ATSDR (2015) *Draft Toxicological Profile for Perfluoroalkyls*. U.S. Department of Health And Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, August 2015.

Butenhoff JL, Kennedy GL, Frame SR, et al. (2004) The reproductive toxicology of ammonium perfluorooctanoate (APFO) in the rat. *Toxicol.* 196: 95-116.

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DeWitt JC, Copeland CB, Strynar MJ, et al. (2008) Perfluorooctanoic acid-induced immunomodulation in adult C57CL/6J or C57BL/6N female mice. *Environ. Heal. Perspect.* 116: 644-650

Lau C, Thibodeaux JR, Hansen RG, et al. (2003) Exposure to perfluorooctane sulfonate during 4pregnancy in rat and mouse. II: Postnatal evaluation. *Toxicol. Sci.* 74: 382-392.

Lau, C., J.R. Thibodeaux, R.G. Hanson, M.G. Narotsky, J.M. Rogers, A.B. Lindstrom, and M.J. Strynar (2006) Effects of perfluorooctanoic acid exposure during pregnancy in the mouse. *Toxicological Science* 90: 510-518.

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Luebker DJ, Case MT, York RG, et al. (2005b) Two-generation reproduction and cross-foster studies of perfluorooctanesulfonate (PFOS) in rats. *Toxicol.* 215: 126-148.

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Seacat AM, Thomford PJ, Hansen KJ et al. (2003). Sub-chronic dietary toxicity of potassium perfluorooctanesulfonate in rats. *Toxicol.* 183: 117-131.

USEPA (2014) *Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors, OSWER Directive 9200.1-200.* United States Environmental Protection Agency, Office of Solid Waste and Emergency Response, Washington, D.C.

USEPA (2016a) *Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA).* United States Environmental Protection Agency, Office of Water, Washington, DC.

USEPA (2016b) *Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS).* United States Environmental Protection Agency, Office of Water, Washington, DC.

Wambaugh, J.F., R.W. Setzer, A.M. Pitruzzello, J. Liu, D.M. Reif, N.C. Kleinstreuer, N. Ching, Y. Wang, N. Sipes, M. Martin, K. Das, J.C. DeWitt, M. Strynar, R. Judson, K.A. Houck, and C. Lau (2013) Dosimetric anchoring of in vivo and in vitro studies for perfluorooctanoate and perfluorooctanesulfonate. *Toxicological Science* 136: 308-327.

White SS, Kato K, Jia L T, et al. (2009) Effects of perfluorooctanoic acid on mouse mammary gland development and differentiation resulting from cross-foster and restricted gestational exposures. *Reprodut. Toxicol.* 27: 289-298.

Wolf CJ, Fenton SE, Schmid JE, et al. (2007) Developmental toxicity of perfluorooctanoic acid in the CD-1 mouse after cross-foster and restricted gestational exposure. *Toxicol. Sci.* 95: 462-473.

Figure 1 – Equation for Developing Acceptable Soil Cleanup Target Levels for Non-Carcinogens:

$$\text{SCTL} = \frac{THI \times BW \times AT}{EF \times ED \times FC \times \left[\left(\frac{1}{RfD_o} \times IR_o \times 10^{-6} kg/mg \times RBA\right) + \left(\frac{1}{RfD_d} \times SA \times AF \times DA \times 10^{-6} kg/mg\right)\right]}$$

Figure 2 – Equation for the Determination of SCTLs Based on Leachability:

$$\text{SCTL}\ (mg/kg) = GCTL(\mu g/L) \times CF(mg/\mu g) \times DF \times \left[K_{oc} \times f_{oc} + \frac{\theta_w + \theta_a \times H'}{\rho_b}\right]$$

Table 1 - Default values for the direct contact and leachability equations

Symbol	Definition (units)	Receptor	Default
BW	Body weight (kg)	child	15
		worker	80
IR_o	Ingestion rate, oral (mg/day)	child	200
		worker	50
EF	Exposure frequency (days/yr)	child	350
		worker	250
ED	Exposure duration (years)	child	6
		worker	25
SA	Surface area exposed (cm^2/day)	child	2373
		worker	3527
AT	Averaging time (days) (non-carcinogens)	child	2190
		worker	9125
AF	Adherence factor (mg/cm^2)	child	0.2
		worker	0.12
IR_i	Inhalation rate (m^3/day)	child	8.1
		worker	20
DA	Dermal absorption (unitless) (organics)		0.1
PEF	Particulate emission factor (m^3/kg)		1.24×10^9
TR	Target risk (unitless)		1×10^{-6}
CF	Conversion factor (µg/mg)		1000
DAF	Dilution attenuation factor (unitless)		20
f_{oc}	Fraction organic carbon in soil (g/g)		0.002
Θ_ω	Water-filled soil porosity (L_{water}/L_{soil})		0.3
Θ_α	Air-filled soil porosity (L_{air}/L_{soil})		0.13
ρ_β	Dry soil bulk density (g/cm^3)		1.5
ω	Average soil moisture content (g_{water}/g_{soil})		0.2 (20%)
η	Total soil porosity (L_{pore}/L_{soil})		0.43
ρ_σ	Soil particle density (g/cm^3)		2.65
CF	Conversion factor (µg/mg)		1000

Table 2 – Chemical-specific parameters for PFOA and PFOS

Chemical-Specific	PFOA		PFOS	
Variable	Value	Source	Value	Source
RfD_o	2E-05 mg/kg-day	USEPA	2E-05 mg/kg-day	USEPA
RfD_d	2E-05 mg/kg-day	extrapolated	2E-05 mg/kg-day	extrapolated
RfD_i	2E-05 mg/kg-day	extrapolated	2E-05 mg/kg-day	extrapolated
Diffusivity in air	2.3E-02 cm^2/s	calculated	1.7E-02 cm^2/s	calculated
Diffusivity in water	5.8E-06 cm^2/s	calculated	4.2E-06 cm^2/s	calculated
Molecular weight	414.09 g/mol	HSDB	500.13 g/mol	HSDB
Density	1.792 g/cm^3	HSDB	1.25 g/cm^3	Chemicaland21
Henry's Law Constant	Not measurable	EPIWIN	Not measurable	EPIWIN
log K_{ow}	4.81	HSDB	4.49	EPIWIN
K_{oc}	655.1 L/kg	EPIWIN	2562 L/kg	EPIWIN

USEPA – United States Environmental Protection Agency
HSDB – Hazardous Substances Data Bank
EPIWIN – Estimation Programs Interface for Windows v4.1.1

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August 16, 2018

Leah J. Smith
District and Business Support Program
Division of Waste Management
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Calculation of an AGCTL for PFOA/PFOS protective of sensitive lifestages

Dear Ms. Smith:

We have developed an alternative groundwater cleanup target level (AGCTL) for perfluorooctanoic acid (PFOA; CAS# 335-67-1) and perfluorooctane sulfonate (PFOS; CAS# 1763-23-1) protective of sensitive lifestages/receptors. We previously developed AGCTLs for PFOA and PFOS in letters to the Florida Department of Environmental Protection (FDEP) dated April 12, 2017. These AGCTLs incorporated updated toxicity values based on the USEPA Drinking Water Health Advisories for PFOA and PFOS (USEPA, 2016a & 2016b) and updated exposure parameters for adults listed in the 2011 Exposure Factors Handbook (USEPA, 2011). At that time, we were requested to use a drinking water ingestion rate applicable to a generic adult receptor, which is the approach used in the development of groundwater cleanup target levels (GCTLs) in Chapter 62-777, F.A.C. The resulting GCTL for both PFOA and PFOS was 0.1 µg/L.

The critical effects for both of these chemicals are developmental effects. For PFOA, the critical effects are decreased ossification of pup (both sexes) proximal phalanges and accelerated preputial separation. For PFOS, the critical effect is decreased pup weight in the F_1 generation. The F_1 generation is the first generation of pups born after parental exposure. Exposure usually takes place while pups are in utero and may last through lactation and weaning. Because the critical effects are development endpoints, adverse effects can result from short-term exposure during critical periods of development. The 90th percentile drinking water ingestion rate for lactating women (0.054 L/kg-d; USEPA, 2011) is used by the USEPA in the development of their drinking water criterion due to the potential increased susceptibility from higher drinking water rates during pregnancy and lactation (USEPA 2016a & 2016b). From a toxicological standpoint, it is more appropriate to use a drinking water ingestion rate applicable to the most sensitive lifestage/receptor in the development of a cleanup target level, than a default drinking water rate for an adult.

At your request, we have calculated AGCTLs for PFOA and PFOS protective of sensitive lifestages based on the 90th percentile drinking water ingestion rate of 0.054 L/kg-d for lactating women. For developmental effects, AGCTLs of 0.07 µg/L were derived for both PFOA and PFOS using the formula in Figure 2 of Chapter 62-777, FAC. The AGCTLs for these two

chemicals are identical because their oral reference doses are also identical (2E-05 mg/kg-d). The calculation and exposure assumptions used are shown in Figure 1 below. Because of the similarity in adverse effects and potency of these chemicals, the USEPA recommends that, where PFOA and PFOS are co-located, the sum of the concentrations of these chemicals should be compared to the drinking water criterion (USEPA, 2016a & 2016b). Therefore, **the sum of PFOA and PFOS concentrations should be compared to the AGCTL of 0.07 µg/L.**

In deriving these AGCTLs, we note that the Agency for Toxic Substances and Disease Registry (ATSDR) has recently released for public comment a draft toxicological profile for perfluoroalkyl chemicals, including PFOA and PFOS. The proposed Minimal Risk Levels for PFOA and PFOS are an order of magnitude lower than their USEPA reference doses, prompting discussion within the scientific and regulatory community whether the USEPA reference doses should be re-visited and perhaps revised downward. We recommend following this discussion closely and making further modifications to the AGCTLs if warranted. Please let us know if you have any questions regarding the development of this AGCTL.

Sincerely,

Leah D. Stuchal, Ph.D.

Stephen M. Roberts, Ph.D.

References:

USEPA (2011) *Exposure Factors Handbook: 2011 Edition.* United States Environmental Protection Agency, National Center for Environmental Assessment, Office of Research and Development, Washington, DC.

USEPA (2016a) *Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA).* United States Environmental Protection Agency, Office of Water, Washington, DC.

USEPA (2016b) *Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS).* United States Environmental Protection Agency, Office of Water, Washington, DC.

Figure 1 – Equation for the derivation of a GCTL for PFOA and PFOS

$$GCTL\ (\mu g/L) = \frac{RfD_o \times RSC \times CF}{WC}$$

where:

Parameter	Definition	Value
GCTL	Groundwater cleanup target level (µg/L)	--
RfDo	Reference dose (mg/kg-d)	2E-05
RSC	Relative source contribution	0.2
CF	Conversion factor (µg/mg)	1000
WC	Water consumption (L/kg-d)	0.054

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January 3, 2019

Leah J. Smith
District and Business Support Program
Division of Waste Management
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Leachability SCTLs for PFOA and PFOS based on the alternative GCTL of 0.07 μg/L

Dear Ms. Smith:

At your request, we have calculated leachability soil cleanup target levels (SCTLs) for perfluorooctanoic acid (PFOA; CAS# 335-67-1) and perfluorooctane sulfonate (PFOS; CAS# 1763-23-1) based on the alternative groundwater cleanup target level (AGCTL) of 0.07 μg/L for the protection of sensitive lifestages. The leachability SCTLs were calculated using the equation in Figure 5 of Chapter 62-777, F.A.C. Chemical-specific properties used in the calculation were taken from our letter regarding the calculation of SCTLs for PFOA and PFOS (dated April 16, 2018. Based on these parameters, **the leachability SCTL for PFOA is 0.002 mg/kg and the leachability SCTL for PFOS is 0.007 mg/kg**. Please let us know if you have any questions regarding these calculations.

Sincerely,

Leah D. Stuchal, Ph.D.

Stephen M. Roberts, Ph.D.

White Paper

Development of Surface Water Screening Levels for PFOA and PFOS Based on the Protection of Human Health Using Probabilistic Risk Assessment

Prepared for the District and Business Support Program
Florida Department of Environmental Protection

Leah Stuchal, Ph.D. and Stephen M. Roberts, Ph.D.

Center for Environmental & Human Toxicology
University of Florida

April 2020

This white paper develops surface water screening levels for perfluorooctanoic acid (PFOA; CAS# 335-67-1) and perfluorooctane sulfonate (PFOS; CAS# 1763-23-1) protective of human health using probabilistic risk assessment (PRA). These screening levels are based on fish and shellfish ingestion pathways. PFOA and PFOS are manmade chemicals that belong to a group of thousands of chemicals known as perfluoroalkyl substances (PFAS). PFASs are water- and lipid-resistant. They are used as waterproofing and stain-resistant coatings for carpets, leather, textiles, furniture, and packaging materials. They are also used in fire-fighting foam and are added to aviation fluids to decrease flammability. PFOA and PFOS degrade slowly and are very persistent in the environment and the human body (USEPA, 2016a; USEPA, 2016b). The PFOA and PFOS present in surface water bioconcentrates and bioaccumulates into fish and shellfish that are consumed by local populations.

The following sections describe the technical basis for the proposed surface water screening levels.

Equation and assumptions

We calculated surface water screening levels protective of fish and shellfish consumption using a modified equation from the U.S. Environmental Protection Agency (USEPA) for the calculation of fish consumption limits based on concentrations of contaminants in fish tissue (USEPA, 2000a). The equation for non-carcinogens was used, modified by removing the drinking water intake component.

$$SWSL\ (\mu g/L) = \frac{RfD \times RSC \times BW \times CF}{\sum_{i=2}^{4}(FI_i \times BAF_i)}$$

Where:
SWSL = surface water screening level (μg/L)
RfD = oral reference dose (mg/kg-d)
RSC = relative source contribution
BW = body weight (kg)
CF = correction factor, 1000 μg/mg
FI_i = freshwater and estuarine finfish and shellfish consumption rate for aquatic trophic levels 2, 3, and 4 (kg/d)
BAF_i = bioaccumulation factor for aquatic trophic levels (TLs) 2, 3, and 4 (L/kg)
$\sum_{i=2}^{4}$ = summation of values for aquatic TLs, where the letter i stands for the TLs, starting with TL2 and continuing to TL4

For the PRA, body weight and freshwater and estuarine finfish and shellfish consumption rate (fish consumption rate) were chosen as distributions. Point values were selected for the other exposure parameters. This is identical to the PRA method proposed for the surface water standards in Chapter 62-302, F.A.C. (FDEP, 2016). The point value parameters are listed in Table 1 and the distributions for fish ingestion are provided in Table 2. Body weight was defined as a lognormal distribution with a mean of 79.96 kg and a standard deviation of 20.73 kg (USEPA, 2011). Figures showing the distributions for body weight and fish ingestion are included in Appendix A.

Table 1 – Point value parameters used in the derivation of surface water screening levels for PFOA and PFOS

Parameter	PFOA	PFOS	Source
Reference dose (mg/kg-d)	2E-05	2E-05	USEPA, 2016a USEPA, 2016b
Relative source contribution	0.6	0.6	CEHT, 2020
Bioaccumulation factor TL2 (L/kg)	35	937	See section on bioaccumulation factor
Bioaccumulation factor TL3 (L/kg)	71	2959	See section on bioaccumulation factor
Bioaccumulation factor TL4 (L/kg)	161	6304	See section on bioaccumulation factor

Table 2 – Fish ingestion lognormal distributions used in the PRA for the derivation of surface water screening levels for PFOA and PFOS

Trophic Level	Statistic	Atlantic (g/d)	Gulf (g/d)	Inland South (g/d)
2	Mean	4.9	4.2	3.1
	95th Percentile	16.4	14.6	11.3
3	Mean	5.4	5.1	3.7
	95th Percentile	16.6	16.4	11.9
4	Mean	2.6	2.5	2.8
	50th Percentile	0.8	0.7	NA
	97th Percentile	NA	NA	15.8

The fish ingestion distributions were derived from USEPA, 2014, Appendix E, Tables E-13, E-14, and E-15; NA – not applicable. This statistic was not used to define the distribution.

Reference Dose

The USEPA has developed reference doses for PFOA and PFOS in order to create drinking water Health Advisory Levels for these compounds. FDEP has used these reference doses for the calculation of alternative groundwater cleanup target levels (GCTLs) and soil cleanup target levels (SCTLs) for PFOA and PFOS (See letters to the FDEP dated April 16, 2018 and August 16, 2018 for details regarding the derivation of those screening levels). For consistency, the same RfD values are used in the surface water calculation, i.e., an oral reference dose (RfD) of 2E-05 mg/kg-d for both PFOA and PFOS.

We are aware that there is a lack of consistency among federal and state agencies in the derivation of safe limits for oral exposure to these substances. The Agency for Toxic Substances and Disease Registry (ATSDR) released a draft toxicity profile for PFAS, including PFOA and PFOS. The proposed Minimal Risk Levels (MRLs; analogous to RfDs) are an order of magnitude lower than the USEPA RfDs. This draft document received extensive public comment and has not yet been finalized. Additionally, North Carolina, Texas, Maine, Minnesota, and New Jersey have developed toxicity values for PFOA and PFOS based on

differing endpoints and/or uncertainty factors. This results in different toxicity values than were proposed by the USEPA and ATSDR. California has also derived slope factors for PFOA and PFOS based on the development of pancreatic and liver tumors in male rats (CalEPA, 2019). The potential toxicity of PFOA and PFOS is a subject of active research, and the data available are rapidly evolving. Thus, while the USEPA RfD values are used for the surface water screening levels proposed here, we recommend re-visiting these screening levels as new information develops. Use of toxicity values developed based upon other endpoints, including cancer, instead of the USEPA RfDs will result in different screening level estimates that may be lower than those calculated here.

Body Weight

The Exposure Factors Handbook recommends using the body weight distributions calculated by Portier et al., (2007) for probabilistic risk assessment. For this analysis, body weight was defined as a lognormal distribution with a mean of 79.96 kg and a standard deviation of 20.73 kg (USEPA, 2011). This distribution represents the National Health and Nutrition Examination Survey (NHANES) IV estimated body weights for 18 to 65-year-old males and females. It was not truncated for the risk assessment. This body weight distribution was also used in the FDEP (2016) technical support document for the derivation of surface water standards.

Relative Source Contribution

This assessment uses the USEPA relative source contribution (RSC) values of 0.6 (60%) for both PFOA and PFOS. These chemical-specific RSCs for PFOA and PFOS were derived using the USEPA Exposure Decision Tree methodology (USEPA, 2000b), as explained in the companion white paper, "*Determination of Relative Source Contribution Values for Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS) in Support of Development of Florida Surface Water Screening Levels*" (CEHT, April 2020). As described in this document, there are several potential sources for PFOA and PFOS identified in the literature, of which drinking water, diet, consumer products, and indoor air and dust may be important. RSC values were derived using the percentage method, taking into account exposure from drinking water consistent with current FDEP screening levels, dietary exposure, and potential exposure to other sources combined. From this analysis, 60% of the intake corresponding to the RfDs for PFOA and PFOS were allocated to surface water exposure in the form of consumption of fish and shellfish.

Finfish and Shellfish Consumption Rate

No current Florida-specific fish consumption studies are available. The Degner et al. (1994) fish consumption study in Florida was used previously to develop fish consumption rates for Chapter 62-302, F.A.C. It also includes Florida-specific data on shellfish consumption for the general population. However, it is dated and may not represent current fish consumption rates. Therefore, we used NHANES 2003-2010 fish consumption data. The NHANES data are presented based on age, gender, and geographic region. The USEPA document summarizing the NHANES fish and shellfish consumption data presents several consumer categories that may be relevant to fish consumption in Florida (USEPA, 2014). However, none are specific to Florida. Based on the differences in fish and shellfish consumption rates for each geographic region in the U.S., these national data may not be appropriate for Florida. Regional data applicable to Florida include the South, Gulf of Mexico coastal counties, and Atlantic coastal counties. The FDEP determined that the combination of these regions provide the best

estimate for a fish consumption rate for Floridians. They calculated that 44.8% of the Florida population resides within the Atlantic coastal counties, 31.6% reside in the Gulf of Mexico coastal counties, and 23.6% reside in the South geographic region (FDEP, 2016).

The USEPA document summarizing the NHANES fish consumption data also includes estimates of fish consumption by trophic level for each region. We used fit statistics to describe lognormal distributions for the consumption rates in Tables E-13, E-14, and E-15 of that document (Table 2). These statistics represent the total freshwater and estuarine finfish and shellfish consumption rates for adults.

Bioaccumulation Factor

Bioaccumulation factors (BAFs) for PFOA and PFOS from the literature are listed in Appendix Tables B1 and B2. Studies that included data on bioaccumulation in the muscle tissue (e.g., fillet) were utilized to calculate the freshwater BAFs. These studies include fish not present in Florida (e.g., rainbow trout) and fish not usually consumed (e.g., minnows, whitebait). The BAFs for these fish were used to calculate a freshwater BAF for PFOA and PFOS because bioaccumulation data in fish and shellfish are limited. By including all of the data available, it provides a better estimate of the BAF.

Bioaccumulation factors for the derivation of human health surface water criteria were calculated based on a modified version of the USEPA framework for deriving BAFs (USEPA, 2016c). Based on the USEPA proposed framework, we utilized field BAFs to calculate baseline BAFs for PFOA and PFOS. Field BAFs are the preferred source for calculating BAFs for nonionic organic chemicals. Typically, in this methodology, a baseline BAF is calculated based on the field BAF, the concentration of particulate organic carbon (POC) in the water, the concentration of dissolved organic carbon (DOC) in the water, the chemical-specific n-octanol-water partition coefficient (Kow), and the fraction of finfish and shellfish tissue that is lipid. However, for the purposes of this assessment, the field BAFs were used as the baseline BAFs. The reasoning for this includes:

1. The POC and DOC were not known for the majority of the BAF studies. Calculation of the fraction of chemical in water that is freely dissolved would require assumptions regarding the amount of dissolved and particulate carbon. Although national averages may be used as defaults, the majority of studies took place outside the United States and default POC and DOC values for these countries are unknown.

2. The K_{ow} has not been measured for PFOA and PFOS. Calculation of a baseline BAF would require a K_{ow} based on physical/chemical property estimation software (e.g., EPI Suite).

3. Unlike most non-ionic organics, PFAS are not distributed to the lipid. Therefore, use of a lipid adjustment to derive a baseline BAF is inappropriate for PFAS chemicals.

Bioaccumulation factors were derived for each trophic level (TL). To calculate a BAF, the fish and shellfish from the bioaccumulation studies were assigned to trophic levels (Table B3). A bioaccumulation factor was calculated for each trophic level for both PFOA and PFOS. Individual field BAFs were combined as the geometric mean for each species. The baseline TL-specific BAF was calculated as the geometric mean of all species geometric means (Table 3). These calculations are presented in Tables B4 though B9. The Minnesota study (MPCA,

2007b) combined bluegill and white bass in their river bioaccumulation study. Because the BAFs were listed as geometric means (MPCA, 2007b), they were retained in the assessment.

Table 3 – Trophic level 2, 3, and 4 geometric mean bioaccumulation factors for PFOA and PFOS

Chemical	Trophic Level	BAF
PFOA	2	35
	3	71
	4	161
PFOS	2	937
	3	2959
	4	6304

Method for the probabilistic risk assessment

PFOA and PFOS surface water screening levels were calculated using PRA. In this analysis, body weight and fish consumption were defined as distributions and the other parameters were entered as point values. The surface water screening levels were derived in using 100,000 iterations of a Monte Carlo analysis in Crystal Ball software (Version 11.1) with a seed of 123457. Each iteration represents a hypothetical person in the population. For each iteration, the software chose a body weight from the distribution. Then, a region was chosen based on the percentage of Floridians who live in each area. Once the region was identified, the software chose a region-specific fish consumption rate for trophic levels 2, 3, and 4 (Table 2). The fish consumption rates for each trophic level were multiplied by their respective BAFs (Table 3) before being summed. There was no correlation between the fish consumption rates for the three TLs. We could not locate any data suggesting that a high-end consumer of fish and shellfish in TL2 would also be a high-end consumer of fish and shellfish in the other TLs. Using the equation provided in this document, the software generated a distribution of surface water concentrations equivalent to a hazard index of 1 for each iteration. The PFOA and PFOS screening levels were set at the 10^{th} percentile of this distribution. To check these values, the equation was rearranged and solved to ensure that the hazard index of 1 was not exceeded at the 90^{th} percentile (Chapter 62-780, F.A.C.).

Screening levels

Surface water screening levels for PFOA and PFOS were calculated using the equations and assumptions described in this document. The surface water screening level for PFOA is 0.5 μg/L and for PFOS is 0.01 μg/L (Table 4). The distributions are presented in Figures 1 and 2. We also calculated the hazard index for the screening levels to insure it was below 1 at the 90^{th} percentile. The hazard index for PFOA at a surface water screening level of 0.5 μg/L is 1 and the hazard index for PFOS at a screening level of 0.01 μg/L is 0.8 at the 90^{th} percentile. The screening level for PFOS at a hazard index of 1 is 0.012 μg/L. This was rounded to 1 significant figure, which decreased the hazard index at the 90^{th} percentile. The Crystal Ball output for the surface water screening level distributions and the distributions for the hazard index are presented in Appendix C.

Table 4 – Surface water screening levels for freshwater and estuarine finfish and shellfish for PFOA and PFOS

Surface Water Screening Levels (μg/L)	PFOA	PFOS
Freshwater and estuarine finfish and shellfish	0.5	0.01

Screening levels were rounded to one significant figure

Figure 1 – Surface water screening level distribution for PFOA

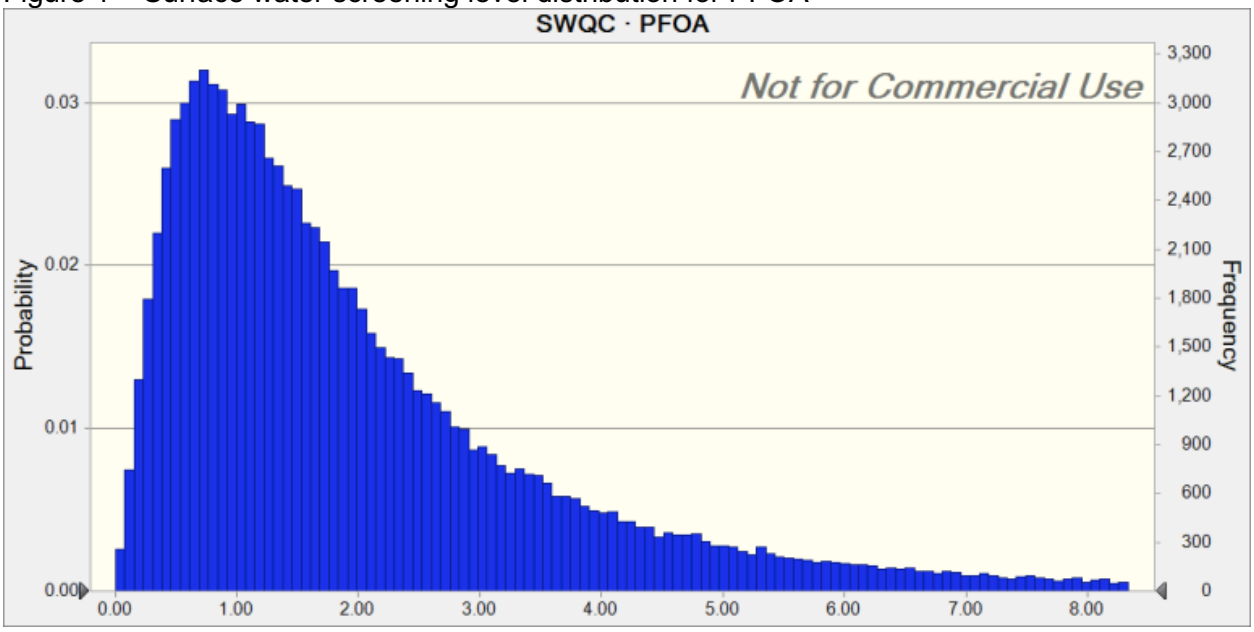
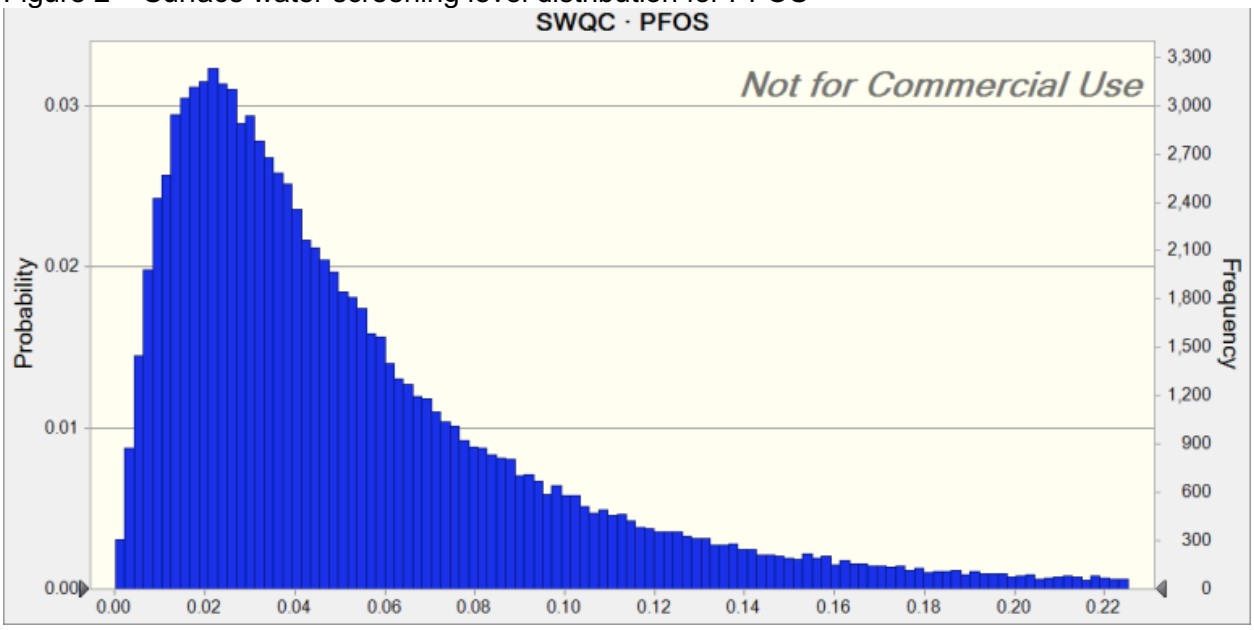


Figure 2 – Surface water screening level distribution for PFOS



The USEPA drinking water Health Advisory Levels (HALs) for PFOA and PFOS are each 0.07 µg/L. The USEPA recommends that the combined concentrations of PFOA and PFOS in drinking water be compared with this limit, based upon an assumption that their effects are additive. The rationale for this assumption is that their RfDs are derived for the same toxic endpoint (developmental effects) and that, although the mode of action for these effects has not been established, it is likely to be the same for these closely related chemicals. The fact that their individual Health Advisory Levels are identical makes it relatively straightforward to implement this recommendation. While the same argument could be made that the surface water screening levels for PFOA and PFOS should also address combined effects, this is more difficult because of the large difference in their values, approximately an order of magnitude. Picking the lower, higher, or average of these values for comparison with combined PFOA and PFOS concentrations could result in gross over- or underestimation of risk, depending on the individual PFOA and PFOS concentrations. As a practical matter, comparison of PFOA and PFOS concentrations in surface water with the screening levels should be made individually.

Surface water screening levels in Florida and other states

Table 5 – State surface water screening levels

State	PFOA (µg/L)	PFOS (µg/L)
Florida	0.5	0.01
Minnesota (lakes)	1.6	0.006
Minnesota (rivers)	2.7	0.007
Michigan	12	0.012
Alaska	0.07*	0.07*

* - Concentrations of PFOA and PFOS are summed before being compared to the criterion.

Minnesota has also developed freshwater surface water criteria based on fish consumption for the protection of human health. These criteria are based on site-specific bioaccumulation factors. For PFOA, the Minnesota surface water criteria include 1.6 µg/L for lakes and 2.7 µg/L for rivers (MPCA, 2017; Table 5). These criteria are higher than our proposed screening level of 0.5 µg/L. The difference in values is due to the use of a higher oral reference dose (1.4E-04 mg/kg-d) and slightly lower bioaccumulation factor (40 L/kg for lakes and 24 L/kg for rivers). Recently, the Minnesota Department of Health (MDOH) updated their reference doses for PFOA and PFOS (MDOH, 2019a; MDOH, 2019b). The updated reference dose for PFOA is 1.8E-05 mg/kg-d (MDOH, 2019a). Using this reference dose in their surface water equation would decrease the Minnesota criterion by approximately one order of magnitude. These updated values would be slightly lower than our proposed screening level of 0.5 µg/L.

The screening level for PFOS is lower than PFOA due to the large bioaccumulation factor for PFOS. For PFOS, the Minnesota surface water criteria include 0.006 µg/L for lakes 0.007 µg/L for rivers (MPCA, 2017). Our proposed PFOS screening level of 0.01 µg/L is similar to these two criteria. This is due to the use of a similar reference dose (8E-05 mg/kg-d) and bioaccumulation factors (6,087 L/kg for lakes and 3,877 for rivers) (MPCA, 2010a; MPCA, 2010b). The MDOH updated reference dose for PFOS is 3.1E-06 mg/kg-d (MDOH, 2019b). Use of this reference dose would lower the PFOS criteria to less than 0.001 µg/L, which is an order of magnitude below our proposed screening level.

The Michigan Department of Environmental Quality (MDEQ) criteria for PFOA and PFOS are human health-based non-cancer values for non-drinking surface water sources.

They were derived based on Michigan Rule 57 for toxic substances (MDEQ, 2020; Table 5). Their surface water screening level for PFOA is an order of magnitude greater than the screening level of 0.5 μg/L proposed in this document. The Michigan surface water screening level for PFOS is equivalent to our proposed PFOS surface water value of 0.01 μg/L. The Alaska Department of Environmental Conservation uses a criterion of 0.07 μg/L for PFAS in surface water used as drinking water (ADEC, 2019; Table 5). The criterion includes the sum of PFOA and PFOS concentrations. It is based on the USEPA drinking water HAL.

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Appendix A

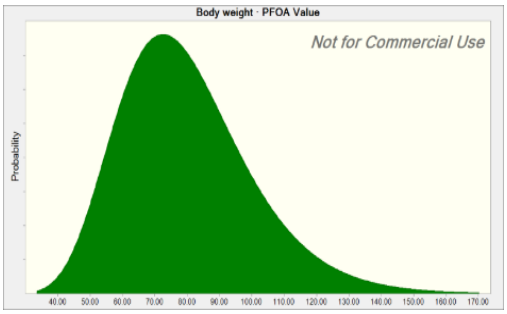
Crystal Ball Report - Assumptions

Assumptions

Assumption: Body weight · PFOA Value

Lognormal distribution with parameters:

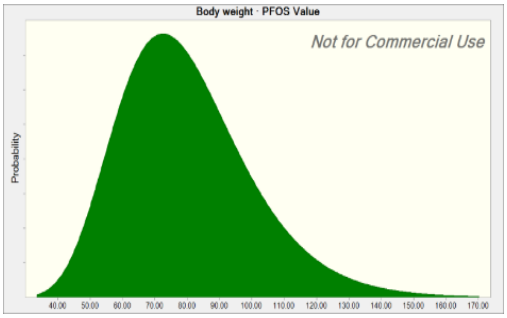
Location	0.00
Mean	79.96
Std. Dev.	20.73



Assumption: Body weight · PFOS Value

Lognormal distribution with parameters:

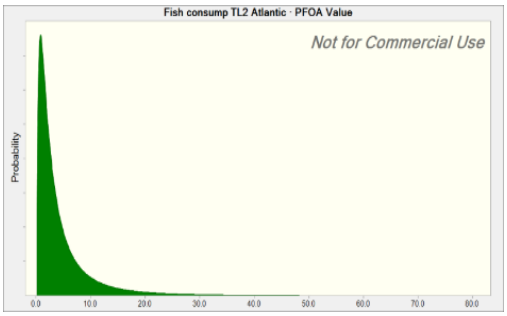
Location	0.00
Mean	79.96
Std. Dev.	20.73



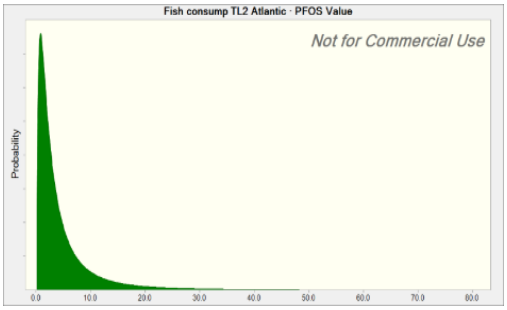
Assumption: Fish consump TL2 Atlantic · PFOA Value

Lognormal distribution with parameters:

Location	0.0
Mean	4.9
95%	16.4



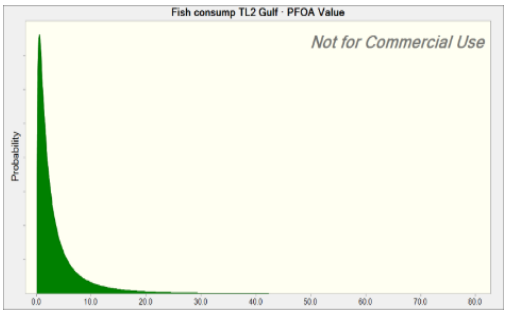
Assumption: Fish consump TL2 Atlantic · PFOS Value



Lognormal distribution with parameters:

Location	0.0
Mean	4.9
95%	16.4

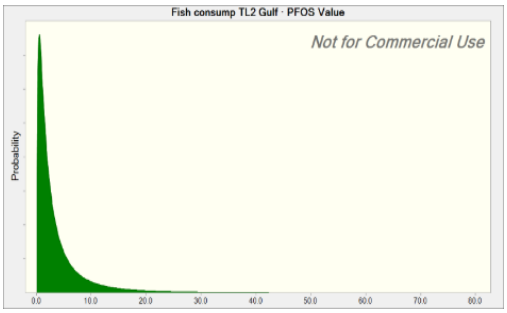
Assumption: Fish consump TL2 Gulf · PFOA Value



Lognormal distribution with parameters:

Location	0.0
Mean	4.2
95%	14.6

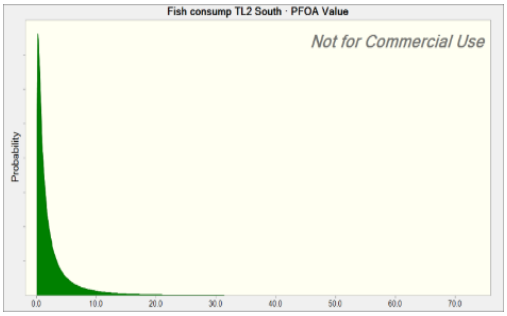
Assumption: Fish consump TL2 Gulf · PFOS Value



Lognormal distribution with parameters:

Location	0.0
Mean	4.2
95%	14.6

Assumption: Fish consump TL2 South · PFOA Value



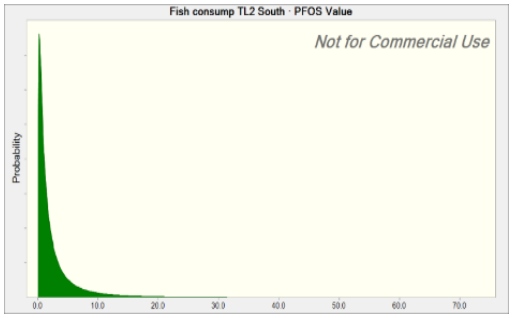
Lognormal distribution with parameters:

Location	0.0
Mean	3.1
95%	11.3

Assumption: Fish consump TL2 South · PFOS Value

Lognormal distribution with parameters:

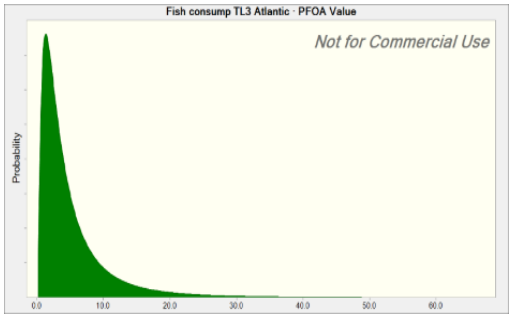
Location	0.0
Mean	3.1
95%	11.3



Assumption: Fish consump TL3 Atlantic · PFOA Value

Lognormal distribution with parameters:

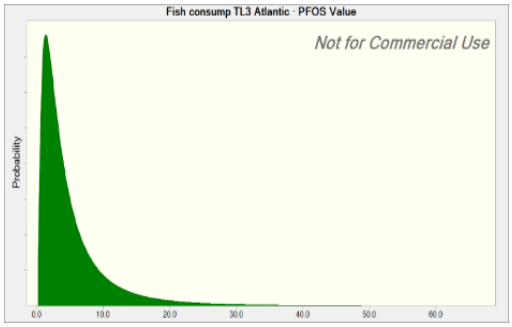
Location	0.0
Mean	5.4
95%	16.6



Assumption: Fish consump TL3 Atlantic · PFOS Value

Lognormal distribution with parameters:

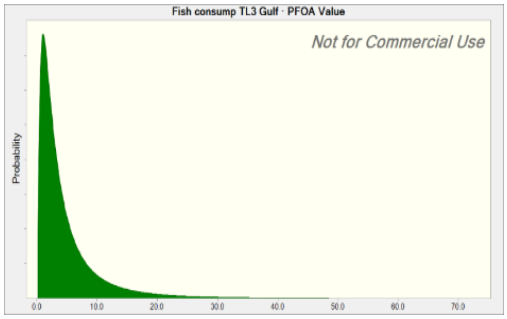
Location	0.0
Mean	5.4
95%	16.6



Assumption: Fish consump TL3 Gulf · PFOA Value

Lognormal distribution with parameters:

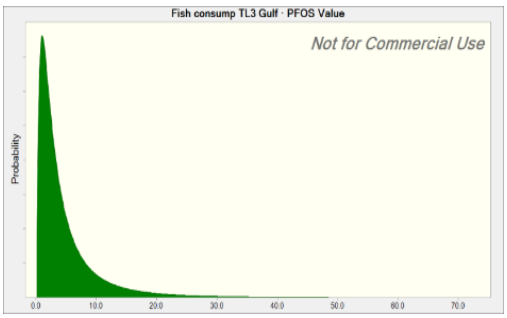
Location	0.0
Mean	5.1
95%	16.4



Assumption: Fish consump TL3 Gulf · PFOS Value

Lognormal distribution with parameters:

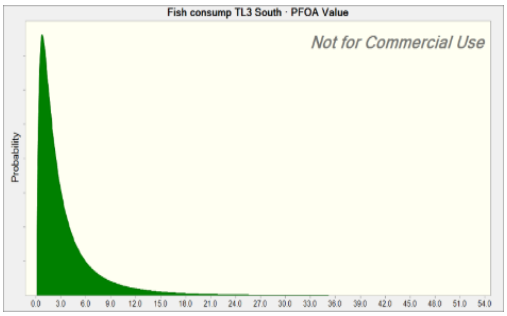
Location	0.0
Mean	5.1
95%	16.4



Assumption: Fish consump TL3 South · PFOA Value

Lognormal distribution with parameters:

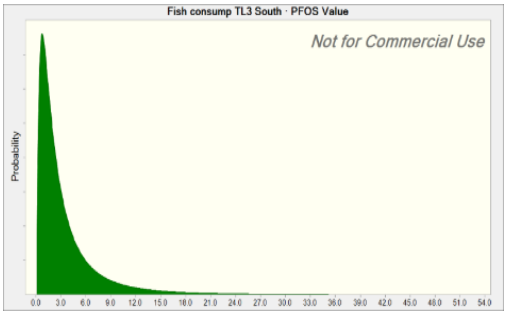
Location	0.0
Mean	3.7
95%	11.9



Assumption: Fish consump TL3 South · PFOS Value

Lognormal distribution with parameters:

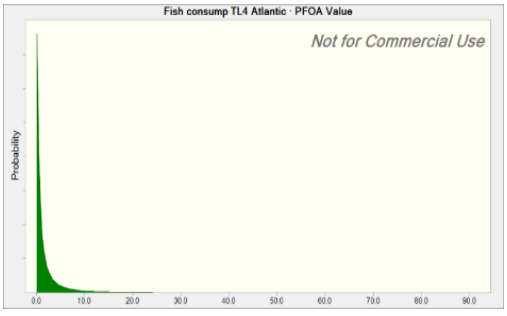
Location	0.0
Mean	3.7
95%	11.9



Assumption: Fish consump TL4 Atlantic · PFOA Value

Lognormal distribution with parameters:

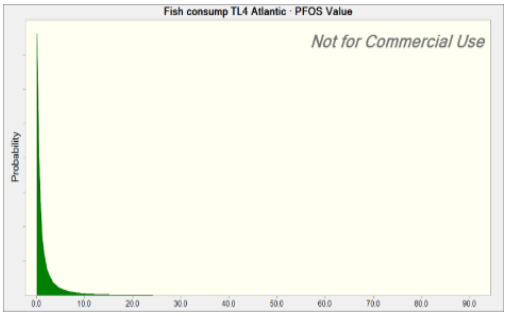
Location	0.0
Mean	2.6
50%	0.8



Assumption: Fish consump TL4 Atlantic · PFOS Value

Lognormal distribution with parameters:

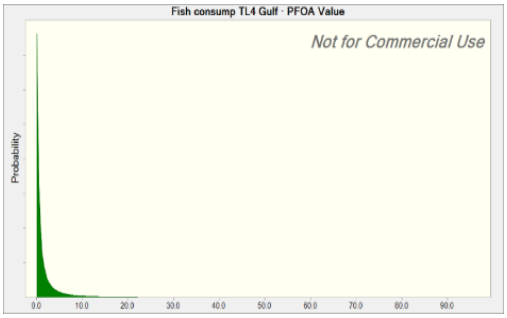
Location	0.0
Mean	2.6
50%	0.8



Assumption: Fish consump TL4 Gulf · PFOA Value

Lognormal distribution with parameters:

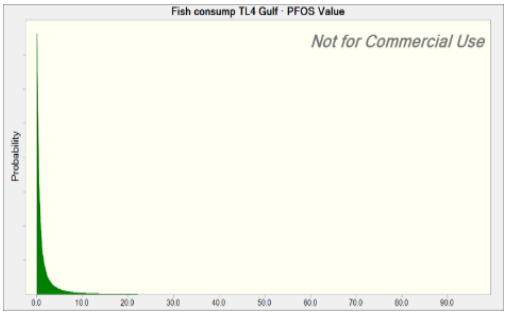
Location	0.0
Mean	2.5
50%	0.7



Assumption: Fish consump TL4 Gulf · PFOS Value

Lognormal distribution with parameters:

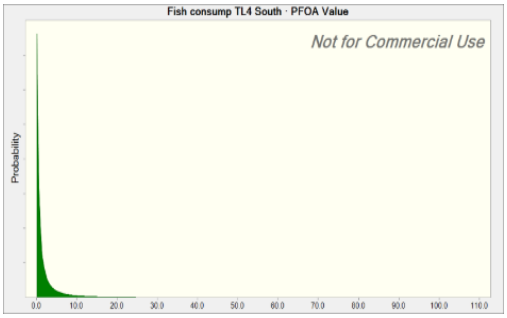
Location	0.0
Mean	2.5
50%	0.7



Assumption: Fish consump TL4 South · PFOA Value

Lognormal distribution with parameters:

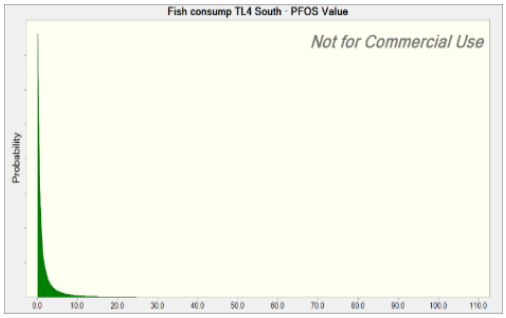
Location	0.0
Mean	2.8
97%	15.8



Assumption: Fish consump TL4 South · PFOS Value

Lognormal distribution with parameters:

Location	0.0
Mean	2.8
97%	15.8



Appendix B

Table B1 – Bioaccumulation factors for PFOA in fish fillets and shellfish tissue

Species	Place	Fresh or Marine	Exposure	Tissue	BAF	Study
Common carp	laboratory	Fresh	static 28d, 28d flow through depuration	muscle	3.85	Fang et al, 2016
Minnow	Taihu Lake, China	Fresh	wild caught	muscle	112.5	Fang et al., 2014
Silver carp	Taihu Lake, China	Fresh	wild caught	muscle	11.8	Fang et al., 2014
Whitebait	Taihu Lake, China	Fresh	wild caught	muscle	147	Fang et al., 2014
Crucian carp	Taihu Lake, China	Fresh	wild caught	muscle	81	Fang et al., 2014
Lake saury	Taihu Lake, China	Fresh	wild caught	muscle	284	Fang et al., 2014
Common carp	Taihu Lake, China	Fresh	wild caught	muscle	177	Fang et al., 2014
Mongolian culter	Taihu Lake, China	Fresh	wild caught	muscle	161	Fang et al., 2014
Mud fish	Taihu Lake, China	Fresh	wild caught	muscle	163	Fang et al., 2014
Chinese bitterling	Taihu Lake, China	Fresh	wild caught	muscle	87.9	Fang et al., 2014
Goby	Taihu Lake, China	Fresh	wild caught	muscle	37.7	Fang et al., 2014
Common carp	China	Fresh	wild caught	muscle	182	Zhou et al., 2012
White shrimp	Taihu Lake, China	Fresh	wild caught	soft part	12.5	Fang et al., 2014
Pearl mussel	Taihu Lake, China	Fresh	wild caught	soft part	39.7	Fang et al., 2014

BAF – bioaccumulation factor

Table B2 – Bioaccumulation factors for PFOS in fish fillets and shellfish tissue

Species	Place	Fresh or Marine	Exposure	Tissue	BAF (L/kg)	Study
Bluegill	Lake Calhoun, MN	Fresh	wild caught	fillet	2802	MPCA, 2007b
Bluegill and white bass	Mississippi River, MN	Fresh	wild caught	fillet	5737	MPCA, 2007b
Common carp	laboratory	Fresh	static 28d, 28d flow through depuration	muscle	9500	Fang et al, 2016
Minnow	Taihu Lake, China	Fresh	wild caught	muscle	3212	Fang et al., 2014
Silver carp	Taihu Lake, China	Fresh	wild caught	muscle	832	Fang et al., 2014
Whitebait	Taihu Lake, China	Fresh	wild caught	muscle	1350	Fang et al., 2014
Crucian carp	Taihu Lake, China	Fresh	wild caught	muscle	6898	Fang et al., 2014
Lake saury	Taihu Lake, China	Fresh	wild caught	muscle	4401	Fang et al., 2014
Common carp	Taihu Lake, China	Fresh	wild caught	muscle	3679	Fang et al., 2014
Mongolian culter	Taihu Lake, China	Fresh	wild caught	muscle	6927	Fang et al., 2014
Mud fish	Taihu Lake, China	Fresh	wild caught	muscle	4854	Fang et al., 2014
Chinese bitterling	Taihu Lake, China	Fresh	wild caught	muscle	2861	Fang et al., 2014
Goby	Taihu Lake, China	Fresh	wild caught	muscle	2876	Fang et al., 2014
Common carp	China	Fresh	wild caught	muscle	11749	Zhou et al., 2012
Taihu Lake shrimp	Taihu Lake, China	Fresh	wild caught	soft part	2161	Fang et al., 2014
White shrimp	Taihu Lake, China	Fresh	wild caught	soft part	978	Fang et al., 2014
Freshwater mussel	Taihu Lake, China	Fresh	wild caught	soft part	256	Fang et al., 2014
Pearl mussel	Taihu Lake, China	Fresh	wild caught	soft part	466	Fang et al., 2014

BAF – bioaccumulation factor

Table B3 – Trophic level weighting for fish and shellfish in the PFOA and PFOS bioaccumulation studies

Fish and shellfish	Scientific Name	Trophic Level 2 Weighting	Trophic Level 3 Weighting	Trophic Level 4 Weighting	Reference
Minnow	*Hemiculter leucisculus*	0	1	0	FishBase.org
Silver carp	*Hypophthalmichthys molitrix*	0	1	0	USEPA 2014
Whitebait	*Reganisalanx brachyrostralis*	0	1	0	FishBase.org
Crucian carp	*Carassius cuvieri*	0	1	0	USEPA 2014
Lake saury	*Coilia mystus*	0	1	0	FishBase.org
Common carp	*Cyprinus carpio*	0	1	0	USEPA 2014
Mongolian culter	*Culter mongolicus*	0	0.5	0.5	FishBase.org
Mud fish	*Misgurnus anguillicaudatus*	0	1	0	FishBase.org
Chinese bitterling	*Rhodeus sinensis*	0.5	0.5	0	FishBase.org
Goby	*Ctenogobius giurinus*	0	1	0	FishBase.org
White shrimp	*Exopalaemon sp.*	0.5	0.5	0	USEPA 2014
Pearl mussel	*Lamellibranchia sp.*	1	0	0	USEPA 2014
Bluegill	*Lepomis macrochirus*	0	1	0	FishBase.org
White bass[a]	*Morone chrysops*	0	0	1	USEPA 2014
Taihu Lake shrimp	*Macrobrachium nipponense*	0.5	0.5	0	USEPA 2014
Freshwater mussel	*Lamellibranchia sp.*	1	0	0	USEPA 2014

[a] – The white bass value is the geometric mean concentration of *Lepomis macrochirus* and *Morone chrysops*

Table B4 – Species-specific TL2 BAFs and geometric mean TL2 BAF for PFOA

Species	Scientific name	TL2 BAF
Chinese bitterling	*Rhodeus sinensis*	87.9
White shrimp	*Exopalaemon sp.*	12.5
Pearl mussel	*Lamellibranchia sp.*	39.7
	Geometric mean TL2 BAF	35

TL – trophic level
BAF – bioaccumulation factor

Table B5 – Species-specific TL3 BAFs and geometric mean TL3 BAF for PFOA

Species	Scientific name	TL3 BAF
Minnow	*Hemiculter leucisculus*	112.5
Silver carp	*Hypophthalmichthys molitrix*	11.8
Whitebait	*Reganisalanx brachyrostralis*	147
Crucian carp	*Carassius cuvieri*	81
Lake saury	*Coilia mystus*	284
Common carp	*Cyprinus carpio*	50
Mongolian culter	*Culter mongolicus*	161
Mud fish	*Misgurnus anguillicaudatus*	163
Chinese bitterling	*Rhodeus sinensis*	87.9
Goby	*Ctenogobius giurinus*	37.7
White shrimp	*Exopalaemon sp.*	12.5
	Geometric mean TL3 BAF	71

TL – trophic level
BAF – bioaccumulation factor

Table B6 – Species-specific TL4 BAFs and geometric mean TL4 BAF for PFOA

Species	Scientific name	TL4 BAF
Mongolian culter	*Culter mongolicus*	161
	Geometric mean TL4 BAF	161

TL – trophic level
BAF – bioaccumulation factor

Table B7 – Species-specific TL2 BAFs and geometric mean TL2 BAF for PFOS

Species	Scientific name	TL2 BAF
Chinese bitterling	*Rhodeus sinensis*	2861
White shrimp	*Exopalaemon sp.*	978
Pearl mussel	*Lamellibranchia sp.*	466
Taihu Lake shrimp	*Macrobrachium nipponense*	2161
Freshwater mussel	*Lamellibranchia sp.*	256
	Geometric mean TL2 BAF	937

TL – trophic level
BAF – bioaccumulation factor

Table B8 – Species-specific TL3 BAFs and geometric mean TL3 BAF for PFOS

Species	Scientific name	TL3 BAF
Minnow	*Hemiculter leucisculus*	3212
Silver carp	*Hypophthalmichthys molitrix*	832
Whitebait	*Reganisalanx brachyrostralis*	1350
Crucian carp	*Carassius cuvieri*	6898
Lake saury	*Coilia mystus*	4401
Common carp	*Cyprinus carpio*	7433
Mongolian culter	*Culter mongolicus*	6927
Mud fish	*Misgurnus anguillicaudatus*	4854
Chinese bitterling	*Rhodeus sinensis*	2861
Goby	*Ctenogobius giurinus*	2876
White shrimp	*Exopalaemon sp.*	978
Bluegill	*Lepomis macrochirus*	2802
Taihu Lake shrimp	*Macrobrachium nipponense*	2161
	Geometric mean TL3 BAF	2959

TL – trophic level
BAF – bioaccumulation factor

Table B9 – Species-specific TL4 BAFs and geometric mean TL4 BAF for PFOS

Species	Scientific name	TL4 BAF
Mongolian culter	*Culter mongolicus*	6927
White bass	*Morone chrysops*	5737
	Geometric mean TL4 BAF	6304

TL – trophic level
BAF – bioaccumulation factor

Appendix C

Crystal Ball Report - Forecasts

Run preferences:	
Number of trials run	100,000
Monte Carlo	
Seed	123457
Precision control on	
Confidence level	95.00%
Run statistics:	
Total running time (sec)	57.11
Trials/second (average)	1,751
Random numbers per sec	38,525
Crystal Ball data:	
Assumptions	22
Correlations	0
Correlation matrices	0
Decision variables	0
Forecasts	12

Forecasts

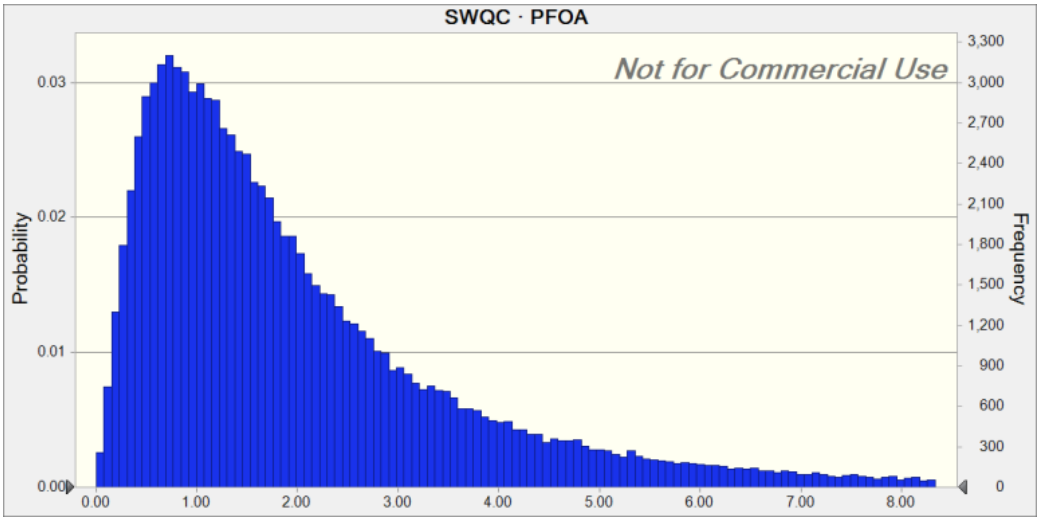
Forecast: SWQC · PFOA

Summary:

Entire range is from 0.00 to 55.36

Base case is 1.16

After 100,000 trials, the std. error of the mean is 0.01



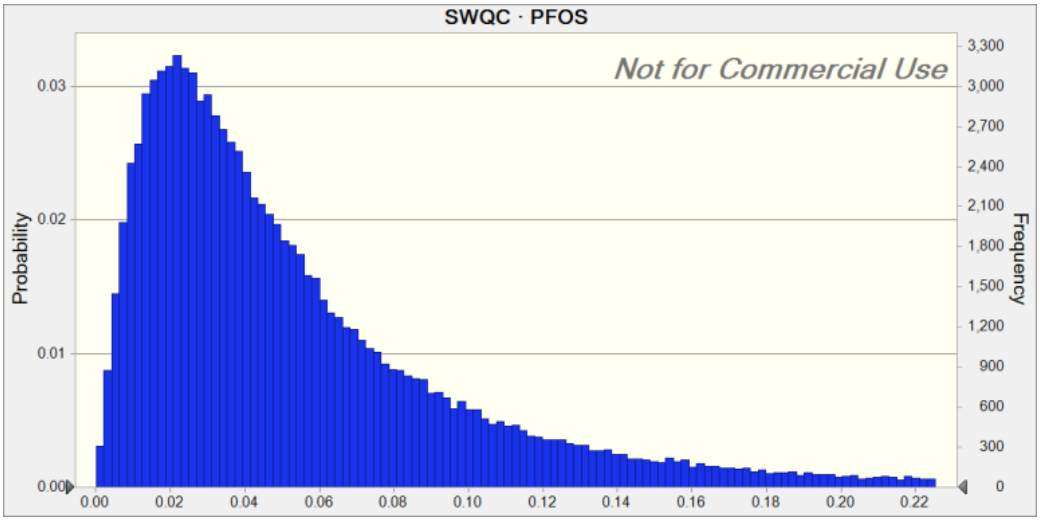
Statistics:	Forecast values
Trials	100,000
Base Case	1.16
Mean	2.19
Median	1.56
Mode	---
Standard Deviation	2.20
Variance	4.82
Skewness	3.91
Kurtosis	36.47
Coeff. of Variation	1.00
Minimum	0.00
Maximum	55.36
Range Width	55.36
Mean Std. Error	0.01

Forecast: SWQC · PFOA (cont'd)

Percentiles:	Forecast values
0%	0.00
10%	0.49
20%	0.74
30%	0.99
40%	1.26
50%	1.56
60%	1.93
70%	2.42
80%	3.15
90%	4.53
100%	55.36

Forecast: SWQC · PFOS

Summary:
Entire range is from 0.00 to 1.30
Base case is 0.03
After 100,000 trials, the std. error of the mean is 0.00



Statistics:	Forecast values
Trials	100,000
Base Case	0.03
Mean	0.06
Median	0.04
Mode	---
Standard Deviation	0.06
Variance	0.00
Skewness	3.61
Kurtosis	28.36
Coeff. of Variation	1.01
Minimum	0.00
Maximum	1.30
Range Width	1.30
Mean Std. Error	0.00

Forecast: SWQC · PFOS (cont'd)

Percentiles:	Forecast values
0%	0.00
10%	0.01
20%	0.02
30%	0.03
40%	0.03

50%	0.04
60%	0.05
70%	0.06
80%	0.09
90%	0.12
100%	1.30

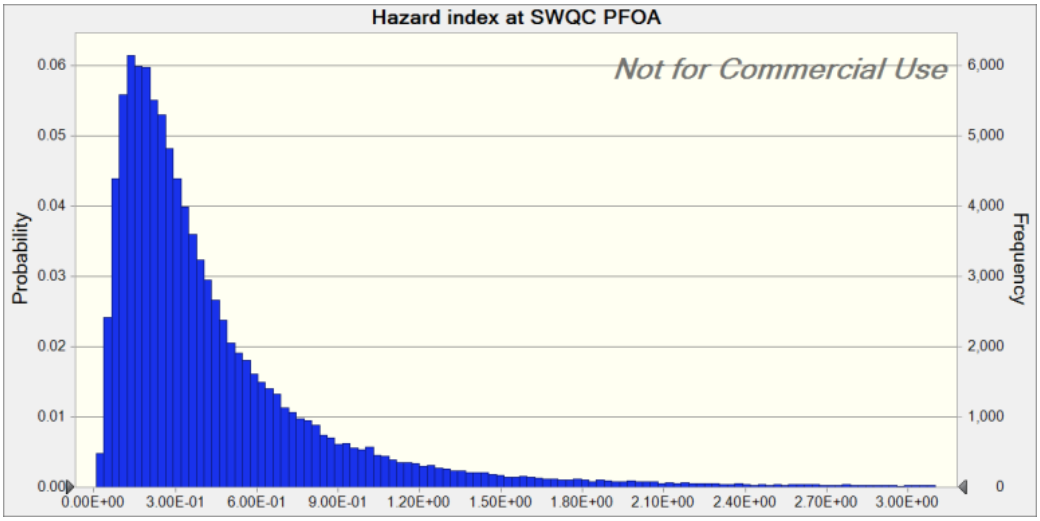
Forecast: Hazard index at SWQC PFOA

Summary:

Entire range is from 8.85E-03 to 1.30E+02

Base case is 4.21E-01

After 100,000 trials, the std. error of the mean is 2.93E-03



Statistics:	Forecast values
Trials	100,000
Base Case	4.21E-01
Mean	5.04E-01
Median	3.14E-01
Mode	---
Standard Deviation	9.28E-01
Variance	8.60E-01
Skewness	39.79
Kurtosis	4,200.66
Coeff. of Variation	1.84
Minimum	8.85E-03
Maximum	1.30E+02
Range Width	1.30E+02
Mean Std. Error	2.93E-03

Forecast: Hazard index at SWQC PFOA (cont'd)

Percentiles:	Forecast values
0%	8.85E-03
10%	1.08E-01
20%	1.55E-01
30%	2.03E-01
40%	2.54E-01
50%	3.14E-01
60%	3.90E-01
70%	4.94E-01
80%	6.61E-01
90%	9.99E-01
100%	1.30E+02

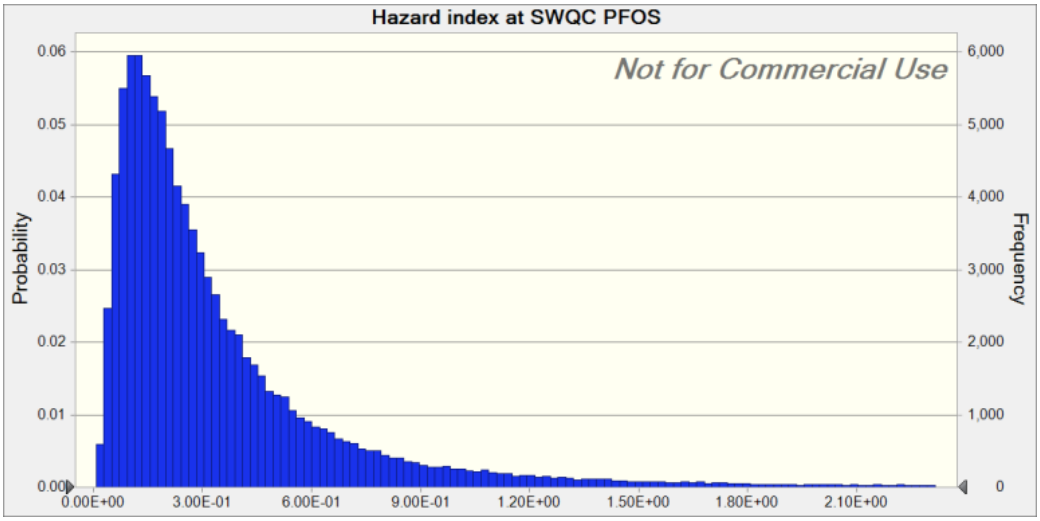
Forecast: Hazard index at SWQC PFOS

Summary:

Entire range is from 7.67E-03 to 6.68E+01

Base case is 3.28E-01

After 100,000 trials, the std. error of the mean is 2.17E-03



Statistics:	Forecast values
Trials	100,000
Base Case	3.28E-01
Mean	3.93E-01
Median	2.42E-01
Mode	---
Standard Deviation	6.87E-01
Variance	4.72E-01
Skewness	23.39

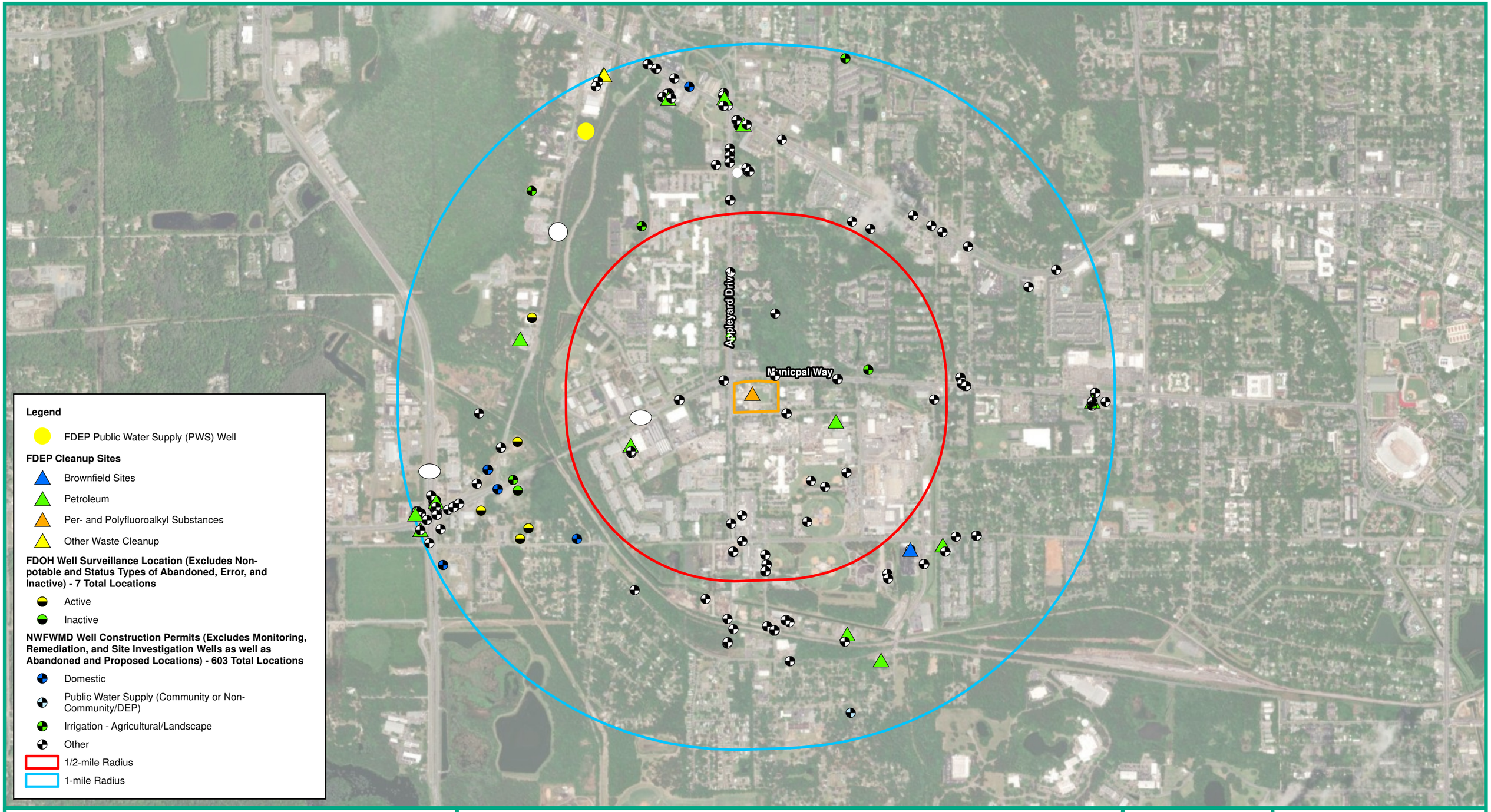
Kurtosis	1,359.36
Coeff. of Variation	1.75
Minimum	7.67E-03
Maximum	6.68E+01
Range Width	6.68E+01
Mean Std. Error	2.17E-03

Forecast: Hazard index at SWQC PFOS (cont'd)

Percentiles:	Forecast values
0%	7.67E-03
10%	8.16E-02
20%	1.18E-01
30%	1.54E-01
40%	1.94E-01
50%	2.42E-01
60%	3.01E-01
70%	3.83E-01
80%	5.11E-01
90%	7.79E-01
100%	6.68E+01

APPENDIX B

Florida Department of Health Potable Well Sampling Results



Legend

FDEP Public Water Supply (PWS) Well

FDEP Cleanup Sites

- Brownfield Sites
- Petroleum
- Per- and Polyfluoroalkyl Substances
- Other Waste Cleanup

FDOH Well Surveillance Location (Excludes Non-potable and Status Types of Abandoned, Error, and Inactive) - 7 Total Locations

- Active
- Inactive

NWFWMD Well Construction Permits (Excludes Monitoring, Remediation, and Site Investigation Wells as well as Abandoned and Proposed Locations) - 603 Total Locations

- Domestic
- Public Water Supply (Community or Non-Community/DEP)
- Irrigation - Agricultural/Landscape
- Other
- 1/2-mile Radius
- 1-mile Radius

Water Well Survey
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Notes:

1. Florida Department of Health (FLDOH) Wells are from the Well Surveilance Program, July 2023.
2. Florida Department of Environmental Protection (FDEP) SWAPP, PWS wells, and Cleanup sites are from the open data portal https://geodata.dep.state.fl.us/
3. Northwest Florida Water Management District (NWFWMD) well construction permits were provided by NWFWMD staff on 24 August 2023. It was indicated that only data through 2020 may be accurate and more recent locations may be missing.
4. No wells from the Generalized Well Information System (GWIS) or NWFWMD Consumptive Use Permits were indicated within 1-mile of the site.
5. Source of 2020 aerial: Florida Department of Transportation Aerial Photo Look Up System website.

Date: August 28, 2023

N

1,400 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

AAA0270 (14.3 ng/L, Dec. 2019)

AAK9845 (14 ng/L, Mar. 2021)

Appleyard Drive

Municpal Way

AAK9844 (12.5 ng/L, Dec. 2019)

AAK9841 (50.1 ng/L, Jan. 2023)

AAK9843 (30 ng/L, Mar. 2021)

AAK9842 (14.7 ng/L, Dec. 2019)

Legend

PFAS Sample Results (Total PFOS + PFOA)

- > HAL
- > 1/2 HAL
- > 1/4 HAL
- < 1/4 HAL
- BDL
- No Sample for this Analysis
- 1/4-mile Radius
- 1/2-mile Radius
- 1-mile Radius

January 2023 Summary of PFOS + PFOA FDOH Sampling Results
Tallahassee Fire Department
2964 Municipal Way
Tallahassee, Leon County, Florida
FDEP Facility NO. ERIC_7413

Notes:

1. PFAS indicates per- and polyfluoroalkyl substances.
2. BDL indicates below detection limit.
3. Wells are from the Florida Department of Health (FLDOH) Well Surveilance Program, July 2023.
4. PFOA + PFOS indicates the summation of perfluorooctanic acid (PFOA) and perfluorooctanesulfonic acid (PFOS).
5. PFOA + PFOS sample results presented on figure are based on FDOH data provided, file date 20 September 2023.
6. The Health Advisory Level (HAL) for PFOA + PFOS is 70 nanograms per liter (ng/L).
7. Source of 2023 aerial: Florida Department of Transportation Aerial Photo Look Up System website.

Date: September 21, 2023

N

1,400 Feet

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Path: (Tlusville-01\DATA) T:\0GIS\FR3734_TFTD\MXDs\202309\FDOH_well data_Jan2023.mxd 21 September 2023. Last Edited by: mhensley

APPENDIX C
Field Forms

Soil Boring Logs
March 2023

Geosyntec consultants

BORING LOG

Boring/Well Number: DEP MW 14	Permit Number:	FDEP Facility Identification Number: ERIC_7413
Site Name: COTFTF	Borehole Start Date: 27 March 2023 Start Time: 1445 ☐ AM ☑ PM	End Date: 27 March End Time: 1515 ☐ AM ☒ PM
Environmental Contractor: Geoysntec	Geologist's Name: Tyler Barrett	Environmental Technician's Name:
Drilling Company: Preferred Drillng Services	Pavement Thickness (inches): N/A	Borehole Diameter (inches): ~~8~~ 6"
Drilling Method(s): Sonic	Apparent Borehole DTW (in feet from soil moisture content): 20	Measured Well DTW (in feet after water recharges in well): 19.28
OVA (list model and check type): N/A ~~Photovac MicroFID~~ ☐ FID ☐ PID		

Disposition of Drill Cuttings [check method(s)]: ☑ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (Describe):

screened interval only.

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC → ~~SC~~	10-12	120	NA				12	Clayey Sand, very loose to loose, red grey orange, dry to moist, trc heavies vf to md sz mod sort sub angular	SC	D to M	
			NA								
			NA								
SC	12-16		NA		yellow grey to orange		16	gravelly sand w/ clay. ~~poorly~~ vf to md sz mod sort sub angular, very loose, Dry to Moist	SW	D to M	
			NA								
SC	16-20		NA				20	Clayey Sand w/ some organics. red grey orange, loose. poor to mod sort vf to crs	~~SC~~ SC	D to M	
			NA								
SC	20-25	60	NA				25	Hard, Sandy clay, dry red white orange mottled, dry	CL	D	
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

Geosyntec consultants

BORING LOG

Screened interval only

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Boring/Well Number: DEP MW 15	Permit Number:		FDEP Facility Identification Number: ERIC_7413
Site Name: COTFTF	Borehole Start Date: 24 March 2025	Start Time: 0800	☒ AM ☐ PM
	End Date: 24 March	End Time: 0850	☒ AM ☐ PM
Environmental Contractor: Geoysntec	Geologist's Name: Tyler Barrett		Environmental Technician's Name:
Drilling Company: Preferred Drilling Services	Pavement Thickness (inches): N/A	Borehole Diameter (inches): 6"	Borehole Depth (feet): 25
Drilling Method(s): Sonic	Apparent Borehole DTW (in feet from soil moisture content): 20	Measured Well DTW (in feet after water recharges in well):	~~OVA (list model and check type):~~ N/A ~~Photovac MicroFID~~ ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☑ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (Describe):

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	10-13	6' recovery	NA	Drillers empty core catcher; Does not improve sample capture much			13	dark brown tan orange clayey sand, med dense to dense. mottled	SC	D to M	
			NA								
SC	13-14.5		NA				14.5	cream white, yellow grey mottled orange sandy clay, hard. Dry to moist	SC	D to M	
		72	NA								
SC	14.5-16		NA				16	loose to med dense clayey sand, Orange tan, moist,	SC	M	
			NA								
SC	16-20		NA				20	NS			
SC	20-22.5	0	NA				22.5	NS			
SC	22.5-24		NA				24	orange brown sandy clay, wet, very loose to loose	SC	W	
		30	NA								
SC	24-25		NA				25	Homogenous yellow grey well sorted fn sand w/ 1% heavies. Rounded	SP	S	
			NA								
			NA								
			NA								
			NA								

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

Geosyntec consultants

BORING LOG

Boring/Well Number: DEP-MW-110	Permit Number:		FDEP Facility Identification Number: ERIC_7413
Site Name: COTFTF	Borehole Start Date: 3/22/23	Start Time: 1005	☒ AM ☐ PM
	End Date: 3/22/23	End Time: 1110	☒ AM ☐ PM
Environmental Contractor: Geoysntec	Geologist's Name: BROOKS BALDWIN		Environmental Technician's Name:
Drilling Company: Preferred Drillng Services	Pavement Thickness (inches): 2 4.5 (ASPHALT)	Borehole Diameter (inches): 5	Borehole Depth (feet): 75
Drilling Method(s): Sonic	Apparent Borehole DTW (in feet from soil moisture content): 2.12	Measured Well DTW (in feet after water recharges in well):	OVA (list model and check type): Photovac MicroFID ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☑ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (Describe):

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
PA1	0-5		NA					SAND (SP), LT BROWN, DRY, FINE GRAINED, LOOSE	SP	D	
SC	5-10	52	NA					AS ABOVE, L. GRAY, MED DENSE	SP	D	
SC	10-15	100	NA					ABOVE, WET @ 12 FT CLAYEY SAND (SC), L. GRAY WET, MED DENSE	SC	W	
			NA					14'-16' SANDY CLAY (CL), L. TAN MOIST, FINE GRAIN, STIFF MOD PLASTICITY	CL	M	
			NA					16'-CLAYEY SAND (SC), L. GRAY MOIST, FINE GRAINED DENSE	SC	M	
	20-25	60	NA					AS ABOVE, L BROWN, MOIST	SC	M	
			NA					23'-CLAY (CL), L. BROWN, WET MED STIFF, MOD PLASTICITY	CL	S	
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

Florida Department of Environmental Protection

Geosyntec consultants

* Sample Screened Interval only

BORING LOG

Page 1 of 1

Boring/Well Number: DEP MW-17	Permit Number:	FDEP Facility Identification Number: ERIC_7413
Site Name: COTFTF	Borehole Start Date: 20March2025 Start Time: 0900 ☒ AM ☐ PM	End Date: 20March2025 End Time: 1030 ☒ AM ☐ PM
Environmental Contractor: Geoysntec	Geologist's Name: Tyler Barnett	Environmental Technician's Name:
Drilling Company: Preferred Drilling Services	Pavement Thickness (inches): 3" asphalt	Borehole Diameter (inches): 6"	Borehole Depth (feet): 25
Drilling Method(s): Sonic	Apparent Borehole DTW (in feet from soil moisture content): 15'	Measured Well DTW (in feet after water recharges in well): 8.90	~~OVA (list model and check type):~~ NA Photovac MicroFID ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☑ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (Describe):

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
NS PH	0-5		NA				5	NS			
NS	5-10		NA				10	NS			
SC	10-15		NA					NS/Sample loss. Driller attempted 15' run ~~and~~			
			NA								
SC	15-16.5	7' recovery Dr: L	NA				16.5	mod sort fn to crs silty grey very loose, saturated qtz sand w/ t% heavies	SP-SM	S	
			NA								
SC	16.5-19		NA				19	Orange red grey clayey sand wet	SC	W to S	
		9.4	NA					to saturated very loose to loose, some silt, t% heavies			
			NA								
SC	19-20.5		NA				20.5	orange red to grey loose to med dense	SC	M	
			NA					moist ~~sandy clay~~ t% heavies Clayey Sand			
SC	20.5-23		NA					As above but dense.	SC	M	
SC	23-25		NA				25	vf to med yellow grey to pale orange mod sort qtz sand, very loose, moist, t% heavies.	SP	M	
			NA								
			NA								

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

Geosyntec consultants

BORING LOG

Screened Interval only

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Boring/Well Number: DEP MW 18	Permit Number:		FDEP Facility Identification Number: ERIC_7413
Site Name: COTFTF	Borehole Start Date: 6 March 2023	Start Time: 1325	☐ AM ☑ PM
	End Date: 6 March 2023	End Time: 1500	☐ AM ☑ PM
Environmental Contractor: Geoysntec	Geologist's Name: Tyler Barnett		Environmental Technician's Name: Ken Starling
Drilling Company: Preferred Drillng Services	Pavement Thickness (inches): 2"	Borehole Diameter (inches): 6"	Borehole Depth (feet): 25
Drilling Method(s): Sonic	Apparent Borehole DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well):	OVA (list model and check type): N/A ☐ Photovac MicroFID ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☑ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (Describe):

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	10-20	T 120	NA				20	red brown to orange clayey sand, ~~loose~~ to med. dense. moist to wet. fn to crs. t% heavies	SC	M to W	
		|	NA								
SC	20-23	T	NA				23	Orange red mottled sandy clay, soft to firm, t% organics t% heavies	SC	M to W	
		60	NA								
SC	23-24	|	NA				24	Stiff white clay w/ some qtz sand moist	CH	M	
			NA								
SC	24-25	|	NA				25	yellow grey, well sorted fn qtz snd w/ t% heavies, loose	SP	W	
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

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BORING LOG

Screened interval only

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Boring/Well Number: DEP MW 19	Permit Number:	FDEP Facility Identification Number: ERIC_7413
Site Name: COTFTF	Borehole Start Date: 10 March 2022 End Date: 10 March	Start Time: 0945 ☒ AM ☐ PM End Time: 1050 ☒ AM ☐ PM
Environmental Contractor: Geoysntec	Geologist's Name: Tyler Barrett	Environmental Technician's Name: Ken Sterling
Drilling Company: Preferred Drilling Services	Pavement Thickness (inches): 4"	Borehole Diameter (inches): 6"
Borehole Depth (feet): 25		
Drilling Method(s): Sonic	Apparent Borehole DTW (in feet from soil moisture content): 18	Measured Well DTW (in feet after water recharges in well):
OVA (list model and check type): N/A Photovac MicroFID ☐ FID ☐ PID		

Disposition of Drill Cuttings [check method(s)]: ☑ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (Describe):

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	10-15	0	NA				15	NS			
~~SC~~	~~15-25~~		NA								
SC	15-18		NA					yellow grey, mottled and oxidized to orange red, Firm moist Sandy clay some black mottling may be organics or iron sulfides. t% heavies.	SC	M	
			NA								
			NA								
		114	NA								
	18-22		NA					yellow grey loose to very loose, wet well sorted fn gtc Snd w/ some clay. trace heavies.	SP	W	
			NA								
			NA								
	22-25		NA					Hard, red orange white Sandy clay, Moist, trace heavies	SC	M	
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

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BORING LOG

Screened interval only.

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Boring/Well Number: DEP MW 20	Permit Number:	FDEP Facility Identification Number: ERIC_7413
Site Name: COTFTF	Borehole Start Date: 15 March 2023 / Start Time: 1455 ☐ AM ☒ PM	End Date: 15 March / End Time: 1610 ☐ AM ☒ PM
Environmental Contractor: Geoysntec	Geologist's Name: Tyler Barnett	Environmental Technician's Name:
Drilling Company: Preferred Drillng Services	Pavement Thickness (inches): 2"	Borehole Diameter (inches): ~~8~~ 6"	Borehole Depth (feet): 25
Drilling Method(s): Sonic	Apparent Borehole DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well):	OVA (list model and check type): N/A Photovac MicroFID ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☑ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (Describe):

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	10-20.5		NA				20.5	NS / Driller comments: Tried to take multiple sample runs in the same trip.			
			NA								
SC	20.5-21		NA				21	well to mod sort wet, very loose mode of fn sz qtz snd w/ some organics and silt.	SP	W	
			NA								
			NA								
SC	21-21.5		NA				21.5	Black peat w/ some quartz sand,	PT	M to W	
SC	21.5-24.25		NA				24.25	silty, sandy, hard grey clay, Mottled orange.	SC	D	
			NA								
SC	24.25-25		NA				25	yellow grey, well sorted fn qtz sand w/ some clay, medium dense.	SP	M	
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								

4.5' recovery

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

Geosyntec consultants

BORING LOG

Boring/Well Number: DEP MW 21	Permit Number:		FDEP Facility Identification Number: ERIC_7413
Site Name: COTFTF	Borehole Start Date: 27 March 2023 / End Date: 27 March	Start Time: 1020 ☒ AM ☐ PM / End Time: 1240 ☐ AM ☒ PM	
Environmental Contractor: Geoysntec	Geologist's Name: Tyler Barnett		Environmental Technician's Name:
Drilling Company: Preferred Drillng Services	Pavement Thickness (inches): N/A	Borehole Diameter (inches): 8"	Borehole Depth (feet): 90'
Drilling Method(s): Sonic	Apparent Borehole DTW (in feet from soil moisture content): 20	Measured Well DTW (in feet after water recharges in well): 42.61	~~OVA (list model and check type):~~ N/A Photovac MicroFID ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☑ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (Describe):

Notes

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	~~Unfiltered OVA~~	~~Filtered OVA~~	~~Net OVA~~	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
PH/SS	0-5	60	NA				5	Poor sort brown to orange vf to crs subangular qtz sand w/ clay very loose to loose	SW	M	
			NA								
SC	5-10	60	NA				10	As above, w/ 6% heavies	SW	M	
~~SC~~	~~10-~~		NA								
SC	10-13.5	102	NA				13.5	grey, orange, brown clayey qtz sand w/ some silt Loose, vf to crs poor sort subangular to angular 6% heavies	SC	M	
			NA								
			NA								
SC	13.9-17.5		NA				17.5	Poor sort, vf to crs, subang to ang, very loose, qtz sand w/ clay yellow grey to orange brown.	~~SW~~ SC		SW/M
			NA								
SC	17.5-20		NA				20	Yellow grey to orange brown poor sort vf to crs clayey qtz sand, loose,	SC	M	
			NA								
SC	20-21		NA	Saturation could be from Driller pushing sample.			21	very loose, saturated poor sort vf to crs qtz sand w/ 6% heavies brown to yellow grey	SW	S	
			NA								
	9-~~17.5~~		NA								
			NA								

8.5' recovery

7.5' recovery

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

Geosyntec consultants

BORING LOG

Boring/Well Number: DEP MW 21	FDEP Facility Identification Number: ERIC_7413	Site Name: COTFTF	Borehole Start Date: End Date:

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	21-30	81	NA				30	Clayey sand, yellow grey, orange, mottled vf to md, ~~loose~~ to med dense trc ~~to~~ hematite	SC	M	
SC	30-33						33	AS above, clay content increases w/ depth	SC	M	
		108	NA								
SC	~~33~~-40		NA				40	Firm, yellow grey orange red mottled sandy clay. Clay content increases w/ depth	CL	D to M	
			NA								
~~SC~~	~~40-44~~		NA	~~Pc~~				NR			
SC	40-43	36	NA				43	Firm to hard white red orange mottled ~~sandy~~ clay. Low plasticity w/ sand	CL	M	
			NA								
SC	43-46	36	NA				46	Soft to firm, grey mottled red orange silty ~~sandy~~ clay mod plasticity w/ sand	CL-ML	M	
			NA								
SC	46-50	/	NA				NS	NS			
SC	50-53	36	NA				53	Soft white, yellow grey to orange mottled clay w/ sand,	CL	M to W	
			NA								
SC	53-54	12	NA				54	Mottled loose to very loose orange, white grey Clayey Sand w/ some silt.	SC	W	
			NA								
			NA					Sandstone concretions w/ some chert noted.			
SC	54-60		NA				60	NS Low resistance intervals for rig. very soft seds.			
SC	60-64.5		NA				64.5	NS			
			NA								

7.5' recovery

9' recovery

6' recovery 4 inches at bottom 4'

4' recovery

Sample Type Codes: PH = Post Hole; HA = Hand Auger; SS = Split Spoon; ST = Shelby Tube; DP = Direct Push; SC = Sonic Core; DC = Drill Cuttings

Moisture Content Codes: D = Dry; M = Moist; W = Wet; S = Saturated

Geosyntec consultants

BORING LOG

Boring/Well Number: DEP MW-21	FDEP Facility Identification Number:	Site Name:	Borehole Start Date: End Date:

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	64.5 -68	T					68	very soft to soft Mottled Orange, grey red black Sandy Clay, black splotching is likely iron sulfides. A few pebble sz clasts of sandstone noted.	SC	W	
		66									
SC	68 -69.5						69.5	well sorted vf yellow grey qtz sand w/ some clay	SP	W to S	
SC	69.5 -70						70	same as 64.5-68	SC	W	
SC	70 -80	T					80	Silty sandy heterogeneous Clay, Grey black, orange white. Sandstone & Chert present, Soft to very soft Sand content increases w/ depth.	SC -CM	M to W	
		96									
SC	80 -80.5	T					80.5	Transition interval From siliciclastics above to carbonate below. Sticky, wet green black mottled very soft clay w/ sand.	CL	W	
		38.4									
SC	80.5 84.0						84	white, cream, tan pale orange Carbonate mud w/ abundant mod indurated clasts of Carbonate mudstone. Mudstone clasts contain a few fossil molds of mollusks. qtz sand present, moist and mud portion is very soft to soft	CL -LS	M	

5.5' rec.

8' rec.

8'

Sample Type Codes: PH = Post Hole; HA = Hand Auger; SS = Split Spoon; ST = Shelby Tube; DP = Direct Push; SC = Sonic Core; DC = Drill Cuttings

Moisture Content Codes: D = Dry; M = Moist; W = Wet; S = Saturated

Florida Department of Environmental Protection

Geosyntec consultants

BORING LOG

Boring/Well Number: DEP MW 21	Permit Number:		FDEP Facility Identification Number: ERIC_7413
Site Name: COTFTF	Borehole Start Date: / End Date:	Start Time: ☐ AM ☐ PM / End Time: ☐ AM ☐ PM	
Environmental Contractor: Geoysntec	Geologist's Name:		Environmental Technician's Name:
Drilling Company: Preferred Drillng Services	Pavement Thickness (inches):	Borehole Diameter (inches):	Borehole Depth (feet):
Drilling Method(s): Sonic	Apparent Borehole DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well):	OVA (list model and check type): Photovac MicroFID ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☑ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (Describe):

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
	84-86	7	NA				86	wet Carbonate mud w/ abundant LS clasts - Pale orange cream Mud is very soft.	CL-LS	W	
			NA								
		58	NA					Clasts are poorly to mod indurated mudstone/wackestone w/ occasional mollusk mold/cast or foram test fragment.			
			NA								
			NA								
	86-90	1	NA				90	As above, but less moisture.	CL-LS	M	
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

Geosyntec consultants

BORING LOG

Boring/Well Number: DEP MW 22	Permit Number:	FDEP Facility Identification Number: ERIC_7413
Site Name: COTFTF	Borehole Start Date: 23 March 202 Start Time: 0830 ☒ AM ☐ PM End Date: 23 March 202 End Time: 1500 ☐ AM ☒ PM	
Environmental Contractor: Geoysntec	Geologist's Name: Tyler Barnett	Environmental Technician's Name:
Drilling Company: Preferred Drilling Services	Pavement Thickness (inches): N/A	Borehole Diameter (inches): 8" Borehole Depth (feet): 90
Drilling Method(s): Sonic	Apparent Borehole DTW (in feet from soil moisture content): 20	Measured Well DTW (in feet after water recharges in well): OVA (list model and check type): N/A Photovac MicroFID ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☑ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (Describe):

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
PH	0-1	T	NA				1	Poor Soft yellow grey loose qtz sand w/ clay	SW	M	
PH	1-3	60	NA				3	yellow grey to orange clayey sand Loose.	SC	M	
PH	3-5	1	NA				5	orange-red yellow grey Sandy clay soft.	SC	M	
SC	5-6	0	NA				6	NS			
SC	6-9	T	NA				9	Sandy clay, ~~soft~~ to hard, orange	SC	D to M	
		40	NA					red to grey,			
SC	9-10	1	NA				10	clayey Sand, loose, Orange red grey	SC	D to M	
SC	10-~~20~~ 19.5	T	NA				19.5-~~20~~	very poor recovery. Driller cannot explain			
		1	NA					loss. ~~Clayey~~ Clayey sand, orange	SC	M	
		48	NA					red, moist, very loose w/ a 6"			
		1	NA					interval of Sandy clay. soft			
~~SC~~	~~20~~		NA						~~SC~~		
SC	19.5-20	1	NA					well sorted fn qtz Sand w/ trace heavies and some clay	SP	M	
			NA								
			NA								

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

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BORING LOG

Boring/Well Number: DEP MW 22	FDEP Facility Identification Number: ERIC_7413	Site Name: COTFTF	Borehole Start Date: End Date:

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	20 -26	T	NA					well sorted, rounded, yellow grey to pale orange, very loose to loose qtz sand w/ < 5% clay & trc lignites	SP	W	
			NA								
			NA								
SC	26 -27.5	15	NA				27.5 -29.5	Sandy clay, soft, orange, red yellow grey.	SC CL	M	
		160	NA					clay content increases w/ depth as sand decreases			
SC	27.5 -29.5		NA				29.5	Hard yellow grey clay w/ sand.	CL	D to M	
			NA					clay content increases w/ depth from 27.5-29.5			
SC	29.5 -30		NA				30	Poor sorted qtz sand w/ some clay interbedded fn to crs sz, ~~medium~~ sub round to sub angular	SW	W	
			NA								
SC	30 -31	T	NA				31	hard brown, grey, orange yellow heavily mottled clay w/ < 5% qtz sand, mod to high plasticity. moist, some silt.	CH	M	
			NA								
			NA								
SC	31 -31.5		NA				31.5	Clayey very soft dark brown sand & silt. sticky & wet	SC SM	W	
		102	NA								
	31.5 -33.5		NA				33.5	Dark brown, hard Plastic clay w/ some sand & silt, mottled	CH	M	
			NA								
SC	33.5 -33.75		NA				33.75	Clayey very soft dark brown sand & silt sticky & wet	SC SM	W	
	↑ 33.75		NA								
SC	33.75 -39.50		NA				39.50	Dark brown, grey, pale orange mottled clay w/ 5% sand, Firm to hard plastic, trc silt	CH	M	
			NA								

Full recovery

Full recovery

Sample Type Codes: PH = Post Hole; HA = Hand Auger; SS = Split Spoon; ST = Shelby Tube; DP = Direct Push; SC = Sonic Core; DC = Drill Cuttings

Moisture Content Codes: D = Dry; M = Moist; W = Wet; S = Saturated

Immature Sandstone/chert concretions noted

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BORING LOG

Boring/Well Number: DEP MW22	FDEP Facility Identification Number:	Site Name:	Borehole Start Date: End Date:

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	38.5-40	18					40	yellow grey tpw to mod plastic, hard clay t% qtz sand some mottling.	CL	D to M	
SC	40-90	120					50	carbonate mud, cream to pale orange, soft, moist. w/ clasts of ~~recrystallized~~ sandy wackestone intermixed clasts are poorly indurated w/ some moldic porosity via bivalve & gastro molds and casts. Forams & sorbids noted.	CL-LS	D to M	
SC	90-93	120				cream white		Dry Carbonate mudstone, crumbles. Mostly loose Dry carbonate mud & calcilutite w/ some quartz sand. Several cobbles of mod indurated wackestone, contain mollusk molds & casts along w/ forams. recrystallization (low) of clasts noted. Rhizos tube noted	LS	D	
SC	93-94							clayey Carbonate mud w/ abundant wackestone clasts and cobbles. soft, clasts are mod indurated, contain mollusk & forams	CL-LS	D to M	
SC	94-100							As above, but wet	CL-LS	W	

Sample Type Codes: PH = Post Hole; HA = Hand Auger; SS = Split Spoon; ST = Shelby Tube; DP = Direct Push; SC = Sonic Core; DC = Drill Cuttings
Moisture Content Codes: D = Dry; M = Moist; W = Wet; S = Saturated

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BORING LOG

Boring/Well Number: DEP MW 27	FDEP Facility Identification Number: ERIC_7413	Site Name: COTFTF	Borehole Start Date: End Date:

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	60-70		NA				70	white-cream, carbonate mud ~~stone~~, very soft ~~loose~~	CL-LS	W	
								w/ abundant clasts of variably recrystallized sandy moldic wackestone. Clasts are pebble to cobble sz and poorly to moderately indurated, contain mollusk molds/casts			
			NA					and forams & solitids. Fossil content has			
			NA					increased from intervals			
			NA					above but not quite			
			NA					a packstone.			
			NA					Archais sp. common			
SC	70-80		NA				80	white to cream carbonate mud, soft w/	CL-LS	M	
			NA					some quartz sand,			
			NA					clayey. Abundant			
			NA					clasts of tan			
			NA					partially dolomitized			
			NA					mudstone/wackestone.			
			NA					Clasts contain			
			NA					some microfossils			
			NA					and occasional mollusk			
			NA					molds, and have			
			NA					a partially moldic/pinpoint			
			NA					porosity.			
SC	80-85.5		NA				85.5	As above	CL-LS	M to W	
SC	85.5-87		NA					Dry white friable/crumbly			
			NA					carbonate mudstone	LS	D	
			NA					and loose calcilutite.			
			NA					poorly indurated			
SC	87-90		NA					moist to ~~wet~~, cream	LS	M to W	
			NA					white, microfossiliferous			
			NA					wackestone/packstone ~~of~~ clayey poorly			
								indurated.			

Sample Type Codes: PH = Post Hole; HA = Hand Auger; SS = Split Spoon; ST = Shelby Tube; DP = Direct Push; SC = Sonic Core; DC = Drill Cuttings
Moisture Content Codes: D = Dry; M = Moist; W = Wet; S = Saturated

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BORING LOG

Boring/Well Number: DEP MW-23	Permit Number:	FDEP Facility Identification Number: ERIC_7413
Site Name: COTFTF	Borehole Start Date: 21 March 2023 End Date: 21 March 2023	Start Time: 0900 ☒ AM ☐ PM End Time: 1400 ☐ AM ☒ PM
Environmental Contractor: Geoysntec	Geologist's Name: Tyler Barnett	Environmental Technician's Name:
Drilling Company: Preferred Drilling Services	Pavement Thickness (inches): 1"	Borehole Diameter (inches): 8" / Borehole Depth (feet): 90'
Drilling Method(s): Sonic	Apparent Borehole DTW (in feet from soil moisture content): 30'	Measured Well DTW (in feet after water recharges in well): / OVA (list model and check type): N/A Photovac MicroFID ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☑ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (Describe):

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Notes: Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
PH	0-5	60	NA				5	vf to md yellow grey mod soft very loose qtz sand.	SP	D to M	
			NA								
SC	5-10	48	NA				10	vf to med mod to poor sort very loose to loose, grey mottled orange and red clayey sand. t% heavies	SC	M	
			NA								
			NA								
SC	10-12		NA				12	vf to crs, very loose Poor sort qtz sand w/ some clay, organics noted. t% heavies	SW	D to M	
			NA								
SC	12-14		NA				14	Medium dense to dense clayey sand, yellow grey to orange vf to crs qtz snd, t% heavies mottled	SC	D to M	
			NA								
		120	NA								
SC	14-17		NA				17	Hard yellow grey pale orange red sandy clay.	SC	D to M	
			NA								
SC	17-20		NA				20	Soft yellow grey pale orange sandy clay slight moisture increase relative to interval above	SC	M	
			NA								
			NA								

Sample Type Codes: PH = Post Hole; HA = Hand Auger; SS = Split Spoon; ST = Shelby Tube; DP = Direct Push; SC = Sonic Core; DC = Drill Cuttings

Moisture Content Codes: D = Dry; M = Moist; W = Wet; S = Saturated

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BORING LOG

Boring/Well Number: DEP MW 2M	FDEP Facility Identification Number: ERIC_7413	Site Name: COTFTF	Borehole Start Date: End Date:

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	~~Unfiltered OVA~~	~~Filtered OVA~~	~~Net OVA~~	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	20 - 22.5	120	NA				22.5	As above	SC	M	
SC	22.5 - 24.5						24.5	Firm to hard cream white mottled orange clay w/ <10% qtz sand	CL	D to M	
SC	24.5 - 28.5		NA				28.5	Soft to firm cream white to pale orange sandy clay. t% heavies moist	SC	M	
			NA						~~SC~~	~~M~~	
SC	28.5 - 29.5		NA				29.5	Firm cream white mottled orange clay w/ some sand t% heavies.	CL	M	
			NA								
SC	29.5 - 30.0		NA				30	well sorted, wet, VF to FR qtz snd w/ some clay very loose to loose orange yellow grey	SP	W	
			NA								
~~SC~~	~~30 -~~		NA								
SC	30 - 31.5	120	NA				31.5	As above wet to saturated	SP	W to S	
SC	31.5 - 36.5		NA				36.5	Medium dense to dense yellow grey clayey sand. moist. t% heavies sand is well sorted vF to fn.	SC	M	
36.5'		120	NA								
			NA								
SC	36.5 - 40.		NA				40	Cream white pale orange clay. Firm to very hard w/ some qtz sand. heterogenous texture w/ pockets of immature sandstone and chert. Mottled to black in some places (iron sulfides?)	CL	M	
			NA								
			NA								
			NA								
			NA								
			NA								

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings
Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

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BORING LOG

Boring/Well Number: DEP MW 21	FDEP Facility Identification Number:	Site Name:	Borehole Start Date: End Date:

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	40 -41	97	5 sample may be compression @ 41-41.5.	2.5			41	As above	CL	M	
SC	41 -41.5						41.5	Dark Brown, mottled black & white, sticky soft to firm sandy clay w/ fragments of immature sandstone throughout	SC	M to W	
SC	41.5 -50						50	Cream white, Hard Dry to moist clay w/ some ~ 10% qtz sand. Interbedded, mottled striped w/ dark brown black orange. (iron sulfides likely) 2.5	CL	D to M	
SC	50 -55	120					55	As above w/ fewer sandstone/chert concretions/nodules	CL	M	
SC	55 -59.5						59.5	Dark brown clay, greasy very little sand, firm mottled orange black white	CL	M	
SC	59.5 60						60	white to cream, carbonate mud. HCl test positive. Hard to very hard. No fossils noted. A 2" diameter clast of pinpoint porosity dolomitic limestone well indurated, at the transition from clay above, to 1st carbonate below.	CL -LS	D to M	

Sample Type Codes: PH = Post Hole; HA = Hand Auger; SS = Split Spoon; ST = Shelby Tube; DP = Direct Push; SC = Sonic Core; DC = Drill Cuttings
Moisture Content Codes: D = Dry; M = Moist; W = Wet; S = Saturated

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BORING LOG

Boring/Well Number: MW 23	FDEP Facility Identification Number: ERIC_7413	Site Name: COTFTF	Borehole Start Date: End Date:

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	60 -61.75	75	NA				61.75	Transition interval w/ siliciclastics from 59' & above combined w/ carbonate mud & dolomitic LS clasts.	CL -LS	M to W	
SC	61.75 -67		NA				67	Carbonate mud, cream white to pale orange. apart from dolomitic LS clasts, carbonate mud is fairly homogenous, very soft w/ a clay & qtz sand component. Fossils noted along broken edge of LS clasts only. mostly soritids (Archais sp.) some miliolids and other forams. occasional mollusk molds.	CL -LS	W	
			NA								
			NA								
		120	NA								
			NA								
			NA								
			NA								
			NA								
			NA								
SC	67 -70		NA				70	much like transition interval from 60-61.75'			
			NA					Carbonate mud cream white very soft heterogeneously mixed w/ green clays and orange qtz sands.	SC -LS	W	
			NA								
			NA								
	70 -80	72	NA				80.	Cream, tan carbonate mud w/ abundant entrained clasts of dolomitic LS rubble. Carbonate mud is very loose while LS clasts are mod to well indurated and contain qtz sand and microfossils, mostly soritids. A few mollusk molds/casts noted.	CL -LS	W	
			NA								
			NA								
			NA								

6.5' recovery

Sample Type Codes: PH = Post Hole; HA = Hand Auger; SS = Split Spoon; ST = Shelby Tube; DP = Direct Push; SC = Sonic Core; DC = Drill Cuttings
Moisture Content Codes: D = Dry; M = Moist; W = Wet; S = Saturated

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BORING LOG

Boring/Well Number: DEP-MW-23	FDEP Facility Identification Number:	Site Name:	Borehole Start Date: End Date:

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	80-90	36					90	Poor recovery, very soft beds likely did not stay in core barrel or void.	LS	W	
								Poorly to moderately indurated partially dolomitized/silicified limestone (wackestone) rubble in carbonate mud, tan brown to cream color, very qtz sandy. Gastropod & bivalve molds/casts noted along w/ microfossils.			

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings
Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

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BORING LOG

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Boring/Well Number: DEP-MW-24	Permit Number:		FDEP Facility Identification Number: ERIC_7413
Site Name: COTFTF	Borehole Start Date: 17 March 2025	Start Time: 0915	☒ AM ☐ PM
	End Date: 17 March	End Time: 1200	☐ AM ☒ PM
Environmental Contractor: Geoysntec	Geologist's Name: Tyler Barnett		Environmental Technician's Name:
Drilling Company: Preferred Drillng Services	Pavement Thickness (inches): —	Borehole Diameter (inches): 8"	Borehole Depth (feet): 90
Drilling Method(s): Sonic	Apparent Borehole DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well):	OVA (list model and check type): N/A Photovac MicroFID ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☑ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (Describe):

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
PH	0-5	60	NA				5	Brown, tan Poorly sorted qtz sand & gravel some asphalt, Organics	SW	M	
			NA								
SC	5-8	T	NA				8	Fn to vf well sort very loose qtz snd w/ t% heavies	SP	M	
		48	NA								
SC	8-10	1	NA				10	qtz snd w/ some clay. Fn to md mod sort, t% heavies, very loose to loose, red brown to orange moist	SP	M	
			NA								
			NA								
SC	10-12	T	NA				12	Mois t→wet, very loose Vfn to md tan, brown pale orange qtz sand w/ t% heavies & organics.	SP	M	
			NA								
			NA								
SC	12-17.5	96	NA				17.5	red mottled, yellow grey loose to med dense clayey sand t% heavies, poor sort moist fn to	SC	M	
			NA								
			NA								
SC	17.5-20		NA				20	Medium Clayey Sand, moist to	SC	D to M	
			NA					Dry, Firm, yellow grey, mottled, red			

4' recovery

8 ft recovery

Sample Type Codes: PH = Post Hole; HA = Hand Auger; SS = Split Spoon; ST = Shelby Tube; DP = Direct Push; SC = Sonic Core; DC = Drill Cuttings

Moisture Content Codes: D = Dry; M = Moist; W = Wet; S = Saturated

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BORING LOG

Boring/Well Number: DEP MW-24	FDEP Facility Identification Number: ERIC_7413	Site Name: COTFTF	Borehole Start Date: End Date:

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	20-21	Full recovery	NA				21	vf-lo c-s poor sort mottled red orange & black loose clayey sand, D to M.	SW	D to M	
SC	21-23		NA					yellow grey to tan mod to poor sort vf to c-s very loose qtz sand w/ t% heavies & some clay			
			NA								
SC	23-30	120	NA				30	Pale orange to yellow grey firm to hard clay w/ some qtz sand.	CL	D to M	
			NA								
			NA								
SC	30-36		NA				36	very well sorted qtz sand, rounded fn sz. yellow grey, very loose. increasing clay w/ depth. t% heavies, wet	SP	W	
			NA								
		120	NA					water lvl here likely. likely an eolian deposit			
			NA								
SC	36-40		NA				40	clayey yellow grey mottled orange poor to mod sort qtz sand (clayey sand) trace heavies medium dense	SC	M to W	
			NA								
			NA								
SC	40-41.5		NA				41.5	Saturated well sorted fn qtz sand w/ t% heavies. yellow grey. very very loose soup	SP	S	
			NA								
			NA								
SC	41.5-43.5		NA				43.5	very loose to loose mod sort orange red clayey sand	SC	M to W	
			NA								

Sample Type Codes: PH = Post Hole; HA = Hand Auger; SS = Split Spoon; ST = Shelby Tube; DP = Direct Push; SC = Sonic Core; DC = Drill Cuttings
Moisture Content Codes: D = Dry; M = Moist; W = Wet; S = Saturated

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BORING LOG

Boring/Well Number: DEP-MW-24	DEP Facility Identification Number:	Site Name:	Borehole Start Date: End Date:

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	45-50	8' recovery this run	~~62.4 18"~~ 62.4 11"				50	~~Sandy~~ clay, red orange mottled black (poss. iron sulfides) w/ white clasts of clay/kaolinite & gravel size clasts of chert throughout. Sticky & heterogenous texture	CL	M to W	
SC	50-60	9.5' recovery	1/4				60	very ~~soft~~ to soft sticky heavily mottled heterogeneous coloration plastic moist to wet clay. Possible kaolinite and iron sulfides	CH	M to W	
SC	60-63					63.6		As above	CH	M to W	
SC	63-70		1/20					Hard to very hard sandy carbonate ~~Mudst D to M.~~ One lone miliolid noted along broken edge of partially indurated carbonate clast otherwise no fossils noted	CL	D to M	
SC	70-80	3' recovery Driller attempted to take 20' of sample in one trip & lost some sample	30					wet cream to white very pale orange ~~reef~~ carbonate mud w/ abundant poorly to moderately indurated clasts of limestone (mudstone/wackestone) miliolids, other forams and occasional Mollusk molds/casts noted in clasts. + qtz sandy	CL-LS	W	

Sample Type Codes: PH = Post Hole; HA = Hand Auger; SS = Split Spoon; ST = Shelby Tube; DP = Direct Push; SC = Sonic Core; DC = Drill Cuttings
Moisture Content Codes: D = Dry; M = Moist; W = Wet; S = Saturated

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BORING LOG

Boring/Well Number: DEP MW-24	Permit Number:	FDEP Facility Identification Number: ERIC_7413
Site Name: COTFTF	Borehole Start Date: / End Date:	Start Time: ☐ AM ☐ PM / End Time: ☐ AM ☐ PM
Environmental Contractor: Geoysntec	Geologist's Name:	Environmental Technician's Name:
Drilling Company: Preferred Drillng Services	Pavement Thickness (inches):	Borehole Diameter (inches): / Borehole Depth (feet):
Drilling Method(s): Sonic	Apparent Borehole DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well): / OVA (list model and check type): Photovac MicroFID ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☑ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (Describe):

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	~~Unfiltered OVA~~	~~Filtered OVA~~	~~Net OVA~~	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	80-87	100	NA				87	Pale orange to cream white Carbonate mud w/ abundant poorly to moderately indurated clasts of wackestone. LS clasts contain bivalve & gastropod molds w/ some forams. qtz sandy	CL-LS	D to M	
			NA								
			NA								
			NA								
			NA								
SC	87-90		NA				90	As above, but white to cream color and saturated	CL-LS	S	
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								

Full recovery

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

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screened interval only

BORING LOG

Page 1 of 1

Boring/Well Number: DEP-MW-25	Permit Number:		FDEP Facility Identification Number: ERIC_7413
Site Name: COTFTF	Borehole Start Date: 6 March 2023	Start Time: 1000 ☒ AM ☐ PM	
	End Date: 6 March 2023	End Time: 1130 ☒ AM ☐ PM	
Environmental Contractor: Geoysntec	Geologist's Name: Tyler Barrett	Environmental Technician's Name: Ken Starling	
Drilling Company: Preferred Drillng Services	Pavement Thickness (inches): 21	Borehole Diameter (inches): 8"	Borehole Depth (feet): 90'
Drilling Method(s): Sonic	Apparent Borehole DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well): 40.98	OVA (list model and check type): N/A Photovac MicroFID ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☑ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (Describe):

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	70-80	120	NA				80	Cream white clayey carbonate mud. Dense w/ some qtz sand and a few green clay stringers. Fragments of more indurated LS present.	LS	M	
			NA								
			NA								
SC	80-85	108	NA				85	light olive green to white carbonate mud, soft w/ clasts of more indurated LS throughout	CL-LS	M	
			NA								
	85-90		NA				90	Carbonate Mud, cream white to pale orange. stringers of green clay present. Very soft to soft, wet. clasts of wackestone present. A few mollusk molds/casts noted. quartz sandy. abundant wackestone clasts	CL-LS	W	
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								

9' recovery

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

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BORING LOG

Screened interval only.

Page 1 of 1

Boring/Well Number: DEP MW 26	Permit Number:	FDEP Facility Identification Number: ERIC_7413
Site Name: COTFTF	Borehole Start Date: 9 March 2023 Start Time: 1430 ☐ AM ☒ PM End Date: 9 March 2023 End Time: 1700 ☐ AM ☒ PM	
Environmental Contractor: Geoysntec	Geologist's Name: Tyler Barnett	Environmental Technician's Name: Ken Starling
Drilling Company: Preferred Drilling Services	Pavement Thickness (inches): 4" asphalt / Borehole Diameter (inches): 8"	Borehole Depth (feet): 90'
Drilling Method(s): Sonic	Apparent Borehole DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well): OVA (list model and check type): N/A Photovac MicroFID ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☑ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (Describe):

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	76-80	48	NA	Pipe box end broke @ 86'			80	cream white to Pale orange very soft, sticky, Carbonate mud/clay-LS w/ abundant fragments (pebble to cobble sz) of poorly to mod indurated LS. No discernable fossils.	CL, LS	M to W	
			NA								
			NA								
			NA								
SC	80-86	8' recovery	NA				86	Dry, crumbly, friable, white chalky. Carbonate mudstone poorly indurated. A few mollusk molds noted.	LS	D	
			NA								
			NA								
SC	86-90	new Run	NA				90	cream white to very pale orange, dry to moist, very poorly indurated carbonate mudstone/wackestone. ~~Friable, Sever~~ Some bivalve & gastropod molds & foram molds noted along broken faces of moderately indurated LS Frags found within.	LS	D to M	
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

starting Rod

120' of 4"

120' of 6"

60' of 8"

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BORING LOG

Boring/Well Number: DEP MW 27	Permit Number:	FDEP Facility Identification Number: ERIC_7413
Site Name: COTFTF	Borehole Start Date: 15 March 2023 Start Time: 0820 ☒ AM ☐ PM	End Date: 15 March 2023 End Time: 1145 ☒ AM ☐ PM
Environmental Contractor: Geoysntec	Geologist's Name: Tyler Barnett	Environmental Technician's Name:
Drilling Company: Preferred Drilling Services	Pavement Thickness (inches): 2" asphalt	Borehole Diameter (inches): 8"
Borehole Depth (feet): 90		
Drilling Method(s): Sonic	Apparent Borehole DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well):
OVA (list model and check type): N/A Photovac MicroFID ☐ FID ☐ PID		

Disposition of Drill Cuttings [check method(s)]: ☑ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (Describe):

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	~~Unfiltered OVA~~	~~Filtered OVA~~	~~Net OVA~~	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	70 ~~80~~ -79	120	NA				79	cream white, pale orange w/ green mottling. clayey carbonate mud. qtz sand present in variable amounts. several casts of partially dolomitized limestone (mudstone), w/ a few miliolids noted. clayey mud component is firm to soft.	CL-LS	M	
			NA		HCl test positive						
			NA								
			NA								
			NA								
			NA								
			NA						CL-LS	D to M	
SC	79-80		NA		HCl test positive		80	cream white clayey qtz sandy carbonate mud. Firm to hard. A few partially dolomitized fragments of wackestone contain bivalve, gastropod & foram molds/casts. Archaias sp (soritid) noted.			
			NA								
			NA								
			NA								
			NA								
			NA		Broke a drill rod @ top of string.			next page			
			NA								
			NA								

9'5" recovery

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

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BORING LOG

Boring/Well Number:	FDEP Facility Identification Number:	Site Name:	Borehole Start Date:
DFPMW 27	ERIC_7413	COTFTF	End Date:

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	80-90	T	NA				90	clayey, quartz sandy, carbonate Mudstone/wackestone Poorly indurated, friable, cream white to very pale orange. Dry to moist, some moderately indurated clasts scattered throughout are partially dolomitized, tan white and contain Miliolids, gastropod and bivalve molds, along w/ other assorted Forams.	LS	D to M	
		101	NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								

9'sll recovery

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings
Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

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BORING LOG

Boring/Well Number: DEP-MW-28	Permit Number:	FDEP Facility Identification Number: ERIC_7413
Site Name: COTFTF	Borehole Start Date: 3/2/2023 End Date: 3/3/2023	Start Time: 1533 ☐ AM ☒ PM End Time: 1335 ☐ AM ☒ PM
Environmental Contractor: Geoysntec	Geologist's Name: Tyler Barnett	Environmental Technician's Name: Ken Starling
Drilling Company: Preferred Drillng Services	Pavement Thickness (inches): 2"	Borehole Diameter (inches): 8" / Borehole Depth (feet): 150'
Drilling Method(s): Sonic	Apparent Borehole DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well): / OVA (list model and check type): N/A Photovac MicroFID ☐ PID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☑ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (Describe):

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
PH	0-1	12	NA				1	fn to crs qtz snd, yellow grey to brown, poor sort	SW	D to M	
PH	1-2	12	NA				2	yellow grey silty fn to snd qtz snd,	SM	D to M	
PH	2-4	24	NA				4'	tan, yellow grey orange vf to fn silty qtz sand	SM	M	
PH	4-5	12	NA				5'	V	SM	M	
SC	5-6	12	NA				6	V	SM	M	
SC	6-10	48	NA				10	red-orange-white sandy clay, w/ 10% clay, 40% qtz snd	SC	M	
SC	10-12	24	NA				12	red-brown-orange clayey sand	SC	M to W	
SC	12-20	96	NA				20	light brown to yellow orange clayey snd. 10% heavies	SC	M to W	
SC	20-22.5	30	NA				22.5	~25% clay w/ red-brown orange wet sandy clay 10% and	SC	W	
SC	22.5-23.5	12	NA				23.5	white dense moist clay stiff, w/ qtz snd	CH	M	
SC	23.5-30	78	NA				30	loose, cream to yellow grey well sorted fn qtz snd	SP	W	
SC	30-33	24"	NA				33	Clayey Sand, red white orange mod dense/stiff	SC	W	
SC	33-33.5	6	NA				33.5	sandy clay cream, white mod stiffness,	SC	W	
SC	33.5-38	44	NA				38	red-orange clay w/ qtz snd mod stiff.	CL	W	
SC	38-40	20	NA				40	red-orange-white clayey-sand, loose	SC	W	

Sample Type Codes: PH = Post Hole; HA = Hand Auger; SS = Split Spoon; ST = Shelby Tube; DP = Direct Push; SC = Sonic Core; DC = Drill Cuttings

Moisture Content Codes: D = Dry; M = Moist; W = Wet; S = Saturated

Litho codes: t% = trace amount; V = as above

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BORING LOG

Boring/Well Number:	FDEP Facility Identification Number:	Site Name:	Borehole Start Date: 3/2/2023
DEP-MW-28	ERIC_7413	COTFTF	End Date:

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	40-46	72"	NA				46	Mottled clay w/ iron concretions, red orange white, mod plasticity	CL	M to W	
SC	46-50		VA				50	Ag above	CL	M to W	
SC	50-53.5	60"	NA				53.5	white, brown to dark brown plastic clay, mottled	CH	M to W	
SC	53.5-60		NA				60	mottled green to white clayey sand, chert nodules soft	SC	M to W	
SC	60-66		NA				66	loose wet soft clayey sand white, grey, brown	SC	W	
SC	66-69	96	NA				69	As above but increased clay, white to brown	SC	W	
SC	69-70		NA				70	Qtz sandy carbonate rich clayey ; white Friable	LS		AKA carbonate clay/mud calcilutite
SC	70-80	108"	NA				80	white to cream clayey soft limestone w/blebs of carbonate ; olive green	LS	M	carbonate clay/mud calcilutite
			NA					stringers of clay, dense. w/ qtz snd			
SC	80-84.5	18"	NA				84.5	olive green calcilutite rich clay, mottled soft w/ chunks of carbonate intermingled	CL	M	
			NA								
SC	84.5-88		NA				88	calcilutite, carbonate clasts ; green clay Dry to moist, crumbly chert nodules noted qtz snd present	LS	D to M	
			NA								
SC	88-90		NA				90	clayey Sandy calcilutite matrix containing abundant carbonate clasts	LS	M to W	
			NA								
SC	90-93.5	42"	NA	8" override casing being installed to 90' @ 0825				clayey calcilutite w/ variable consistency very soft to firm, Abundant clasts gravel to cobble sc LS containing some gastropod & mollusc bivalve fossils color = white qtz snd present	LS -CL	W	
			NA	0853: override casing installed resume 6" sampling							
			NA								

Sample Type Codes: PH = Post Hole; HA = Hand Auger; SS = Split Spoon; ST = Shelby Tube; DP = Direct Push; SC = Sonic Core; DC = Drill Cuttings
Moisture Content Codes: D = Dry; M = Moist; W = Wet; S = Saturated

6' 72" for 40-50
9' for 50-60
8' for 60-70
9' for 70-80
Full recovery 90-100
1800 COB Resume to monit
0825 3/3/2023 resume

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BORING LOG

Boring/Well Number:	FDEP Facility Identification Number:	Site Name:	Borehole Start Date:
DEP-MW28		COT FTF/@ Detention Center	3/2/2023 End Date:

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
	93.5 - 100	78"			More calcilutite clay than interval above		100	white, cream brown orange soft to v. soft clayey calcilutite ~~limestone~~ w/ abundant LS Frags & bivalve & gastro molds & shell frags. Calcilutite clay component is low to med plasticity. Qtz sd present, LS Frags are sand to cobble sz	CL-LS	W	
	100 - 104.5	12"					104.5	Cream-white brown-orange calcilutite clayey limestone. Limestone Frags ~~med~~ induration Clayey constituent is soft to v. soft. Mollusk molds noted.	LS	W	
	104.5 - 106.5				~~Filtered~~		106.5	Moist crumbly poorly indurated LS w/ mollusc molds and high % calcilutite component. much less clay than above	LS	M	
	106.5 - 110						110	wet very soft to soft white cream light orange carbonate clayey muddy marl. abundant mod indurated sand to cobble sz limestone Fragments. Mollusk molds noted	LS	W	
	110 - 118	36"						Fossiliferous moderately indurated partially silicified cream to light orange limestone. Mollusk molds & Kuphus tubes noted. Void @ this interval. Qtz sandy, ~~Clay~~ Fragmented w/ a calcilutite clay component	LS	W	less prevalent than above.

9.5' recovery

Sample Type Codes: PH = Post Hole; HA = Hand Auger; SS = Split Spoon; ST = Shelby Tube; DP = Direct Push; SC = Sonic Core; DC = Drill Cuttings

Moisture Content Codes: D = Dry; M = Moist; W = Wet; S = Saturated

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BORING LOG

Boring/Well Number: DEP MW 28	FDEP Facility Identification Number: ERIC_7413	Site Name: COTFTF	Borehole Start Date: 3/2/2023 End Date:

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
130-140 9'											
SC	118 125	0	NA	125			130	void, NS recovery			
140-150 10'				-130 NS ★							
SC	130 -140	10"	NA					homogenous cream to white light orange fossiliferous LS composed of fn to crs gr shell frags molds & foram tests. Friable & poorly indurated Wet to Saturated w/ calcilutite cement	LS	W to S	
			NA								
			NA								
stark match to above change ★											
SC	140 -143		NA				140	Grey wet very soft clay w/ [redacted] cobbles of grey brown [redacted] pinpoint porosity dolomite/dolostone dolomite is well Indurated & cryptocrystalline	DS	W	
			NA								
			NA								
SC	143 149		NA					Brown-yellow brown grey Soft silt w/ dolostone cobbles.	ML -DS		
		120"	NA								
SC	149 190	1	NA					well indurated brown to grey cryptocrystalline dolostone w/ some pinpoint porosity & some clay. no recognizable fossils	DS	D to M	
			NA								
			NA								
			NA				★	Note Dolostone above could also be called a slightly calcareous dolostone, very weak effervescence w/ application of HCL.			
			NA								
			NA								
			NA								
			NA								
			NA								
			NA								

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

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BORING LOG

Boring/Well Number: DEP MW 29	Permit Number:	FDEP Facility Identification Number: ERIC_7413
Site Name: COTFTF	Borehole Start Date: 7 March 2025 Start Time: 1420 ☐ AM ☒ PM End Date: 8 March 2025 End Time: 1713 ☐ AM ☒ PM	
Environmental Contractor: Geoysntec	Geologist's Name: Tyler Barnett	Environmental Technician's Name: Ken Starling
Drilling Company: Preferred Drilng Services	Pavement Thickness (inches): 4" asphalt	Borehole Diameter (inches): 8" / Borehole Depth (feet): 150'
Drilling Method(s): Sonic	Apparent Borehole DTW (in feet from soil moisture content): 22 / Measured Well DTW (in feet after water recharges in well):	OVA (list model and check type): NA Photovac MicroFID ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☑ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (Describe):

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	~~Unfiltered OVA~~	~~Filtered OVA~~	~~Net OVA~~	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
PH	0-2	24	NA				2	fn to crs qtz sand, yellow grey orange, very loose	SW	M	
PH	2-5	36	NA				5	Orange, red clayey sand, fn to v. crs. loose	SW	M	
SC	5-7.5	T	NA				7.5	grey, mottled red Sandy clay, soft,	SC	D to M	
SC	7.5-10	60	NA				10	Firm, dry to moist, red orange grey white clay	CL	D to M	
		|	NA					w/ qtz sand, t% heavies			
SC	10-15.5	T	NA				15.5	Soft to firm Orange white Sandy clay, Moist	SC	D to M	
		|	NA					trace heavies, more sand than interval above			
SC	15.5-18.5	120	NA				18.5	Firm to hard white-grey light orange clay	CL	D to M	
		|	NA					trace heavies, ~10% qtz sand			
SC	18.5-20		NA				20	well sorted, yellow grey to translucent	SP	W	
		|	NA					loose wet quartz sand w/ t% clay t% heavies			
SC	20-24	T	NA				24	As above	SP	W	
SC	24-26.5	78	NA				26.5	Mottled oxidized loose clayey sand, red orange yellow-grey	SC	M	
		|	NA								
	2		NA								

Full recovery

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

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BORING LOG

Boring/Well Number:	FDEP Facility Identification Number:	Site Name:	Borehole Start Date: / End Date:
DEP new 29	ERIC_7413	COTFTF	7 March 2023 / 8 March 2023

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	26.5-29	T	NA				29	Sandy clay, mottled oxidized red orange to grey. Soft to Firm. White flakes of chert scattered throughout	SC	M	
		120 66									
SC	29-30		NA				30	well to mod sort, fn to md quartz sand w/ some sandstone concretions. grey to very pale green w/ trace clay trace laminations. Loose to md dense	SP	W	
			NA								
			NA								
SC	30-31	T	NA				31	white Clayey Sandy Silt loose.	SC SM		
SC	31-40	120	NA				40	white-grey clay mottled to orange. Soft to	CL	M	
			NA					Firm w/ quartz sand some silt and black mottling that may be iron sulfides			
			NA								
SC	40-42	T	NA	Stuck			42	As above	CL	M to W	
SC	42-50	120	NA	Lithology change			42-50	Dry to crumbly poorly indurated limestone composed of mostly calcilutite and carbonate mud. No visible fossils. Positive rxn to HCl. white cream orange color	LS	D	
			NA								
			NA								
			NA								
SC	50-58	T	NA				58	calcilutite carbonate rich white clay. Soft to firm. Intermittent nucleations of poorly to moderately indurated cobbles of competent limestone, some microfossils noted. Sorritids & forams. quartz sand present	CL-LS	M to W	
			NA								
		96	NA								
			NA								
			NA								

Full recovery

Full recovery

Full recovery

Sample Type Codes: PH = Post Hole; HA = Hand Auger; SS = Split Spoon; ST = Shelby Tube; DP = Direct Push; SC = Sonic Core; DC = Drill Cuttings
Moisture Content Codes: D = Dry; M = Moist; W = Wet; S = Saturated

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BORING LOG

Boring/Well Number:	FDEP Facility Identification Number:	Site Name:	Borehole Start Date: 7 March 2023
DEP MW 24			End Date: 8 March 2023

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	58-60	24					60	Poorly indurated wackestone to packstone, Abundant calcilutite. Some qtz sand. Mollusks (bivalves) gastropods & foram molds & shells & tests. Some nucleations of mod induration.	LS	D to M	
SC	60-63						63	Carbonate clay, very soft w/ frags of harder LS, Cream white color qtz sand present.	CL-LS	W	
SC	63-68	120					68	Poorly indurated white to cream packstone/wackestone Moist to dry, abundant bivalves, gastro noted. bivalve up to 1" diameter. qtz sand and clay present, Forams noted.	LS	D to M	
SC	68-70						70	very soft to soft carbonate mud w/ some LS frags. bivalves noted. light orange to cream color.	CL-LS	M to W	
SC	70-72	120					72	As above	CL-LS	M	
SC	72-74						74	light orange to light olive green/ firm carbonate mud, A few bivalves noted. qtz sand abundant	SC-LS	D to M	
SC	74-80		7 March 2023 1730 pause drilling ~~End~~ tomorrow				80	qtz sandy carbonate mud, cream white DRY. Could be called very poorly indurated carbonate mudstone or very hard carbonate clay. bottom foot moisture increase.	SC-LS	D	

Full sec.

Full rec.

Sample Type Codes: PH = Post Hole; HA = Hand Auger; SS = Split Spoon; ST = Shelby Tube; DP = Direct Push; SC = Sonic Core; DC = Drill Cuttings

Moisture Content Codes: D = Dry; M = Moist; W = Wet; S = Saturated

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BORING LOG

Boring/Well Number: DEP MW 29	Permit Number:	FDEP Facility Identification Number: ERIC_7413
Site Name: COTFTF	Borehole Start Date: 7 March 2023 End Date: 8 March 2023	Start Time: ☐ AM ☐ PM End Time: ☐ AM ☐ PM
Environmental Contractor: Geoysntec	Geologist's Name:	Environmental Technician's Name:
Drilling Company: Preferred Drillng Services	Pavement Thickness (inches):	Borehole Diameter (inches): / Borehole Depth (feet):
Drilling Method(s): Sonic	Apparent Borehole DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well): / OVA (list model and check type): Photovac MicroFID ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☑ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (Describe):

100' of 8" 10x10' pipe on site atm

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	80-85	T	NA				85	Chalky white to pale orange wackestone. poorly to moderately indurated w/ some recrystalization, pinpoint porosity, forams, & shell frags, Predominately composed of calcilutite Cobbles of moderatly indurated recrystalized or possibly dolomitized limestone frags throughout.	LS	D to M	
			NA								
			NA								
			NA								
			NA								
			NA								
SC	85-90		NA				90	Clayey white sticky carbonate mud. LS frags throughout which are modindurated & contain some forams. very soft.	CL to LS	M to W	
		111'	NA								
			NA								
SC	90-95	T	NA				95	As above			
SC	95-98		NA				98	Pale green-grey w/ orange mottling. Firm silty clay w/ some fragments of limestone containing microfossil molds. ★ Likely Sinkhole infill. Found Fossilized bone. sample taken	CL	M	little to no carbonate, just frags.
		96	NA								
			NA								
			NA								
			NA								

9.25' recovery

Full recovery

Sample Type Codes: PH = Post Hole; HA = Hand Auger; SS = Split Spoon; ST = Shelby Tube; DP = Direct Push; SC = Sonic Core; DC = Drill Cuttings

Moisture Content Codes: D = Dry; M = Moist; W = Wet; S = Saturated

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BORING LOG

Boring/Well Number: DEP MW 29	FDEP Facility Identification Number: ERIC 7413	Site Name: COTFTF	Borehole Start Date: End Date:

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	99-100	24	NA					very loose white to pale green to orange carbonate mud w/ abundant limestone frags	CL to LS	W	
			NA								
			NA								
SC	100-110	60	NA				110	Moderately indurated mod to high recrystallized			
			NA					cream white to pale orange macro & micro fossiliferous packstone. Bivalves gastropods, bryzoa, coral, forams. Mostly molds & casts, likely high permeability	LS	W	
			NA								
			NA								
			NA								
SC	110-120	120	NA				120	As above	LS	W	
SC	120-126		NA				126	cream white microfossiliferous foraminiferal packstone/grainestone md to crs gn, very poor to poor induration. some gastro & bivalve frags but mostly forum tests.	LS	W	
			NA								
		120	NA								
			NA								
			NA								
SC	126-130		NA		1-2% silt →			As above, but darker cream to grey-brown	LS	W	
SC	130-131		NA					grainstone from above transitions to silty clayey dolomitic LS; grey brown very loose/very poor induration	LS	W	
		36	NA								
			NA								
SC	131-133		NA					well indurated tan grey brown crypto-microcrystalline Dolostone. w/ pinpoint porosity	DS	D to M	
			NA								

Sample Type Codes: PH = Post Hole; HA = Hand Auger; SS = Split Spoon; ST = Shelby Tube; DP = Direct Push; SC = Sonic Core; DC = Drill Cuttings
Moisture Content Codes: D = Dry; M = Moist; W = Wet; S = Saturated

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BORING LOG

Boring/Well Number:	FDEP Facility Identification Number:	Site Name:	Borehole Start Date: End Date:
DEP MW 29			

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	133-140	84					140	Grey brown silty clayey dolomitic carbonate mud w/ calcareous dolostone fragments very soft; wet	ML-CL	W	
								1 w/ pinpoint porosity from microfossil molds			
SC	140-143	120						As above	ML-CL		
SC	143-150							Distinct texture change from more clayey interval above. Brown, very soft moist silty w/ 2 intervals (0.5', 1.5') of well indurated grey brown calcareous dolostone. Dolostone contains abundant pinpoint to crs porosities from microfossil molds	ML-DS		

Full Recov.

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings
Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

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BORING LOG

Boring/Well Number: DEP-MW-30	Permit Number:		FDEP Facility Identification Number: ERIC_7413
Site Name: COTFTF	Borehole Start Date: 13 March 2025	Start Time: 1435	☐ AM ☒ PM
	End Date: 14 March 2025	End Time: 1000	☒ AM ☐ PM
Environmental Contractor: Geoysntec	Geologist's Name: Tyler Barnett		Environmental Technician's Name:
Drilling Company: Preferred Drillng Services	Pavement Thickness (inches): 2"	Borehole Diameter (inches): 8"	Borehole Depth (feet): 150
Drilling Method(s): Sonic	Apparent Borehole DTW (in feet from soil moisture content): 30	Measured Well DTW (in feet after water recharges in well):	OVA (list model and check type): N/A Photovac MicroFID ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☑ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (Describe):

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	~~Unfiltered OVA~~	~~Filtered OVA~~	~~Net OVA~~	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
PH	0-4	48	NA				4	Mod sort qtz sand, fn to crs, organics present, very loose	SP	M	
PH	4-5	12	NA				5	Peat, black, some qtz sand & plant remains.	OL	M	
SC	5-10	24	NA				10	Grey, hard silty, sandy clay, poor recovery	SC	M	
SC	10-11	12	NA				11	As above	SC	M	
SC	11-14		NA				14	yellow grey clayey sand, ~~soft~~ loose, mottled	SC	M	
~~SC~~	~~14-18~~		NA					red orange,			
SC	14-18		NA				18	yellow pale orange very loose moist to wet	SP	M to W	
			NA					well sorted qtz sand w/ some clay and t% heavies, Snd is Fn sz.			
		108	NA								
~~SC~~	~~18-20~~		NA								
SC	18-19		NA					Firm grey clay w/ some sand, a few sndstn concretions, mottled red-orange	CL	D to M	
			NA								
SC	19-20		NA					Same as 14'-18' interval	SP	M to W	
			NA								
~~SC~~	~~20-23~~		NA					~~As above~~			

Full recovery

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

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BORING LOG

Boring/Well Number: DEPMW30	FDEP Facility Identification Number: ERIC_7413	Site Name: COTFTF	Borehole Start Date: End Date:

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	20-23		NA				23	yellow grey mottled orange red clayey sand. Snd is qtz, well sorted. loose to med dense	SC	M	
SC	23-26		NA					yellow orange to brown clay w/ some sand.	SC	M	
		120	NA					Soft to firm w/ immature sandstone concretions			
			NA					@ transition from clayey sand above			
SC	26-29		NA				29	well to mod sort vf to md clayey sand.	SC	M to W	
			NA					very loose to loose moist to wet. yellow grey to orange			
			NA								
SC	29-30		NA				30	Sandy clay, yellow grey to very pale green, very soft,	SC	W	
			NA								
SC	30-40	0	NA				40	NS / Driller comments: 4" dragged by 6"			
SC	40-42		NA					very soft cream white to very pale greend	SC	W	
			NA					Sandy clay w/ chert and sandstone nodules.			
SC	42-46		NA				46	White very loose sandy clay, w/	SC	W	
		120	NA					abundant clasts of poorly indurated sndstn			
			NA					and some chert throughout HCl test negative			
SC	46-50		NA					Sticky olive green mottled black very	CH	M to W	
			NA					soft clay w/ some silt and qtz sand			
			NA								

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings
Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

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BORING LOG

Boring/Well Number: DEP MW 30	FDEP Facility Identification Number:	Site Name:	Borehole Start Date: End Date:

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	50-60	T 120 ⊥						White to very pale orange ? very pale green carbonate mud (silt & clay) w/ abundant clasts of partially silicified limestone. A few Soritids (Archais sp.) noted. Firm. HCl test positive.	CL-LS	D to M	
SC	60-66	T 120 ⊥						white to yellow gray to very pale orange carbonate mud w/ abundant clasts of poorly to mod indurated wackestone. Clay/mud component is very soft. Gastropods, bivalves and forams noted in wackestone clasts.	CL-LS	M	
SC	66-70	T 120 ⊥						Dry friable white to yellow gray mudstone/ wackestone. Poorly indurated. Some gastro & bivalve noted.	LS	D	
SC	70-80	T 120 ⊥						Carbonate mud w/ Fragments/clasts of poorly indurated recrystallized mudstone/wackestone, gastro & bivalve noted. Color is cream white to pale orange	CL-LS	M	

Full recovery

Full recovery

Full recovery

Sample Type Codes: PH = Post Hole; HA = Hand Auger; SS = Split Spoon; ST = Shelby Tube; DP = Direct Push; SC = Sonic Core; DC = Drill Cuttings

Moisture Content Codes: D = Dry; M = Moist; W = Wet; S = Saturated

mud/clay component is soft

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BORING LOG

Boring/Well Number: DEP MW 30	FDEP Facility Identification Number: ERIC_7413	Site Name: COTFTF	Borehole Start Date: End Date:

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
SC	80 ~~-90~~ -84.5	T	NA				84.5	Fairly homogenous wet carbonate mud w/ abundant clasts of sandy limestone. Mud component is sticky and very loose. Sparse fossil content. A few gastro molds noted, color is white to pale orange	CL-LS	W	
		120	NA								
			NA								
SC	84.5 90		NA				90	Poorly indurated carbonate mudstone, white	LS	D	
			NA					to pale orange, qtz sand noted. a	~~LS~~	~~D~~	
			NA					few olive green blebs of clay noted.			
SC	90 ~~97~~	T	NA				97	Clayey, soft carbonate ~~mudstone~~ white to	CL-LS	M to W	
			NA					pale orange, w/ frags of poorly indurated			
		108	NA					mudstone throughout.			
SC	~~97~~ -100		NA				100	rubbly wet poorly to moderately indurated	LS	W	
			NA					white lacking orange of interval above)			
			NA					wackestone. bivalve & gastro. molds noted.			
SC	~~100~~ -116	T	NA				110	Poor recovery, sinkhole	CL-LS	M	
		72	NA					infill, likely void			
			NA					space above & below			
			NA					Green to yellow			
			NA					soft clays move			
			NA					into carbonate			
			NA					mudstone w a			
			NA					few mollusk molds.			
								= > clays are			
								sinkhole infill			
SC	110 -120		NA				NS	Void space	/	/	

Sample Type Codes: PH = Post Hole; HA = Hand Auger; SS = Split Spoon; ST = Shelby Tube; DP = Direct Push; SC = Sonic Core; DC = Drill Cuttings
Moisture Content Codes: D = Dry; M = Moist; W = Wet; S = Saturated

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BORING LOG

Boring/Well Number: DEP MW-30	FDEP Facility Identification Number:	Site Name:	Borehole Start Date: End Date:

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
0900 14 Month Resume											
SC	120-130	0 NS					NS	Void space / NS	/	/	
~~SC~~	~~130-140~~ 130-139										
SC	130-135	0					NS	Likely void space	/	/	
SC	135-137.5						137.5	black brown saturated silty ~~qtz~~ sandy w/ some carbonate detritus. very soft	ML	S	
SC	137.5-~~140~~ 139.5	72		to mod	poorly indurated		139.5 @ ~~140~~	rubble, Milliolid rich microfossiliferous → Packstone/Grainstone Some silt as well, likely from above. Mollusks abundant.	LS	S	
SC	139.5-140							6" of crs to v. crs qtz sand, very loose mod to well sort.	SP	W	
SC	140-143						143	~~saturated~~ black to dark brown very soft clayey silt w/ some qtz snd	ML	S	
SC	143-144	96					144	white Silty clay w/ som qtz snd. very soft, saturated	CL	S	
SC	144-148						148	Tan brown homogenous silt w/ some qtz snd and clay. very ~~soft~~. moist to wet. A few	ML	M to W	
SC	149-150	0					150	NS /			

Sample Type Codes: PH = Post Hole; HA = Hand Auger; SS = Split Spoon; ST = Shelby Tube; DP = Direct Push; SC = Sonic Core; DC = Drill Cuttings
Moisture Content Codes: D = Dry; M = Moist; W = Wet; S = Saturated

5' recovery

5' recovery

Chasts of well indurated calcareous dolostone noted inside silt. Some mollusk molds noted.

Monitoring Well
Installation March 2023

WELL CONSTRUCTION DATA

Well Number:	Site Name:	FDEP Facility I.D. Number:	Well Install Date(s):
DEP MW14	COTFTF	ERIC_7413	27 March 2023

Well Location and Type (check appropriate boxes):
- ☐ On-Site ☒ Right-of-Way
- ☐ Off-Site Private Property
- ☐ Above Grade (AG) ☑ Flush-to-Grade

If AG, list feet of riser above land surface:

Well Purpose:
- ☐ Perched Monitoring
- ☒ Shallow (Water-Table) Monitoring
- ☐ Intermediate or Deep Monitoring
- ☐ Remediation or Other (describe)

Well Install Method: Rotosonic

Surface Casing Install Method:

Borehole Depth (feet):	Well Depth (feet):	Borehole Diameter (inches):	Manhole Diameter (inches):	Well Pad Size:
25	25	6"	8"	2 feet by 2 feet

Riser Diameter and Material:	Riser/Screen Connections:	Riser Length:
2" SCH 40 PVC	☒ Flush-Threaded ☐ Other (describe)	10 feet from 0 feet to 10 feet

Screen Diameter and Material:	Screen Slot Size:	Screen Length:
2" SCH 40 PVC	0.010	15 feet from 10 feet to 25 feet

1st Surface Casing Material:	1st Surface Casing I.D. (inches):	1st Surface Casing Length:
also check: ☐ Permanent ☒ Temporary	3 4	feet from feet to feet

2nd Surface Casing Material:	2nd Surface Casing I.D. (inches):	2nd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		feet from feet to feet

3rd Surface Casing Material:	3rd Surface Casing I.D. (inches):	3rd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		feet from feet to feet

Filter Pack Material and Size:	Prepacked Filter Around Screen (check one):	Filter Pack Length:
20/50 qtz	☐ Yes ☒ No	17 feet from 8 feet to 25 feet

Filter Pack Seal Material and Size:	Filter Pack Seal Length:
30/65 qtz	4 feet from 4 feet to 8 feet

Surface Seal Material:	Surface Seal Length:
type I/II Portland cement	4 feet from 0 feet to 4 feet

WELL DEVELOPMENT DATA

Well Development Date:	Well Development Method (check one):	
28	☐ Surge/Pum ☒ Pump ☐ Compressed Air ☐ Other (describe)	

Development Pump Type (check):	Depth to Groundwater (before developing in feet):
☒ Submersible ☐ Centrifugal ☐ Peristaltic ☐ Other (describe)	19.28

Pumping Rate (gallons per minute):	Maximum Drawdown of Groundwater During Development (feet):	Well Purged Dry (check one):
0-1.5	25'	☒ Yes ☐ No

Pumping Condition (check one):	Total Development Water Removed (gallons):	Development Duration (minutes):	Development Water Drummed (check one):
☐ Continuous ☒ Intermittent	7	38	☒ Yes ☐ No

Water Appearance (color and odor) At Start of Development:	Water Appearance (color and odor) At End of Development:
brown - rone	clear - none

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

WELL CONSTRUCTION DATA

Well Number:	Site Name:	FDEP Facility I.D. Number:	Well Install Date(s):
DEP MW 1S	COTFTF	ERIC_7413	24 March 2023

Well Location and Type (check appropriate boxes): ☐ On-Site ☒ Right-of-Way ☒ Off-Site Private Property NW Pensacola ☐ Above Grade (AG) ☑ Flush-to-Grade

If AG, list feet of riser above land surface:

Well Purpose: ☐ Perched Monitoring ☒ Shallow (Water-Table) Monitoring ☐ Intermediate or Deep Monitoring ☐ Remediation or Other (describe)

Well Install Method: Rotosonic

Surface Casing Install Method:

Borehole Depth (feet):	Well Depth (feet):	Borehole Diameter (inches):	Manhole Diameter (inches):	Well Pad Size:
25	25	6"	8"	2 feet by 2 feet

Riser Diameter and Material:	Riser/Screen Connections:	Riser Length:
2" SCH 40 PVC	☒ Flush-Threaded ☐ Other (describe)	10 feet from 0 feet to 10 feet

Screen Diameter and Material:	Screen Slot Size:	Screen Length:
2" SCH 40 PVC	0.010	15 feet from 10 feet to 25 feet

1st Surface Casing Material:	1st Surface Casing I.D. (inches):	1st Surface Casing Length:
also check: ☐ Permanent ☒ Temporary	0	____ feet from ____ feet to ____ feet

2nd Surface Casing Material:	2nd Surface Casing I.D. (inches):	2nd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		____ feet from ____ feet to ____ feet

3rd Surface Casing Material:	3rd Surface Casing I.D. (inches):	3rd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		____ feet from ____ feet to ____ feet

Filter Pack Material and Size:	Prepacked Filter Around Screen (check one):	Filter Pack Length:
20/30 quartz	☐ Yes ☒ No	17 feet from 8 feet to 25 feet

Filter Pack Seal Material and Size:	Filter Pack Seal Length:
30/65 quartz	4 feet from 4 feet to 8 feet

Surface Seal Material:	Surface Seal Length:
Portland type I/II cement	4 feet from 0 feet to 4 feet

WELL DEVELOPMENT DATA

Well Development Date:	Well Development Method (check one): ☐ Surge/Pum ☒ Pump ☐ Compressed Air ☐ Other (describe)
24 March 2023	

1159

Development Pump Type (check):	Depth to Groundwater (before developing in feet):
☒ Submersible ☐ Centrifugal ☐ Peristaltic ☐ Other (describe)	13.72

Pumping Rate (gallons per minute):	Maximum Drawdown of Groundwater During Development (feet):	Well Purged Dry (check one):
0 – 2.5 gpm	25	☒ Yes ☐ No

Pumping Condition (check one):	Total Development Water Removed (gallons):	Development Duration (minutes):	Development Water Drummed (check one):
☐ Continuous ☒ Intermittent	4	30	☒ Yes ☐ No

Water Appearance (color and odor) At Start of Development:	Water Appearance (color and odor) At End of Development:
Brown none	Brown none

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

WELL CONSTRUCTION DATA

Well Number:	Site Name:	FDEP Facility I.D. Number:	Well Install Date(s):
DEP MW-10	COTFTF	ERIC_7413	3-22-23

Well Location and Type (check appropriate boxes):
- ☐ On-Site ☐ Right-of-Way
- ☒ Off-Site Private Property
- ☐ Above Grade (AG) ☑ Flush-to-Grade

If AG, list feet of riser above land surface:

Well Purpose:
- ☐ Perched Monitoring
- ☒ Shallow (Water-Table) Monitoring
- ☐ Intermediate or Deep Monitoring
- ☐ Remediation or Other (describe)

Well Install Method: SONIC

Surface Casing Install Method: —

Borehole Depth (feet):	Well Depth (feet):	Borehole Diameter (inches):	Manhole Diameter (inches):	Well Pad Size:
75	75	8	3	2 feet by 2 feet

Riser Diameter and Material:	Riser/Screen Connections:	Riser Length:
2" SCH 40 PVC	☒ Flush-Threaded ☐ Other (describe)	10 feet from 0 feet to 11 feet

Screen Diameter and Material:	Screen Slot Size:	Screen Length:
2" SCH 40 PVC	0.01	15 feet from 10 feet to 25 feet

	1st Surface Casing I.D. (inches):	1st Surface Casing Length:
1st Surface Casing Material: also check: ☐ Permanent ☒ Temporary	8	____ feet from ____ feet to ____ feet
2nd Surface Casing Material: also check: ☐ Permanent ☐ Temporary	2nd Surface Casing I.D. (inches):	2nd Surface Casing Length: ____ feet from ____ feet to ____ feet
3rd Surface Casing Material: also check: ☐ Permanent ☐ Temporary	3rd Surface Casing I.D. (inches):	3rd Surface Casing Length: ____ feet from ____ feet to ____ feet

Filter Pack Material and Size:	Prepacked Filter Around Screen (check one):	Filter Pack Length:
#2/30 SAND	☐ Yes ☒ No	17 feet from 8 feet to 24 feet

Filter Pack Seal Material and Size:	Filter Pack Seal Length:
30/65 #2/30 SAND	3 ~~17~~ feet from 85 feet to ~~75~~ 82 feet

Surface Seal Material:	Surface Seal Length:
30/65 FINE SAND GROUT	~~85~~ feet from 80 feet to ~~5~~ 58 feet

WELL DEVELOPMENT DATA

Well Development Date:	Well Development Method (check one):	
24 March 2023	☒ Surge/Pum ☐ Pump ☐ Compressed Air ☐ Other (describe)	

Development Pump Type (check):	Depth to Groundwater (before developing in feet):
☒ Submersible ☐ Centrifugal ☐ Peristaltic ☐ Other (describe)	15.08

Pumping Rate (gallons per minute):	Maximum Drawdown of Groundwater During Development (feet):	Well Purged Dry (check one):
0-2.5	25	☒ Yes ☐ No

Pumping Condition (check one):	Total Development Water Removed (gallons):	Development Duration (minutes):	Development Water Drummed (check one):
☐ Continuous ☒ Intermittent	15	30	☒ Yes ☐ No

Water Appearance (color and odor) At Start of Development:	Water Appearance (color and odor) At End of Development:
Brown none	Clear none

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

WELL CONSTRUCTION DATA

Well Number:	Site Name:	FDEP Facility I.D. Number:	Well Install Date(s):
DEP MW 17	COTFTF	ERIC_7413	20 March 2023

Well Location and Type (check appropriate boxes): ☐ On-Site ☐ Right-of-Way ☒ Off-Site Private Property LCSB Transp. yard ☐ Above Grade (AG) ☑ Flush-to-Grade

If AG, list feet of riser above land surface:

Well Purpose: ☐ Perched Monitoring ☒ Shallow (Water-Table) Monitoring ☐ Intermediate or Deep Monitoring ☐ Remediation or Other (describe)

Well Install Method: Sonic

Surface Casing Install Method:

Borehole Depth (feet):	Well Depth (feet):	Borehole Diameter (inches):	Manhole Diameter (inches):	Well Pad Size:
25	25	6"	8"	2 feet by 2 feet

Riser Diameter and Material:	Riser/Screen Connections:	Riser Length:
2" Sch 40 PVC	☒ Flush-Threaded ☐ Other (describe)	10 feet from 0 feet to 10 feet

Screen Diameter and Material:	Screen Slot Size:	Screen Length:
2" Sch 40 PVC	0.010	15 feet from 10 feet to 25 feet

1st Surface Casing Material:	1st Surface Casing I.D. (inches):	1st Surface Casing Length:
also check: ☐ Permanent ☒ Temporary	3	____ feet from ____ feet to ____ feet

2nd Surface Casing Material:	2nd Surface Casing I.D. (inches):	2nd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		____ feet from ____ feet to ____ feet

3rd Surface Casing Material:	3rd Surface Casing I.D. (inches):	3rd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		____ feet from ____ feet to ____ feet

Filter Pack Material and Size:	Prepacked Filter Around Screen (check one):	Filter Pack Length:
20/30 qtz sand	☐ Yes ☒ No	17 feet from 8 feet to 25 feet

Filter Pack Seal Material and Size:	Filter Pack Seal Length:
30/65 qtz	4 feet from 4 feet to 8 feet

Surface Seal Material:	Surface Seal Length:
type I/II portland cement	4 feet from 0 feet to 4 feet

WELL DEVELOPMENT DATA

Well Development Date:	Well Development Method (check one): ☐ Surge/Pum ☒ Pump ☐ Compressed Air ☐ Other (describe)
20 March 2023	

St. 1508 Stop 538

Development Pump Type (check):	Depth to Groundwater (before developing in feet):
☒ Submersible ☐ Centrifugal ☐ Peristaltic ☐ Other (describe)	8.90

Pumping Rate (gallons per minute):	Maximum Drawdown of Groundwater During Development (feet):	Well Purged Dry (check one):
max = 2.5 min = 0	25'	☒ Yes ☐ No

Pumping Condition (check one):	Total Development Water Removed (gallons):	Development Duration (minutes):	Development Water Drummed (check one):
☐ Continuous ☒ Intermittent	8	30	☒ Yes ☐ No

Water Appearance (color and odor) At Start of Development:	Water Appearance (color and odor) At End of Development:
Brown none	Brown none

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

Got ~ 1.5 min of pumping @ 1st pump.

WELL CONSTRUCTION DATA

Well Number:	Site Name:	FDEP Facility I.D. Number:	Well Install Date(s):
DEP-MW-18	COTFTF	ERIC_7413	6 March 2023

Well Location and Type (check appropriate boxes): ☐ On-Site ☐ Right-of-Way ☒ Off-Site Private Property ☐ Above Grade (AG) ☑ Flush-to-Grade

If AG, list feet of riser above land surface:

Well Purpose: ☐ Perched Monitoring ☒ Shallow (Water-Table) Monitoring ☐ Intermediate or Deep Monitoring ☐ Remediation or Other (describe)

Well Install Method: Sonic

Surface Casing Install Method: Sonic

Borehole Depth (feet):	Well Depth (feet):	Borehole Diameter (inches):	Manhole Diameter (inches):	Well Pad Size:
25	25	6"	8"	2 feet by 2 feet

Riser Diameter and Material:	Riser/Screen Connections:	Riser Length:
2" sch40 PVC	☐ Flush-Threaded ☐ Other (describe)	10 feet from 0 feet to 10 feet

Screen Diameter and Material:	Screen Slot Size:	Screen Length:
2" Sch40 PVC	0.010	15 feet from 10 feet to 25 feet

1st Surface Casing Material: also check: ☐ Permanent ☒ Temporary	1st Surface Casing I.D. (inches):	1st Surface Casing Length: ____ feet from ____ feet to ____ feet
	8	

2nd Surface Casing Material: also check: ☐ Permanent ☐ Temporary	2nd Surface Casing I.D. (inches):	2nd Surface Casing Length: ____ feet from ____ feet to ____ feet

3rd Surface Casing Material: also check: ☐ Permanent ☐ Temporary	3rd Surface Casing I.D. (inches):	3rd Surface Casing Length: ____ feet from ____ feet to ____ feet

Filter Pack Material and Size:	Prepacked Filter Around Screen (check one):	Filter Pack Length:
qtz snd 20/30	☐ Yes ☒ No	17 feet from 8 feet to 25 feet

Filter Pack Seal Material and Size:	Filter Pack Seal Length:
Filtersil qtz snd 30/65	4 feet from 4 feet to 8 feet

Surface Seal Material:	Surface Seal Length:
Portland type I/II grout	4 feet from 0 feet to 4 feet

WELL DEVELOPMENT DATA

Well Development Date:	Well Development Method (check one):	
3/7/23	☒ Surge/Pump ☒ Pump ☐ Compressed Air ☐ Other (describe)	

Development Pump Type (check):	Depth to Groundwater (before developing in feet):
☒ Submersible ☐ Centrifugal ☐ Peristaltic ☐ Other (describe)	12.43

Pumping Rate (gallons per minute):	Maximum Drawdown of Groundwater During Development (feet):	Well Purged Dry (check one):
0.8	12.24	☐ Yes ☒ No

Pumping Condition (check one):	Total Development Water Removed (gallons):	Development Duration (minutes):	Development Water Drummed (check one):
☒ Continuous ☐ Intermittent	40	30	☒ Yes ☐ No

Water Appearance (color and odor) At Start of Development:	Water Appearance (color and odor) At End of Development:
Brown none	Clear none

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

WELL CONSTRUCTION DATA

Well Number: DEP MW 19	Site Name: COTFTF	FDEP Facility I.D. Number: ERIC_7413	Well Install Date(s): 10 March 2023

Well Location and Type (check appropriate boxes): ☐ On-Site ☐ Right-of-Way ☒ Off-Site Private Property ☐ Above Grade (AG) ☑ Flush-to-Grade

If AG, list feet of riser above land surface:

Well Purpose: ☐ Perched Monitoring ☒ Shallow (Water-Table) Monitoring ☐ Intermediate or Deep Monitoring ☐ Remediation or Other (describe)

Well Install Method: Sonic

Surface Casing Install Method:

Borehole Depth (feet): 25	Well Depth (feet): 25	Borehole Diameter (inches): 6"	Manhole Diameter (inches): 8"	Well Pad Size: 2 feet by 2 feet

Riser Diameter and Material:	Riser/Screen Connections:	Riser Length:
2" sch 40 PVC	☒ Flush-Threaded ☐ Other (describe)	10 feet from 0 feet to 10 feet

Screen Diameter and Material:	Screen Slot Size:	Screen Length:
2" sch 40 PVC	0.010"	15 feet from 10 feet to 25 feet

1st Surface Casing Material:	1st Surface Casing I.D. (inches):	1st Surface Casing Length:
also check: ☐ Permanent ☒ Temporary	8	____ feet from ____ feet to ____ feet

2nd Surface Casing Material:	2nd Surface Casing I.D. (inches):	2nd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		____ feet from ____ feet to ____ feet

3rd Surface Casing Material:	3rd Surface Casing I.D. (inches):	3rd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		____ feet from ____ feet to ____ feet

Filter Pack Material and Size:	Prepacked Filter Around Screen (check one):	Filter Pack Length:
20/30 qtz sand	☐ Yes ☒ No	17 feet from 8 feet to 25 feet

Filter Pack Seal Material and Size:	Filter Pack Seal Length:
30/65 qtz sand	4 feet from 4 feet to 8 feet

Surface Seal Material:	Surface Seal Length:
Portland type II/T	4 feet from 0 feet to 4 feet

WELL DEVELOPMENT DATA

Start 1135
1143 Purge Dry

Well Development Date:	Well Development Method (check one): ☐ Surge/Pum ☒ Pump ☐ Compressed Air ☐ Other (describe)
13 March 2023	

Development Pump Type (check): ☐ Centrifugal ☐ Peristaltic ☒ Submersible ☐ Other (describe)	Depth to Groundwater (before developing in feet): 16.99

Pumping Rate (gallons per minute):	Maximum Drawdown of Groundwater During Development (feet):	Well Purged Dry (check one): ☒ Yes ☐ No
.7	25'	

Pumping Condition (check one): ☐ Continuous ☒ Intermittent	Total Development Water Removed (gallons):	Development Duration (minutes):	Development Water Drummed (check one): ☒ Yes ☐ No
	3	30	

Water Appearance (color and odor) At Start of Development:	Water Appearance (color and odor) At End of Development:
yellow brown none	yellow brown none

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

well is recharging, but slower than lowest setting on pump.

WELL CONSTRUCTION DATA

Well Number:	Site Name:	FDEP Facility I.D. Number:	Well Install Date(s):
DEP MW 20	COTFTF	ERIC_7413	15 March 2023

Well Location and Type (check appropriate boxes):
- ☐ On-Site ☐ Right-of-Way
- ☒ Off-Site Private Property UCSB
- ☐ Above Grade (AG) ☑ Flush-to-Grade

If AG, list feet of riser above land surface:

Well Purpose:
- ☐ Perched Monitoring
- ☒ Shallow (Water-Table) Monitoring
- ☐ Intermediate or Deep Monitoring
- ☐ Remediation or Other (describe)

Well Install Method: Rotosonic

Surface Casing Install Method:

Borehole Depth (feet):	Well Depth (feet):	Borehole Diameter (inches):	Manhole Diameter (inches):	Well Pad Size:
25	25	6"	8"	2 feet by 2 feet

Riser Diameter and Material:	Riser/Screen Connections:	Riser Length:
2" sch 40 PVC	☒ Flush-Threaded ☐ Other (describe)	10 feet from 0 feet to 10 feet

Screen Diameter and Material:	Screen Slot Size:	Screen Length:
2" sch 40 PVC	0.010"	15 feet from 10 feet to 25 feet

1st Surface Casing Material: also check: ☐ Permanent ☒ Temporary	1st Surface Casing I.D. (inches): 8	1st Surface Casing Length: ____ feet from ____ feet to ____ feet
2nd Surface Casing Material: also check: ☐ Permanent ☐ Temporary	2nd Surface Casing I.D. (inches):	2nd Surface Casing Length: ____ feet from ____ feet to ____ feet
3rd Surface Casing Material: also check: ☐ Permanent ☐ Temporary	3rd Surface Casing I.D. (inches):	3rd Surface Casing Length: ____ feet from ____ feet to ____ feet

Filter Pack Material and Size:	Prepacked Filter Around Screen (check one):	Filter Pack Length:
20/30 quartz	☐ Yes ☐ No	17 feet from 13 feet to 25 feet

Filter Pack Seal Material and Size:	Filter Pack Seal Length:
30/65 quartz	4 feet from 9 feet to 13 feet

Surface Seal Material:	Surface Seal Length:
Portland type I/II cement	9 feet from 0 feet to 9 feet

WELL DEVELOPMENT DATA

Well Development Date:	Well Development Method (check one):
24 March 2023	☐ Surge/Pum ☒ Pump ☐ Compressed Air ☐ Other (describe)

Development Pump Type (check):	Depth to Groundwater (before developing in feet):
☒ Submersible ☐ Centrifugal ☐ Peristaltic ☐ Other (describe)	18.91

Pumping Rate (gallons per minute):	Maximum Drawdown of Groundwater During Development (feet):	Well Purged Dry (check one):
0-2.5	25	☒ Yes ☐ No

Pumping Condition (check one):	Total Development Water Removed (gallons):	Development Duration (minutes):	Development Water Drummed (check one):
☐ Continuous ☒ Intermittent	9	30	☒ Yes ☐ No

Water Appearance (color and odor) At Start of Development:	Water Appearance (color and odor) At End of Development:
Brown none	clear none

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

3/1/2023

WELL CONSTRUCTION DATA

Well Number: DEP MW 21	Site Name: COTFTF	FDEP Facility I.D. Number: ERIC_7413	Well Install Date(s): 27 March 2023

Well Location and Type (check appropriate boxes):
- ☐ On-Site
- ☒ Right-of-Way
- ☐ Off-Site Private Property
- ☐ Above Grade (AG)
- ☑ Flush-to-Grade

If AG, list feet of riser above land surface:

Well Purpose:
- ☐ Perched Monitoring
- ☐ Shallow (Water-Table) Monitoring
- ☒ Intermediate or Deep Monitoring
- ☐ Remediation or Other (describe)

Well Install Method: Rotosonic

Surface Casing Install Method:

Borehole Depth (feet):	Well Depth (feet):	Borehole Diameter (inches):	Manhole Diameter (inches):
90'	90'	8"	8"

Well Pad Size: 2 feet by 2 feet

Riser Diameter and Material: 2" sch 40 PVC

Riser/Screen Connections:
- ☒ Flush-Threaded
- ☐ Other (describe)

Riser Length: 70 feet from 0 feet to 70 feet

Screen Diameter and Material: 2" sch 40 PVC

Screen Slot Size: 0.010

Screen Length: 20 feet from 70 feet to 90 feet

1st Surface Casing Material:
also check: ☐ Permanent ☑ Temporary

1st Surface Casing I.D. (inches): 8

1st Surface Casing Length: 60 ~~80~~ feet from 0 feet to 60 ~~80~~ feet

2nd Surface Casing Material:
also check: ☐ Permanent ☐ Temporary

2nd Surface Casing I.D. (inches):

2nd Surface Casing Length: ____ feet from ____ feet to ____ feet

3rd Surface Casing Material:
also check: ☐ Permanent ☐ Temporary

3rd Surface Casing I.D. (inches):

3rd Surface Casing Length: ____ feet from ____ feet to ____ feet

Filter Pack Material and Size: 20/30 qtz Sand

Prepacked Filter Around Screen (check one):
- ☐ Yes
- ☒ No

Filter Pack Length: 22 feet from 68 feet to 90 feet

Filter Pack Seal Material and Size: 3/8" hole, plug

Filter Pack Seal Length: 4 feet from 64 feet to 68 feet

Surface Seal Material: Portland type I/II cement

Surface Seal Length: 64 feet from 0 feet to 64 feet

WELL DEVELOPMENT DATA

Well Development Date: 28 March 2023	Well Development Method (check one): ☐ Other (describe) ☐ Surge/Pum ☒ Pump ☐ Compressed Air		
Development Pump Type (check): ☒ Submersible ☐ Other (describe) ☐ Centrifugal ☐ Peristaltic		Depth to Groundwater (before developing in feet): 42.61	
Pumping Rate (gallons per minute): 1.5	Maximum Drawdown of Groundwater During Development (feet): 42.72	Well Purged Dry (check one): ☐ Yes ☒ No	
Pumping Condition (check one): ☒ Continuous ☐ Intermittent	Total Development Water Removed (gallons): 103	Development Duration (minutes): ~~60~~ 70	Development Water Drummed (check one): ☒ Yes ☐ No
Water Appearance (color and odor) At Start of Development: Brown - None		Water Appearance (color and odor) At End of Development: Clear None	

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

WELL CONSTRUCTION DATA

Well Number:	Site Name:	FDEP Facility I.D. Number:	Well Install Date(s):
DEP NW 22	COTFTF	ERIC_7413	23 March 2023

Well Location and Type (check appropriate boxes):
- ☐ On-Site
- ☒ ~~Off-Site Private Property~~ NW Right-of-Way corner of Applewood & Pensacola ROW
- ☐ Above Grade (AG)
- ☑ Flush-to-Grade

If AG, list feet of riser above land surface:

Well Purpose:
- ☐ Perched Monitoring
- ☐ Shallow (Water-Table) Monitoring
- ☒ Intermediate or Deep Monitoring
- ☐ Remediation or Other (describe)

Well Install Method: Roto Sonic

Surface Casing Install Method:

Borehole Depth (feet):	Well Depth (feet):	Borehole Diameter (inches):	Manhole Diameter (inches):	Well Pad Size:
90	84	8"	8"	2 feet by 2 feet

Riser Diameter and Material:	Riser/Screen Connections:	Riser Length:
2" sch 40 PVC	☒ Flush-Threaded ☐ Other (describe)	64 feet from 0 feet to 64 feet

Screen Diameter and Material:	Screen Slot Size:	Screen Length:
2" sch 40 PVC	0.010	20 feet from 64 feet to 84 feet

1st Surface Casing Material:	1st Surface Casing I.D. (inches):	1st Surface Casing Length:
also check: ☐ Permanent ☒ Temporary	8	64 feet from 0 feet to 64 feet

2nd Surface Casing Material:	2nd Surface Casing I.D. (inches):	2nd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		____ feet from ____ feet to ____ feet

3rd Surface Casing Material:	3rd Surface Casing I.D. (inches):	3rd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		____ feet from ____ feet to ____ feet

Filter Pack Material and Size:	Prepacked Filter Around Screen (check one):	Filter Pack Length:
20/30 qtz sand	☐ Yes ☒ No	22 feet from 64 feet to 84 feet

Filter Pack Seal Material and Size:	Filter Pack Seal Length:
3/8" hole plug - UNCOATED	____ feet from ____ feet to ____ feet

Surface Seal Material:	Surface Seal Length:
Portland type I/II grout	____ feet from ____ feet to ____ feet

WELL DEVELOPMENT DATA

Well Development Date:	Well Development Method (check one):	
24 March 2023	☐ Surge/Pum ☒ Pump ☐ Compressed Air ☐ Other (describe)	

1153

Development Pump Type (check):	Depth to Groundwater (before developing in feet):
☒ Submersible ☐ Centrifugal ☐ Peristaltic ☐ Other (describe)	38.92

Pumping Rate (gallons per minute):	Maximum Drawdown of Groundwater During Development (feet):	Well Purged Dry (check one):
2.5 - 1.75	49.72	☐ Yes ☒ No

Pumping Condition (check one):	Total Development Water Removed (gallons):	Development Duration (minutes):	Development Water Drummed (check one):
☒ Continuous ☐ Intermittent	55	30	☒ Yes ☐ No

Water Appearance (color and odor) At Start of Development:	Water Appearance (color and odor) At End of Development:
Brown none	Clear none

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

WELL CONSTRUCTION DATA

Well Number:	Site Name:	FDEP Facility I.D. Number:	Well Install Date(s):
DEP MW-23	COTFTF	ERIC_7413	21 March 2023

Well Location and Type (check appropriate boxes):
- ☐ On-Site ☐ Right-of-Way
- ☒ Off-Site Private Property LCSB IT
- ☐ Above Grade (AG) ☑ Flush-to-Grade

If AG, list feet of riser above land surface:

Well Purpose:
- ☐ Perched Monitoring
- ☐ Shallow (Water-Table) Monitoring
- ☒ Intermediate or Deep Monitoring
- ☐ Remediation or Other (describe)

Well Install Method: Rotosonic

Surface Casing Install Method: —

Borehole Depth (feet):	Well Depth (feet):	Borehole Diameter (inches):	Manhole Diameter (inches):	Well Pad Size:
90	90	8"	8"	2 feet by 2 feet

Riser Diameter and Material:	Riser/Screen Connections:	Riser Length:
2" Sch 40 PVC	☒ Flush-Threaded ☐ Other (describe)	70 feet from 0 feet to 70 feet

Screen Diameter and Material:	Screen Slot Size:	Screen Length:
2" Sch 40 PVC	0.010	20 feet from 70 feet to 90 feet

1st Surface Casing Material:	1st Surface Casing I.D. (inches):	1st Surface Casing Length:
also check: ☐ Permanent ☒ Temporary	9	685 feet from 0 feet to 620 feet

2nd Surface Casing Material:	2nd Surface Casing I.D. (inches):	2nd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		____ feet from ____ feet to ____ feet

3rd Surface Casing Material:	3rd Surface Casing I.D. (inches):	3rd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		____ feet from ____ feet to ____ feet

Filter Pack Material and Size:	Prepacked Filter Around Screen (check one):	Filter Pack Length:
20/30 qtz sand	☐ Yes ☒ No	24 feet from 66 feet to 90 feet

Filter Pack Seal Material and Size:	Filter Pack Seal Length:
3/8" Hole Plug / 30/65 FINE SAND (1 BAG)	4 feet from 62 feet to 66 feet

Surface Seal Material:	Surface Seal Length:
Portland type I/II grout cement	62 feet from 0 feet to 62 feet

WELL DEVELOPMENT DATA

Well Development Date:	Well Development Method (check one):
24 March 2023	☐ Surge/Pum ☒ Pump ☐ Compressed Air ☐ Other (describe)

Development Pump Type (check):	Depth to Groundwater (before developing in feet):
☒ Submersible ☐ Centrifugal ☐ Peristaltic ☐ Other (describe)	42.68

Pumping Rate (gallons per minute):	Maximum Drawdown of Groundwater During Development (feet):	Well Purged Dry (check one):
1-2.5	41.98	☐ Yes ☒ No

Pumping Condition (check one):	Total Development Water Removed (gallons):	Development Duration (minutes):	Development Water Drummed (check one):
☒ Continuous ☐ Intermittent	55	30	☒ Yes ☐ No

Water Appearance (color and odor) At Start of Development:	Water Appearance (color and odor) At End of Development:
Brown None	Clear None

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

21 March 2023: EOD. Have poured 148 bags Pea gravel into well annulus space in attempt to fill void @ 55'. Will continue tomorrow

TOTAL BAGS OF GRAVEL = 167

WELL CONSTRUCTION DATA

Well Number:	Site Name:	FDEP Facility I.D. Number:	Well Install Date(s):
DEP-MW-24	COTFTF	ERIC_7413	3-17-23

Well Location and Type (check appropriate boxes): ☐ On-Site ☐ Right-of-Way ☒ Off-Site Private Property LCSB Transp Yard ☐ Above Grade (AG) ☑ Flush-to-Grade

If AG, list feet of riser above land surface:

Well Purpose: ☐ Perched Monitoring ☐ Shallow (Water-Table) Monitoring ☒ Intermediate or Deep Monitoring ☐ Remediation or Other (describe)

Well Install Method: Rotosonic

Surface Casing Install Method:

Borehole Depth (feet):	Well Depth (feet):	Borehole Diameter (inches):	Manhole Diameter (inches):	Well Pad Size:
90	90	8"	8"	2 feet by 2 feet

Riser Diameter and Material:	Riser/Screen Connections:	Riser Length:
2" Sch 40 PVC	☒ Flush-Threaded ☐ Other (describe)	70 feet from 0 feet to 70 feet

Screen Diameter and Material:	Screen Slot Size:	Screen Length:
2" Sch 40 PVC	0.010	20 feet from 70 feet to 90 feet

1st Surface Casing Material:	1st Surface Casing I.D. (inches):	1st Surface Casing Length:
also check: ☐ Permanent ☒ Temporary	8	680 feet from 0 feet to 680 feet

2nd Surface Casing Material:	2nd Surface Casing I.D. (inches):	2nd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		____ feet from ____ feet to ____ feet

3rd Surface Casing Material:	3rd Surface Casing I.D. (inches):	3rd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		____ feet from ____ feet to ____ feet

Filter Pack Material and Size:	Prepacked Filter Around Screen (check one):	Filter Pack Length:
20/30	☐ Yes ☒ No	22 feet from 68 feet to 90 feet

Filter Pack Seal Material and Size:	Filter Pack Seal Length:
3/8" Hole Plug	8 feet from 60 feet to 68 feet

Surface Seal Material:	Surface Seal Length:
Grout Portland type I/II	60 feet from 0 feet to 60 feet

WELL DEVELOPMENT DATA

Well Development Date:	Well Development Method (check one):	
20 March 2023	☐ Surge/Pum ☒ Pump ☐ Compressed Air ☐ Other (describe)	

Development Pump Type (check):	Depth to Groundwater (before developing in feet):
☒ Submersible ☐ Centrifugal ☐ Peristaltic ☐ Other (describe)	43.23

Pumping Rate (gallons per minute):	Maximum Drawdown of Groundwater During Development (feet):	Well Purged Dry (check one):
2.5	44.02	☐ Yes ☒ No

Pumping Condition (check one):	Total Development Water Removed (gallons):	Development Duration (minutes):	Development Water Drummed (check one):
☒ Continuous ☐ Intermittent	75	30	☒ Yes ☐ No

Water Appearance (color and odor) At Start of Development:	Water Appearance (color and odor) At End of Development:
Dark Brown none	clear none

st. 14:10 stp

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

WELL CONSTRUCTION DATA

Well Number:	Site Name:	FDEP Facility I.D. Number:	Well Install Date(s):
DEP MW 25	COTFTF	ERIC_7413	6 March 2023

Well Location and Type (check appropriate boxes): ☐ On-Site ☐ Right-of-Way ☒ Off-Site Private Property ☐ Above Grade (AG) ☑ Flush-to-Grade

If AG, list feet of riser above land surface:

Well Purpose: ☐ Perched Monitoring ☐ Shallow (Water-Table) Monitoring ☒ Intermediate or Deep Monitoring ☐ Remediation or Other (describe)

Well Install Method: Sonic

Surface Casing Install Method:

Borehole Depth (feet):	Well Depth (feet):	Borehole Diameter (inches):	Manhole Diameter (inches):	Well Pad Size:
92	90	8"	8"	2 feet by 2 feet

Riser Diameter and Material:	Riser/Screen Connections:	Riser Length:
2" sch 40 PVC	☒ Flush-Threaded ☐ Other (describe)	70 feet from 0 feet to 70 feet

Screen Diameter and Material:	Screen Slot Size:	Screen Length:
	0.010	20 feet from 70 feet to 90 feet

1st Surface Casing Material:	1st Surface Casing I.D. (inches):	1st Surface Casing Length:
also check: ☐ Permanent ☒ Temporary	8	680 feet from 0 feet to 680 feet

2nd Surface Casing Material:	2nd Surface Casing I.D. (inches):	2nd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		____ feet from ____ feet to ____ feet

3rd Surface Casing Material:	3rd Surface Casing I.D. (inches):	3rd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		____ feet from ____ feet to ____ feet

Filter Pack Material and Size:	Prepacked Filter Around Screen (check one):	Filter Pack Length:
20/30 qtz snd	☐ Yes ☒ No	2 feet from 68 feet to 90 feet

Filter Pack Seal Material and Size:	Filter Pack Seal Length:
3/8" Hole Plug	4 feet from 64 feet to 68 feet

Surface Seal Material:	Surface Seal Length:
Portland type ~~F/II~~ grout	64 feet from 0 feet to 64 feet

WELL DEVELOPMENT DATA

Well Development Date:	Well Development Method (check one): ☐ Surge/Pum ☒ Pump ☐ Compressed Air ☐ Other (describe)
7 March 2023	

Development Pump Type (check): ☐ Centrifugal ☐ Peristaltic ☒ Submersible ☐ Other (describe)	Depth to Groundwater (before developing in feet):
	40.98

Pumping Rate (gallons per minute):	Maximum Drawdown of Groundwater During Development (feet):	Well Purged Dry (check one): ☐ Yes ☒ No
1.5	0.11	

Pumping Condition (check one): ☒ Continuous ☐ Intermittent	Total Development Water Removed (gallons):	Development Duration (minutes):	Development Water Drummed (check one): ☒ Yes ☐ No
	55	50	

Water Appearance (color and odor) At Start of Development:	Water Appearance (color and odor) At End of Development:
Brown none	none none

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

initially filter pack did not raise bottom of well. Used 9 bags (0.5 ft³) of pea gravel to fill bridge likely void.

WELL CONSTRUCTION DATA

Well Number:	Site Name:	FDEP Facility I.D. Number:	Well Install Date(s):
DEP MW 26	COTFTF	ERIC_7413	2023 9 March-10 March

Well Location and Type (check appropriate boxes):	Well Purpose:	Well Install Method:
~~On-Site~~ ~~26~~ ☐ Right-of-Way ☒ Off-Site Private Property ☐ Above Grade (AG) ☑ Flush-to-Grade If AG, list feet of riser above land surface:	☐ Perched Monitoring ☐ Shallow (Water-Table) Monitoring ☒ ~~Intermediate or Deep Monitoring~~ ☐ Remediation or Other (describe)	Sonic Surface Casing Install Method:

Borehole Depth (feet):	Well Depth (feet):	Borehole Diameter (inches):	Manhole Diameter (inches):	Well Pad Size:
90	90	8"	8"	2 feet by 2 feet

Riser Diameter and Material:	Riser/Screen Connections:	Riser Length:
2" Sch 40 PVC	☒ ~~Flush-Threaded~~ ☐ Other (describe)	70 feet from 0 feet to 70 feet

Screen Diameter and Material:	Screen Slot Size:	Screen Length:
2" Sch 40 PVC	0.010"	20 feet from 70 feet to 90 feet

1st Surface Casing Material:	1st Surface Casing I.D. (inches):	1st Surface Casing Length:
also check: ☐ Permanent ☒ Temporary	9	~~680~~ feet from 0 feet to ~~680~~ feet

2nd Surface Casing Material:	2nd Surface Casing I.D. (inches):	2nd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		____ feet from ____ feet to ____ feet

3rd Surface Casing Material:	3rd Surface Casing I.D. (inches):	3rd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		____ feet from ____ feet to ____ feet

Filter Pack Material and Size:	Prepacked Filter Around Screen (check one):	Filter Pack Length:
20/30 qtz snd	☐ Yes ☒ ~~No~~	22 feet ~~90~~ from ~~68~~ feet to ~~68~~ feet ~~68~~

Filter Pack Seal Material and Size:	Filter Pack Seal Length:
Hole Plug 3/8"	5 feet from 63 feet to 68 feet

Surface Seal Material:	Surface Seal Length:
Portland Type I/II grout	63 feet from 0 feet to 63 feet

WELL DEVELOPMENT DATA

Well Development Date:	Well Development Method (check one):
13 March 2023	☐ Surge/Pum ☒ ~~Pump~~ ☐ Compressed Air ☐ Other (describe)

Development Pump Type (check):	Depth to Groundwater (before developing in feet):
☒ ~~Submersible~~ ☐ Centrifugal ☐ Peristaltic ☐ Other (describe)	39.88'

start 1024

Pumping Rate (gallons per minute):	Maximum Drawdown of Groundwater During Development (feet):	Well Purged Dry (check one):
2.7 – 1.0	1.35'	☐ Yes ☒ ~~No~~

Pumping Condition (check one):	Total Development Water Removed (gallons):	Development Duration (minutes):	Development Water Drummed (check one):
☒ ~~Continuous~~ ☐ Intermittent	55	34	☒ ~~Yes~~ ☐ No

Water Appearance (color and odor) At Start of Development:	Water Appearance (color and odor) At End of Development:
cream white none	clear none

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

WELL CONSTRUCTION DATA

Well Number:	Site Name:	FDEP Facility I.D. Number:	Well Install Date(s):
DEP MW Z7	COTFTF	ERIC_7413	15 March 2023

Well Location and Type (check appropriate boxes):
- ☐ On-Site ☐ Right-of-Way
- ☑ Off-Site Private Property LCSB
- ☐ Above Grade (AG) ☑ Flush-to-Grade

If AG, list feet of riser above land surface:

Well Purpose:
- ☐ Perched Monitoring
- ☐ Shallow (Water-Table) Monitoring
- ☒ Intermediate or Deep Monitoring
- ☐ Remediation or Other (describe)

Well Install Method: Sonic

Surface Casing Install Method:

Borehole Depth (feet):	Well Depth (feet):	Borehole Diameter (inches):	Manhole Diameter (inches):	Well Pad Size:
90	90	8"	8"	2 feet by 2 feet

Riser Diameter and Material:	Riser/Screen Connections:	Riser Length:
2" sch 40 PVC	☑ Flush-Threaded ☐ Other (describe)	70 feet from 0 feet to 70 feet

Screen Diameter and Material:	Screen Slot Size:	Screen Length:
2" sch 40 PVC	0.010	20 feet from 70 feet to 90 feet

1st Surface Casing Material:	1st Surface Casing I.D. (inches):	1st Surface Casing Length:
also check: ☐ Permanent ☒ Temporary	6	60 feet from 0 feet to 60 feet

2nd Surface Casing Material:	2nd Surface Casing I.D. (inches):	2nd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		____ feet from ____ feet to ____ feet

3rd Surface Casing Material:	3rd Surface Casing I.D. (inches):	3rd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		____ feet from ____ feet to ____ feet

Filter Pack Material and Size:	Prepacked Filter Around Screen (check one):	Filter Pack Length:
20/30 quartz	☐ Yes ☒ No	23 feet from 67 feet to 90 feet

Filter Pack Seal Material and Size:	Filter Pack Seal Length:
Hole Plug 3/8"	5 feet from 62 feet to 67 feet

Surface Seal Material:	Surface Seal Length:
Portland type I/II cement	67 feet from 0 feet to 67 feet

WELL DEVELOPMENT DATA

Well Development Date:	Well Development Method (check one):
24 March 2023	☐ Surge/Pum ☒ Pump ☐ Compressed Air ☐ Other (describe)

Development Pump Type (check):	Depth to Groundwater (before developing in feet):
☒ Submersible ☐ Centrifugal ☐ Peristaltic ☐ Other (describe)	42.96

Pumping Rate (gallons per minute):	Maximum Drawdown of Groundwater During Development (feet):	Well Purged Dry (check one):
1-2.5	117.45	☐ Yes ☐ No

Pumping Condition (check one):	Total Development Water Removed (gallons):	Development Duration (minutes):	Development Water Drummed (check one):
☐ Continuous ☐ Intermittent	100	90	☒ Yes ☐ No

Water Appearance (color and odor) At Start of Development:	Water Appearance (color and odor) At End of Development:
Brown none	Clear none

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

WELL CONSTRUCTION DATA

Well Number:	Site Name:	FDEP Facility I.D. Number:	Well Install Date(s):
DEP MW 28	COTFTF	ERIC_7413	3-2/3-3-23

Well Location and Type (check appropriate boxes):
- ☐ On-Site ☐ Right-of-Way
- ☐ Off-Site Private Property
- ☐ Above Grade (AG) ☑ Flush-to-Grade

If AG, list feet of riser above land surface:

Well Purpose:
- ☐ Perched Monitoring
- ☐ Shallow (Water-Table) Monitoring
- ☐ Intermediate or Deep Monitoring
- ☐ Remediation or Other (describe)

Well Install Method: Sonic

Surface Casing Install Method: Adv. Sc

Borehole Depth (feet):	Well Depth (feet):	Borehole Diameter (inches):	Manhole Diameter (inches):	Well Pad Size:
150	150	8	8	2 feet by 2 feet

Riser Diameter and Material:	Riser/Screen Connections:	Riser Length:
2" sch 40 PVC	☐ Flush-Threaded ☐ Other (describe)	130 feet from 0 feet to 130 feet

Screen Diameter and Material:	Screen Slot Size:	Screen Length:
2" sch 40 PVC	.010	20 feet from 130 feet to 150 feet

1st Surface Casing Material: also check: ☐ Permanent ☒ Temporary	1st Surface Casing I.D. (inches): 8	1st Surface Casing Length: 120 feet from 0 feet to 120 feet
2nd Surface Casing Material: also check: ☐ Permanent ☐ Temporary	2nd Surface Casing I.D. (inches):	2nd Surface Casing Length: ____ feet from ____ feet to ____ feet
3rd Surface Casing Material: also check: ☐ Permanent ☐ Temporary	3rd Surface Casing I.D. (inches):	3rd Surface Casing Length: ____ feet from ____ feet to ____ feet

Filter Pack Material and Size:	Prepacked Filter Around Screen (check one):	Filter Pack Length:
20/30 13 bags	☐ Yes ☐ No	21 feet from 129 feet to 150 feet

Filter Pack Seal Material and Size:	Filter Pack Seal Length:
3/8" Bentonite	4 feet from 125 feet to 129 feet

Surface Seal Material:	Surface Seal Length:
Grout	125 feet from 0 feet to 125 feet

WELL DEVELOPMENT DATA

Well Development Date:	Well Development Method (check one):	
6 March 2023	☐ Surge/Pum ☒ Pump ☐ Compressed Air ☐ Other (describe)	

Development Pump Type (check):	Depth to Groundwater (before developing in feet):
☒ Submersible ☐ Centrifugal ☐ Peristaltic ☐ Other (describe)	41.02

Pumping Rate (gallons per minute):	Maximum Drawdown of Groundwater During Development (feet):	Well Purged Dry (check one):
1.33	40.89	☐ Yes ☒ No

Pumping Condition (check one):	Total Development Water Removed (gallons):	Development Duration (minutes):	Development Water Drummed (check one):
☒ Continuous ☐ Intermittent	40	30	☒ Yes ☐ No

Water Appearance (color and odor) At Start of Development:	Water Appearance (color and odor) At End of Development:
brown none	Clear none

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

WELL CONSTRUCTION DATA

Well Number:	Site Name:	FDEP Facility I.D. Number:	Well Install Date(s):
DEP MW 29	COTFTF	ERIC_7413	2023 7 March - 8 March

Well Location and Type (check appropriate boxes):
- ☐ On-Site ☐ Right-of-Way
- ☒ Off-Site Private Property
- ☐ Above Grade (AG) ☑ Flush-to-Grade

If AG, list feet of riser above land surface:

Well Purpose:
- ☐ Perched Monitoring
- ☐ Shallow (Water-Table) Monitoring
- ☒ Intermediate or Deep Monitoring
- ☐ Remediation or Other (describe)

Well Install Method: Sonic

Surface Casing Install Method:

Borehole Depth (feet):	Well Depth (feet):	Borehole Diameter (inches):	Manhole Diameter (inches):	Well Pad Size:
150	150	8"	8"	2 feet by 2 feet

Riser Diameter and Material:	Riser/Screen Connections:	Riser Length:
2" sch 40 PVC	☒ Flush-Threaded ☐ Other (describe)	130 feet from 0 feet to 130 feet

Screen Diameter and Material:	Screen Slot Size:	Screen Length:
7" sch 40 PVC	0.010	20 feet from 130 feet to 150 feet

1st Surface Casing Material:	1st Surface Casing I.D. (inches):	1st Surface Casing Length:
also check: ☐ Permanent ☒ Temporary	8	120 feet from 0 feet to 120 feet

2nd Surface Casing Material:	2nd Surface Casing I.D. (inches):	2nd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		____ feet from ____ feet to ____ feet

3rd Surface Casing Material:	3rd Surface Casing I.D. (inches):	3rd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		____ feet from ____ feet to ____ feet

Filter Pack Material and Size:	Prepacked Filter Around Screen (check one):	Filter Pack Length:
20/30	☐ Yes ☒ No	22 feet from 128 feet to 150 feet

Filter Pack Seal Material and Size:	Filter Pack Seal Length:
3/8" Hole Plug	4 feet from 124 feet to 128 feet

Surface Seal Material:	Surface Seal Length:
Portland type I/II grout	124 feet from 0 feet to 124 feet

WELL DEVELOPMENT DATA

Well Development Date:	Well Development Method (check one):
16 March 2023	☐ Surge/Pum ☒ Pump ☐ Compressed Air ☐ Other (describe)

Development Pump Type (check):	Depth to Groundwater (before developing in feet):
☒ Submersible ☐ Centrifugal ☐ Peristaltic ☐ Other (describe)	39.65

Pumping Rate (gallons per minute):	Maximum Drawdown of Groundwater During Development (feet):	Well Purged Dry (check one):
1.36		☐ Yes ☒ No

Pumping Condition (check one):	Total Development Water Removed (gallons):	Development Duration (minutes):	Development Water Drummed (check one):
☒ Continuous ☐ Intermittent	41	30	☒ Yes ☐ No

Water Appearance (color and odor) At Start of Development:	Water Appearance (color and odor) At End of Development:
cream white none	clear none

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

WELL CONSTRUCTION DATA

Well Number:	Site Name:	FDEP Facility I.D. Number:	Well Install Date(s):
DEP MW 30	COTFTF	ERIC_7413	14 March 2023

Well Location and Type (check appropriate boxes):
- ☐ On-Site
- ☐ Right-of-Way
- ☒ ~~Off-Site~~ Private Property
- ☐ Above Grade (AG)
- ☑ Flush-to-Grade

If AG, list feet of riser above land surface:

Well Purpose:
- ☐ Perched Monitoring
- ☐ Shallow (Water-Table) Monitoring
- ☒ ~~Intermediate or Deep Monitoring~~
- ☐ Remediation or Other (describe)

Well Install Method: Sonic

Surface Casing Install Method:

Borehole Depth (feet):	Well Depth (feet):	Borehole Diameter (inches):	Manhole Diameter (inches):	Well Pad Size:
150	150	8"	8"	2 feet by 2 feet

Riser Diameter and Material:	Riser/Screen Connections:	Riser Length:
2" sch 40 PVC	☒ ~~Flush~~ Threaded ☐ Other (describe)	130 feet from 0 feet to 130 feet

Screen Diameter and Material:	Screen Slot Size:	Screen Length:
2" sch 40 PVC	0,010	20 feet from 130 feet to 150 feet

1st Surface Casing Material:	1st Surface Casing I.D. (inches):	1st Surface Casing Length:
also check: ☐ Permanent ☒ Temporary	8	120 feet from 0 feet to 120 feet

2nd Surface Casing Material:	2nd Surface Casing I.D. (inches):	2nd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		____ feet from ____ feet to ____ feet

3rd Surface Casing Material:	3rd Surface Casing I.D. (inches):	3rd Surface Casing Length:
also check: ☐ Permanent ☐ Temporary		____ feet from ____ feet to ____ feet

Filter Pack Material and Size:	Prepacked Filter Around Screen (check one):	Filter Pack Length:
20/30 ottawa sand	☐ Yes ☑ No	23 feet from 127 feet to 150 feet

Filter Pack Seal Material and Size:	Filter Pack Seal Length:
3/8" Hole Plug	12~~4~~ feet from 115 feet to 127 feet

Surface Seal Material:	Surface Seal Length:
type I/II Portland cement	115 feet from 0 feet to 115 feet

WELL DEVELOPMENT DATA

Well Development Date:	Well Development Method (check one):
24 March 2023	☐ Surge/Pum ☒ Pump ☐ Compressed Air ☐ Other (describe)

Development Pump Type (check):	Depth to Groundwater (before developing in feet):
☑ Submersible ☐ Centrifugal ☐ Peristaltic ☐ Other (describe)	42,99

Pumping Rate (gallons per minute):	Maximum Drawdown of Groundwater During Development (feet):	Well Purged Dry (check one):
1-2,5	42,39	☐ Yes ☒ No

Pumping Condition (check one):	Total Development Water Removed (gallons):	Development Duration (minutes):	Development Water Drummed (check one):
☑ ~~Continuous~~ ☐ Intermittent	108	90	☒ ~~Yes~~ ☐ No

Water Appearance (color and odor) At Start of Development:	Water Appearance (color and odor) At End of Development:
Brown none	clear none

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

Monitoring Well and Supply Well Sampling
April and May 2023

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	COTFTF	SITE LOCATION	2964 Municipal Way, Tallahassee, Leon County
WELL NO	MW001	SAMPLE ID	MW001
		DATE	5/3/23

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	feet to	feet	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2	3/16	10	25		16.50	PP

WELL VOLUME PURGE 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (25 ft - 16.50 ft) X 0.16 gallons/foot = 1.36/4 = 0.34

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal]
(only fill out if applicable) = 0.001 gallons + (— gallons/foot X — feet)+ 0.13 gallons = —

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
17.5	18	836	917	2

(18)

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	ORP NOTES: (mV)
907	1.50	1.50	0.04	17.06	4.04	21.02	23	1.81	4.66	Clear	None	334.6
909	0.1	1.60	0.03	17.07	4.04	21.17	23	1.87	4.49	SAA	SAA	338.9
911	0.1	1.70	0.03	17.08	4.02	21.10	23	1.84	4.19	SAA	SAA	324.8
913	0.1	1.80	0.03	17.10	4.03	21.14	23	1.78	4.04	SAA	SAA	324.6
915	0.1	1.90	0.03	17.10	4.05	21.07	23	1.88	4.11	SAA	SAA	319.6
917	0.1	2	0.03	17.10	4.04	21.15	23	1.83	3.88	SAA	SAA	320.9

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
/ Geosyntec D. McGill		914	921

PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE: HDPE
18	300	

FIELD DECONTAMINATION: Y (N) Tubing replaced	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: µm	DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
MW001	2	HDPE	125 ml	—	-	4.04	W-PFAS-MS	APP	300
					-	-			

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES:
1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 oC **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2); **optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity:** all readings < 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	COTFTF	SITE LOCATION	2964 Municipal Way, Tallahassee, Leon County
WELL NO: MW002	SAMPLE ID: MW002	DATE: 5/2/23	

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH	STATIC DEPTH TO WATER (feet)	PURGE PUMP TYPE OR BAILER
2	3/16	10 feet to 25 feet	17.88	PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (25 ft - 17.88 ft) X 0.16 gallons/foot = 1.14 / 4 = 0.285

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal]
(only fill out if applicable) = 0.001 gallons + (___ gallons/foot X ___ feet)+ 0.13 gallons = ___

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons)
18.90	19.4	1105	1141	2.1

10. 19.4

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	NOTES
1131	1.5	1.5	0.05	18.72	5.45	23.59	71	3.65	2.43	Clear	None	198.7
1133	0.1	1.6	0.03	18.73	5.46	23.57	71	3.52	2.59	SAA	SAA	199.3
1135	0.15	1.75	0.05	18.74	5.45	23.57	71	3.42	2.47	SAA	SAA	200.4
1137	0.1	1.85	0.03	18.75	5.45	23.57	71	3.38	2.34	SAA	SAA	202.0
1139	0.15	2	0.05	18.75	5.44	23.71	71	3.36	2.11	SAA	SAA	202.7
1141	0.1	2.1	0.03	18.75	5.44	23.72	72	3.37	2.08	SAA	SAA	203.1

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
/ Geosyntec D. McGill		1143	1148

PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE: HDPE
19.4	1300	

FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: µm	DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph			
MW002	2	HDPE	125 ml	—	-	5.44	W-PFAS-MS	APP	1300
					-	-			

REMARKS: Solar heating in tubing

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES:
1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 oC **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2), **optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity:** all readings < 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	COTFTF	SITE LOCATION	2964 Municipal Way, Tallahassee, Leon County
WELL NO: MW003	SAMPLE ID: MW003	DATE: 5/2/23	

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH	STATIC DEPTH TO WATER (feet)	PURGE PUMP TYPE OR BAILER
2	3/16	10 feet to 25 feet	13.44	PP

WELL VOLUME PURGE (only fill out if applicable): 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
= (25 ft − 13.44 ft) X 0.16 gallons/foot = 1.85 / 4 = 0.46

EQUIPMENT VOLUME PURGE (only fill out if applicable): 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (500ml = 0.13 gal)
= 0.001 gallons + (— gallons/foot X — feet)+ 0.13 gallons = —

15
15.5
16
16.5

INITIAL PUMP OR TUBING DEPTH IN WELL (feet)	FINAL PUMP OR TUBING DEPTH IN WELL (feet)	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
14.5	16.5	1323	1435	= 3.2

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	~~GRP NOTES~~ (mV)
1411	2	2	0.04	15.70	4.11	23.33	36	3.61	1.69	Clear	None	320.3
1413	0.1	2.1	0.03	15.74	4.20	23.28	37	3.53	1.58	SAA	SAA	317.0
1415	0.15	2.25	0.05	15.77	4.23	23.38	37	3.48	1.39	SAA	SAA	315.9
1420	0.25	2.5	0.05	15.78	4.30	23.35	37	3.36	1.09	SAA	SAA	312.2
1422	0.1	2.6	0.03	15.79	4.32	23.46	36	3.36	1.07	SAA	SAA	310.3
1424	0.1	2.7	0.03	15.80	4.32	23.60	36	3.34	0.96	SAA	SAA	310.2
1431	0.3	3	0.05	15.79	4.39	23.77	36	3.25	0.89	SAA	SAA	306.0
1433	0.1	3.1	0.03	15.79	4.41	23.71	36	3.34	1.39	SAA	SAA	305.8
1435	0.1	3.2	0.03	15.79	4.41	23.69	36	3.24	0.80	SAA	SAA	307.1

WELL CAPACITY (Gallons Per Foot) 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.) 1/8" = 0.0005; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURES	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
/ Geosyntec D. McGill		1437	1440

PUMP OR TUBING DEPTH IN WELL (feet)	SAMPLE PUMP FLOW RATE (mL per minute)	TUBING MATERIAL CODE: HDPE
16.5	<300	

FIELD DECONTAMINATION: Y (N) Tubing replaced	FIELD-FILTERED: Y (N) Filtration Equipment Type: FILTER SIZE µm	DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
MW003	2	HDPE	125 ml	—	-	-	W-PFAS-MS	APP	<300
					-	-			

REMARKS: Solar heating

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES:
1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 oC **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2); **optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity:** all readings < 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	COTFTF	SITE LOCATION	2964 Municipal Way, Tallahassee, Leon County
WELL NO	MW004	SAMPLE ID	MW004
DATE	5/1/23		

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH	STATIC DEPTH TO WATER (feet)	PURGE PUMP TYPE OR BAILER
2	3/16	10 feet to 25 feet	10.20	PP

WELL VOLUME PURGE (only fill out if applicable): 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
= (25 ft − 10.20 ft) X 0.16 gallons/foot = 2.4 / 4 = 0.6

EQUIPMENT VOLUME PURGE (only fill out if applicable): 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (500ml = 0.13 gal)
= 0.001 gallons + (— gallons/foot X — feet)+ 0.13 gallons = —

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
≈12	≈13	1251	1406	≈3.9

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	NOTES
1341	2.5	2.5	0.05	11.63	4.28	23.40	18	8.44	7.73	Clear	None	
1343	0.1	2.6	0.03	11.65	4.29	23.36	18	8.43	7.54	SAA	SAA	
1345	0.15	2.75	0.05	11.67	4.26	23.57	18	8.22	7.24	SAA	SAA	
1351	0.35	3.1	0.06	11.79	4.25	23.55	18	8.12	7.08	SAA	SAA	
1353	0.1	3.2	0.03	11.82	4.29	23.58	18	8.36	7.35	SAA	SAA	
1355	0.1	3.3	0.03	11.85	4.29	23.55	18	9.16	7.40	SAA	SAA	
1402	0.4	3.7	0.05	11.74	4.28	24.87	18	9.99	6.85	SAA	SAA	
1404	0.1	3.8	0.03	11.74	4.24	25.04	18	10.05	7.14	SAA	SAA	Solenoid battery
1406	0.1	3.9	0.03	11.74	4.25	24.87	18	10.25	6.96	SAA	SAA	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
D. McGill / Geosyntec		1408	1412

PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE: HDPE
≈13	<300	S

FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) FILTER SIZE: µm	DUPLICATE: Y (N)
Tubing replaced	Filtration Equipment Type:	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph			
MW004	2	HDPE	125 ml	—	-	-	W-PFAS-MS	APP	<300
					-	-			

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: APP = After Penstaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Penstaltic Pump; RFPP = Reverse Flow Penstaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES:
1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 oC **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2); **optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity:** all readings < 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	COTFTF	SITE LOCATION	2964 Municipal Way, Tallahassee, Leon County
WELL NO	MW005	SAMPLE ID	MW005
		DATE	5/2/23

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH	STATIC DEPTH TO WATER (feet)	PURGE PUMP TYPE OR BAILER
2	3/16	10 feet to 25 feet	11.39	PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (25 ft − 11.39 ft) X 0.16 gallons/foot = 2.2/4 = 0.55

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal]
(only fill out if applicable) = 0.001 gallons + (— gallons/foot X — feet)+ 0.13 gallons = —

INITIAL PUMP OR TUBING DEPTH IN WELL (feet)	FINAL PUMP OR TUBING DEPTH IN WELL (feet)	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
12.4	12.9	1220	1304	3.25

12.9

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	ORP ~~NOTES~~ (mV)
1252	2.25	2.25	0.07	12.17	3.84	22.30	16	6.00	0.86	Clear	None	338.8
1254	0.15	2.40	0.05	12.18	3.88	22.38	16	5.89	0.77	SAA	SAA	340.5
1256	0.15	2.55	0.05	12.22	3.75	22.21	16	6.00	0.63	SAA	SAA	347.1
1258	0.2	2.75	0.06	12.26	3.70	22.25	16	5.97	0.82	SAA	SAA	350.6
1300	0.2	2.95	0.06	12.25	3.74	22.56	16	5.85	0.78	SAA	SAA	345.9
1302	0.15	3.1	0.05	12.25	3.87	22.61	16	5.85	0.81	SAA	SAA	343.1
1304	0.15	3.25	0.05	12.25	3.90	22.49	16	5.85	0.87	SAA	SAA	340.1

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURES	SAMPLING INITIATED AT	SAMPLING ENDED AT
/ Geosyntec D.McG:11		1306	1310

PUMP OR TUBING DEPTH IN WELL (feet)	SAMPLE PUMP FLOW RATE (mL per minute)	TUBING MATERIAL CODE
12.9	300	HDPE

FIELD DECONTAMINATION	FIELD-FILTERED	FILTER SIZE	DUPLICATE
Y (N) Tubing replaced	Y (N) Filtration Equipment Type:	µm	Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
MW005	2	HDPE	125 ml	—	-	3.90	W-PFAS-MS	APP	300
					-	-			

REMARKS: Solar heating

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES:
1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 oC **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2), **optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity:** all readings < 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	COTFTF	SITE LOCATION	2964 Municipal Way, Tallahassee, Leon County
WELL NO. MW006	SAMPLE ID MW006	DATE	5/3/23

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH	STATIC DEPTH TO WATER (feet)	PURGE PUMP TYPE OR BAILER
2	3/8	70 feet to 80 feet	41.84	ESP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) =(80 ft - 41.84 ft) X 0.16 gallons/foot = 6.11/4 = 1.53

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal]
(only fill out if applicable) = 0.001 gallons + (— gallons/foot X — feet)+ 0.13 gallons = —

INITIAL PUMP OR TUBING DEPTH IN WELL (feet)	FINAL PUMP OR TUBING DEPTH IN WELL (feet)	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
43.5	43.5	1420	1515	18.25

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (µmhos/cm or mS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	ORP ~~notes~~ (mV)
1442	6.25	6.25	0.28	42.17	9.46	24.23	131	2.00	532	Cloudy	None	-11.8
1444	0.6	6.85	0.3	42.18	9.09	24.23	160	1.97	518	SAA	SAA	-1.4
1446	0.65	7.5	0.325	42.18	9.02	24.24	176	1.94	216	SAA	SAA	2.2
1447	0.25	7.75	0.25	42.18	9.01	24.23	180	1.97	146	SAA	SAA	3.8
1449	0.75	8.5	0.375	42.18	8.97	24.20	191	1.98	123	SAA	SAA	6.3
1451	0.75	9.25	0.375	42.18	8.99	24.20	197	1.98	107	Clear	SAA	8.1
1453	0.75	10	|	42.18	8.97	24.11	203	1.99	83.8	SAA	SAA	9.4
1455	0.75	10.75	|	42.18	8.84	24.12	214	2.02	79.1	SAA	SAA	13.1
1457	0.75	11.5	|	42.18	8.81	24.16	223	2.03	71.3	SAA	SAA	15.7
1459	0.75	12.25	|	42.18	8.77	24.15	228	2.04	44.0	SAA	SAA	17.5
1501	0.75	13	|	42.18	8.70	24.17	236	2.05	32.5	SAA	SAA	19.9
1503	0.75	13.75	|	42.18	8.68	24.13	239	2.03	27.8	SAA	SAA	21.1
1505	0.75	14.5	|	42.18	8.61	24.17	246	2.02	23.5	SAA	SAA	23.3
1507	0.75	15.25	|	42.18	8.55	24.21	249	2.04	22.1	SAA	SAA	23.8
1509	0.75	16	√	42.18	8.48	24.17	254	2.03	21.4	SAA	SAA	24.8

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT	SAMPLING ENDED AT
/ Geosyntec D. McGill		1516	1519

PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE: HDPE
43.5	300	

FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: Y (N) FILTER SIZE µm Filtration Equipment Type:	DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
MW006	2	HDPE	125 ml	—	-	8.40	W-PFAS-MS	ESP	300
					-	-			

REMARKS

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES:
1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 oC **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2) optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings < 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	COTFTF	SITE LOCATION	2964 Municipal Way, Tallahassee, Leon County
WELL NO: MW006		SAMPLE ID MW006	DATE 5/3/23

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER

WELL VOLUME PURGE (only fill out if applicable): 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
=(ft - ft) X gallons/foot =

EQUIPMENT VOLUME PURGE (only fill out if applicable): 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal]
= 0.001 gallons + (gallons/foot X feet)+ 0.13 gallons =

INITIAL PUMP OR TUBING DEPTH IN WELL (feet)	FINAL PUMP OR TUBING DEPTH IN WELL (feet)	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	NOTES
1511	0.75	16.75	0.375	42.18	8.43	24.18	258	2.06	16.3	SAA	SAA	25.7
1513	0.75	17.5	↓	42.18	8.40	24.16	261	2.05	16.6	SAA	SAA	26.7
1515	0.75	18.25	↓	42.18	8.40	24.17	259	2.04	15.7	SAA	SAA	26.6

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: / Geosyntec	SAMPLER(S) SIGNATURES	SAMPLING INITIATED AT	SAMPLING ENDED AT
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED Y N FILTER SIZE µm Filtration Equipment Type:	DUPLICATE: Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
		HDPE	125 ml		-	-	W-PFAS-MS		
					-	-			

REMARKS

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: APP = After Penstaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Penstaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES:
1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 oC **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2), **optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity:** all readings < 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	COTFTF	SITE LOCATION	2964 Municipal Way, Tallahassee, Leon County
WELL NO	MW007	SAMPLE ID	MW007
DATE	5/2/23		

PURGING DATA

WELL DIAMETER (inches):	2	TUBING DIAMETER (inches):	3/8	WELL SCREEN INTERVAL DEPTH	60 feet to 70 feet	STATIC DEPTH TO WATER (feet):	42.88	PURGE PUMP TYPE OR BAILER:	ESP

WELL VOLUME PURGE (only fill out if applicable): 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
= (70 ft − 42.88 ft) X 0.16 gallons/foot = 4.4 / 4 = 1.1

EQUIPMENT VOLUME PURGE (only fill out if applicable): 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (500ml = 0.13 gal)
= 0.001 gallons + (— gallons/foot X — feet)+ 0.13 gallons = —

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	≈44	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	≈46	PURGING INITIATED AT:	1009	PURGING ENDED AT:	1047	TOTAL VOLUME PURGED (gallons):	6.1

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	ORP NOTES (G,V)
1037	4.5	4.5	0.225	44.43	7.76	26.33	215	2.57	0.98	Clear	None	44.2
1039	0.25	4.75	0.125	44.43	7.76	26.33	215	2.35	0.96	SAA	SAA	44.3
1041	0.3	5.05	0.15	44.43	7.76	26.31	215	2.17	0.93	SAA	SAA	45.1
1043	0.25	5.4	0.125	44.43	7.74	26.33	215	2.08	0.69	SAA	SAA	40.4
1045	0.35	5.75	0.175	44.43	7.75	26.34	215	2.03	0.58	SAA	SAA	20.6
1047	0.3	6.1	0.15	44.43	7.76	26.37	215	1.96	0.59	SAA	SAA	-4.2

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0008; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
/ Geosyntec D. McGill DM		1048	1051

PUMP OR TUBING DEPTH IN WELL (feet): ≈46	SAMPLE PUMP FLOW RATE (mL per minute): ≈560	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: Y (N) FILTER SIZE µm; Filtration Equipment Type:	DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph			
MW007	2	HDPE	125 ml	—	-	-	W-PFAS-MS	ESP	≈560
					-	-			

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES:
1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 oC **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2); **optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity:** all readings < 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	COTFTF	SITE LOCATION	2964 Municipal Way, Tallahassee, Leon County
WELL NO	MW008	SAMPLE ID	MW008
DATE	5/11/23		

PURGING DATA

WELL DIAMETER (inches)	2	TUBING DIAMETER (inches)	3/8	WELL SCREEN INTERVAL DEPTH 80 feet to 90 feet	STATIC DEPTH TO WATER (feet) 41.55	PURGE PUMP TYPE OR BAILER ESP

WELL VOLUME PURGE (only fill out if applicable): 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
=(90 ft - 41.55 ft) X 0.16 gallons/foot = 7.75 /4 = 1.9375

EQUIPMENT VOLUME PURGE (only fill out if applicable): 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal]
= 0.001 gallons + ( ) gallons/foot X ( ) feet) + 0.13 gallons = ( )

INITIAL PUMP OR TUBING DEPTH IN WELL (feet)	42.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet)	42.5	PURGING INITIATED AT 1553	PURGING ENDED AT 1611	TOTAL VOLUME PURGED (gallons) ≈10

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (umhos/cm or uS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	NOTES
1607	7.75	7.75	0.55	41.70	7.80	24.01	185	8.37	2.94	Clear	None	
1609	1	8.75	0.5	41.70	7.80	23.97	185	8.40	2.63	SAA	SAA	
1611	1	9.75	0.5	41.70	7.78	23.98	186	8.34	2.28	SAA	SAA	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Geosyntec D. McGill	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT 1613	SAMPLING ENDED AT: 1616
PUMP OR TUBING DEPTH IN WELL (feet): 42.5	SAMPLE PUMP FLOW RATE (mL per minute): ≈300	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: (Y) N Tubing replaced	FIELD-FILTERED: Y (N) FILTER SIZE µm Filtration Equipment Type:	DUPLICATE Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
MW008	2	HDPE	125 ml	—	-	-	W-PFAS-MS	ESP	≈300
					-	-			

REMARKS

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: APP = After Penstaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Penstaltic Pump; RFPP = Reverse Flow Penstaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES:
1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 oC **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); **optionally, ± 0.2 mg/L or ± 10% (whichever** is greater) **Turbidity:** all readings ≤ 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	COTFTF	SITE LOCATION	2964 Municipal Way, Tallahassee, Leon County
WELL NO. MW009	SAMPLE ID MW009	DATE	5/3/23

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH	feet to	feet	STATIC DEPTH TO WATER (feet)	PURGE PUMP TYPE OR BAILER
2	3/8	130	150		41.95	PP

WELL VOLUME PURGE (only fill out if applicable): 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
= (150 ft − 41.95 ft) X 0.16 gallons/foot = 17.3 / 4 = 4.325

EQUIPMENT VOLUME PURGE (only fill out if applicable): 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal]
= 0.001 gallons + (— gallons/foot X — feet) + 0.13 gallons = —

INITIAL PUMP OR TUBING DEPTH IN WELL (feet)	FINAL PUMP OR TUBING DEPTH IN WELL (feet)	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
43.25 (DNE)	43	1311	1359	23.5

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	NOTES
1336	17.5	17.5	0.7	41.96	7.19	24.09	373	4.18	0.60	Clear	None	-45.4
1338	0.5	18	0.25	41.96	7.19	24.11	374	3.83	0.41	SAA	SAA	-45.9
1340	0.5	18.5	0.25	41.96	7.21	24.11	374	3.81	0.32	SAA	SAA	-46.4
1354	0.5	22.5	0.25	41.96	7.23	24.12	376	1.36	0.29	SAA	SAA	-45.7
1356	0.5	23	0.25	41.96	7.24	24.13	376	1.25	0.27	SAA	SAA	-45.6
1358	0.5	23.5	0.25	41.96	7.25	24.17	377	1.12	0.31	SAA	SAA	-45.2

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURES	SAMPLING INITIATED AT	SAMPLING ENDED AT
D. McGill / Geosyntec		1359	1402

PUMP OR TUBING DEPTH IN WELL (feet)	SAMPLE PUMP FLOW RATE (mL per minute)	TUBING MATERIAL CODE: HDPE
43	300	

FIELD DECONTAMINATION	FIELD-FILTERED: Y (N) FILTER SIZE µm	DUPLICATE Y (N)
(Y) N	Filtration Equipment Type:	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
MW009	2	HDPE	125 ml	—	-	7.25	W-PFAS-MS	ESP	300
					-	-			

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: APP = After Penstaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Penstaltic Pump; RFPP = Reverse Flow Peristallic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES:
1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 oC **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2); **optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity:** all readings < 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

0.375 gal/cm

GROUNDWATER SAMPLING LOG

SITE NAME:	COTFTF	SITE LOCATION:	2964 Municipal Way, Tallahassee, Leon County
WELL NO: MW010	SAMPLE ID: MW010	DATE:	5/2/23

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: 130 feet to 150 feet	STATIC DEPTH TO WATER (feet): 42.84	PURGE PUMP TYPE OR BAILER: ESP

WELL VOLUME PURGE (only fill out if applicable): 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
=(150 ft - 42.84 ft) X 0.16 gallons/foot = 17.14/4 = 4.3

EQUIPMENT VOLUME PURGE (only fill out if applicable): 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (500ml = 0.13 gal)
= 0.001 gallons + (— gallons/foot X — feet)+ 0.13 gallons = —

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 44.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 44.5	PURGING INITIATED AT: 840	PURGING ENDED AT: 932	TOTAL VOLUME PURGED (gallons): ≥23.3

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	~~NOTES~~ ORP (mV)
917	17.5	17.5	0.47	42.87	7.42	23.92	351	1.66	15.3	Clear	None	73.1
919	0.75	16.25	0.375	42.87	7.43	23.88	356	1.62	16.1	SAA	SAA	63.2
921	0.75	19	0.375	42.87	7.43	23.86	358	1.46	15.7	SAA	SAA	48.8
928	~~2.8~~ 0.75	21.8	0.4	42.87	7.40	23.86	364	1.30	8.77	SAA	SAA	6.6
930	0.75	22.55	0.375	42.87	7.39	23.87	364	1.27	7.84	SAA	SAA	1.9
932	0.75	23.30	0.375	42.87	7.39	23.88	363	1.23	7.08	SAA	SAA	-0.2

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: / Geosyntec D. McGill	SAMPLER(S) SIGNATURES	SAMPLING INITIATED AT: 934	SAMPLING ENDED AT: 936
PUMP OR TUBING DEPTH IN WELL (feet): 44.5	SAMPLE PUMP FLOW RATE (mL per minute): ≈300	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: Y (N) FILTER SIZE: µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph			
MW010	2	HDPE	125 ml	—	-	-	W-PFAS-MS	ESP	≈300
					-	-			

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES:
1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 oC **Specific Conductance:** + 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2); **optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity:** all readings < 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	COTFTF	SITE LOCATION	2964 Municipal Way, Tallahassee, Leon County
WELL NO	MW011	SAMPLE ID	MW011
		DATE	5/1/23

PURGING DATA

WELL DIAMETER (inches)	2"	TUBING DIAMETER (inches)	3/8	WELL SCREEN INTERVAL DEPTH: 130 feet to 150 feet
STATIC DEPTH TO WATER (feet)	41.55	PURGE PUMP TYPE OR BAILER	ESP	

WELL VOLUME PURGE (only fill out if applicable): 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
=(150 ft − 41.55 ft) X 0.16 gallons/foot = 17.4/4 = 4.3

EQUIPMENT VOLUME PURGE (only fill out if applicable): 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal]
= 0.001 gallons + (— gallons/foot X — feet)+ 0.13 gallons = —

INITIAL PUMP OR TUBING DEPTH IN WELL (feet)	42.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet)	42.5
PURGING INITIATED AT	1433	PURGING ENDED AT	1525
TOTAL VOLUME PURGED (gallons)	= 28.7		

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	NOTES
1508	18	18	0.62	41.60	6.99	23.81	~~23.81~~ 342	7.44	3.36	Clear	None	
1506	0.75	18.75	0.375	41.60	7.05	23.82	342	6.88	2.53	SAA	SAA	
1508	0.75	19.5	0.375	41.60	7.07	23.83	344	7.19	2.40	SAA	SAA	
1513	2.9	22.4	0.58	41.60	7.15	23.74	349	6.27	1.40	SAA	SAA	
1515	0.6	~~22.4~~ 23	0.3	41.60	7.17	23.74	350	6.06	0.98	SAA	SAA	
1517	0.7	23.7	0.35	41.60	7.16	23.75	350	5.78	1.12	SAA	SAA	
1521	3	26.7	0.75	41.60	7.18	23.78	351	5.58	0.77	SAA	SAA	
1523	1	27.7	0.5	41.60	7.19	23.76	351	5.58	0.69	SAA	SAA	
1525	0.9	28.6	0.45	41.60	7.18	23.78	352	5.59	0.71	SAA	SAA	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0025; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	D. McGill / Geosyntec	SAMPLER(S) SIGNATURES	
SAMPLING INITIATED AT	1526	SAMPLING ENDED AT	1528
PUMP OR TUBING DEPTH IN WELL (feet)	42.5	SAMPLE PUMP FLOW RATE (mL per minute)	≈300
TUBING MATERIAL CODE	HDPE		
FIELD DECONTAMINATION	(Y) N	FIELD-FILTERED Y (N) FILTER SIZE µm; Filtration Equipment Type:	
DUPLICATE	(Y) N		

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
MW011	2	HDPE	125 ml	—	-	-	W-PFAS-MS	ESP	≈300
MW011-Dup	2	↓	"	—	-	-	"	"	"

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES:
1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 oC **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings < 20 NTU, optionally ± 5 NTU or ± 10% (whichever is greater)

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

5.7 buckets

GROUNDWATER SAMPLING LOG

SITE NAME	COTFTF	SITE LOCATION	2964 Municipal Way, Tallahassee, Leon County
WELL NO MW012	SAMPLE ID: MW012	DATE: 5/3/23	

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH	STATIC DEPTH TO WATER (feet)	PURGE PUMP TYPE OR BAILER
2	3/8	200 feet to 220 feet	41.77	

WELL VOLUME PURGE (only fill out if applicable): 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
= (220 ft − 41.77 ft) X 0.16 gallons/foot = 28.5 / 4 = 7.125

EQUIPMENT VOLUME PURGE (only fill out if applicable): 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal]
= 0.001 gallons + (___ gallons/foot X ___ feet) + 0.13 gallons = ___

INITIAL PUMP OR TUBING DEPTH IN WELL (feet)	FINAL PUMP OR TUBING DEPTH IN WELL (feet)	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
43.5	43.5	1042	1222	36.75

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	ORP NOTES (mV)
1156	28.75	28.75	0.39	41.89	7.48	23.80	411	2.97	0.84	Clear	None	-158.9
1158	0.55	29.3	0.275	41.89	7.48	23.72	411	2.82	0.59	SAA	SAA	-159.4
~~1151200~~ (DUP)	0.7	30	0.35	41.89	7.45	23.71	412	3.15	0.57	SAA	SAA	-159.0
1218	~~0.75~~ 5.75	35.75	0.32	41.88	7.41	23.76	412	0.71	1.83	SAA	SAA	-159.2
1220	0.45	36.2	0.225	41.88	7.42	23.76	412	0.65	1.79	SAA	SAA	-158.8
1222	0.55	36.75	0.275	41.88	7.42	23.74	411	0.58	1.77	SAA	SAA	-158.7

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
D. McGill / Geosyntec		1223	1225

PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE: HDPE
43.5	1300	

FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: Y (N) FILTER SIZE µm Filtration Equipment Type:	DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
MW012	2	HDPE	125 ml	–	-	-	W-PFAS-MS	ESP	1300

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES:
1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 oC **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2), optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings < 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	COTFTF	SITE LOCATION	2964 Municipal Way, Tallahassee, Leon County
WELL NO	MW013	SAMPLE ID	MW013
DATE	5/3/23		

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH	feet to	feet	STATIC DEPTH TO WATER (feet)	PURGE PUMP TYPE OR BAILER
2	3/8	255	275		41.83	ESP

WELL VOLUME PURGE (only fill out if applicable): 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
=(275 ft - 41.83 ft) X 0.16 gallons/foot = 37.3/4 = 9.325

EQUIPMENT VOLUME PURGE (only fill out if applicable): 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal]
= 0.001 gallons + (— gallons/foot X — feet)+ 0.13 gallons = —

INITIAL PUMP OR TUBING DEPTH IN WELL (feet)	FINAL PUMP OR TUBING DEPTH IN WELL (feet)	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
≈43.5	43.5	922	1016	38.75

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	ORP ~~NOTES~~ (mV)
10:12	37.75	37.75	0.755	41.41	7.31	25.47	482	1.33	4.910	Clear	None	-154.4
1014	0.5	38.25	0.25	41.41	7.35	25.45	481	1.20	4.57	SAA	SAA	-156.3
1016	0.5	38.75	0.25	41.91	7.34	25.35	478	1.01	5.31	SAA	SAA	-158.9

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT	SAMPLING ENDED AT:
/ Geosyntec D. McGill		1017	1019

PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE:
43.5	300	HDPE

FIELD DECONTAMINATION:	FIELD-FILTERED:	FILTER SIZE:	DUPLICATE:
(Y) N	Y (N) Filtration Equipment Type:	µm	Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph			
MW013	2	HDPE	125 ml	—	-	-	W-PFAS-MS	ESP	300
					-	-			

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES:
1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 oC **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2); **optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity:** all readings < 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	COTFTF	SITE LOCATION:	2964 Municipal Way, Tallahassee, Leon County
WELL NO:	MW 14	SAMPLE ID:	DEPMW14
DATE:	4/24/23		

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 10 feet to 25 feet	STATIC DEPTH TO WATER (feet): 20.25	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) =(25 ft - 20.25 ft) X .16 gallons/foot = .76

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal]
(only fill out if applicable) = 0.001 gallons + (gallons/foot X feet)+ 0.13 gallons =

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 22.50	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 22.5	PURGING INITIATED AT: 1645	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or mS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	ORP NOTES: mV
1723	.76	.76	.02	20.88	5.47	23.41	93	2.02	7.75	clear	none	179.4
1725	.04	.80	.02	20.90	5.46	23.18	93	1.96	7.07			180.7
1727	.04	.84	.02	20.92	5.43	23.03	93	1.93	6.84			181.7
1729	.04	.88	.02	20.94	5.40	22.98	93	1.92	6.75			182.0
1731	.04	.92	.02	20.97	5.39	22.92	94	1.94	6.19			183.6
1733	.04	.96	.02	20.99	5.39	22.92	94	1.94	5.86	↓	↓	183.6

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: / Geosyntec Tyler Barrett	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1736	SAMPLING ENDED AT: 1740
PUMP OR TUBING DEPTH IN WELL (feet): 22.5	SAMPLE PUMP FLOW RATE (mL per minute): 75	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) FILTER SIZE: µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
DEPMW14	2	HDPE	125 ml	none	-	-	W-PFAS-MS	PP	~75

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

NOTES: 1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: + 0.2 units **Temperature:** + 0.2 oC **Specific Conductance:** + 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2); **optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity:** all readings < 20 NTU, optionally + 5 NTU or + 10% (whichever is greater)

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	COTFTF	SITE LOCATION:	2964 Municipal Way, Tallahassee, Leon County
WELL NO: DEPMW1S	SAMPLE ID: DEPMW1S	DATE:	4/28/23

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 10 feet to 25 feet	STATIC DEPTH TO WATER (feet): 21.63	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) =(25 ft - 21.63 ft) X .16 gallons/foot = .54

XS = 2.7
1/4 = .14

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal]
(only fill out if applicable) = 0.001 gallons + (gallons/foot X feet)+ 0.13 gallons =

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 23.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 24.	PURGING INITIATED AT: 1443	PURGING ENDED AT: 1506	TOTAL VOLUME PURGED (gallons): .81

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	NOTES: ORP mV
1455	.50	.50	~~.04~~ ~~14.25~~	24.25	5.60	26.13	88	7.05	560	light brown	none	184.1
1457	.08	.58	.04	24.25	5.60	25.92	87	7.08	812	↓	↓	174.9
1459	.08	.66	.04	24.25	5.58	25.61	88	7.01	779			159.4
1504	.15	.81	.03	24.21	5.60	26.08	94	7.26				120.4
~~1506~~	~~.00~~	~~.87~~	~~.03~~									
~~1508~~	~~.06~~	~~.93~~	~~.03~~									

1506 well purged dry
- collect samples upon recharge
- TD checked after samples
TD = 24.

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: / Geosyntec: Tyler Barrett	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1525	SAMPLING ENDED AT: 1529
PUMP OR TUBING DEPTH IN WELL (feet): NA	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: Y N	FIELD-FILTERED: Y N FILTER SIZE: µm; Filtration Equipment Type:	DUPLICATE Y N	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
DEPMW1S	2	HDPE	125 ml	None/Ice	—	—	W-PFAS-MS	PP	100

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES:
1 The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 oC Specific Conductance: ± 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	COTFTF	SITE LOCATION:	2964 Municipal Way, Tallahassee, Leon County
WELL NO:	DEPMW-16	SAMPLE ID:	DEPMW-16
DATE:	4/28/23		

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2"	1/4	10 feet to 25 feet	16.78	PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)
=(25 ft - 16.78 ft) X .16 gallons/foot = 1.32
2" = 0.16
1/4" = .33

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal] (only fill out if applicable)
= 0.001 gallons + (gallons/foot X feet)+ 0.13 gallons =

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
19	19.5	1013	1217	2.52

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	ORP NOTES mV
1143	1.50	1.50	.05	18.45	5.17	26.90	34	5.78	5.00	clear	none	243.7
1145	.06	1.56	.03	18.48	5.15	26.98	34	5.76	4.28			244.0
1147	.06	1.62	.03	18.48	5.19	27.00	34	5.74	3.81			243.2
1158	.33	1.95	.03	18.63	5.14	27.62	33	6.34	2.80			252.1
1200	.06	2.01	.03	18.65	5.14	27.91	34	6.40	2.74			252.1
1202	.06	2.07	.03	18.66	5.14	27.95	34	6.51	2.46			251.7
1213	.33	2.40	.03	18.79	5.08	27.22	35	6.63	3.72			258.1
1215	.06	2.46	.03	18.83	5.04	27.11	33	6.47	3.72			262.4
1217	.06	2.52	.03	18.85	5.01	27.08	33	6.61	2.86	↓	↓	264.0

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
/ Geosyntec Tyler Barnett		1220	1227

PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE: HDPE
19.5	100	

FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: µm	DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
DEPMW16DUP	2	HDPE	125 ml	none/Ice			W-PFAS-MS	PP	100
DEPMW16	2	HDPE	125	none/Ice			W-PFAS-MS	PP	100

DEPMW16

REMARKS: Switched Perist. Pump head from 0-600 RPM head placement, to 0-350 rpm head placement. .03 gpm is lowest achievable rate.

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
EQUIPMENT CODES: RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES:
1 The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 oC Specific Conductance: ± 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Check all lines for leaks. None noted utilizing. All criteria for DO ± .2 mg/L

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	COTFTF	SITE LOCATION:	2964 Municipal Way, Tallahassee, Leon County
WELL NO:	DEPMW-17	SAMPLE ID:	DEPMW-17
DATE:	9/26/23		

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 10 feet to 25 feet	STATIC DEPTH TO WATER (feet): 16.35	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) =(25 ft - 16.35 ft) X .16 gallons/foot = 1.38

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal]
(only fill out if applicable) = 0.001 gallons + (gallons/foot X feet)+ 0.13 gallons =

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 18.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 21.0	PURGING INITIATED AT: 1030	PURGING ENDED AT: 1127	TOTAL VOLUME PURGED (gallons): 1.88

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	ORP NOTES mV
1111	1.40	1.40	.03	19.10	6.21	25.51	264	1.05	17.5	clear	none	124.1
1113	.06	1.46	.03	19.16	6.20	25.52	260	.99	13.4			119.9
1115	.06	1.52	.03	19.35	6.18	25.69	256	.95	15.7			114.6
1123	.24	1.76	.03	19.35	6.18	26.00	250	.74	13.8			109.6
1125	.06	1.82	.03	19.35	6.18	26.04	250	.73	12.3			108.7
1127	.06	1.88	.03	19.35	6.19	26.17	249	.70	10.2			107.3

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: / Geosyntec Tyler F	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1130	SAMPLING ENDED AT: 1135
PUMP OR TUBING DEPTH IN WELL (feet): 21.0	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) FILTER SIZE: µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
DEPMW-17	2	HDPE	125 ml	none/ICE	—	—	W-PFAS-MS	~~ESP~~ PP	100

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

NOTES:
1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: + 0.2 units **Temperature:** + 0.2 oC **Specific Conductance:** + 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2); **optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity:** all readings < 20 NTU, optionally + 5 NTU or + 10% (whichever is greater)

DEPMW-17

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DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	COTFTF	SITE LOCATION:	2964 Municipal Way, Tallahassee, Leon County
WELL NO: DEPMW18	SAMPLE ID: ~~AMW-18~~ DEPMW18	DATE:	4/24/25

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 10 feet to 25 feet	STATIC DEPTH TO WATER (feet): 15.31	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (25 ft - 15.31 ft) X .16 gallons/foot = 1.56

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal]
(only fill out if applicable) = 0.001 gallons + (gallons/foot X feet)+ 0.13 gallons =

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 17.5'	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 17.5'	PURGING INITIATED AT: 1526	PURGING ENDED AT: 1610	TOTAL VOLUME PURGED (gallons): 2.2

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	ORP NOTES mV
~~1558~~	1.6	1.6	.05	15.50					1.51	clear	none	
1604	1.9	1.9	.05	15.50	6.41	22.34	203	6.78	1.51	clear	none	128.1
1606	~~3.1~~	2.0	.05	15.50	6.41	22.60	202	6.69	0.60	"	"	128.8
1608	.1	2.1	.05	15.50	6.45	22.52	202	6.69	0.50	"	"	127.5
1610	.1	2.2	.05	15.50	6.42	22.44	200	6.65	0.68	"	"	131.0

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: / Geosyntec Tyler Barnett	SAMPLER(S) SIGNATURES	SAMPLING INITIATED AT: 1615	SAMPLING ENDED AT: 1618
PUMP OR TUBING DEPTH IN WELL (feet): 17.5'	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED Y (N) FILTER SIZE: µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
DEPMW18	2	HDPE	125 ml	none	—	—	W-PFAS-MS	PP	200

REMARKS: Checked line for air leaks, changed out flow cell, in attempt to lower DO. Utilized Alt stabilization criteria for DO ± 0.2 mg/L

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES:
1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: + 0.2 units **Temperature:** + 0.2 oC **Specific Conductance:** + 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2); **optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity:** all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

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DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	COTFTF	SITE LOCATION:	2964 Municipal Way, Tallahassee, Leon County
WELL NO: DEPMW19 (10-25')	SAMPLE ID: DEPMW19 (10-25')	DATE:	25 April 2023

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 10 feet to 25 feet	STATIC DEPTH TO WATER (feet): 18.35	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) =(25 ft - 18.35 ft) X .16 gallons/foot = 1.06

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal]
(only fill out if applicable) = 0.001 gallons + (gallons/foot X feet)+ 0.13 gallons =

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 20.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 20.5	PURGING INITIATED AT: 1635	PURGING ENDED AT: 1709	TOTAL VOLUME PURGED (gallons): 1.70

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	ORP NOTES mV
1657	1.10	1.10	.048	~~18.86~~	5.08	25.07	61	3.53	26.3	clear	none	228.6
1659	~~0.10~~	1.20	.048	18.86	4.97	24.98	64	3.52	23.3	clear	none	282.3
1701	~~.10~~	1.30	.048	18.86	4.91	24.93	62	3.39	24.4	clear	none	266.9
1703	.10	1.40	.048	18.86	4.89	24.96	62	3.34	22.2	↓	↓	273.5
1705	.10	1.50	.048	18.86	4.86	25.13	62	3.28	20.6			285.0
1707	.10	1.60	.048	18.80	4.87	25.11	62	3.27	19.0			285.8
1709	.10	1.70	.048	18.78	4.84	25.15	61	3.29	17.6			287.6

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: / Geosyntec Tyler Bennett	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1715	SAMPLING ENDED AT 1720
PUMP OR TUBING DEPTH IN WELL (feet): 20.5	SAMPLE PUMP FLOW RATE (mL per minute): 150	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) Filtration Equipment Type: FILTER SIZE: µm	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
DEPMW-19 (10-25')	2	HDPE	125 ml	none/ICE	—	—	W-PFAS-MS	PP	150

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
EQUIPMENT CODES: RFPP = Reverse Flow Penstaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: + 0.2 units **Temperature:** + 0.2 oC **Specific Conductance:** + 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2); **optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity:** all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

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DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	COTFTF	SITE LOCATION:	2964 Municipal Way, Tallahassee, Leon County
WELL NO:	DEPMW-20	SAMPLE ID:	DEPMW-20
		DATE:	4/26/23

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 10 feet to 25 feet	STATIC DEPTH TO WATER (feet): 12.09	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) =(25 ft - 12.09 ft) X .16 gallons/foot = 2.07
XS = 10.35
1/4 = .52

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal]
(only fill out if applicable) = 0.001 gallons + (gallons/foot X feet)+ 0.13 gallons =

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 14	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 15	PURGING INITIATED AT: 1506	PURGING ENDED AT: 1655	TOTAL VOLUME PURGED (gallons): 4.27

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	ORP NOTES mV
1600	2.07	2.07	.04	14.07	4.96	27.33	38	.38	49.7	gray	none	212.5
1602	.09	2.15	.04	14.12	4.98	27.23	36	.36	49.4			212.0
1604	.08	2.23	.04	14.14	4.95	26.71	38	.37	51.2			215.3
1617	.52	2.75	.04	14.50	4.74	27.13	38	.38	39.6			221.9
1619	.08	2.83	.04	14.00	4.83	27.35	38	.36	40.5			219.4
1621	.08	2.91	.04	13.98	4.87	27.66	37	.36	37.6			217.9
1634	.52	3.43	.04	13.90	5.01	27.95	38	.37	28.3			211.8
1636	.08	3.51	.04	13.90	5.04	27.96	38	.38	26.4			211.7
1638	.08	3.59	.04	13.90	5.02	27.81	38	.38	24.2			215.9
1651	.52	4.11	.04	13.90	4.70	26.57	38	.58	19.5			231.0
1653	.08	4.19	.04	13.90	4.69	26.58	38	.58	19.2			231.5
1655	.08	4.27	.04	13.90	4.69	26.61	38	.59	19.1	↓	↓	231.7

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: / Geosyntec Tyler B.	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1658	SAMPLING ENDED AT 1701
PUMP OR TUBING DEPTH IN WELL (feet): 15	SAMPLE PUMP FLOW RATE (mL per minute): 100	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: Y O	FIELD-FILTERED: Y O Filtration Equipment Type:	FILTER SIZE: µm	DUPLICATE: Y O

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
DEPMW-20	2	HDPE	125 ml	None/ICE	-	-	W-PFAS-MS	PP	100
					-	-			

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
EQUIPMENT CODES: RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: + 0.2 units **Temperature:** + 0.2 oC **Specific Conductance:** + 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2); **optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity:** all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

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0.503 gal/min
3 min 47 sec
1.7 min

GROUNDWATER SAMPLING LOG

SITE NAME	COTFTF	SITE LOCATION	2964 Municipal Way, Tallahassee, Leon County
WELL NO: DEPMW-21	SAMPLE ID: DEPMW-21	DATE: 5/1/23	

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH	STATIC DEPTH TO WATER (feet)	PURGE PUMP TYPE OR BAILER
2"	3/8	70 feet to 90 feet	43.38	ESP

WELL VOLUME PURGE (only fill out if applicable): 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
=(90 ft - 43.38 ft) X 0.16 gallons/foot = 7.46 /4 = 1.86

EQUIPMENT VOLUME PURGE (only fill out if applicable): 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal]
= 0.001 gallons + (— gallons/foot X — feet)+ 0.13 gallons = —

INITIAL PUMP OR TUBING DEPTH IN WELL (feet)	FINAL PUMP OR TUBING DEPTH IN WELL (feet)	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
~~45~~ 44.6	44.5	1056	1144	32a.14

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	NOTES
1140	22.13	22.13	0.503	43.39	6.83	25.06	503	4.93	6.80	Clear	None	
1142	1.01	23.14	↓	43.39	6.83	25.04	500	5.27	5.26	SAA	SAA	
1144	1.00	24.14	↓	43.39	6.82	25.07	6497	~~3.42~~ 5.38	3.42	SAA	SAA	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT	SAMPLING ENDED AT:
D. McGill / Geosyntec		1146	1148

PUMP OR TUBING DEPTH IN WELL (feet): 44.5	SAMPLE PUMP FLOW RATE (mL per minute): ~300	TUBING MATERIAL CODE: HDPE
FIELD DECONTAMINATION: (Y) N	FIELD-FILTERED: Y (N) FILTER SIZE µm; Filtration Equipment Type:	DUPLICATE: (Y) N

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph			
DEPMW-21	2	HDPE	125 ml	—			W-PFAS-MS	ESP	~300
Dup	2	↓	↓	—			"	↓	

REMARKS: Dup Collected

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES:
1 The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 oC Specific Conductance: ± 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings < 20 NTU optionally ± 5 NTU or ± 10% (whichever is greater)

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	COTFTF	SITE LOCATION:	2964 Municipal Way, Tallahassee, Leon County
WELL NO:	DEPMW22	SAMPLE ID:	DEPMW22
DATE:	4/28/22		

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2"	1/4	84 feet to 84 feet	43.49	ESP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (84 ft - 43.49 ft) X .16 gallons/foot = 6.48
x5 = 32.4
x¼ = 1.62

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (500ml = 0.13 gal)
(only fill out if applicable) = 0.001 gallons + (gallons/foot X feet)+ 0.13 gallons =

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
45.5	45.5	1355	1437	22.16

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	ORP NOTES mV
1343	8.30	8.30	.83	45.27	7.22	25.25	305	5.35	72.1	light brown	none	+165.0
1345	1.66	9.96	.83	44.60	7.25	25.34	305	4.87	57.2	↓	↓	+156.8
1347	.98	10.94	.49	44.55	7.35	25.63	307	4.89	46.6			+147.9
1351	1.96	12.90	.49	44.66	7.37	25.69	327	5.13	14.2			+124.9
1353	.98	13.88	.49	44.66	7.37	25.68	329	5.15	13.1			120.9
1355	.98	14.86	.49	44.66	7.36	25.72	331	5.14	12.3	↓		118.3
1401	1.50	16.36	.25	43.86	7.37	26.29	334	5.25	80.6	clear		96.2
1403	.50	16.86	.25	43.86	7.38	26.35	335	5.32	73.4			91.3
1405	.50	17.36	.25	43.86	7.39	26.42	335	5.31	71.5			83.1
1407	1.56	18.92	.13	43.71	7.45	28.07	346	5.53	55.1			40.5
1419	.26	19.18	.13	43.71	7.45	28.05	347	5.29	49.7			40.6
1421	.26	19.44	.13	43.71	7.45	28.02	348	5.31	44.9			40.6
1433	1.04	21.48	.17	43.80	7.43	29.30	353	5.61	28.1			34.8
1435	.34	21.82	.17	43.81	7.43	29.43	354	5.79	29.2			32.8
1437	.34	22.16	.17	43.78	7.45	29.58	358	5.80	30.2	↓	↓	30.7

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0005; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
/ Geosyntec Tyler Basnett		1445	1450

PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE: HDPE
45.5	200	

FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: µm	DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
DEPMW-22	9	HDPE	125 ml	none/ICE	-	-	W-PFAS-MS	ESP	200

REMARKS: Alt stabilization criteria utilized for turbidity (±5 NTU) and for DO (± .2 mg/L)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES:
1 The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units Temperature: ± 0.2 oC Specific Conductance: ± 5% Dissolved Oxygen: all readings < 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings < 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	COTFTF	SITE LOCATION:	2964 Municipal Way, Tallahassee, Leon County
WELL NO.	DEPMW-23	SAMPLE ID	DEPMW-23
DATE	4/28/23		

PURGING DATA

WELL DIAMETER (inches)	TUBING DIAMETER (inches)	WELL SCREEN INTERVAL DEPTH	STATIC DEPTH TO WATER (feet)	PURGE PUMP TYPE OR BAILER
2"	3/8	70 feet to 90 feet	43.39	ESP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)
=(90 ft − 43.39 ft) X .16 gallons/foot = 7.46 x5 = 37.30 1/4 = 1.87

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal] (only fill out if applicable)
= 0.001 gallons + (gallons/foot X feet)+ 0.13 gallons =

INITIAL PUMP OR TUBING DEPTH IN WELL (feet)	FINAL PUMP OR TUBING DEPTH IN WELL (feet)	PURGING INITIATED AT	PURGING ENDED AT	TOTAL VOLUME PURGED (gallons)
46	46	1008	1056	13.20

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (µmhos/cm or mS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	NOTES
1025	7.48	7.48	.44	43.40	7.43	25.90	327	5.01	6.96	clear / none	none	DEP MW-23 91.4
1027	.88	8.36	.44	43.40	7.50	25.76	332	2.59	5.01			98.5
1028	1.88	9.24	.44	43.40	7.43	25.49	334	2.47	5.57			95.7
1035	2.20	11.44	.44	43.40	7.40	25.58	334	2.09	4.30			87.8
1039	.88	12.32	.44	43.40	7.39	25.59	334	2.20	4.21			85.7
1056	.88	13.20	.44	43.40	7.39	25.60	334	2.21	3.78	↓	↓	84.3

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION	SAMPLER(S) SIGNATURES	SAMPLING INITIATED AT	SAMPLING ENDED AT
/ Geosyntec Tyler Barnett		1091	1046

PUMP OR TUBING DEPTH IN WELL (feet)	SAMPLE PUMP FLOW RATE (mL per minute)	TUBING MATERIAL CODE: HDPE
46	200	

FIELD DECONTAMINATION: Y (N)
FIELD-FILTERED Y (N) FILTER SIZE µm Filtration Equipment Type:
DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
DEP MW-23	4	HDPE	125 ml	None/Ice	—	—	W-PFAS-MS	ESP	200

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
EQUIPMENT CODES: RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 oC **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2); **optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity:** all readings < 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME	COTFTF	SITE LOCATION:	2964 Municipal Way, Tallahassee, Leon County
WELL NO:	DEPMW-24	SAMPLE ID:	DEPMW-24
DATE:	4/26/23		

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2"	3/8	70 feet to 90 feet	44.05	ESP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)
= (90 ft - 44.05 ft) X .16 gallons/foot = 7.35
X5 = 36.75
1/4 = 1.84

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal] (only fill out if applicable)
= 0.001 gallons + (gallons/foot X feet)+ 0.13 gallons =

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
46	46	0927	1048	19.78

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	ORP NOTES: mV
0952	7.50	7.50	.3	44.05	7.49	26.50	334	2.19	454	opaque	none	114.0
0954	.60	8.10	.3	44.05	7.52	26.52	333	2.22	314			106.7
0956	.60	8.70	.3	44.05	7.57	27.11	334	2.20	152			90.6
1002	1.80	10.50	.3	44.05	7.56	26.42	332	2.27	94.9	clear		70.9
1004	.60	11.10	.3	44.05	7.55	26.40	331	2.27	53.0			68.0
1006	.60	11.70	.3	44.05	7.54	26.41	331	2.50	57.4			67.7
12 ~~1008~~	1.80	13.50	.3	44.05	7.53	26.49	331	2.23	89.7			62.4
1014	.60	14.10	.3	44.05	7.53	26.48	331	2.23	68.3			60.8
1016	.60	14.70	.3	44.05	7.53	26.55	331	2.20	55.4			59.9
1028	1.90	16.60	.16	44.03	7.55	26.95	331	2.26	33.4			56.6
1030	.32	16.92	.16	44.03	7.55	26.88	331	2.26	23.5			57.8
1032	.32	17.24	.16	44.03	7.55	26.78	330	2.25	22.1			61.5
1044	1.90	19.14	.16	44.03	7.53	26.80	330	2.23	19.9			64.5
1046	.32	19.46	.16	44.03	7.53	26.80	330	2.23	18.6			64.1
1048	.32	19.78	.16	44.03	7.53	26.79	330	2.25	17.5			63.2

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
/ Geosyntec Tyler B		1050	1054

PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE: HDPE
46	200	

FIELD DECONTAMINATION:	FIELD-FILTERED: Filtration Equipment Type:	FILTER SIZE:	DUPLICATE:
Y (N)	Y (N)	µm	Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph			
DEPMW-24	2	HDPE	125 ml	none/ice	-	-	W-PFAS-MS	ESP	200
					-	-			

REMARKS: getting ground faults from Grundfos pump.

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
EQUIPMENT CODES: RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 oC **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2); **optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity:** all readings < 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Ground Faults! 0936 0956

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	COTFTF	SITE LOCATION:	2964 Municipal Way, Tallahassee, Leon County
WELL NO:	DEPMW-2S (70-90')	SAMPLE ID:	DEPMW-2S(70-90') DEPMW-2S (70-90)
DATE:	4/25/23		

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: 70 feet to 90 feet	STATIC DEPTH TO WATER (feet): 41.71	PURGE PUMP TYPE OR BAILER: ESP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)
=(90 ft - 41.71 ft) X .16 gallons/foot = 7.73 x 5 = 38.65 1/4 = 1.93

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal] (only fill out if applicable)
= 0.001 gallons + (gallons/foot X feet)+ 0.13 gallons =

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 44	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 65	PURGING INITIATED AT: 1006	PURGING ENDED AT: 1109	TOTAL VOLUME PURGED (gallons): 26.06

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	ORP NOTES: mV
1033	13.5	13.5	.5	59.50	6.38	24.28	218	6.18	149	light brown	none	158.7
1035	1.0	14.5	.5	59.50	6.39	24.30	220	6.02	140			157.1
1037	1.0	15.5	.5	59.50	6.40	24.33	220	6.01	131			156.3
1049	1.92	17.42	.16	62.50	6.51	24.40	223	5.51	95.6			153.2
1051	.32	17.74	.16	62.50	6.56	24.39	221	5.45	89.2			153.7
1053	.32	18.06	.16	62.50	6.59	24.37	218	5.43	68.4			151.8
1105	1.92	19.98	.16	62.50	6.47	25.18	214	5.39	95.2			152.1
1107	.32	20.30	.16	62.50	6.44	25.16	211	5.42	99.3			154.8
1109	.32	20.62	.16	62.50	6.42	25.25	209	5.41	90.9			155.6

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Tyler Barnett / Geosyntec	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1115	SAMPLING ENDED AT: 1120
PUMP OR TUBING DEPTH IN WELL (feet): 65	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) FILTER SIZE: µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
	2	HDPE	125 ml	none/ICE	—	-	W-PFAS-MS	ESP	200

DEPMW-2S (70-90)

REMARKS: DTW Gauge having issues. Alt stabilization criteria utilized. for turbidity (I 10%). First 3 DTW measurements are likely off.

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES:
1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: + 0.2 units **Temperature:** + 0.2 oC **Specific Conductance:** + 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2); **optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity:** all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Alt stabilization criteria utilized for DO ± .2 mg/L

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	COTFTF	SITE LOCATION:	2964 Municipal Way, Tallahassee, Leon County
WELL NO:	DEPMW-26(70-90)'	SAMPLE ID:	DEPMW26(70-90')
DATE:	4/25/2023		

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: 70 feet to 90 feet	STATIC DEPTH TO WATER (feet): 40.5	PURGE PUMP TYPE OR BAILER: ESP

WELL VOLUME PURGE (only fill out if applicable): 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
= (90 ft - 40.5 ft) X .16 gallons/foot = 7.92 X 5 = 39.6 1/4 = 1.98

EQUIPMENT VOLUME PURGE (only fill out if applicable): 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal]
= 0.001 gallons + (gallons/foot X feet)+ 0.13 gallons =

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 42.5	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 42.5	PURGING INITIATED AT: 1250	PURGING ENDED AT: 1422	TOTAL VOLUME PURGED (gallons): 20.08

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND (µmhos/cm or mS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	DEP NOTES: M
1306	9.00	8.00	.5	40.55	7.36	25.14	488	1.27	~~1.27~~ 121	chalky	none	36.0
1308	1.00	9.00	.5	40.55	7.34	25.26	488	1.21	102	"	"	30.0
1310	1.00	10.00	.5	40.55	7.31	25.32	488	1.20	97	"	"	21.3
1324	1.96	11.96	.14	40.51	7.20	26.01	489	.85	60.2	clear	"	-7.6
1326	.28	12.24	.14	40.51	7.20	26.04	490	.85	58.2	"	"	-7.8
1328	.28	12.52	.14	40.51	7.19	26.00	491	.85	50.2	"	"	-8.3
1342	1.96	14.48	.14	40.51	7.20	26.12	491	1.19	51.1	"	"	-7.3
1344	.28	14.76	.14	40.51	7.24	26.54	492	1.52	31.2	"	"	-9.2
1346	.28	15.04	.14	40.51	7.24	26.47	491	1.45	29.6	"	"	-9.9
1400	1.96	17.00	.14	40.51	7.24	26.49	492	1.53	28.6	"	"	-10.3
1402	.28	17.28	.14	40.51	7.25	26.48	492	1.49	27.3	"	"	-10.2
1404	.28	17.56	.14	40.51	7.25	26.57	493	1.59	26.7	"	"	-9.6
1418	1.96	19.52	.14	40.51	7.24	26.57	494	1.38	21.3	"	"	-12.0
1420	.28	19.80	.14	40.51	7.24	26.54	494	1.45	20.3	"	"	-11.7
1422	.28	20.08	.14	40.51	7.24	26.53	494	1.42	19.5	"	"	-12.9

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Geosyntec / Geosyntec Tyler Barnett	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1427	SAMPLING ENDED AT: 1451
PUMP OR TUBING DEPTH IN WELL (feet): 42.5	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) FILTER SIZE µm Filtration Equipment Type:	DUPLICATE Y (N)	

DEPMW-26(70-90')

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
	2	HDPE	125 ml	None/ICE	—	—	W-PFAS-MS	ESP	200

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES:
1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: + 0.2 units **Temperature:** + 0.2 oC **Specific Conductance:** + 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2); **optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity:** all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

Page 1

SITE NAME:	COTFTF	SITE LOCATION:	2964 Municipal Way, Tallahassee, Leon County
WELL NO:	DEP MW-27	SAMPLE ID:	DEP MW-27
		DATE:	4/26/23

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: 70 feet to 90 feet	STATIC DEPTH TO WATER (feet): 38.78	PURGE PUMP TYPE OR BAILER: ESP	

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)
=(90 ft - 38.78 ft) X .16 gallons/foot = 8.20
4" = 4.1
1/4 = 2.05

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal] (only fill out if applicable)
= 0.001 gallons + (gallons/foot X feet)+ 0.13 gallons =

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 41	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 41	PURGING INITIATED AT: 1630	PURGING ENDED AT: 1852	TOTAL VOLUME PURGED (gallons): 32.68

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (µmhos/cm or mS/cm)	OXYGEN (circle mg/l or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	ORP NOTES: mV
1640	9.00	9.00		38.82								
Pause for pump troubleshoot												
1730	4.00	13.00	.24	38.82	7.42	26.13	369	.26	107	chalky	none	-141.7
1732	.48	13.48	.24	38.82	7.43	26.15	369	.26	111			-143.2
1734	.48	13.96	.24	38.82	7.45	26.14	366	.25	106			-145.5
1743	2.16	16.12	.24	38.82	7.51	26.05	367	.24	269			-154.7
1745	.48	16.60	.24	38.82	7.52	26.13	367	.24	384			-158.4
1747	.48	17.08	.24	38.82	7.53	26.14	367	.24	695			-159.3
1756	2.16	19.24	.24	38.82	7.67	25.90	346	.24	405			-173.2
1758	.48	19.72	.24	38.82	7.67	25.87	344	.24	311			-174.1
1800	.48	20.20	.24	38.82	7.69	25.80	340	.24	702			-175.6
1809	2.16	22.36	.24	38.82	7.75	25.69	327	.24	56	clear		-181.2
1811	.48	22.84	.24	38.82	7.75	25.69	326	.24	89.1			-181.2
1813	.48	23.32	.24	38.82	7.77	25.70	324	.24	47.8			-183.2
	See Page 2											

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: / Geosyntec Tyler Bennett	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1855	SAMPLING ENDED AT: 1858
PUMP OR TUBING DEPTH IN WELL (feet): 41	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: µm	DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
DEP MW-27	2	HDPE	125 ml	None/Ice	—	—	W-PFAS-MS	ESP	200

REMARKS: Pump failed right after we hit first well volume purge.

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES:
1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: + 0.2 units **Temperature:** + 0.2 oC **Specific Conductance:** + 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2); **optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity:** all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

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DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

Page 2

SITE NAME:	COTFTF	SITE LOCATION:	2964 Municipal Way, Tallahassee, Leon County
WELL NO:	DEPMW-27	SAMPLE ID:	DEP-MW-27
DATE:	4/26/23		

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH: feet to feet	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) =(ft - ft) X gallons/foot =

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal]
(only fill out if applicable) = 0.001 gallons + (gallons/foot X feet)+ 0.13 gallons =

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND (µmhos/cm or mS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	ORP NOTES: mV
1822	2.16	25.48	.24	38.82	7.80	25.65	320	.23	37.4	clear	none	-185.0
1824	.48	25.96	.24	38.82	7.81	25.63	319	.24	31.3	"	"	-184.6
1826	.48	26.44	.24	38.82	7.80	25.63	320	.24	33.2	"	"	-184.3
1835	2.16	28.60	.24	38.82	7.85	25.63	316	.23	31.4	"	"	-188.2
1837	.48	29.08	.24	38.82	7.84	25.62	317	.23	22.9	"	"	-186.8
1839	.48	29.56	.24	38.82	7.85	25.61	316	.23	23.7	"	"	-185.8
1848	2.16	31.72	.24	38.82	7.92	25.63	311	.23	18.1	"	"	-191.5
1850	.48	32.20	.24	38.82	7.93	25.63	311	.23	16.1	"	"	-191.6
1852	.48	32.68	.24	38.82	7.92	25.63	311	.23	14.8	↓	↓	-191.0

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: / Geosyntec Tyler B.	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1855	SAMPLING ENDED AT: 1858
PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE µm	DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
		HDPE	125 ml		-	-	W-PFAS-MS		200
					-	-			

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)
SAMPLING/PURGING **APP** = After Penstaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump
EQUIPMENT CODES: **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain), **VT** = Vacuum Trap; **O** = Other (Specify)

NOTES: 1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: + 0.2 units **Temperature:** + 0.2 oC **Specific Conductance:** + 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2), **optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity:** all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

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DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	COTFTF	SITE LOCATION:	2964 Municipal Way, Tallahassee, Leon County
WELL NO:	DEP MW-28 (130-150')	SAMPLE ID:	DEP MW-28 (130-150')
DATE	4/25/23		

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: 130 feet to 150 feet	STATIC DEPTH TO WATER (feet): 41.70	PURGE PUMP TYPE OR BAILER: ESP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)
=(150 ft - 41.70 ft) X .16 gallons/foot = 17.33 x5 = 86.65 1/4 = 4.33

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal] (only fill out if applicable)
= 0.001 gallons + (gallons/foot X feet)+ 0.13 gallons =

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 44	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 57	PURGING INITIATED AT: 0855	PURGING ENDED AT: 0930	TOTAL VOLUME PURGED (gallons): 25.60

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND. (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	NOTES
0913	17.10	17.10	.95	56.12	7.59	23.73	369	.63	70.3	clear	none	2.9
0915	1.00	18.10	.50	55.63	7.57	23.74	369	.66	52.0	"	"	-1.8
0917	1.00	19.10	.50	55.17	7.57	23.78	370	.70	31.7	"	"	-11.8
0926	4.5	23.60	.50	52.49	7.56	23.79	369	.75	24.7	"	"	-26.7
0928	1.00	24.60	.50	52.49	7.55	23.79	369	.78	22.6	"	"	-32.5
0930	1.00	25.60	.50	52.49	7.54	23.77	369	.79	19.4	"	"	-34.3

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: / Geosyntec Tyler Bennett	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 0933	SAMPLING ENDED AT: 0936
PUMP OR TUBING DEPTH IN WELL (feet): 57	SAMPLE PUMP FLOW RATE (mL per minute): 300	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: Y (O)	FIELD-FILTERED: Y (N) FILTER SIZE: µm Filtration Equipment Type:	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
	4	HDPE	125 ml	none/Ice	-	-	W-PFAS-MS	ESP	300

DEPMW-28 (130-150')

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES:
1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: + 0.2 units **Temperature:** + 0.2 oC **Specific Conductance:** + 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2); **optionally, + 0.2 mg/L or + 10% (whichever is greater)** **Turbidity:** all readings < 20 NTU; optionally + 5 NTU or + 10% (whichever is greater)

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	COTFTF	SITE LOCATION:	2964 Municipal Way, Tallahassee, Leon County
WELL NO:	DEP MW29 (130-150')	SAMPLE ID:	DEP MW-29 (130-150')
DATE:	4/25/23		

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2"	3/8"	130 feet to 150 feet	40.59	ESP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) = (150 ft - 40.59 ft) X .16 gallons/foot = 17.51
X5 = ~~87.55~~ 87.55
1/4 = 4.38

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal]
(only fill out if applicable) = 0.001 gallons + (gallons/foot X feet)+ 0.13 gallons =

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
42.50	42.50	1500	1613	31.06

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	ORP NOTES mV
1535	17.50	17.50	.5	40.62	7.77	24.03	451	.65	67.1	clear	none	-131.0
1537	1.00	18.50	.5	40.62	7.65	24.03	450	.32	56.6			-133.1
1539	1.00	19.50	.5	40.62	7.61	24.01	450	.29	54.7			-133.7
1552	4.42	23.92	.34	40.60	7.54	23.97	450	.21	51.9			-135.5
1554	.68	24.60	.34	40.60	7.52	23.97	450	.27	44.6			-136.6
1556	.68	25.28	.34	40.60	7.49	24.00	450	.15	20.8			-139.4
1609	4.42	29.70	.34	40.60	7.49	23.99	450	.11	22.8			-141.0
1611	.68	30.38	.34	40.60	7.49	23.96	450	.09	21.5			-144.2
1613	.68	31.06	.34	40.60	7.46	23.97	450	.08	19.4	↓	↓	-146.4

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
/ Geosyntec Tyler Barnett		1615	1618

PUMP OR TUBING DEPTH IN WELL (feet):	SAMPLE PUMP FLOW RATE (mL per minute):	TUBING MATERIAL CODE: HDPE
42.50	300	

FIELD DECONTAMINATION:	FIELD-FILTERED: Filtration Equipment Type:	FILTER SIZE:	DUPLICATE:
Y (N)	Y (N)	µm	Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph			
	2	HDPE	125 ml	none/Ice	-	-	W-PFAS-MS	ESP	300

REMARKS:

DEP MW-29 (130-150')

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump
EQUIPMENT CODES: RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES: 1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 oC **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2); **optionally, ± 0.2 mg/L or ± 10% (whichever is greater)** **Turbidity:** all readings < 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Geosyntec consultants

DEP-SOP-001/01
FS 220 Groundwater Sampling
Form FD 9000-24

GROUNDWATER SAMPLING LOG

SITE NAME:	COTFTF	SITE LOCATION:	2964 Municipal Way, Tallahassee, Leon County
WELL NO:	DEPMW-30	SAMPLE ID:	DEP MW-30
		DATE:	4/26/22

PURGING DATA

WELL DIAMETER (inches): 2"	TUBING DIAMETER (inches): 3/8	WELL SCREEN INTERVAL DEPTH: 130 feet to 150 feet	STATIC DEPTH TO WATER (feet): 38.80	PURGE PUMP TYPE OR BAILER: ESP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable) =(150 ft - 38.80 ft) X .16 gallons/foot = 17.79 x 5 = 88.95 1/4 = 4.50

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME [500ml = 0.13 gal]
(only fill out if applicable) = 0.001 gallons + (gallons/foot X feet)+ 0.13 gallons =

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 41	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 41	PURGING INITIATED AT: 1310	PURGING ENDED AT: 1443	TOTAL VOLUME PURGED (gallons): 45.91

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (µmhos/cm or µS/cm)	OXYGEN (circle mg/L or % saturation)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)	ORP NOTES: mV
1327	1.87	1.87	1.11	38.99	7.48	23.69	473	.18	†††	brown	unknown odor	-130.7
1329	2.22	21.09	1.11	38.99	7.43	23.72	474	.15	†††			-131.4
1331	2.22	23.31	1.11	38.99	7.44	23.71	474	.16	†††			-130.3
1342	4.40	27.71	.40	38.89	7.57	25.18	477	.12	307			-147.7
1344	.80	28.51	.40	38.89	7.55	25.19	476	.12	287			-148.5
1346	.80	29.31	.40	38.89	7.53	25.17	475	.13	207	light brown		-150.4
1357	4.40	33.71	.40	38.89	7.46	24.92	474	.13	118			-149.6
1359	.80	34.51	.40	38.89	7.47	24.85	473	.14	95.50			-153.6
1401	.80	35.31	.40	38.89	7.47	24.82	472	.13	79.91			-156.7
1412	4.40	39.71	.40	38.85	7.52	25.52	470	.17	41.70	opaque		-158.3
1414	.80	40.11	.20	38.84	7.52	25.97	470	.14	44.40			-162.4
1416	.40	40.51	.20	38.84	7.55	26.64	472	.14	38.80			-168.1
1439	4.60	45.11	.20	38.84	7.53	26.56	473	.15	42.0			-166.0
1441	.40	45.51	.20	38.84	7.53	26.56	473	.15	39.5			-168.4
1443	.40	45.91	.20	38.84	7.53	26.59	473	.15	36.8			-170.3

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: / Geosyntec Tyler B	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1447	SAMPLING ENDED AT: 1450
PUMP OR TUBING DEPTH IN WELL (feet): 41	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: HDPE	
FIELD DECONTAMINATION: Y (N)	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: µm	DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL Ph	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per min)
DEPMW-30	2	HDPE	125 ml	None/Ice			W-PFAS-MS	ESP	200

REMARKS: water odor is new to me, vaguely similar to petroleum but not sure. All stabilization criteria utilized for turbidity ± 5 NTU

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING/PURGING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); VT = Vacuum Trap; O = Other (Specify)

NOTES:
1 **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2 STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: + 0.2 units **Temperature:** + 0.2 oC **Specific Conductance:** + 5% **Dissolved Oxygen:** all readings < 20% saturation (see Table FS 2200-2), **optionally, + 0.2 mg/L or + 10% (whichever is greater) Turbidity:** all readings < 20 NTU, optionally + 5 NTU or + 10% (whichever is greater)

Final IDW Pickup May 2023

Drum and Bin Tracking Sheet (Solids, Liquids, and Mixtures)

Project No: FR9428 **Project Manager:** Brooks Baldwin

Site Name: COTFTF **Project Location:** 2964 Municipal Way, Tallahassee, Leon County

Facility I.D. #: ERIC_7413 **EPA Haz. Waste #:**

Entry No.	Drum ID	Material	Date Generated	% Full	~~LFR~~ Staff	Sampling Date	Geo Staff	Haz.? (Y/N)	Chemicals of Concern	Waste Classification Method[1]	Transport Date	Comments
1	Soil-1	Soil	3/2/23						PFAS		3-14-23	DEP mw29
2	PFAS-2 Soil 2	Soil	3.2.23						PFAS		3-14-23	DEP mw 28
3	Drill mudd 3	DM	3.2.23						PFAS		3-14-23	DEP mw 28
4	Drill mudd 4	DM	3-2-23						PFAS		3-14-23	DEP mw 28
5	Drill mudd 3	DM	3-3-23						PFAS		3-14-23	DEP mw 28
6	Drill mud 4	DM	3-3-23						PFAS		3-14-23	DEP mw 28
7	Drill mud 5	DM	3-3-23						PFAS		3-14-23	DEP mw 28
8	Drill mud 6	DM	3-3-23						PFAS		3-14-23	DEP mw 28
9	Soil 3	Soil	3-6-23						PFAS		3-14-23	DEP mw 25 18
10	Drill mudd 7	DM	3.6.23						PFAS		3-14-23	Dep mw 25
11	Drill mudd 8	DM	3.6.23						PFAS			DEP mw 25 18
12	[illegible]	DW	3.7.23						PFAS		3/22/23	DEP mw 18
13	Decon Water	DW	3.7.23						PFAS		3-14-23	Decon
14	Decon Water	DW	3.7.23						PFAS		3-14-23	Decon
15	Decon Water	DW	3.7.23						PFAS		3-14-23	Decon
16	Soil-4	Soil	3.8.23						PFAS		3-14-23	DEP mw29
17	Drill mudd 9	DM	3.8.23						PFAS		3-14-23	DEP mw25
18	Drill mudd 10	DM	3.8.23						PFAS		3-14-23	DEP mw29
19	Drill mudd 11	DM	3.8.23						PFAS		3-14-23	DEP mw25
20	Drill mudd 12	DM	3-8-23						PFAS		3-14-23	DEP mw29

PPE = pers. protection equipment PW = purge water DW = decon water S = soil (1) Laboratory analysis, Generator's Knowledge, etc.

GW = groundwater DM = drilling mud DS = decon sludge

Drum and Bin Tracking Sheet (Solids, Liquids, and Mixtures)

Project No: FR9428
Site Name: COTFTF
Facility I.D. #: ERIC_7413

Project Manager: Brooks Baldwin
Project Location: 2964 Municipal Way, Tallahassee, Leon County
EPA Haz. Waste #:

Entry No.	Drum ID	Material	Date Generated	% Full	LFR Staff	Sampling Date	Geo Staff	Haz.? (Y/N)	Chemicals of Concern	Waste Classification Method[1]	Transport Date	Comments	
1	Drill mud	DM	3-8-23						PFAS	PFAS	3-14-23	DEP MW 28	21
2	Drill mud	DM	3-8-23						PFAS		3-14-23	DEP MW 29	22
3	Drill mud	DM	3-8-23						PFAS		3-14-23	DEP MW 29	23
4	Drill mudd	DM	3-8-23						PFAS		3-14-23	DEP MW 29	24
5	Drill mudd	DM	3-8-23						PFAS		3-14-23	DEP MW 29	25
5 6	Soil 5	Soil	3-9-23						PFAS		3-14-23	DEP MW 26	26
7	Decon water	DW	3-9-23						PFAS		3-14-23	Decon	27
8	Drill muDD	DM	3-9-23						PFAS		3-14-23	DEP MW 26	28
9	Drill mud	DM	3-9-23						PFAS		3-14-23	DEP MW 26	29
6 10	Soil 6	Soil	3-10-23						PFAS		3-2223	DEP MW 19	30
11	Dev. water	PW	3-13-23						PFAS		3/22/23	DEP MW 26	31
12	Dev. water	PW	3-13-23						PFAS		4/6/23	DEP MW 19	32
7 13	Soil 7	S	3-13-23						PFAS		4/6/23	DEP MW 30	33
8 14	Soil 8	S	3-13-23						PFAS		4/6/23	DEP MW 30	34
15	Drill Mud	DM	"						PFAS		3/22/23	DEP MW 30	35
16	"	DM	"						"		3/22/23	DEP MW 30	36
17	"	DM	"						"		3/22/23	DEP MW 30	37
18	"	DM	"						"		4/6/23	DEP MW 30	38
9 19	Soil 9	S	"						"		4/6/23	DEP MW 30	39
20	Drill Mud	DM	"						"		3/22/23	DEP MW 30	40

PPE = pers. protection equipment
GW = groundwater
PW = purge water
DM = drilling mud
DW = decon water
DS = decon sludge
S = soil

(1) Laboratory analysis, Generator's Knowledge, etc.

Drum and Bin Tracking Sheet (Solids, Liquids, and Mixtures)

Project No: FR9428 **Project Manager:** Brooks Baldwin

Site Name: COTFTF **Project Location:** 2964 Municipal Way, Tallahassee, Leon County

Facility I.D. #: ERIC_7413 **EPA Haz. Waste #:**

Entry No.	Drum ID	Material	Date Generated	% Full	LFR Staff	Sampling Date	Geo Staff	Haz.? (Y/N)	Chemicals of Concern	Waste Classification Method[1]	Transport Date	Comments	
1	Drill Mud	DM	3-13-23						PFAS		3/22/23	DEP MW 30	41
2	Drill Mud	DM	3-14-23						PFAS		3/22/23	DEP MW 30	42
3	Decon water	DW	3-14-23						PFAS		4/6/23	Decon water	43
4	Decon water	DW	3-14-23						PFAS		4/6/23	Decon water	44
5	Decon water	DW	3-14-23						PFAS		4/6/23	Decon water	45
6	Drill Mud	DM	3-15-23						PFAS		3/22/23	DEP MW 27	46
7	Drill mud	DM	3-15-23						PFAS		3/22/23	DEP MW 27	47
8	Drill Mud	DM	3-15-23						PFAS		3/22/23	DEP MW27	48
9	Drill Mud	DM	3-15-23						PFAS		3/22/23	DEP MW27	49
10	Drill Mud	DM	3-15-23						PFAS		3/22/23	DEP MW-27	50
11	Drill Mud	DM	3-15-23						PFAS		3/22/23	DEP MW-27	51
12	Soil 10	S	3-15-23			3-16-23			PFAS		4/6/23	DEP MW-20	52
13	Purge water	PW	3-16-23						PFAS		3/22/23	DEP MW 29	53
14	Soil 11	S	3-16-23						PFAS		4/6/23	Decon Pit	54
★ 15	Decon water	DW	3-16-23						PFAS		4/6/23	Decon	55
16	Decon water	DW	3-16-23						PFAS		4/6/23	Decon	56
17	Drill mud	DM	3-17-23						PFAS		3/22/23	DEP MW-24	57
18	Drill Mud	DM	3-17-23						PFAS		3/22/23	DEP MW-24	58
19	Drill Mud	DM	3-17-23						PFAS			DEP MW-21	59
20	Soil 12	S	3-17-23						PFAS		4/6/23	DEP MW-21	60

PPE = pers. protection equipment
GW = groundwater
PW = purge water
DM = drilling mud
DW = decon water
DS = decon sludge
S = soil

(1) Laboratory analysis, Generator's Knowledge, etc.

★ cross ref #

Drum and Bin Tracking Sheet (Solids, Liquids, and Mixtures)

Project No: FR9428 **Project Manager:** Brooks Baldwin

Site Name: COTFTF **Project Location:** 2964 Municipal Way, Tallahassee, Leon County

Facility I.D. #: ERIC_7413 **EPA Haz. Waste #:**

Entry No.	Drum ID	Material	Date Generated	% Full	LFR Staff	Sampling Date	Geo Staff	Haz.? (Y/N)	Chemicals of Concern	Waste Classification Method[1]	Transport Date	Comments	
1	Soil 13	S	3-17-23						PFAS	4/6/23	~~3/22/23~~	DEP-MW-24	61
2	Soil 14	S	3-20-23						PFAS	4/6/23	~~3/22/23~~	DEP-MW-17	62
3	Drill Mud	DM	3-20-23						PFAS		3/22/23	DEP-MW-17	63
4	Drill Mud	DM	3-20-23						PFAS		3/22/23	DEP-MW-17	64
5	Dev. water	PW	3-20-23						PFAS		3/22/23	DEP-MW-24	65
6	Dev. water	PW	3-20-23						PFAS		4/6/23	DEP-MW-17	66
7	Decon water	DW	3-20-23						PFAS			Decon Pit	67
8	Drill Mud	DM	3-21-23						PFAS		4/6/23	DEP-MW-23	68
9	Drill Mud	DM	3-21-23						PFAS		4/6/23	DEP-MW-23	69
10	Soil 15	S	3-21-23						PFAS		4/6/23	DEP-MW-23	70
11	Drill Mud	DM	3-21-23						PFAS		4/6/23	DEP-MW-23	71
12	Drill Mud	DM	3-21-23						PFAS		4/6/23	DEP-MW-23	72
13	Drill Mud	DM	3-21-23						PFAS		4/6/23	DEP-MW-23	73
14	Soil 16	S	3-21-23						PFAS		4/6/23	DEP-MW-23	74
15	Soil 16 ~~17~~	S	3-22-23						~~PFAS~~		4/6/23	DEP MW-16	75
16	Drill Mud	DM	3/22/23						PFAS		4/6/23	DEP MW-16	76
17	Drilling Mud	DM	3/22/23						PFAS		4/6/23	DEP MW-16	77
18	Decon Water	DW	3/22/23						PFAS		4/6/23	Decon Pit	78
19	Decon Water	DW	3/22/23						PFAS		4/6/23	Decon Pit	79
20	Soil 18	S	3/23/23						PFAS		4/6/23	DEP MW-22	80

PPE = pers. protection equipment
GW = groundwater

PW = purge water
DM = drilling mud

DW = decon water
DS = decon sludge

S = soil

(1) Laboratory analysis, Generator's Knowledge, etc.

Drum and Bin Tracking Sheet (Solids, Liquids, and Mixtures)

Project No: FR9428
Site Name: COTFTF
Facility I.D. #: ERIC_7413

Project Manager: Brooks Baldwin
Project Location: 2964 Municipal Way, Tallahassee, Leon County
EPA Haz. Waste #:

Entry No.	Drum ID	Material	Date Generated	% Full	LFR Staff	Sampling Date	Geo Staff	Haz.? (Y/N)	Chemicals of Concern	Waste Classification Method[1]	Transport Date	Comments	
1	Drill Mud	DM	3-23-23						PFAS		4/6/23	DEP MW 22	81
2	Drill Mud	DM	3-23-23						PFAS		4/6/23	DEP-MW-22	82
3	Drill Mud	DM	3-23-23						PFAS		4/6/23	DEP-MW-22	83
4	Drill Mud	DM	3-23-23						PFAS		4/6/23	DEP-MW-22	84
5	Soil 18	S	3-23-23						PFAS		4/6/23	DEP-MW-22	85
6	Soil 19	S	3-23-23						PFAS		4/6/23	DEP-MW-22	86
7	Dev. water	PW	3-24-23						PFAS			DEP-MW-22	87
8	Dev. water	PW	3-24						PFAS		4/6/23	DEP MW 27	88
9	Dev. water	PW	3-24-23						PFAS		4/6/23	DEP MW 27	89
10	Dev. water	PW	3-24-23						PFAS		4/6/23	DEP MW 30	90
11	Decon water	PW	3-24-23						PFAS		4/6/23	Decon Pit	91
12	Drill Mud	DM	3-27-23						PFAS		4/6/23	DEP MW 21	92
13	Drill Mud	DM	3-27-23						PFAS		4/6/23	DEP MW 21	93
14	Drill mud	DM	3-27-23						PFAS		4/6/23	DEP MW 21	94
15	Soil 20	S	3-27-23						PFAS		4/6/23	DEP MW21	95
16	Drill Mud	DM	3-27-23						PFAS		4/6/23	DEP MW21	96
17	Drill Mud	DM	3-27-23						PFAS		4/6/23	DEP MW 21	97
18	Drill Mud	DM	3-27-23						PFAS		4/6/23	DEP MW 14	98
19	Drill Mud	DM	3-27-23						PFAS		4/6/23	DEP MW 14	99
20	Soil 21	S	3-27-23						PFAS		4/6/23	DEP MW 14	100

PPE = pers. protection equipment
GW = groundwater
PW = purge water
DM = drilling mud
DW = decon water
DS = decon sludge
S = soil

(1) Laboratory analysis, Generator's Knowledge, etc.

Drum and Bin Tracking Sheet (Solids, Liquids, and Mixtures)

Project No: FR9428
Site Name: COTFTF
Facility I.D. #: ERIC_7413

Project Manager: Brooks Baldwin
Project Location: 2964 Municipal Way, Tallahassee, Leon County
EPA Haz. Waste #:

Entry No.	Drum ID	Material	Date Generated	% Full	LFR Staff	Sampling Date	Geo Staff	Haz.? (Y/N)	Chemicals of Concern	Waste Classification Method[1]	Transport Date	Comments
1	Drill mud	DM	3-27-23						PFAS		4/6/23	DEP MW14 101
2	Development	PW	3-28-23						PFAS		4/6/23	DEP MW21 102
3	Decon	DW	3-28-23						PFAS		4/6/23	Decon Pit 103
104	Purge GWS Water	PW	4-26-23	9					PFAS			
5	105 GWS	PW	4-26-23						PFAS			
6	106 GW	PW	5-1-23						PFAS			
7	107 GW	PW	5-1-23						PFAS			
8	108 GW	PW	5-2-23						PFAS			
9	109 GW	BW	5-3-23						PFAS			
10	110 GW	PW	5-3-23						PFAS			
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												

PPE = pers. protection equipment
GW = groundwater
PW = purge water
DM = drilling mud
DW = decon water
DS = decon sludge
S = soil

(1) Laboratory analysis, Generator's Knowledge, etc.

APPENDIX D

Laboratory Analytical Reports

Chemical Analysis Report

SIS-2023-02-08-02

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Tallahassee FTD Source Water Sampling**
Request ID: **RQ-2023-02-06-74**
Customer: **SIS**
Project ID: **SIS-INVEST**

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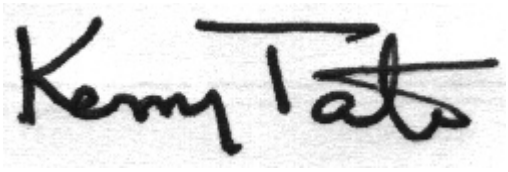
Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 15-FEB-2023 12:15



Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical group are included in this report: Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Tallahassee FTD **Collection Date/Time: 02/06/2023 08:25**

Field ID: FTF Admin Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2386057	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	1.6	I	ng/L	P425464	
		Perfluorobutanoic acid (PFBA)	4.0	U	ng/L	P425464	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P425464	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P425464	
		Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L	P425464	
		Perfluorohexanesulfonic acid (PFHxS)	1.1	I	ng/L	P425464	
		Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L	P425464	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P425464	
		Perfluorooctanoic acid (PFOA)	2.0	U	ng/L	P425464	
		Perfluorooctanesulfonic acid (PFOS)	3.0	I	ng/L	P425464	
		Perfluoropentanoic acid (PFPeA)	2.0	U	ng/L	P425464	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P425464	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P425464	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P425464	
		Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L	P425464	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P425464	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P425464	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P425464	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P425464	
		Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L	P425464	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P425464	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P425464	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P425464	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P425464	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P425464	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P425464	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P425464	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P425464	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P425464	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P425464	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P425464	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P425464	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P425464	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P425464	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P425464	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P425464	

Sample Location: Tallahassee FTD **Collection Date/Time: 02/06/2023 08:25**

Field ID: FTF Tower Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2386058	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	1.9		ng/L	P425464	
		Perfluorobutanoic acid (PFBA)	4.0	U	ng/L	P425464	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P425464	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P425464	
		Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L	P425464	
		Perfluorohexanesulfonic acid (PFHxS)	1.5	I	ng/L	P425464	
		Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L	P425464	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P425464	
		Perfluorooctanoic acid (PFOA)	2.0	U	ng/L	P425464	
		Perfluorooctanesulfonic acid (PFOS)	3.4	I	ng/L	P425464	
		Perfluoropentanoic acid (PFPeA)	2.0	U	ng/L	P425464	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P425464	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P425464	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P425464	
		Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L	P425464	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P425464	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P425464	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P425464	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P425464	
		Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L	P425464	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P425464	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P425464	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P425464	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P425464	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P425464	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P425464	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P425464	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P425464	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P425464	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P425464	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P425464	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P425464	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P425464	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P425464	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P425464	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P425464	

Sample Location: Tallahassee FTD **Collection Date/Time: 02/07/2023 08:20**

Field ID: FTF Admin Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2386059	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	1.9		ng/L	P425464	
		Perfluorobutanoic acid (PFBA)	4.0	U	ng/L	P425464	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P425464	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P425464	
		Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L	P425464	
		Perfluorohexanesulfonic acid (PFHxS)	1.8	I	ng/L	P425464	
		Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L	P425464	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P425464	
		Perfluorooctanoic acid (PFOA)	2.0	U	ng/L	P425464	
		Perfluorooctanesulfonic acid (PFOS)	3.0	I	ng/L	P425464	
		Perfluoropentanoic acid (PFPeA)	2.0	U	ng/L	P425464	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P425464	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P425464	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P425464	
		Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L	P425464	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P425464	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P425464	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P425464	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P425464	
		Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L	P425464	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P425464	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P425464	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P425464	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P425464	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P425464	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P425464	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P425464	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P425464	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P425464	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P425464	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P425464	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P425464	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P425464	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P425464	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P425464	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P425464	

Sample Location: Tallahassee FTD **Collection Date/Time: 02/07/2023 08:20**

Field ID: FTF Tower Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2386060	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	1.9		ng/L	P425464	
		Perfluorobutanoic acid (PFBA)	4.0	U	ng/L	P425464	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P425464	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P425464	
		Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L	P425464	
		Perfluorohexanesulfonic acid (PFHxS)	1.8	I	ng/L	P425464	
		Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L	P425464	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P425464	
		Perfluorooctanoic acid (PFOA)	2.0	U	ng/L	P425464	
		Perfluorooctanesulfonic acid (PFOS)	3.9	I	ng/L	P425464	
		Perfluoropentanoic acid (PFPeA)	2.0	U	ng/L	P425464	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P425464	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P425464	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P425464	
		Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L	P425464	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P425464	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P425464	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P425464	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P425464	
		Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L	P425464	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P425464	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P425464	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P425464	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P425464	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P425464	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P425464	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P425464	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P425464	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P425464	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P425464	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P425464	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P425464	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P425464	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P425464	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P425464	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P425464	

Sample Location: Tallahassee FTD **Collection Date/Time: 02/08/2023 11:10**

Field ID: FTF Admin Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2386061	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	2.2		ng/L	P425464	
		Perfluorobutanoic acid (PFBA)	4.0	U	ng/L	P425464	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P425464	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P425464	
		Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L	P425464	
		Perfluorohexanesulfonic acid (PFHxS)	2.0	I	ng/L	P425464	
		Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L	P425464	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P425464	
		Perfluorooctanoic acid (PFOA)	2.0	U	ng/L	P425464	
		Perfluorooctanesulfonic acid (PFOS)	3.3	I	ng/L	P425464	
		Perfluoropentanoic acid (PFPeA)	2.0	U	ng/L	P425464	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P425464	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P425464	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P425464	
		Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L	P425464	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P425464	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P425464	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P425464	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P425464	
		Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L	P425464	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P425464	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P425464	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P425464	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P425464	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P425464	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P425464	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P425464	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P425464	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P425464	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P425464	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P425464	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P425464	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P425464	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P425464	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P425464	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P425464	

Sample Location: Tallahassee FTD **Collection Date/Time: 02/08/2023 11:10**

Field ID: FTF Tower Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2386062	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	1.9		ng/L	P425464	
		Perfluorobutanoic acid (PFBA)	4.0	U	ng/L	P425464	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P425464	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P425464	
		Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L	P425464	
		Perfluorohexanesulfonic acid (PFHxS)	1.5	I	ng/L	P425464	
		Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L	P425464	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P425464	
		Perfluorooctanoic acid (PFOA)	2.0	U	ng/L	P425464	
		Perfluorooctanesulfonic acid (PFOS)	2.8	I	ng/L	P425464	
		Perfluoropentanoic acid (PFPeA)	2.0	U	ng/L	P425464	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P425464	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P425464	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P425464	
		Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L	P425464	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P425464	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P425464	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P425464	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P425464	
		Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L	P425464	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P425464	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P425464	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P425464	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P425464	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P425464	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P425464	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P425464	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P425464	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P425464	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P425464	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P425464	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P425464	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P425464	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P425464	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P425464	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P425464	

Sample Location: Tallahassee FTD **Collection Date/Time: 02/08/2023 11:10**

Field ID: FRB Matrix: W-FRB

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2386063	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	0.40	U	ng/L	P425613	
		Perfluorobutanoic acid (PFBA)	4.0	U	ng/L	P425613	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P425613	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P425613	
		Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L	P425613	
		Perfluorohexanesulfonic acid (PFHxS)	0.80	U	ng/L	P425613	
		Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L	P425613	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P425613	
		Perfluorooctanoic acid (PFOA)	2.0	U	ng/L	P425613	
		Perfluorooctanesulfonic acid (PFOS)	2.0	U	ng/L	P425613	
		Perfluoropentanoic acid (PFPeA)	2.0	U	ng/L	P425613	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P425613	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P425613	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P425613	
		Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L	P425613	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P425613	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P425613	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P425613	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P425613	
		Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L	P425613	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P425613	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P425613	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P425613	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P425613	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P425613	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P425613	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P425613	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P425613	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P425613	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P425613	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P425613	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P425613	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P425613	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P425613	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P425613	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P425613	

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: LC-001-3
Batch ID: P425464

Component	Result	Code	Units
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L
Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L
Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L
Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L
Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L
Perfluorobutanesulfonic acid (PFBS)	0.40	U	ng/L
Perfluorobutanoic acid (PFBA)	4.0	U	ng/L
Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L
Perfluorodecanoic acid (PFDA)	4.0	U	ng/L
Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L
Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L
Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L
Perfluorohexanesulfonic acid (PFHxS)	0.80	U	ng/L
Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L
Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L
Perfluorononanoic acid (PFNA)	2.0	U	ng/L
Perfluorooctanesulfonic acid (PFOS)	2.0	U	ng/L
Perfluorooctanoic acid (PFOA)	2.0	U	ng/L
Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L
Perfluoropentanoic acid (PFPeA)	2.0	U	ng/L
Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L
Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L
Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L
Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L

Reference Method: DEP SOP: LC-001-3
Batch ID: P425613

Component	Result	Code	Units
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L
Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L
Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: LC-001-3
Batch ID: P425613

Component	Result	Code	Units
Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L
Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L
Perfluorobutanesulfonic acid (PFBS)	0.40	U	ng/L
Perfluorobutanoic acid (PFBA)	4.0	U	ng/L
Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L
Perfluorodecanoic acid (PFDA)	4.0	U	ng/L
Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L
Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L
Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L
Perfluorohexanesulfonic acid (PFHxS)	0.80	U	ng/L
Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L
Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L
Perfluorononanoic acid (PFNA)	2.0	U	ng/L
Perfluorooctanesulfonic acid (PFOS)	2.0	U	ng/L
Perfluorooctanoic acid (PFOA)	2.0	U	ng/L
Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L
Perfluoropentanoic acid (PFPeA)	2.0	U	ng/L
Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L
Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L
Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L
Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: DEP SOP: LC-001-3
Batch ID: P425464

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	110		P	30 - 160
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	98.0		P	30 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	117		P	30 - 160
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	96.5		P	30 - 160
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	73.7		P	30 - 160
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	71.5		P	30 - 160
Hexafluoropropylene oxide dimer acid (HFPO-DA)	77.4		P	30 - 160
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	102		P	30 - 160
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	105		P	30 - 160
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	121		P	30 - 160
Perfluoro-1-butane sulfonamide (FBSA)	148		P	30 - 160
Perfluoro-1-hexane sulfonamide (FHxSA)	132		P	30 - 160
Perfluoro-1-octane sulfonamide (FOSA)	98.4		P	30 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	115		P	30 - 160
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	112		P	30 - 160
Perfluoro-4-methoxybutanoic acid (PFMBA)	133		P	30 - 160
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	141		P	30 - 160
Perfluorobutanesulfonic acid (PFBS)	117		P	30 - 160
Perfluorobutanoic acid (PFBA)	104		P	30 - 160
Perfluorodecanesulfonic acid (PFDS)	111		P	30 - 160
Perfluorodecanoic acid (PFDA)	117		P	30 - 160
Perfluorododecanoic acid (PFDoA)	136		P	30 - 160
Perfluoroheptanesulfonic acid (PFHpS)	113		P	30 - 160
Perfluoroheptanoic acid (PFHpA)	117		P	30 - 160
Perfluorohexanesulfonic acid (PFHxS)	115		P	30 - 160
Perfluorohexanoic acid (PFHxA)	98.7		P	30 - 160
Perfluorononanesulfonic acid (PFNS)	104		P	30 - 160
Perfluorononanoic acid (PFNA)	96.7		P	30 - 160
Perfluorooctanesulfonic acid (PFOS)	103		P	30 - 160
Perfluorooctanoic acid (PFOA)	91.2		P	30 - 160
Perfluoropentanesulfonic acid (PFPeS)	138		P	30 - 160
Perfluoropentanoic acid (PFPeA)	117		P	30 - 160
Perfluoropropanesulfonic acid (PFPrS)	96.4		P	30 - 160
Perfluorotetradecanoic acid (PFTeA)	133		P	30 - 160
Perfluorotridecanoic acid (PFTriA)	150		P	30 - 160
Perfluoroundecanoic acid (PFUnA)	110		P	30 - 160

Reference Method: DEP SOP: LC-001-3
Batch ID: P425613

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	121		P	30 - 160
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	117		P	30 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	130		P	30 - 160
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	141		P	30 - 160
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	66.6		P	30 - 160
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	127		P	30 - 160
Hexafluoropropylene oxide dimer acid (HFPO-DA)	120		P	30 - 160
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	105		P	30 - 160
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	116		P	30 - 160
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	144		P	30 - 160
Perfluoro-1-butane sulfonamide (FBSA)	135		P	30 - 160

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: DEP SOP: LC-001-3
Batch ID: P425613

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Perfluoro-1-hexane sulfonamide (FHxSA)	125		P	30 - 160
Perfluoro-1-octane sulfonamide (FOSA)	106		P	30 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	114		P	30 - 160
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	127		P	30 - 160
Perfluoro-4-methoxybutanoic acid (PFMBA)	129		P	30 - 160
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	127		P	30 - 160
Perfluorobutanesulfonic acid (PFBS)	128		P	30 - 160
Perfluorobutanoic acid (PFBA)	96.5		P	30 - 160
Perfluorodecanesulfonic acid (PFDS)	125		P	30 - 160
Perfluorodecanoic acid (PFDA)	121		P	30 - 160
Perfluorododecanoic acid (PFDoA)	136		P	30 - 160
Perfluoroheptanesulfonic acid (PFHpS)	107		P	30 - 160
Perfluoroheptanoic acid (PFHpA)	118		P	30 - 160
Perfluorohexanesulfonic acid (PFHxS)	132		P	30 - 160
Perfluorohexanoic acid (PFHxA)	116		P	30 - 160
Perfluorononanesulfonic acid (PFNS)	124		P	30 - 160
Perfluorononanoic acid (PFNA)	86.7		P	30 - 160
Perfluorooctanesulfonic acid (PFOS)	118		P	30 - 160
Perfluorooctanoic acid (PFOA)	118		P	30 - 160
Perfluoropentanesulfonic acid (PFPeS)	136		P	30 - 160
Perfluoropentanoic acid (PFPeA)	129		P	30 - 160
Perfluoropropanesulfonic acid (PFPrS)	119		P	30 - 160
Perfluorotetradecanoic acid (PFTeA)	138		P	30 - 160
Perfluorotridecanoic acid (PFTriA)	134		P	30 - 160
Perfluoroundecanoic acid (PFUnA)	106		P	30 - 160

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: DEP SOP: LC-001-3
Batch ID: P425464

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2386062	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	85.4	87.1	P/P	30 - 160
2386062	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	116	97.4	P/P	30 - 160
2386062	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	97.3	107	P/P	30 - 160
2386062	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	117	121	P/P	30 - 160
2386062	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	57.0	59.4	P/P	30 - 160
2386062	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	108	112	P/P	30 - 160
2386062	Hexafluoropropylene oxide dimer acid (HFPO-DA)	115	113	P/P	30 - 160
2386062	N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	111	116	P/P	30 - 160
2386062	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	92.7	112	P/P	30 - 160
2386062	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	130	134	P/P	30 - 160
2386062	Perfluoro-1-butane sulfonamide (FBSA)	80.5	91.4	P/P	30 - 160
2386062	Perfluoro-1-hexane sulfonamide (FHxSA)	93.5	99.7	P/P	30 - 160
2386062	Perfluoro-1-octane sulfonamide (FOSA)	92.8	115	P/P	30 - 160
2386062	Perfluoro-3-methoxypropanoic acid (PFMPA)	115	119	P/P	30 - 160
2386062	Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	112	106	P/P	30 - 160
2386062	Perfluoro-4-methoxybutanoic acid (PFMBA)	140	141	P/P	30 - 160
2386062	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	137	125	P/P	30 - 160
2386062	Perfluorobutanesulfonic acid (PFBS)	132	124	P/P	30 - 160
2386062	Perfluorobutanoic acid (PFBA)	110	105	P/P	30 - 160
2386062	Perfluorodecanesulfonic acid (PFDS)	92.5	78.7	P/P	30 - 160
2386062	Perfluorodecanoic acid (PFDA)	101	93.6	P/P	30 - 160
2386062	Perfluorododecanoic acid (PFDoA)	132	143	P/P	30 - 160
2386062	Perfluoroheptanesulfonic acid (PFHpS)	105	95.7	P/P	30 - 160
2386062	Perfluoroheptanoic acid (PFHpA)	99.7	120	P/P	30 - 160
2386062	Perfluorohexanesulfonic acid (PFHxS)	114	117	P/P	30 - 160
2386062	Perfluorohexanoic acid (PFHxA)	112	105	P/P	30 - 160
2386062	Perfluorononanesulfonic acid (PFNS)	107	96.8	P/P	30 - 160
2386062	Perfluorononanoic acid (PFNA)	94.7	110	P/P	30 - 160
2386062	Perfluorooctanesulfonic acid (PFOS)	124	115	P/P	30 - 160
2386062	Perfluorooctanoic acid (PFOA)	106	123	P/P	30 - 160
2386062	Perfluoropentanesulfonic acid (PFPeS)	150	136	P/P	30 - 160
2386062	Perfluoropentanoic acid (PFPeA)	101	115	P/P	30 - 160
2386062	Perfluoropropanesulfonic acid (PFPrS)	123	115	P/P	30 - 160
2386062	Perfluorotetradecanoic acid (PFTeA)	136	153	P/P	30 - 160
2386062	Perfluorotridecanoic acid (PFTriA)	115	138	P/P	30 - 160
2386062	Perfluoroundecanoic acid (PFUnA)	62.5	63.0	P/P	30 - 160

Reference Method: DEP SOP: LC-001-3
Batch ID: P425613

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2386512	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	81.4	88.5	P/P	30 - 160
2386512	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	128	126	P/P	30 - 160
2386512	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	117	131	P/P	30 - 160
2386512	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	133	135	P/P	30 - 160
2386512	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	79.3	65.3	P/P	30 - 160
2386512	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	84.1	92.3	P/P	30 - 160
2386512	Hexafluoropropylene oxide dimer acid (HFPO-DA)	109	122	P/P	30 - 160
2386512	N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	101	119	P/P	30 - 160
2386512	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	123	130	P/P	30 - 160
2386512	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	127	124	P/P	30 - 160
2386512	Perfluoro-1-butane sulfonamide (FBSA)	141	138	P/P	30 - 160

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: DEP SOP: LC-001-3
Batch ID: P425613

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2386512	Perfluoro-1-hexane sulfonamide (FHxSA)	147	159	P/P	30 - 160
2386512	Perfluoro-1-octane sulfonamide (FOSA)	116	122	P/P	30 - 160
2386512	Perfluoro-3-methoxypropanoic acid (PFMPA)	125	128	P/P	30 - 160
2386512	Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	120	127	P/P	30 - 160
2386512	Perfluoro-4-methoxybutanoic acid (PFMBA)	145	143	P/P	30 - 160
2386512	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	126	138	P/P	30 - 160
2386512	Perfluorobutanesulfonic acid (PFBS)	129	143	P/P	30 - 160
2386512	Perfluorobutanoic acid (PFBA)	118	118	P/P	30 - 160
2386512	Perfluorodecanesulfonic acid (PFDS)	83.6	93.6	P/P	30 - 160
2386512	Perfluorodecanoic acid (PFDA)	90.0	77.8	P/P	30 - 160
2386512	Perfluorododecanoic acid (PFDoA)	108	103	P/P	30 - 160
2386512	Perfluoroheptanesulfonic acid (PFHpS)	99.2	103	P/P	30 - 160
2386512	Perfluoroheptanoic acid (PFHpA)	92.0	95.1	P/P	30 - 160
2386512	Perfluorohexanesulfonic acid (PFHxS)	97.9	131	P/P	30 - 160
2386512	Perfluorohexanoic acid (PFHxA)	85.8	90.7	P/P	30 - 160
2386512	Perfluorononanesulfonic acid (PFNS)	93.9	108	P/P	30 - 160
2386512	Perfluorononanoic acid (PFNA)	113	95.3	P/P	30 - 160
2386512	Perfluorooctanesulfonic acid (PFOS)	103	150	P/P	30 - 160
2386512	Perfluorooctanoic acid (PFOA)	74.5	107	P/P	30 - 160
2386512	Perfluoropentanesulfonic acid (PFPeS)	129	141	P/P	30 - 160
2386512	Perfluoropentanoic acid (PFPeA)	87.5	93.6	P/P	30 - 160
2386512	Perfluoropropanesulfonic acid (PFPrS)	102	117	P/P	30 - 160
2386512	Perfluorotetradecanoic acid (PFTeA)	135	139	P/P	30 - 160
2386512	Perfluorotridecanoic acid (PFTriA)	99.5	103	P/P	30 - 160
2386512	Perfluoroundecanoic acid (PFUnA)	82.7	67.0	P/P	30 - 160

Quality Assurance Report
Precision

Reference Method: DEP SOP: LC-001-3
Batch ID: P425464

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386062	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.97	Spike	P	0 - 30
2386062	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	17.1	Spike	P	0 - 30
2386062	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	9.91	Spike	P	0 - 30
2386062	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	3.33	Spike	P	0 - 30
2386062	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	4.13	Spike	P	0 - 30
2386062	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	3.90	Spike	P	0 - 30
2386062	Hexafluoropropylene oxide dimer acid (HFPO-DA)	2.02	Spike	P	0 - 30
2386062	N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.47	Spike	P	0 - 30
2386062	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	19.3	Spike	P	0 - 30
2386062	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	2.92	Spike	P	0 - 30
2386062	Perfluoro-1-butane sulfonamide (FBSA)	12.7	Spike	P	0 - 30
2386062	Perfluoro-1-hexane sulfonamide (FHxSA)	6.43	Spike	P	0 - 30
2386062	Perfluoro-1-octane sulfonamide (FOSA)	21.6	Spike	P	0 - 30
2386062	Perfluoro-3-methoxypropanoic acid (PFMPA)	3.59	Spike	P	0 - 30
2386062	Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	5.25	Spike	P	0 - 30
2386062	Perfluoro-4-methoxybutanoic acid (PFMBA)	0.664	Spike	P	0 - 30
2386062	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	9.29	Spike	P	0 - 30
2386062	Perfluorobutanesulfonic acid (PFBS)	5.70	Spike	P	0 - 30
2386062	Perfluorobutanoic acid (PFBA)	5.07	Spike	P	0 - 30
2386062	Perfluorodecanesulfonic acid (PFDS)	16.1	Spike	P	0 - 30
2386062	Perfluorodecanoic acid (PFDA)	7.45	Spike	P	0 - 30
2386062	Perfluorododecanoic acid (PFDoA)	7.66	Spike	P	0 - 30
2386062	Perfluoroheptanesulfonic acid (PFHpS)	9.63	Spike	P	0 - 30
2386062	Perfluoroheptanoic acid (PFHpA)	18.8	Spike	P	0 - 30
2386062	Perfluorohexanesulfonic acid (PFHxS)	1.77	Spike	P	0 - 30
2386062	Perfluorohexanoic acid (PFHxA)	6.96	Spike	P	0 - 30
2386062	Perfluorononanesulfonic acid (PFNS)	10.0	Spike	P	0 - 30
2386062	Perfluorononanoic acid (PFNA)	15.3	Spike	P	0 - 30
2386062	Perfluorooctanesulfonic acid (PFOS)	6.87	Spike	P	0 - 30
2386062	Perfluorooctanoic acid (PFOA)	14.2	Spike	P	0 - 30
2386062	Perfluoropentanesulfonic acid (PFPeS)	9.58	Spike	P	0 - 30
2386062	Perfluoropentanoic acid (PFPeA)	12.6	Spike	P	0 - 30
2386062	Perfluoropropanesulfonic acid (PFPrS)	7.34	Spike	P	0 - 30
2386062	Perfluorotetradecanoic acid (PFTeA)	11.9	Spike	P	0 - 30
2386062	Perfluorotridecanoic acid (PFTriA)	18.2	Spike	P	0 - 30
2386062	Perfluoroundecanoic acid (PFUnA)	0.780	Spike	P	0 - 30

Reference Method: DEP SOP: LC-001-3
Batch ID: P425613

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386512	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	8.39	Spike	P	0 - 30
2386512	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	1.69	Spike	P	0 - 30
2386512	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	10.7	Spike	P	0 - 30
2386512	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	1.58	Spike	P	0 - 30
2386512	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	19.2	Spike	P	0 - 30
2386512	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	9.37	Spike	P	0 - 30
2386512	Hexafluoropropylene oxide dimer acid (HFPO-DA)	11.4	Spike	P	0 - 30
2386512	N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	15.9	Spike	P	0 - 30
2386512	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	5.53	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: DEP SOP: LC-001-3
Batch ID: P425613

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2386512	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	1.77	Spike	P	0 - 30
2386512	Perfluoro-1-butane sulfonamide (FBSA)	2.29	Spike	P	0 - 30
2386512	Perfluoro-1-hexane sulfonamide (FHxSA)	8.32	Spike	P	0 - 30
2386512	Perfluoro-1-octane sulfonamide (FOSA)	4.46	Spike	P	0 - 30
2386512	Perfluoro-3-methoxypropanoic acid (PFMPA)	2.38	Spike	P	0 - 30
2386512	Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	5.64	Spike	P	0 - 30
2386512	Perfluoro-4-methoxybutanoic acid (PFMBA)	1.67	Spike	P	0 - 30
2386512	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	9.16	Spike	P	0 - 30
2386512	Perfluorobutanesulfonic acid (PFBS)	8.56	Spike	P	0 - 30
2386512	Perfluorobutanoic acid (PFBA)	0.0292	Spike	P	0 - 30
2386512	Perfluorodecanesulfonic acid (PFDS)	11.2	Spike	P	0 - 30
2386512	Perfluorodecanoic acid (PFDA)	14.5	Spike	P	0 - 30
2386512	Perfluorododecanoic acid (PFDoA)	4.14	Spike	P	0 - 30
2386512	Perfluoroheptanesulfonic acid (PFHpS)	3.65	Spike	P	0 - 30
2386512	Perfluoroheptanoic acid (PFHpA)	2.32	Spike	P	0 - 30
2386512	Perfluorohexanesulfonic acid (PFHxS)	21.0	Spike	P	0 - 30
2386512	Perfluorohexanoic acid (PFHxA)	3.38	Spike	P	0 - 30
2386512	Perfluorononanesulfonic acid (PFNS)	13.7	Spike	P	0 - 30
2386512	Perfluorononanoic acid (PFNA)	17.0	Spike	P	0 - 30
2386512	Perfluorooctanesulfonic acid (PFOS)	22.6	Spike	P	0 - 30
2386512	Perfluorooctanoic acid (PFOA)	23.3	Spike	P	0 - 30
2386512	Perfluoropentanesulfonic acid (PFPeS)	8.70	Spike	P	0 - 30
2386512	Perfluoropentanoic acid (PFPeA)	3.54	Spike	P	0 - 30
2386512	Perfluoropropanesulfonic acid (PFPrS)	13.8	Spike	P	0 - 30
2386512	Perfluorotetradecanoic acid (PFTeA)	2.82	Spike	P	0 - 30
2386512	Perfluorotridecanoic acid (PFTriA)	3.81	Spike	P	0 - 30
2386512	Perfluoroundecanoic acid (PFUnA)	20.9	Spike	P	0 - 30

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report
Surrogates

Lab Sample ID: 2386057
Field Sample ID: FTF Admin

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	80.8	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	101	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	137	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	125	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	90.5	P	30 - 160

Lab Sample ID: 2386058
Field Sample ID: FTF Tower

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	62.3	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	94.6	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	96.6	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	109	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	71.3	P	30 - 160

Lab Sample ID: 2386059
Field Sample ID: FTF Admin

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	74.3	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	79.0	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	105	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	85.5	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	69.4	P	30 - 160

Lab Sample ID: 2386060
Field Sample ID: FTF Tower

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	76.2	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	97.2	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	144	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	100	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	75.1	P	30 - 160

Lab Sample ID: 2386061
Field Sample ID: FTF Admin

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	94.9	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	86.3	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	90.6	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	91.7	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	101	P	30 - 160

Lab Sample ID: 2386062
Field Sample ID: FTF Tower

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	80.5	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	95.8	P	30 - 160

Quality Assurance Report
Surrogates

Lab Sample ID: 2386062
Field Sample ID: FTF Tower

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	94.3	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	103	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	86.7	P	30 - 160

Lab Sample ID: 2386063
Field Sample ID: FRB

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	80.4	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	92.5	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	140	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	93.8	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	93.7	P	30 - 160

Quality Assurance Report
Calibration Verification

Reference Method: DEP SOP: LC-001-3
Run ID: A117390
Included Lab Sample IDs: 2386063

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	127	133	P/P	60 - 160
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	158	104	P/P	60 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	91.5	97.1	P/P	60 - 160
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	132	120	P/P	60 - 160
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	61.6	67.9	P/P	60 - 160
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	96.8	104	P/P	60 - 160
Hexafluoropropylene oxide dimer acid (HFPO-DA)	123	113	P/P	60 - 160
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	113	109	P/P	60 - 160
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	97.0	87.0	P/P	60 - 160
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	152	145	P/P	60 - 160
Perfluoro-1-butane sulfonamide (FBSA)	82.9	85.5	P/P	60 - 160
Perfluoro-1-hexane sulfonamide (FHxSA)	83.5	84.6	P/P	60 - 160
Perfluoro-1-octane sulfonamide (FOSA)	95.5	121	P/P	60 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	106	102	P/P	60 - 160
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	119	115	P/P	60 - 160
Perfluoro-4-methoxybutanoic acid (PFMBA)	116	130	P/P	60 - 160
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	119	109	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	111	102	P/P	60 - 160
Perfluorobutanoic acid (PFBA)	93.0	93.7	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	106	123	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	73.6	122	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	94.0	107	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	113	103	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	109	87.2	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	122	107	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	102	91.0	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	123	120	P/P	60 - 160
Perfluorononanoic acid (PFNA)	82.2	77.0	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	95.3	106	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	63.9	101	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	125	108	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	101	104	P/P	60 - 160
Perfluoropropanesulfonic acid (PFPrS)	89.5	90.1	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	119	119	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	128	115	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	118	72.3	P/P	60 - 160

Reference Method: DEP SOP: LC-001-3
Run ID: A117415
Included Lab Sample IDs: 2386057, 2386058, 2386059, 2386060, 2386061, 2386062

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	125	123	P/P	60 - 160
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	125	125	P/P	60 - 160
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	135	96.7	P/P	60 - 160
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	96.7	135	P/P	60 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	110	116	P/P	60 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	119	110	P/P	60 - 160
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	112	98.2	P/P	60 - 160
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	121	112	P/P	60 - 160
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	64.3	69.4	P/P	60 - 160

Quality Assurance Report
Calibration Verification

Reference Method: DEP SOP: LC-001-3
Run ID: A117415
Included Lab Sample IDs: 2386057, 2386058, 2386059, 2386060, 2386061, 2386062

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	74.2	64.3	P/P	60 - 160
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	104	94.1	P/P	60 - 160
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	94.8	104	P/P	60 - 160
Hexafluoropropylene oxide dimer acid (HFPO-DA)	116	102	P/P	60 - 160
Hexafluoropropylene oxide dimer acid (HFPO-DA)	89.4	116	P/P	60 - 160
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	107	112	P/P	60 - 160
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	96.2	107	P/P	60 - 160
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	100	87.3	P/P	60 - 160
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	96.3	100	P/P	60 - 160
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	111	103	P/P	60 - 160
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	117	111	P/P	60 - 160
Perfluoro-1-butane sulfonamide (FBSA)	80.4	81.2	P/P	60 - 160
Perfluoro-1-butane sulfonamide (FBSA)	95.5	80.4	P/P	60 - 160
Perfluoro-1-hexane sulfonamide (FHxSA)	82.4	76.8	P/P	60 - 160
Perfluoro-1-hexane sulfonamide (FHxSA)	86.1	82.4	P/P	60 - 160
Perfluoro-1-octane sulfonamide (FOSA)	117	104	P/P	60 - 160
Perfluoro-1-octane sulfonamide (FOSA)	95.7	117	P/P	60 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	104	110	P/P	60 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	99.4	104	P/P	60 - 160
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	102	137	P/P	60 - 160
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	137	124	P/P	60 - 160
Perfluoro-4-methoxybutanoic acid (PFMBA)	115	126	P/P	60 - 160
Perfluoro-4-methoxybutanoic acid (PFMBA)	98.8	115	P/P	60 - 160
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	107	110	P/P	60 - 160
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	110	107	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	100	100	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	105	100	P/P	60 - 160
Perfluorobutanoic acid (PFBA)	102	95.3	P/P	60 - 160
Perfluorobutanoic acid (PFBA)	95.3	93.4	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	118	115	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	119	118	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	72.4	76.3	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	73.3	72.4	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	113	111	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	133	113	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	92.5	113	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	98.8	92.5	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	104	96.0	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	111	104	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	106	117	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	117	108	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	80.1	82.7	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	98.6	80.1	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	100	123	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	123	112	P/P	60 - 160
Perfluorononanoic acid (PFNA)	86.0	90.5	P/P	60 - 160
Perfluorononanoic acid (PFNA)	90.5	88.3	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	108	113	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	113	93.7	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	137	84.3	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	84.3	71.1	P/P	60 - 160

Quality Assurance Report
Calibration Verification

Reference Method: DEP SOP: LC-001-3
Run ID: A117415
Included Lab Sample IDs: 2386057, 2386058, 2386059, 2386060, 2386061, 2386062

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluoropentanesulfonic acid (PFPeS)	113	99.9	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	99.9	114	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	102	99.0	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	99.0	108	P/P	60 - 160
Perfluoropropanesulfonic acid (PFPrS)	90.8	90.1	P/P	60 - 160
Perfluoropropanesulfonic acid (PFPrS)	93.1	90.8	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	107	133	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	133	107	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	111	130	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	113	111	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	117	77.9	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	96.7	117	P/P	60 - 160

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
DEP SOP: LC-001-3	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	110	85.4	87.1			1.97
	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	121	81.4	88.5			8.39
	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	98.0	116	97.4			17.1
	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	117	128	126			1.69
	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	117	97.3	107			9.91
	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	130	117	131			10.7
	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	96.5	117	121			3.33
	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	141	133	135			1.58
	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	73.7	57.0	59.4			4.13
	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	66.6	79.3	65.3			19.2
	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	71.5	108	112			3.90
	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	127	84.1	92.3			9.37
	Hexafluoropropylene oxide dimer acid (HFPO-DA)	77.4	115	113			2.02
	Hexafluoropropylene oxide dimer acid (HFPO-DA)	120	109	122			11.4
	N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	102	111	116			4.47
	N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	105	101	119			15.9
	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	105	92.7	112			19.3
	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	116	123	130			5.53
	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	121	130	134			2.92
	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	144	127	124			1.77
	Perfluoro-1-butane sulfonamide (FBSA)	148	80.5	91.4			12.7
	Perfluoro-1-butane sulfonamide (FBSA)	135	141	138			2.29
	Perfluoro-1-hexane sulfonamide (FHxSA)	132	93.5	99.7			6.43
	Perfluoro-1-hexane sulfonamide (FHxSA)	125	147	159			8.32
	Perfluoro-1-octane sulfonamide (FOSA)	98.4	92.8	115			21.6
	Perfluoro-1-octane sulfonamide (FOSA)	106	116	122			4.46
	Perfluoro-3-methoxypropanoic acid (PFMPA)	115	115	119			3.59
	Perfluoro-3-methoxypropanoic acid (PFMPA)	114	125	128			2.38

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
DEP SOP: LC-001-3	Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	112	112	106			5.25
	Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	127	120	127			5.64
	Perfluoro-4-methoxybutanoic acid (PFMBA)	133	140	141			0.664
	Perfluoro-4-methoxybutanoic acid (PFMBA)	129	145	143			1.67
	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	141	137	125			9.29
	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	127	126	138			9.16
	Perfluorobutanesulfonic acid (PFBS)	117	132	124			5.70
	Perfluorobutanesulfonic acid (PFBS)	128	129	143			8.56
	Perfluorobutanoic acid (PFBA)	104	110	105			5.07
	Perfluorobutanoic acid (PFBA)	96.5	118	118			0.0292
	Perfluorodecanesulfonic acid (PFDS)	111	92.5	78.7			16.1
	Perfluorodecanesulfonic acid (PFDS)	125	83.6	93.6			11.2
	Perfluorodecanoic acid (PFDA)	117	101	93.6			7.45
	Perfluorodecanoic acid (PFDA)	121	90.0	77.8			14.5
	Perfluorododecanoic acid (PFDoA)	136	132	143			7.66
	Perfluorododecanoic acid (PFDoA)	136	108	103			4.14
	Perfluoroheptanesulfonic acid (PFHpS)	113	105	95.7			9.63
	Perfluoroheptanesulfonic acid (PFHpS)	107	99.2	103			3.65
	Perfluoroheptanoic acid (PFHpA)	117	99.7	120			18.8
	Perfluoroheptanoic acid (PFHpA)	118	92.0	95.1			2.32
	Perfluorohexanesulfonic acid (PFHxS)	115	114	117			1.77
	Perfluorohexanesulfonic acid (PFHxS)	132	97.9	131			21.0
	Perfluorohexanoic acid (PFHxA)	98.7	112	105			6.96
	Perfluorohexanoic acid (PFHxA)	116	85.8	90.7			3.38
	Perfluorononanesulfonic acid (PFNS)	104	107	96.8			10.0
	Perfluorononanesulfonic acid (PFNS)	124	93.9	108			13.7
	Perfluorononanoic acid (PFNA)	96.7	94.7	110			15.3
	Perfluorononanoic acid (PFNA)	86.7	113	95.3			17.0
	Perfluorooctanesulfonic acid (PFOS)	103	124	115			6.87
	Perfluorooctanesulfonic acid (PFOS)	118	103	150			22.6
	Perfluorooctanoic acid (PFOA)	91.2	106	123			14.2
	Perfluorooctanoic acid (PFOA)	118	74.5	107			23.3
	Perfluoropentanesulfonic acid (PFPeS)	138	150	136			9.58
	Perfluoropentanesulfonic acid (PFPeS)	136	129	141			8.70
	Perfluoropentanoic acid (PFPeA)	117	101	115			12.6
	Perfluoropentanoic acid (PFPeA)	129	87.5	93.6			3.54
	Perfluoropropanesulfonic acid (PFPrS)	96.4	123	115			7.34

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
DEP SOP: LC-001-3	Perfluoropropanesulfonic acid (PFPrS)	119	102	117			13.8
	Perfluorotetradecanoic acid (PFTeA)	133	136	153			11.9
	Perfluorotetradecanoic acid (PFTeA)	138	135	139			2.82
	Perfluorotridecanoic acid (PFTriA)	150	115	138			18.2
	Perfluorotridecanoic acid (PFTriA)	134	99.5	103			3.81
	Perfluoroundecanoic acid (PFUnA)	110	62.5	63.0			0.780
	Perfluoroundecanoic acid (PFUnA)	106	82.7	67.0			20.9

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: LC-001-3	Perfluorinated alkyl substances in water matrices by HPLC/MS/MS	2386057, 2386058, 2386059, 2386060, 2386061, 2386062, 2386063

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: LC-001-3	02/08/2023	02/09/2023 09:00	Hoor Shaik	02/11/2023 00:21	Mohammad Ghaffari	2386062
	02/08/2023	02/09/2023 09:00	Hoor Shaik	02/11/2023 02:09	Mohammad Ghaffari	2386057
	02/08/2023	02/09/2023 09:00	Hoor Shaik	02/11/2023 02:20	Mohammad Ghaffari	2386058
	02/08/2023	02/09/2023 09:00	Hoor Shaik	02/11/2023 02:31	Mohammad Ghaffari	2386059
	02/08/2023	02/09/2023 09:00	Hoor Shaik	02/11/2023 02:41	Mohammad Ghaffari	2386060
	02/08/2023	02/09/2023 09:00	Hoor Shaik	02/11/2023 02:52	Mohammad Ghaffari	2386061
	02/08/2023	02/10/2023 13:00	Hoor Shaik	02/11/2023 05:02	Mohammad Ghaffari	2386063

Chemical Analysis Report

SIS-2023-05-01-01

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

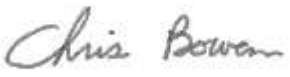
Event Description: **Tallahassee FTD ERIC_7413**
Request ID: **RQ-2023-04-17-07**
Customer: **SIS**
Project ID: **SIS-PFAS**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Road
Twin Towers Bldg. MS# 4515
Tallahassee, FL 32399
Attn: Nicole Knutson

For additional information please contact
Colin Wright, Ph.D.
Chris Bowen, B.S.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Chris Bowen, Environmental Administrator

Date Certified: 16-MAY-2023 09:17



Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical group are included in this report: Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

A - Value reported is the mean of two or more determinations.
B - Results based on colony counts outside the acceptable range.
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J - Estimated value and/or the analysis did not meet established quality control criteria.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
N - Presumptive evidence of presence of material.
O - Sampled, but analysis lost or not performed.
Q - Sample held beyond normal holding time.
T - Value reported is less than the criterion of detection.
U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
V - Analyte was detected in both sample and method blank.
X - Too few individuals to calculate SCI value.
Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: City of Tallahassee Fire Training **Collection Date/Time: 04/24/2023 17:56**

Field ID: DEPMW-14 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2404292	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	190		ng/L	P429222	
		Perfluorobutanoic acid (PFBA)	61		ng/L	P429222	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429222	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429222	
		Perfluoroheptanoic acid (PFHpA)	60		ng/L	P429222	
		Perfluorohexanesulfonic acid (PFHxS)	570		ng/L	P429222	
		Perfluorohexanoic acid (PFHxA)	110		ng/L	P429222	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P429222	
		Perfluorooctanoic acid (PFOA)	60		ng/L	P429222	
		Perfluorooctanesulfonic acid (PFOS)	300		ng/L	P429222	
		Perfluoropentanoic acid (PFPeA)	130		ng/L	P429222	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429222	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429222	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429222	
		Perfluoropentanesulfonic acid (PFPeS)	230		ng/L	P429222	
		Perfluoroheptanesulfonic acid (PFHpS)	20		ng/L	P429222	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429222	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429222	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429222	
		Perfluoro-1-butane sulfonamide (FBSA)	390		ng/L	P429222	
		Perfluoro-1-hexane sulfonamide (FHxSA)	340		ng/L	P429222	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429222	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429222	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	76		ng/L	P429222	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P429222	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429222	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429222	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429222	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429222	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429222	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429222	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429222	
		Perfluoropropanesulfonic acid (PFPrS)	42		ng/L	P429222	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429222	

Sample Location: City of Tallahassee Fire Training **Collection Date/Time: 04/24/2023 16:15**

Field ID: DEPMW-18 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2404293	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	2.8		ng/L	P429222	
		Perfluorobutanoic acid (PFBA)	5.9	I	ng/L	P429222	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429222	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429222	
		Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L	P429222	
		Perfluorohexanesulfonic acid (PFHxS)	1.3	I	ng/L	P429222	
		Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L	P429222	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P429222	
		Perfluorooctanoic acid (PFOA)	2.0	U	ng/L	P429222	
		Perfluorooctanesulfonic acid (PFOS)	8.3		ng/L	P429222	
		Perfluoropentanoic acid (PFPeA)	2.0	U	ng/L	P429222	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429222	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429222	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429222	
		Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L	P429222	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P429222	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429222	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429222	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429222	
		Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L	P429222	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P429222	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429222	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429222	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P429222	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429222	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429222	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429222	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429222	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429222	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429222	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429222	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P429222	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429222	

Sample Location: City of Tallahassee Fire Training **Collection Date/Time: 04/25/2023 14:27**

Field ID: DEPMW-26 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2404294	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	18		ng/L	P429222	
		Perfluorobutanoic acid (PFBA)	6.4	I	ng/L	P429222	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429222	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429222	
		Perfluoroheptanoic acid (PFHpA)	4.6	I	ng/L	P429222	
		Perfluorohexanesulfonic acid (PFHxS)	6.6		ng/L	P429222	
		Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L	P429222	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P429222	
		Perfluorooctanoic acid (PFOA)	8.7		ng/L	P429222	
		Perfluorooctanesulfonic acid (PFOS)	51		ng/L	P429222	
		Perfluoropentanoic acid (PFPeA)	8.8		ng/L	P429222	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429222	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429222	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429222	
		Perfluoropentanesulfonic acid (PFPeS)	1.2	I	ng/L	P429222	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P429222	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429222	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429222	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429222	
		Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L	P429222	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P429222	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429222	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429222	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P429222	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429222	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429222	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429222	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429222	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429222	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429222	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429222	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P429222	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429222	

Sample Location: City of Tallahassee Fire Training **Collection Date/Time: 04/25/2023 17:15**

Field ID: DEPMW-19 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2404295	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	16		ng/L	P429222	
		Perfluorobutanoic acid (PFBA)	5.4	I	ng/L	P429222	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429222	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429222	
		Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L	P429222	
		Perfluorohexanesulfonic acid (PFHxS)	4.5		ng/L	P429222	
		Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L	P429222	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P429222	
		Perfluorooctanoic acid (PFOA)	2.0	U	ng/L	P429222	
		Perfluorooctanesulfonic acid (PFOS)	36		ng/L	P429222	
		Perfluoropentanoic acid (PFPeA)	3.1	I	ng/L	P429222	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429222	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429222	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429222	
		Perfluoropentanesulfonic acid (PFPeS)	1.4	I	ng/L	P429222	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P429222	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429222	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429222	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429222	
		Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L	P429222	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P429222	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429222	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429222	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P429222	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429222	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429222	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429222	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429222	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429222	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429222	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429222	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P429222	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429222	

Sample Location: City of Tallahassee Fire Training **Collection Date/Time: 04/25/2023 16:15**

Field ID: DEPMW-29 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2404296	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	30		ng/L	P429222	
		Perfluorobutanoic acid (PFBA)	27		ng/L	P429222	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429222	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429222	
		Perfluoroheptanoic acid (PFHpA)	40		ng/L	P429222	
		Perfluorohexanesulfonic acid (PFHxS)	220		ng/L	P429222	
		Perfluorohexanoic acid (PFHxA)	70		ng/L	P429222	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P429222	
		Perfluorooctanoic acid (PFOA)	32		ng/L	P429222	
		Perfluorooctanesulfonic acid (PFOS)	260		ng/L	P429222	
		Perfluoropentanoic acid (PFPeA)	84		ng/L	P429222	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429222	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429222	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429222	
		Perfluoropentanesulfonic acid (PFPeS)	39		ng/L	P429222	
		Perfluoroheptanesulfonic acid (PFHpS)	2.1	I	ng/L	P429222	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429222	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429222	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429222	
		Perfluoro-1-butane sulfonamide (FBSA)	31		ng/L	P429222	
		Perfluoro-1-hexane sulfonamide (FHxSA)	10		ng/L	P429222	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429222	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429222	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	120		ng/L	P429222	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P429222	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429222	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429222	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429222	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429222	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429222	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429222	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429222	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P429222	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429222	

Sample Location: City of Tallahassee Fire Training **Collection Date/Time: 04/25/2023 11:15**

Field ID: DEPMW-25 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2404297	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	2.5		ng/L	P429222	
		Perfluorobutanoic acid (PFBA)	4.7	I	ng/L	P429222	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429222	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429222	
		Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L	P429222	
		Perfluorohexanesulfonic acid (PFHxS)	3.1	I	ng/L	P429222	
		Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L	P429222	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P429222	
		Perfluorooctanoic acid (PFOA)	5.4	I	ng/L	P429222	
		Perfluorooctanesulfonic acid (PFOS)	15		ng/L	P429222	
		Perfluoropentanoic acid (PFPeA)	2.6	I	ng/L	P429222	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429222	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429222	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429222	
		Perfluoropentanesulfonic acid (PFPeS)	0.94	I	ng/L	P429222	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P429222	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429222	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429222	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429222	
		Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L	P429222	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P429222	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429222	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429222	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P429222	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429222	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429222	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429222	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429222	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429222	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429222	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429222	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P429222	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429222	

Sample Location: City of Tallahassee Fire Training **Collection Date/Time: 04/26/2023 11:30**

Field ID: DEPMW-17 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2404298	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	1.6		ng/L	P429222	
		Perfluorobutanoic acid (PFBA)	4.0	U	ng/L	P429222	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429222	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429222	
		Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L	P429222	
		Perfluorohexanesulfonic acid (PFHxS)	2.4	I	ng/L	P429222	
		Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L	P429222	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P429222	
		Perfluorooctanoic acid (PFOA)	2.0	U	ng/L	P429222	
		Perfluorooctanesulfonic acid (PFOS)	2.0	U	ng/L	P429222	
		Perfluoropentanoic acid (PFPeA)	2.0	U	ng/L	P429222	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429222	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429222	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429222	
		Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L	P429222	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P429222	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429222	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429222	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429222	
		Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L	P429222	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P429222	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429222	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429222	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P429222	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429222	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429222	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429222	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429222	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429222	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429222	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429222	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P429222	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429222	

Sample Location: City of Tallahassee Fire Training **Collection Date/Time: 04/26/2023 16:58**

Field ID: DEPMW-20 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2404299	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	4.6		ng/L	P429222	
		Perfluorobutanoic acid (PFBA)	4.4	I	ng/L	P429222	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429222	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429222	
		Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L	P429222	
		Perfluorohexanesulfonic acid (PFHxS)	11		ng/L	P429222	
		Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L	P429222	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P429222	
		Perfluorooctanoic acid (PFOA)	2.0	U	ng/L	P429222	
		Perfluorooctanesulfonic acid (PFOS)	65		ng/L	P429222	
		Perfluoropentanoic acid (PFPeA)	4.0	I	ng/L	P429222	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429222	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429222	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429222	
		Perfluoropentanesulfonic acid (PFPeS)	1.6		ng/L	P429222	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P429222	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429222	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429222	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429222	
		Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L	P429222	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P429222	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429222	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429222	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P429222	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429222	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429222	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429222	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429222	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429222	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429222	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429222	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P429222	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429222	

Sample Location: City of Tallahassee Fire Training **Collection Date/Time: 04/26/2023 10:50**

Field ID: DEPMW-24 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2404300	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	3.5		ng/L	P429222	
		Perfluorobutanoic acid (PFBA)	4.0	U	ng/L	P429222	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429222	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429222	
		Perfluoroheptanoic acid (PFHpA)	2.8	I	ng/L	P429222	
		Perfluorohexanesulfonic acid (PFHxS)	3.8		ng/L	P429222	
		Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L	P429222	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P429222	
		Perfluorooctanoic acid (PFOA)	2.0	U	ng/L	P429222	
		Perfluorooctanesulfonic acid (PFOS)	11		ng/L	P429222	
		Perfluoropentanoic acid (PFPeA)	6.9	I	ng/L	P429222	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429222	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429222	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429222	
		Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L	P429222	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P429222	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429222	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429222	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429222	
		Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L	P429222	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P429222	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429222	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429222	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P429222	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429222	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429222	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429222	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429222	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429222	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429222	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429222	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P429222	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429222	

Sample Location: City of Tallahassee Fire Training **Collection Date/Time: 04/26/2023 18:55**

Field ID: DEPMW-27 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2404301	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	26		ng/L	P429222	
		Perfluorobutanoic acid (PFBA)	33		ng/L	P429222	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429222	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429222	
		Perfluoroheptanoic acid (PFHpA)	19		ng/L	P429222	
		Perfluorohexanesulfonic acid (PFHxS)	160		ng/L	P429222	
		Perfluorohexanoic acid (PFHxA)	72		ng/L	P429222	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P429222	
		Perfluorooctanoic acid (PFOA)	29		ng/L	P429222	
		Perfluorooctanesulfonic acid (PFOS)	320		ng/L	P429222	
		Perfluoropentanoic acid (PFPeA)	75		ng/L	P429222	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429222	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429222	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429222	
		Perfluoropentanesulfonic acid (PFPeS)	29		ng/L	P429222	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P429222	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429222	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429222	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429222	
		Perfluoro-1-butane sulfonamide (FBSA)	10		ng/L	P429222	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P429222	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429222	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429222	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	I	ng/L	P429222	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P429222	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429222	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429222	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429222	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429222	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429222	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429222	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429222	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P429222	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429222	

Sample Location: City of Tallahassee Fire Training **Collection Date/Time: 04/25/2023 09:33**

Field ID: DEPMW-28 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2404302	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	4.3		ng/L	P429222	
		Perfluorobutanoic acid (PFBA)	10	I	ng/L	P429222	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429222	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429222	
		Perfluoroheptanoic acid (PFHpA)	7.9	I	ng/L	P429222	
		Perfluorohexanesulfonic acid (PFHxS)	23		ng/L	P429222	
		Perfluorohexanoic acid (PFHxA)	8.5		ng/L	P429222	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P429222	
		Perfluorooctanoic acid (PFOA)	9.6		ng/L	P429222	
		Perfluorooctanesulfonic acid (PFOS)	45		ng/L	P429222	
		Perfluoropentanoic acid (PFPeA)	19		ng/L	P429222	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429222	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429222	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429222	
		Perfluoropentanesulfonic acid (PFPeS)	3.5		ng/L	P429222	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P429222	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429222	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429222	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429222	
		Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L	P429222	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P429222	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429222	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429222	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P429222	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429222	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429222	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429222	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429222	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429222	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429222	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429222	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P429222	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429222	

Sample Location: City of Tallahassee Fire Training **Collection Date/Time: 04/26/2023 14:47**

Field ID: DEPMW-30 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2404303	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	1.7		ng/L	P429222	
		Perfluorobutanoic acid (PFBA)	4.0	U	ng/L	P429222	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429222	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429222	
		Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L	P429222	
		Perfluorohexanesulfonic acid (PFHxS)	12		ng/L	P429222	
		Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L	P429222	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P429222	
		Perfluorooctanoic acid (PFOA)	2.0	U	ng/L	P429222	
		Perfluorooctanesulfonic acid (PFOS)	16		ng/L	P429222	
		Perfluoropentanoic acid (PFPeA)	2.4	I	ng/L	P429222	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429222	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429222	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429222	
		Perfluoropentanesulfonic acid (PFPeS)	2.7		ng/L	P429222	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P429222	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429222	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429222	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429222	
		Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L	P429222	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P429222	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429222	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429222	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P429222	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429222	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429222	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429222	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429222	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429222	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429222	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429222	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P429222	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429222	

Sample Location: City of Tallahassee Fire Training **Collection Date/Time: 04/28/2023 10:41**

Field ID: DEPMW-23 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2404304	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	7.4		ng/L	P429222	
		Perfluorobutanoic acid (PFBA)	17		ng/L	P429222	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429222	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429222	
		Perfluoroheptanoic acid (PFHpA)	16		ng/L	P429222	
		Perfluorohexanesulfonic acid (PFHxS)	46		ng/L	P429222	
		Perfluorohexanoic acid (PFHxA)	36		ng/L	P429222	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P429222	
		Perfluorooctanoic acid (PFOA)	12		ng/L	P429222	
		Perfluorooctanesulfonic acid (PFOS)	30		ng/L	P429222	
		Perfluoropentanoic acid (PFPeA)	43		ng/L	P429222	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429222	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429222	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429222	
		Perfluoropentanesulfonic acid (PFPeS)	6.0		ng/L	P429222	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P429222	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429222	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429222	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429222	
		Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L	P429222	
		Perfluoro-1-hexane sulfonamide (FHxSA)	2.4	I	ng/L	P429222	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429222	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429222	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P429222	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429222	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429222	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429222	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429222	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429222	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429222	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429222	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P429222	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429222	

Sample Location: City of Tallahassee Fire Training **Collection Date/Time: 04/28/2023 14:45**

Field ID: DEPMW-22 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2404305	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	0.40	U	ng/L	P429222	
		Perfluorobutanoic acid (PFBA)	4.0	U	ng/L	P429222	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429222	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429222	
		Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L	P429222	
		Perfluorohexanesulfonic acid (PFHxS)	0.80	U	ng/L	P429222	
		Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L	P429222	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P429222	
		Perfluorooctanoic acid (PFOA)	2.0	U	ng/L	P429222	
		Perfluorooctanesulfonic acid (PFOS)	2.0	U	ng/L	P429222	
		Perfluoropentanoic acid (PFPeA)	2.0	U	ng/L	P429222	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429222	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429222	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429222	
		Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L	P429222	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P429222	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429222	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429222	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429222	
		Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L	P429222	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P429222	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429222	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429222	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P429222	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429222	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429222	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429222	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429222	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429222	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429222	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429222	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P429222	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429222	

Sample Location: City of Tallahassee Fire Training **Collection Date/Time: 04/28/2023 12:20**

Field ID: DEPMW-16 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2404306	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	2.9		ng/L	P429222	
		Perfluorobutanoic acid (PFBA)	8.0	I	ng/L	P429222	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429222	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429222	
		Perfluoroheptanoic acid (PFHpA)	10		ng/L	P429222	
		Perfluorohexanesulfonic acid (PFHxS)	9.6		ng/L	P429222	
		Perfluorohexanoic acid (PFHxA)	17		ng/L	P429222	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P429222	
		Perfluorooctanoic acid (PFOA)	15		ng/L	P429222	
		Perfluorooctanesulfonic acid (PFOS)	16		ng/L	P429222	
		Perfluoropentanoic acid (PFPeA)	29		ng/L	P429222	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429222	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429222	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429222	
		Perfluoropentanesulfonic acid (PFPeS)	1.4	I	ng/L	P429222	
		Perfluoroheptanesulfonic acid (PFHpS)	0.90	I	ng/L	P429222	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429222	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429222	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429222	
		Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L	P429222	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P429222	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429222	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429222	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P429222	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P429222	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429222	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429222	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429222	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429222	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429222	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429222	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429222	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P429222	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429222	

Sample Location: City of Tallahassee Fire Training **Collection Date/Time: 04/28/2023 12:20**

Field ID: DEPMW-16-DUP Matrix: W-FLD-REP

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2404307	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	3.2		ng/L	P429449	
		Perfluorobutanoic acid (PFBA)	11	I	ng/L	P429449	
		Perfluorodecanoic acid (PFDA)	4.3	U	ng/L	P429449	
		Perfluorododecanoic acid (PFDoA)	2.1	U	ng/L	P429449	
		Perfluoroheptanoic acid (PFHpA)	11		ng/L	P429449	
		Perfluorohexanesulfonic acid (PFHxS)	11		ng/L	P429449	
		Perfluorohexanoic acid (PFHxA)	16		ng/L	P429449	
		Perfluorononanoic acid (PFNA)	2.1	U	ng/L	P429449	
		Perfluorooctanoic acid (PFOA)	16		ng/L	P429449	
		Perfluorooctanesulfonic acid (PFOS)	18		ng/L	P429449	
		Perfluoropentanoic acid (PFPeA)	27		ng/L	P429449	
		Perfluorotetradecanoic acid (PFTeA)	2.1	U	ng/L	P429449	
		Perfluorotridecanoic acid (PFTriA)	2.1	U	ng/L	P429449	
		Perfluoroundecanoic acid (PFUnA)	2.1	U	ng/L	P429449	
		Perfluoropentanesulfonic acid (PFPeS)	1.4	I	ng/L	P429449	
		Perfluoroheptanesulfonic acid (PFHpS)	0.88	I	ng/L	P429449	
		Perfluorononanesulfonic acid (PFNS)	0.43	U	ng/L	P429449	
		Perfluorodecanesulfonic acid (PFDS)	0.43	U	ng/L	P429449	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.43	U	ng/L	P429449	
		Perfluoro-1-butane sulfonamide (FBSA)	0.85	U	ng/L	P429449	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.85	U	ng/L	P429449	
		Perfluoro-1-octane sulfonamide (FOSA)	0.43	U	ng/L	P429449	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.1	U	ng/L	P429449	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.1	U	ng/L	P429449	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.1	U	ng/L	P429449	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	17	U	ng/L	P429449	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.1	U	ng/L	P429449	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.85	U	ng/L	P429449	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.85	U	ng/L	P429449	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.3	U	ng/L	P429449	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.85	U	ng/L	P429449	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.85	U	ng/L	P429449	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.85	U	ng/L	P429449	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.85	U	ng/L	P429449	
		Perfluoropropanesulfonic acid (PFPrS)	4.3	U	ng/L	P429449	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.5	U	ng/L	P429449	

Field ID: DEPMW-16-DUP Matrix: W-FLD-REP

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Ref. Method and Comment:
DEP SOP: LC-001-3: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: City of Tallahassee Fire Training **Collection Date/Time: 04/28/2023 15:25**

Field ID: DEPMW-15 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2404308	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	3.4		ng/L	P429449	
		Perfluorobutanoic acid (PFBA)	6.7	I	ng/L	P429449	
		Perfluorodecanoic acid (PFDA)	4.3	U	ng/L	P429449	
		Perfluorododecanoic acid (PFDoA)	2.1	U	ng/L	P429449	
		Perfluoroheptanoic acid (PFHpA)	2.1	U	ng/L	P429449	
		Perfluorohexanesulfonic acid (PFHxS)	3.0	I	ng/L	P429449	
		Perfluorohexanoic acid (PFHxA)	2.1	U	ng/L	P429449	
		Perfluorononanoic acid (PFNA)	2.1	U	ng/L	P429449	
		Perfluorooctanoic acid (PFOA)	2.1	U	ng/L	P429449	
		Perfluorooctanesulfonic acid (PFOS)	3.9	I	ng/L	P429449	
		Perfluoropentanoic acid (PFPeA)	2.1	U	ng/L	P429449	
		Perfluorotetradecanoic acid (PFTeA)	2.1	U	ng/L	P429449	
		Perfluorotridecanoic acid (PFTriA)	2.1	U	ng/L	P429449	
		Perfluoroundecanoic acid (PFUnA)	2.1	U	ng/L	P429449	
		Perfluoropentanesulfonic acid (PFPeS)	0.43	U	ng/L	P429449	
		Perfluoroheptanesulfonic acid (PFHpS)	0.85	U	ng/L	P429449	
		Perfluorononanesulfonic acid (PFNS)	0.43	U	ng/L	P429449	
		Perfluorodecanesulfonic acid (PFDS)	0.43	U	ng/L	P429449	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.43	U	ng/L	P429449	
		Perfluoro-1-butane sulfonamide (FBSA)	0.85	U	ng/L	P429449	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.85	U	ng/L	P429449	
		Perfluoro-1-octane sulfonamide (FOSA)	0.43	U	ng/L	P429449	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.1	U	ng/L	P429449	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.1	U	ng/L	P429449	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.1	U	ng/L	P429449	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	17	U	ng/L	P429449	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.1	U	ng/L	P429449	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.85	U	ng/L	P429449	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.85	U	ng/L	P429449	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.3	U	ng/L	P429449	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.85	U	ng/L	P429449	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.85	U	ng/L	P429449	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.85	U	ng/L	P429449	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.85	U	ng/L	P429449	
		Perfluoropropanesulfonic acid (PFPrS)	4.3	U	ng/L	P429449	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.5	U	ng/L	P429449	

Field ID: DEPMW-15 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Ref. Method and Comment:
DEP SOP: LC-001-3: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: City of Tallahassee Fire Training **Collection Date/Time: 04/28/2023 11:02**

Field ID: EQB14 Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2404309	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	0.40	U	ng/L	P429449	
		Perfluorobutanoic acid (PFBA)	4.0	U	ng/L	P429449	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429449	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429449	
		Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L	P429449	
		Perfluorohexanesulfonic acid (PFHxS)	0.80	U	ng/L	P429449	
		Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L	P429449	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P429449	
		Perfluorooctanoic acid (PFOA)	2.0	U	ng/L	P429449	
		Perfluorooctanesulfonic acid (PFOS)	2.0	U	ng/L	P429449	
		Perfluoropentanoic acid (PFPeA)	2.0	U	ng/L	P429449	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429449	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429449	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429449	
		Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L	P429449	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P429449	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429449	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429449	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429449	
		Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L	P429449	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P429449	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429449	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429449	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429449	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P429449	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P429449	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P429449	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429449	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429449	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429449	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429449	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429449	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429449	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429449	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P429449	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429449	

Field ID: EQB14 Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Ref. Method and Comment:
DEP SOP: LC-001-3: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: City of Tallahassee Fire Training **Collection Date/Time: 04/26/2023 13:02**

Field ID: EQB15 Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2404310	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	0.40	U	ng/L	P429449	
		Perfluorobutanoic acid (PFBA)	4.0	U	ng/L	P429449	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429449	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429449	
		Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L	P429449	
		Perfluorohexanesulfonic acid (PFHxS)	0.80	U	ng/L	P429449	
		Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L	P429449	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P429449	
		Perfluorooctanoic acid (PFOA)	2.0	U	ng/L	P429449	
		Perfluorooctanesulfonic acid (PFOS)	2.0	U	ng/L	P429449	
		Perfluoropentanoic acid (PFPeA)	2.0	U	ng/L	P429449	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429449	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429449	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429449	
		Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L	P429449	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P429449	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429449	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429449	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429449	
		Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L	P429449	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P429449	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429449	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429449	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429449	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P429449	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P429449	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P429449	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429449	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429449	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429449	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429449	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429449	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429449	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429449	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P429449	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429449	

Field ID: EQB15 Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Ref. Method and Comment:
DEP SOP: LC-001-3: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: City of Tallahassee Fire Training **Collection Date/Time: 04/28/2023 10:56**

Field ID: FRB5 Matrix: W-FRB

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2404311	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	0.40	U	ng/L	P429449	
		Perfluorobutanoic acid (PFBA)	4.0	U	ng/L	P429449	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429449	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429449	
		Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L	P429449	
		Perfluorohexanesulfonic acid (PFHxS)	0.80	U	ng/L	P429449	
		Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L	P429449	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P429449	
		Perfluorooctanoic acid (PFOA)	2.0	U	ng/L	P429449	
		Perfluorooctanesulfonic acid (PFOS)	2.0	U	ng/L	P429449	
		Perfluoropentanoic acid (PFPeA)	2.0	U	ng/L	P429449	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429449	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429449	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429449	
		Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L	P429449	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P429449	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429449	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429449	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429449	
		Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L	P429449	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P429449	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429449	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429449	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429449	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P429449	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P429449	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P429449	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429449	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429449	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429449	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429449	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429449	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429449	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429449	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P429449	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429449	

Field ID: FRB5 Matrix: W-FRB

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Ref. Method and Comment:
DEP SOP: LC-001-3: MS accuracy for PFOS could not be assessed due to a high concentration of parameter in the spiked sample.

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: LC-001-3
Batch ID: P429222

Component	Result	Code	Units
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L
Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L
Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L
Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L
Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L
Perfluorobutanesulfonic acid (PFBS)	0.40	U	ng/L
Perfluorobutanoic acid (PFBA)	4.0	U	ng/L
Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L
Perfluorodecanoic acid (PFDA)	4.0	U	ng/L
Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L
Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L
Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L
Perfluorohexanesulfonic acid (PFHxS)	0.80	U	ng/L
Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L
Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L
Perfluorononanoic acid (PFNA)	2.0	U	ng/L
Perfluorooctanesulfonic acid (PFOS)	2.0	U	ng/L
Perfluorooctanoic acid (PFOA)	2.0	U	ng/L
Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L
Perfluoropentanoic acid (PFPeA)	2.0	U	ng/L
Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L
Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L
Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L
Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L

Reference Method: DEP SOP: LC-001-3
Batch ID: P429449

Component	Result	Code	Units
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L
Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L
Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: LC-001-3
Batch ID: P429449

Component	Result	Code	Units
Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L
Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L
Perfluorobutanesulfonic acid (PFBS)	0.40	U	ng/L
Perfluorobutanoic acid (PFBA)	4.0	U	ng/L
Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L
Perfluorodecanoic acid (PFDA)	4.0	U	ng/L
Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L
Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L
Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L
Perfluorohexanesulfonic acid (PFHxS)	0.80	U	ng/L
Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L
Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L
Perfluorononanoic acid (PFNA)	2.0	U	ng/L
Perfluorooctanesulfonic acid (PFOS)	2.0	U	ng/L
Perfluorooctanoic acid (PFOA)	2.0	U	ng/L
Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L
Perfluoropentanoic acid (PFPeA)	2.0	U	ng/L
Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L
Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L
Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L
Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: DEP SOP: LC-001-3
Batch ID: P429222

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	141		P	30 - 160
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	141		P	30 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	113		P	30 - 160
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	139		P	30 - 160
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	115		P	30 - 160
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	127		P	30 - 160
Hexafluoropropylene oxide dimer acid (HFPO-DA)	145		P	30 - 160
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	70.1		P	30 - 160
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	112		P	30 - 160
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	94.5		P	30 - 160
Perfluoro-1-butane sulfonamide (FBSA)	147		P	30 - 160
Perfluoro-1-hexane sulfonamide (FHxSA)	126		P	30 - 160
Perfluoro-1-octane sulfonamide (FOSA)	131		P	30 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	122		P	30 - 160
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	72.8		P	30 - 160
Perfluoro-4-methoxybutanoic acid (PFMBA)	88.9		P	30 - 160
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	144		P	30 - 160
Perfluorobutanesulfonic acid (PFBS)	131		P	30 - 160
Perfluorobutanoic acid (PFBA)	131		P	30 - 160
Perfluorodecanesulfonic acid (PFDS)	148		P	30 - 160
Perfluorodecanoic acid (PFDA)	121		P	30 - 160
Perfluorododecanoic acid (PFDoA)	104		P	30 - 160
Perfluoroheptanesulfonic acid (PFHpS)	118		P	30 - 160
Perfluoroheptanoic acid (PFHpA)	83.4		P	30 - 160
Perfluorohexanesulfonic acid (PFHxS)	128		P	30 - 160
Perfluorohexanoic acid (PFHxA)	135		P	30 - 160
Perfluorononanesulfonic acid (PFNS)	141		P	30 - 160
Perfluorononanoic acid (PFNA)	87.0		P	30 - 160
Perfluorooctanesulfonic acid (PFOS)	116		P	30 - 160
Perfluorooctanoic acid (PFOA)	126		P	30 - 160
Perfluoropentanesulfonic acid (PFPeS)	143		P	30 - 160
Perfluoropentanoic acid (PFPeA)	115		P	30 - 160
Perfluoropropanesulfonic acid (PFPrS)	134		P	30 - 160
Perfluorotetradecanoic acid (PFTeA)	117		P	30 - 160
Perfluorotridecanoic acid (PFTriA)	139		P	30 - 160
Perfluoroundecanoic acid (PFUnA)	94.0		P	30 - 160

Reference Method: DEP SOP: LC-001-3
Batch ID: P429449

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	103		P	30 - 160
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	108		P	30 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	90.7		P	30 - 160
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	108		P	30 - 160
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	154		P	30 - 160
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	113		P	30 - 160
Hexafluoropropylene oxide dimer acid (HFPO-DA)	95.7		P	30 - 160
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	102		P	30 - 160
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	110		P	30 - 160
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	130		P	30 - 160
Perfluoro-1-butane sulfonamide (FBSA)	125		P	30 - 160

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: DEP SOP: LC-001-3
Batch ID: P429449

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Perfluoro-1-hexane sulfonamide (FHxSA)	126		P	30 - 160
Perfluoro-1-octane sulfonamide (FOSA)	111		P	30 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	121		P	30 - 160
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	110		P	30 - 160
Perfluoro-4-methoxybutanoic acid (PFMBA)	108		P	30 - 160
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	123		P	30 - 160
Perfluorobutanesulfonic acid (PFBS)	119		P	30 - 160
Perfluorobutanoic acid (PFBA)	124		P	30 - 160
Perfluorodecanesulfonic acid (PFDS)	114		P	30 - 160
Perfluorodecanoic acid (PFDA)	84.6		P	30 - 160
Perfluorododecanoic acid (PFDoA)	103		P	30 - 160
Perfluoroheptanesulfonic acid (PFHpS)	106		P	30 - 160
Perfluoroheptanoic acid (PFHpA)	130		P	30 - 160
Perfluorohexanesulfonic acid (PFHxS)	118		P	30 - 160
Perfluorohexanoic acid (PFHxA)	116		P	30 - 160
Perfluorononanesulfonic acid (PFNS)	113		P	30 - 160
Perfluorononanoic acid (PFNA)	111		P	30 - 160
Perfluorooctanesulfonic acid (PFOS)	118		P	30 - 160
Perfluorooctanoic acid (PFOA)	136		P	30 - 160
Perfluoropentanesulfonic acid (PFPeS)	125		P	30 - 160
Perfluoropentanoic acid (PFPeA)	133		P	30 - 160
Perfluoropropanesulfonic acid (PFPrS)	140		P	30 - 160
Perfluorotetradecanoic acid (PFTeA)	109		P	30 - 160
Perfluorotridecanoic acid (PFTriA)	108		P	30 - 160
Perfluoroundecanoic acid (PFUnA)	118		P	30 - 160

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: DEP SOP: LC-001-3
Batch ID: P429222

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2404304	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	79.8	72.0	P/P	30 - 160
2404304	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	134	135	P/P	30 - 160
2404304	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	110	109	P/P	30 - 160
2404304	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	65.2	64.5	P/P	30 - 160
2404304	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	89.9	95.8	P/P	30 - 160
2404304	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	113	111	P/P	30 - 160
2404304	Hexafluoropropylene oxide dimer acid (HFPO-DA)	116	119	P/P	30 - 160
2404304	N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	124	126	P/P	30 - 160
2404304	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	120	98.4	P/P	30 - 160
2404304	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	90.3	103	P/P	30 - 160
2404304	Perfluoro-1-butane sulfonamide (FBSA)	154	149	P/P	30 - 160
2404304	Perfluoro-1-hexane sulfonamide (FHxSA)	84.2	79.0	P/P	30 - 160
2404304	Perfluoro-1-octane sulfonamide (FOSA)	128	130	P/P	30 - 160
2404304	Perfluoro-3-methoxypropanoic acid (PFMPA)	104	112	P/P	30 - 160
2404304	Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	146	142	P/P	30 - 160
2404304	Perfluoro-4-methoxybutanoic acid (PFMBA)	84.4	77.2	P/P	30 - 160
2404304	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	139	146	P/P	30 - 160
2404304	Perfluorobutanesulfonic acid (PFBS)	119	118	P/P	30 - 160
2404304	Perfluorobutanoic acid (PFBA)	117	133	P/P	30 - 160
2404304	Perfluorodecanesulfonic acid (PFDS)	86.4	85.4	P/P	30 - 160
2404304	Perfluorodecanoic acid (PFDA)	100	114	P/P	30 - 160
2404304	Perfluorododecanoic acid (PFDoA)	125	119	P/P	30 - 160
2404304	Perfluoroheptanesulfonic acid (PFHpS)	133	132	P/P	30 - 160
2404304	Perfluoroheptanoic acid (PFHpA)	95.0	88.7	P/P	30 - 160
2404304	Perfluorohexanesulfonic acid (PFHxS)	157	139	P/P	30 - 160
2404304	Perfluorohexanoic acid (PFHxA)	70.8	72.2	P/P	30 - 160
2404304	Perfluorononanesulfonic acid (PFNS)	116	115	P/P	30 - 160
2404304	Perfluorononanoic acid (PFNA)	115	137	P/P	30 - 160
2404304	Perfluorooctanesulfonic acid (PFOS)	76.8	67.7	P/P	30 - 160
2404304	Perfluorooctanoic acid (PFOA)	113	126	P/P	30 - 160
2404304	Perfluoropentanesulfonic acid (PFPeS)	135	150	P/P	30 - 160
2404304	Perfluoropentanoic acid (PFPeA)	83.7	91.7	P/P	30 - 160
2404304	Perfluoropropanesulfonic acid (PFPrS)	138	141	P/P	30 - 160
2404304	Perfluorotetradecanoic acid (PFTeA)	133	145	P/P	30 - 160
2404304	Perfluorotridecanoic acid (PFTriA)	125	130	P/P	30 - 160
2404304	Perfluoroundecanoic acid (PFUnA)	53.4	64.6	P/P	30 - 160

Reference Method: DEP SOP: LC-001-3
Batch ID: P429449

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2404425	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	72.7	71.2	P/P	30 - 160
2404425	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	67.5	81.6	P/P	30 - 160
2404425	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	91.8	91.9	P/P	30 - 160
2404425	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	135	155	P/P	30 - 160
2404425	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	132	148	P/P	30 - 160
2404425	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	114	110	P/P	30 - 160
2404425	Hexafluoropropylene oxide dimer acid (HFPO-DA)	103	115	P/P	30 - 160
2404425	N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	144	150	P/P	30 - 160
2404425	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	122	127	P/P	30 - 160
2404425	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	84.6	95.5	P/P	30 - 160
2404425	Perfluoro-1-butane sulfonamide (FBSA)	130	135	P/P	30 - 160

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: DEP SOP: LC-001-3
Batch ID: P429449

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2404425	Perfluoro-1-hexane sulfonamide (FHxSA)	150	153	P/P	30 - 160
2404425	Perfluoro-1-octane sulfonamide (FOSA)	123	120	P/P	30 - 160
2404425	Perfluoro-3-methoxypropanoic acid (PFMPA)	119	128	P/P	30 - 160
2404425	Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	103	124	P/P	30 - 160
2404425	Perfluoro-4-methoxybutanoic acid (PFMBA)	124	116	P/P	30 - 160
2404425	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	128	122	P/P	30 - 160
2404425	Perfluorobutanesulfonic acid (PFBS)	133	120	P/P	30 - 160
2404425	Perfluorobutanoic acid (PFBA)	114	118	P/P	30 - 160
2404425	Perfluorodecanesulfonic acid (PFDS)	73.0	74.3	P/P	30 - 160
2404425	Perfluorodecanoic acid (PFDA)	115	97.1	P/P	30 - 160
2404425	Perfluorododecanoic acid (PFDoA)	123	151	P/P	30 - 160
2404425	Perfluoroheptanesulfonic acid (PFHpS)	102	118	P/P	30 - 160
2404425	Perfluoroheptanoic acid (PFHpA)	94.9	94.2	P/P	30 - 160
2404425	Perfluorohexanesulfonic acid (PFHxS)	113	142	P/P	30 - 160
2404425	Perfluorohexanoic acid (PFHxA)	106	89.0	P/P	30 - 160
2404425	Perfluorononanesulfonic acid (PFNS)	99.9	95.0	P/P	30 - 160
2404425	Perfluorononanoic acid (PFNA)	129	118	P/P	30 - 160
2404425	Perfluorooctanoic acid (PFOA)	90.3	105	P/P	30 - 160
2404425	Perfluoropentanesulfonic acid (PFPeS)	125	119	P/P	30 - 160
2404425	Perfluoropentanoic acid (PFPeA)	125	129	P/P	30 - 160
2404425	Perfluoropropanesulfonic acid (PFPrS)	137	137	P/P	30 - 160
2404425	Perfluorotetradecanoic acid (PFTeA)	95.0	107	P/P	30 - 160
2404425	Perfluorotridecanoic acid (PFTriA)	118	133	P/P	30 - 160
2404425	Perfluoroundecanoic acid (PFUnA)	123	120	P/P	30 - 160

Quality Assurance Report
Precision

Reference Method: DEP SOP: LC-001-3
Batch ID: P429222

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2404304	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	10.3	Spike	P	0 - 30
2404304	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	0.745	Spike	P	0 - 30
2404304	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	1.01	Spike	P	0 - 30
2404304	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	0.404	Spike	P	0 - 30
2404304	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	6.33	Spike	P	0 - 30
2404304	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.35	Spike	P	0 - 30
2404304	Hexafluoropropylene oxide dimer acid (HFPO-DA)	2.94	Spike	P	0 - 30
2404304	N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	1.21	Spike	P	0 - 30
2404304	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	19.7	Spike	P	0 - 30
2404304	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	12.8	Spike	P	0 - 30
2404304	Perfluoro-1-butane sulfonamide (FBSA)	3.76	Spike	P	0 - 30
2404304	Perfluoro-1-hexane sulfonamide (FHxSA)	5.44	Spike	P	0 - 30
2404304	Perfluoro-1-octane sulfonamide (FOSA)	1.46	Spike	P	0 - 30
2404304	Perfluoro-3-methoxypropanoic acid (PFMPA)	8.08	Spike	P	0 - 30
2404304	Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	3.20	Spike	P	0 - 30
2404304	Perfluoro-4-methoxybutanoic acid (PFMBA)	8.94	Spike	P	0 - 30
2404304	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	5.05	Spike	P	0 - 30
2404304	Perfluorobutanesulfonic acid (PFBS)	0.867	Spike	P	0 - 30
2404304	Perfluorobutanoic acid (PFBA)	6.73	Spike	P	0 - 30
2404304	Perfluorodecanesulfonic acid (PFDS)	1.06	Spike	P	0 - 30
2404304	Perfluorodecanoic acid (PFDA)	13.3	Spike	P	0 - 30
2404304	Perfluorododecanoic acid (PFDoA)	4.88	Spike	P	0 - 30
2404304	Perfluoroheptanesulfonic acid (PFHpS)	0.787	Spike	P	0 - 30
2404304	Perfluoroheptanoic acid (PFHpA)	3.22	Spike	P	0 - 30
2404304	Perfluorohexanesulfonic acid (PFHxS)	4.12	Spike	P	0 - 30
2404304	Perfluorohexanoic acid (PFHxA)	0.480	Spike	P	0 - 30
2404304	Perfluorononanesulfonic acid (PFNS)	0.423	Spike	P	0 - 30
2404304	Perfluorononanoic acid (PFNA)	18.1	Spike	P	0 - 30
2404304	Perfluorooctanesulfonic acid (PFOS)	3.48	Spike	P	0 - 30
2404304	Perfluorooctanoic acid (PFOA)	6.52	Spike	P	0 - 30
2404304	Perfluoropentanesulfonic acid (PFPeS)	8.40	Spike	P	0 - 30
2404304	Perfluoropentanoic acid (PFPeA)	2.24	Spike	P	0 - 30
2404304	Perfluoropropanesulfonic acid (PFPrS)	1.91	Spike	P	0 - 30
2404304	Perfluorotetradecanoic acid (PFTeA)	9.33	Spike	P	0 - 30
2404304	Perfluorotridecanoic acid (PFTriA)	4.09	Spike	P	0 - 30
2404304	Perfluoroundecanoic acid (PFUnA)	18.9	Spike	P	0 - 30

Reference Method: DEP SOP: LC-001-3
Batch ID: P429449

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2404425	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	1.96	Spike	P	0 - 30
2404425	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	18.9	Spike	P	0 - 30
2404425	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	0.0653	Spike	P	0 - 30
2404425	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	14.3	Spike	P	0 - 30
2404425	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	11.8	Spike	P	0 - 30
2404425	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	3.58	Spike	P	0 - 30
2404425	Hexafluoropropylene oxide dimer acid (HFPO-DA)	11.5	Spike	P	0 - 30
2404425	N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.15	Spike	P	0 - 30
2404425	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	3.99	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: DEP SOP: LC-001-3
Batch ID: P429449

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2404425	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	12.1	Spike	P	0 - 30
2404425	Perfluoro-1-butane sulfonamide (FBSA)	3.63	Spike	P	0 - 30
2404425	Perfluoro-1-hexane sulfonamide (FHxSA)	2.21	Spike	P	0 - 30
2404425	Perfluoro-1-octane sulfonamide (FOSA)	2.26	Spike	P	0 - 30
2404425	Perfluoro-3-methoxypropanoic acid (PFMPA)	7.25	Spike	P	0 - 30
2404425	Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	18.0	Spike	P	0 - 30
2404425	Perfluoro-4-methoxybutanoic acid (PFMBA)	6.97	Spike	P	0 - 30
2404425	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	5.48	Spike	P	0 - 30
2404425	Perfluorobutanesulfonic acid (PFBS)	6.87	Spike	P	0 - 30
2404425	Perfluorobutanoic acid (PFBA)	2.36	Spike	P	0 - 30
2404425	Perfluorodecanesulfonic acid (PFDS)	1.75	Spike	P	0 - 30
2404425	Perfluorodecanoic acid (PFDA)	16.9	Spike	P	0 - 30
2404425	Perfluorododecanoic acid (PFDoA)	20.3	Spike	P	0 - 30
2404425	Perfluoroheptanesulfonic acid (PFHpS)	14.5	Spike	P	0 - 30
2404425	Perfluoroheptanoic acid (PFHpA)	0.653	Spike	P	0 - 30
2404425	Perfluorohexanesulfonic acid (PFHxS)	15.7	Spike	P	0 - 30
2404425	Perfluorohexanoic acid (PFHxA)	14.3	Spike	P	0 - 30
2404425	Perfluorononanesulfonic acid (PFNS)	5.05	Spike	P	0 - 30
2404425	Perfluorononanoic acid (PFNA)	8.76	Spike	P	0 - 30
2404425	Perfluorooctanesulfonic acid (PFOS)	8.02	Spike	P	0 - 30
2404425	Perfluorooctanoic acid (PFOA)	10.4	Spike	P	0 - 30
2404425	Perfluoropentanesulfonic acid (PFPeS)	4.85	Spike	P	0 - 30
2404425	Perfluoropentanoic acid (PFPeA)	2.58	Spike	P	0 - 30
2404425	Perfluoropropanesulfonic acid (PFPrS)	0.139	Spike	P	0 - 30
2404425	Perfluorotetradecanoic acid (PFTeA)	11.9	Spike	P	0 - 30
2404425	Perfluorotridecanoic acid (PFTriA)	12.3	Spike	P	0 - 30
2404425	Perfluoroundecanoic acid (PFUnA)	2.48	Spike	P	0 - 30

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report
Surrogates

Lab Sample ID: 2404292
Field Sample ID: DEPMW-14

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	89.3	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	98.7	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	110	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	103	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	102	P	30 - 160

Lab Sample ID: 2404293
Field Sample ID: DEPMW-18

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	107	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	108	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	105	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	119	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	97.3	P	30 - 160

Lab Sample ID: 2404294
Field Sample ID: DEPMW-26

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	80.4	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	105	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	99.5	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	111	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	100	P	30 - 160

Lab Sample ID: 2404295
Field Sample ID: DEPMW-19

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	102	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	109	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	103	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	109	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	120	P	30 - 160

Lab Sample ID: 2404296
Field Sample ID: DEPMW-29

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	84.3	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	102	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	126	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	105	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	99.0	P	30 - 160

Lab Sample ID: 2404297
Field Sample ID: DEPMW-25

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	108	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	109	P	30 - 160

Quality Assurance Report
Surrogates

Lab Sample ID: 2404297
Field Sample ID: DEPMW-25

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	98.6	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	114	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	116	P	30 - 160

Lab Sample ID: 2404298
Field Sample ID: DEPMW-17

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	81.6	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	116	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	99.4	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	120	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	116	P	30 - 160

Lab Sample ID: 2404299
Field Sample ID: DEPMW-20

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	84.6	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	107	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	112	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	100	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	98.7	P	30 - 160

Lab Sample ID: 2404300
Field Sample ID: DEPMW-24

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	114	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	98.6	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	134	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	102	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	115	P	30 - 160

Lab Sample ID: 2404301
Field Sample ID: DEPMW-27

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	86.5	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	110	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	146	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	116	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	83.4	P	30 - 160

Lab Sample ID: 2404302
Field Sample ID: DEPMW-28

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	91.3	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	115	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	101	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	123	P	30 - 160

Quality Assurance Report
Surrogates

Lab Sample ID: 2404302
Field Sample ID: DEPMW-28

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	99.2	P	30 - 160

Lab Sample ID: 2404303
Field Sample ID: DEPMW-30

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	78.6	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	102	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	133	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	105	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	103	P	30 - 160

Lab Sample ID: 2404304
Field Sample ID: DEPMW-23

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	101	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	94.4	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	126	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	108	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	83.2	P	30 - 160

Lab Sample ID: 2404305
Field Sample ID: DEPMW-22

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	100	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	106	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	120	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	116	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	113	P	30 - 160

Lab Sample ID: 2404306
Field Sample ID: DEPMW-16

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	111	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	101	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	86.6	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	116	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	98.9	P	30 - 160

Lab Sample ID: 2404307
Field Sample ID: DEPMW-16-DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	64.9	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	102	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	110	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	102	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	84.2	P	30 - 160

Quality Assurance Report
Surrogates

Lab Sample ID: 2404308
Field Sample ID: DEPMW-15

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	106	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	99.3	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	74.3	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	99.6	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	89.8	P	30 - 160

Lab Sample ID: 2404309
Field Sample ID: EQB14

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	91.6	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	94.9	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	116	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	103	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	118	P	30 - 160

Lab Sample ID: 2404310
Field Sample ID: EQB15

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	111	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	101	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	109	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	103	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	130	P	30 - 160

Lab Sample ID: 2404311
Field Sample ID: FRB5

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	78.0	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	104	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	127	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	98.5	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	81.8	P	30 - 160

Quality Assurance Report
Calibration Verification

Reference Method: DEP SOP: LC-001-3

Run ID: A119004

Included Lab Sample IDs: 2404292, 2404293, 2404294, 2404295, 2404296, 2404297, 2404298, 2404299, 2404300, 2404301, 2404302, 2404303, 2404304, 2404305

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	127	134	P/P	60 - 160
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	134	123	P/P	60 - 160
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	136	127	P/P	60 - 160
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	102	107	P/P	60 - 160
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	106	132	P/P	60 - 160
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	132	102	P/P	60 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	106	94.6	P/P	60 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	111	89.5	P/P	60 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	94.6	111	P/P	60 - 160
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	104	137	P/P	60 - 160
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	115	112	P/P	60 - 160
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	137	115	P/P	60 - 160
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	120	122	P/P	60 - 160
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	122	123	P/P	60 - 160
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	137	120	P/P	60 - 160
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	102	102	P/P	60 - 160
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	102	98.3	P/P	60 - 160
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	97.3	102	P/P	60 - 160
Hexafluoropropylene oxide dimer acid (HFPO-DA)	87.9	98.2	P/P	60 - 160
Hexafluoropropylene oxide dimer acid (HFPO-DA)	93.5	110	P/P	60 - 160
Hexafluoropropylene oxide dimer acid (HFPO-DA)	98.2	93.5	P/P	60 - 160
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	84.6	99.8	P/P	60 - 160
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	85.9	103	P/P	60 - 160
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	99.8	85.9	P/P	60 - 160
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	116	105	P/P	60 - 160
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	116	133	P/P	60 - 160
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	133	116	P/P	60 - 160
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	62.0	81.6	P/P	60 - 160
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	69.9	62.0	P/P	60 - 160
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	93.3	69.9	P/P	60 - 160
Perfluoro-1-butane sulfonamide (FBSA)	117	120	P/P	60 - 160
Perfluoro-1-butane sulfonamide (FBSA)	120	118	P/P	60 - 160
Perfluoro-1-butane sulfonamide (FBSA)	120	117	P/P	60 - 160
Perfluoro-1-hexane sulfonamide (FHxSA)	125	131	P/P	60 - 160
Perfluoro-1-hexane sulfonamide (FHxSA)	125	126	P/P	60 - 160
Perfluoro-1-hexane sulfonamide (FHxSA)	126	125	P/P	60 - 160
Perfluoro-1-octane sulfonamide (FOSA)	100	108	P/P	60 - 160
Perfluoro-1-octane sulfonamide (FOSA)	104	100	P/P	60 - 160
Perfluoro-1-octane sulfonamide (FOSA)	108	104	P/P	60 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	94.0	95.0	P/P	60 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	95.0	96.0	P/P	60 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	96.0	96.8	P/P	60 - 160
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	100	94.9	P/P	60 - 160
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	108	100	P/P	60 - 160
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	109	108	P/P	60 - 160
Perfluoro-4-methoxybutanoic acid (PFMBA)	75.4	102	P/P	60 - 160
Perfluoro-4-methoxybutanoic acid (PFMBA)	90.4	75.4	P/P	60 - 160
Perfluoro-4-methoxybutanoic acid (PFMBA)	93.5	90.4	P/P	60 - 160
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	104	103	P/P	60 - 160
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	109	111	P/P	60 - 160

Quality Assurance Report
Calibration Verification

Reference Method: DEP SOP: LC-001-3

Run ID: A119004

Included Lab Sample IDs: 2404292, 2404293, 2404294, 2404295, 2404296, 2404297, 2404298, 2404299, 2404300, 2404301, 2404302, 2404303, 2404304, 2404305

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	111	104	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	104	103	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	105	104	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	108	105	P/P	60 - 160
Perfluorobutanoic acid (PFBA)	101	104	P/P	60 - 160
Perfluorobutanoic acid (PFBA)	101	101	P/P	60 - 160
Perfluorobutanoic acid (PFBA)	104	99.9	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	115	117	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	117	113	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	120	115	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	73.7	88.9	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	87.0	73.7	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	88.3	87.0	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	113	92.8	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	115	111	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	92.8	115	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	104	95.8	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	95.0	89.7	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	95.8	95.0	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	140	98.9	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	97.9	74.2	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	98.9	97.9	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	103	104	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	112	103	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	117	112	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	105	82.3	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	82.3	98.8	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	98.8	82.5	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	112	125	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	117	112	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	125	111	P/P	60 - 160
Perfluorononanoic acid (PFNA)	104	80.2	P/P	60 - 160
Perfluorononanoic acid (PFNA)	118	104	P/P	60 - 160
Perfluorononanoic acid (PFNA)	80.2	74.0	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	101	96.1	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	102	101	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	106	102	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	121	88.1	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	79.9	112	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	88.1	79.9	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	112	108	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	115	112	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	117	115	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	77.6	89.3	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	87.4	77.6	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	90.7	87.4	P/P	60 - 160
Perfluoropropanesulfonic acid (PFPrS)	103	87.3	P/P	60 - 160
Perfluoropropanesulfonic acid (PFPrS)	87.3	93.0	P/P	60 - 160
Perfluoropropanesulfonic acid (PFPrS)	93.0	89.6	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	114	88.2	P/P	60 - 160

Quality Assurance Report
Calibration Verification

Reference Method: DEP SOP: LC-001-3
Run ID: A119004
Included Lab Sample IDs: 2404292, 2404293, 2404294, 2404295, 2404296, 2404297, 2404298, 2404299, 2404300, 2404301, 2404302, 2404303, 2404304, 2404305

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluorotetradecanoic acid (PFTeA)	95.9	114	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	98.8	95.9	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	103	109	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	109	90.8	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	119	103	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	102	92.4	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	142	102	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	96.3	142	P/P	60 - 160

Reference Method: DEP SOP: LC-001-3
Run ID: A119012
Included Lab Sample IDs: 2404292

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluorohexanesulfonic acid (PFHxS)	104	110	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	105	99.2	P/P	60 - 160

Reference Method: DEP SOP: LC-001-3
Run ID: A119054
Included Lab Sample IDs: 2404306, 2404307, 2404308, 2404309, 2404310, 2404311

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	101	102	P/P	60 - 160
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	102	105	P/P	60 - 160
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	98.4	101	P/P	60 - 160
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	77.9	84.6	P/P	60 - 160
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	84.2	86.1	P/P	60 - 160
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	84.6	84.2	P/P	60 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	79.9	92.6	P/P	60 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	81.7	79.9	P/P	60 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	90.7	81.7	P/P	60 - 160
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	104	119	P/P	60 - 160
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	105	89.5	P/P	60 - 160
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	119	105	P/P	60 - 160
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	125	118	P/P	60 - 160
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	126	139	P/P	60 - 160
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	139	125	P/P	60 - 160
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	101	98.3	P/P	60 - 160
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	97.9	94.4	P/P	60 - 160
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	98.3	97.9	P/P	60 - 160
Hexafluoropropylene oxide dimer acid (HFPO-DA)	79.6	96.3	P/P	60 - 160
Hexafluoropropylene oxide dimer acid (HFPO-DA)	85.4	79.6	P/P	60 - 160
Hexafluoropropylene oxide dimer acid (HFPO-DA)	96.3	74.2	P/P	60 - 160
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	87.3	102	P/P	60 - 160
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	87.7	87.3	P/P	60 - 160
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	92.1	87.7	P/P	60 - 160
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	92.2	99.1	P/P	60 - 160
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	92.7	92.2	P/P	60 - 160
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	99.1	96.5	P/P	60 - 160
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	124	89.9	P/P	60 - 160

Quality Assurance Report
Calibration Verification

Reference Method: DEP SOP: LC-001-3
Run ID: A119054
Included Lab Sample IDs: 2404306, 2404307, 2404308, 2404309, 2404310, 2404311

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	89.9	91.9	P/P	60 - 160
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	91.9	82.4	P/P	60 - 160
Perfluoro-1-butane sulfonamide (FBSA)	92.0	92.0	P/P	60 - 160
Perfluoro-1-butane sulfonamide (FBSA)	92.0	93.7	P/P	60 - 160
Perfluoro-1-butane sulfonamide (FBSA)	93.7	96.2	P/P	60 - 160
Perfluoro-1-hexane sulfonamide (FHxSA)	92.5	92.7	P/P	60 - 160
Perfluoro-1-hexane sulfonamide (FHxSA)	92.7	92.5	P/P	60 - 160
Perfluoro-1-hexane sulfonamide (FHxSA)	92.7	92.7	P/P	60 - 160
Perfluoro-1-octane sulfonamide (FOSA)	95.3	95.8	P/P	60 - 160
Perfluoro-1-octane sulfonamide (FOSA)	95.8	96.6	P/P	60 - 160
Perfluoro-1-octane sulfonamide (FOSA)	96.6	92.8	P/P	60 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	94.3	99.8	P/P	60 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	99.0	91.1	P/P	60 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	99.8	99.0	P/P	60 - 160
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	98.2	98.8	P/P	60 - 160
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	98.8	99.4	P/P	60 - 160
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	99.4	95.6	P/P	60 - 160
Perfluoro-4-methoxybutanoic acid (PFMBA)	103	107	P/P	60 - 160
Perfluoro-4-methoxybutanoic acid (PFMBA)	107	110	P/P	60 - 160
Perfluoro-4-methoxybutanoic acid (PFMBA)	110	99.0	P/P	60 - 160
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	97.6	98.0	P/P	60 - 160
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	98.0	99.6	P/P	60 - 160
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	99.6	97.6	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	100	94.4	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	93.7	96.9	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	94.4	93.7	P/P	60 - 160
Perfluorobutanoic acid (PFBA)	101	101	P/P	60 - 160
Perfluorobutanoic acid (PFBA)	101	94.3	P/P	60 - 160
Perfluorobutanoic acid (PFBA)	94.3	101	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	101	102	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	102	101	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	102	107	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	111	125	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	117	64.5	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	64.5	111	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	64.1	97.0	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	89.5	64.1	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	97.0	104	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	104	99.6	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	97.0	92.5	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	99.6	97.0	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	102	87.9	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	108	92.3	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	87.9	108	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	106	108	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	108	109	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	109	104	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	76.3	80.2	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	80.2	84.1	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	86.8	76.3	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	93.0	93.4	P/P	60 - 160

Quality Assurance Report
Calibration Verification

Reference Method: DEP SOP: LC-001-3
Run ID: A119054
Included Lab Sample IDs: 2404306, 2404307, 2404308, 2404309, 2404310, 2404311

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluorononanesulfonic acid (PFNS)	93.4	99.0	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	99.0	103	P/P	60 - 160
Perfluorononanoic acid (PFNA)	120	108	P/P	60 - 160
Perfluorononanoic acid (PFNA)	137	90.6	P/P	60 - 160
Perfluorononanoic acid (PFNA)	90.6	120	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	102	103	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	103	113	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	113	105	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	101	94.3	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	61.8	109	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	94.3	61.8	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	89.9	93.1	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	93.1	97.3	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	96.8	89.9	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	103	99.8	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	89.7	103	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	99.8	83.6	P/P	60 - 160
Perfluoropropanesulfonic acid (PFPrS)	102	102	P/P	60 - 160
Perfluoropropanesulfonic acid (PFPrS)	102	89.1	P/P	60 - 160
Perfluoropropanesulfonic acid (PFPrS)	89.1	99.5	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	73.4	94.1	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	75.0	61.3	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	94.1	75.0	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	116	83.5	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	81.6	116	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	83.5	71.8	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	143	86.2	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	80.8	68.5	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	86.2	80.8	P/P	60 - 160

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
DEP SOP: LC-001-3	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	141	79.8	72.0			10.3
	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	103	72.7	71.2			1.96
	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	141	134	135			0.745
	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	108	67.5	81.6			18.9
	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	113	110	109			1.01
	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	90.7	91.8	91.9			0.0653
	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	139	65.2	64.5			0.404
	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	108	135	155			14.3
	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	115	89.9	95.8			6.33
	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	154	132	148			11.8
	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	127	113	111			2.35
	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	113	114	110			3.58
	Hexafluoropropylene oxide dimer acid (HFPO-DA)	145	116	119			2.94
	Hexafluoropropylene oxide dimer acid (HFPO-DA)	95.7	103	115			11.5
	N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	70.1	124	126			1.21
	N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	102	144	150			4.15
	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	112	120	98.4			19.7
	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	110	122	127			3.99
	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	94.5	90.3	103			12.8
	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	130	84.6	95.5			12.1
	Perfluoro-1-butane sulfonamide (FBSA)	147	154	149			3.76
	Perfluoro-1-butane sulfonamide (FBSA)	125	130	135			3.63
	Perfluoro-1-hexane sulfonamide (FHxSA)	126	84.2	79.0			5.44
	Perfluoro-1-hexane sulfonamide (FHxSA)	126	150	153			2.21
	Perfluoro-1-octane sulfonamide (FOSA)	131	128	130			1.46
	Perfluoro-1-octane sulfonamide (FOSA)	111	123	120			2.26
	Perfluoro-3-methoxypropanoic acid (PFMPA)	122	104	112			8.08
	Perfluoro-3-methoxypropanoic acid (PFMPA)	121	119	128			7.25

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
DEP SOP: LC-001-3	Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	72.8	146	142			3.20
	Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	110	103	124			18.0
	Perfluoro-4-methoxybutanoic acid (PFMBA)	88.9	84.4	77.2			8.94
	Perfluoro-4-methoxybutanoic acid (PFMBA)	108	124	116			6.97
	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	144	139	146			5.05
	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	123	128	122			5.48
	Perfluorobutanesulfonic acid (PFBS)	131	119	118			0.867
	Perfluorobutanesulfonic acid (PFBS)	119	133	120			6.87
	Perfluorobutanoic acid (PFBA)	131	117	133			6.73
	Perfluorobutanoic acid (PFBA)	124	114	118			2.36
	Perfluorodecanesulfonic acid (PFDS)	148	86.4	85.4			1.06
	Perfluorodecanesulfonic acid (PFDS)	114	73.0	74.3			1.75
	Perfluorodecanoic acid (PFDA)	121	100	114			13.3
	Perfluorodecanoic acid (PFDA)	84.6	115	97.1			16.9
	Perfluorododecanoic acid (PFDoA)	104	125	119			4.88
	Perfluorododecanoic acid (PFDoA)	103	123	151			20.3
	Perfluoroheptanesulfonic acid (PFHpS)	118	133	132			0.787
	Perfluoroheptanesulfonic acid (PFHpS)	106	102	118			14.5
	Perfluoroheptanoic acid (PFHpA)	83.4	95.0	88.7			3.22
	Perfluoroheptanoic acid (PFHpA)	130	94.9	94.2			0.653
	Perfluorohexanesulfonic acid (PFHxS)	128	157	139			4.12
	Perfluorohexanesulfonic acid (PFHxS)	118	113	142			15.7
	Perfluorohexanoic acid (PFHxA)	135	70.8	72.2			0.480
	Perfluorohexanoic acid (PFHxA)	116	106	89.0			14.3
	Perfluorononanesulfonic acid (PFNS)	141	116	115			0.423
	Perfluorononanesulfonic acid (PFNS)	113	99.9	95.0			5.05
	Perfluorononanoic acid (PFNA)	87.0	115	137			18.1
	Perfluorononanoic acid (PFNA)	111	129	118			8.76
	Perfluorooctanesulfonic acid (PFOS)	116	76.8	67.7			3.48
	Perfluorooctanesulfonic acid (PFOS)	118					8.02
	Perfluorooctanoic acid (PFOA)	126	113	126			6.52
	Perfluorooctanoic acid (PFOA)	136	90.3	105			10.4
	Perfluoropentanesulfonic acid (PFPeS)	143	135	150			8.40
	Perfluoropentanesulfonic acid (PFPeS)	125	125	119			4.85
	Perfluoropentanoic acid (PFPeA)	115	83.7	91.7			2.24
	Perfluoropentanoic acid (PFPeA)	133	125	129			2.58
	Perfluoropropanesulfonic acid (PFPrS)	134	138	141			1.91

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
DEP SOP: LC-001-3	Perfluoropropanesulfonic acid (PFPrS)	140	137	137			0.139
	Perfluorotetradecanoic acid (PFTeA)	117	133	145			9.33
	Perfluorotetradecanoic acid (PFTeA)	109	95.0	107			11.9
	Perfluorotridecanoic acid (PFTriA)	139	125	130			4.09
	Perfluorotridecanoic acid (PFTriA)	108	118	133			12.3
	Perfluoroundecanoic acid (PFUnA)	94.0	53.4	64.6			18.9
	Perfluoroundecanoic acid (PFUnA)	118	123	120			2.48

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: LC-001-3	Perfluorinated alkyl substances in water matrices by HPLC/MS/MS	2404292, 2404293, 2404294, 2404295, 2404296, 2404297, 2404298, 2404299, 2404300, 2404301, 2404302, 2404303, 2404304, 2404305, 2404306, 2404307, 2404308, 2404309, 2404310, 2404311

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: LC-001-3	05/01/2023	05/04/2023 10:00	Touraj Touran	05/05/2023 16:33	Mohammad Ghaffari	2404304
	05/01/2023	05/04/2023 10:00	Touraj Touran	05/05/2023 17:38	Mohammad Ghaffari	2404292
	05/01/2023	05/04/2023 10:00	Touraj Touran	05/05/2023 17:48	Mohammad Ghaffari	2404293
	05/01/2023	05/04/2023 10:00	Touraj Touran	05/05/2023 17:59	Mohammad Ghaffari	2404294
	05/01/2023	05/04/2023 10:00	Touraj Touran	05/05/2023 18:10	Mohammad Ghaffari	2404295
	05/01/2023	05/04/2023 10:00	Touraj Touran	05/05/2023 18:21	Mohammad Ghaffari	2404296
	05/01/2023	05/04/2023 10:00	Touraj Touran	05/05/2023 18:32	Mohammad Ghaffari	2404297
	05/01/2023	05/04/2023 10:00	Touraj Touran	05/05/2023 18:53	Mohammad Ghaffari	2404298
	05/01/2023	05/04/2023 10:00	Touraj Touran	05/05/2023 19:04	Mohammad Ghaffari	2404299
	05/01/2023	05/04/2023 10:00	Touraj Touran	05/05/2023 19:15	Mohammad Ghaffari	2404300
	05/01/2023	05/04/2023 10:00	Touraj Touran	05/05/2023 19:25	Mohammad Ghaffari	2404301
	05/01/2023	05/04/2023 10:00	Touraj Touran	05/05/2023 19:36	Mohammad Ghaffari	2404302
	05/01/2023	05/04/2023 10:00	Touraj Touran	05/05/2023 19:47	Mohammad Ghaffari	2404303
	05/01/2023	05/04/2023 10:00	Touraj Touran	05/05/2023 19:58	Mohammad Ghaffari	2404305
	05/01/2023	05/04/2023 10:00	Touraj Touran	05/08/2023 08:43	Mohammad Ghaffari	2404292
	05/01/2023	05/04/2023 10:00	Touraj Touran	05/09/2023 16:49	Mohammad Ghaffari	2404306
	05/01/2023	05/06/2023 08:30	Hoor Shaik	05/09/2023 13:56	Mohammad Ghaffari	2404309
	05/01/2023	05/06/2023 08:30	Hoor Shaik	05/09/2023 14:07	Mohammad Ghaffari	2404310
	05/01/2023	05/06/2023 08:30	Hoor Shaik	05/09/2023 14:18	Mohammad Ghaffari	2404311
	05/01/2023	05/06/2023 08:30	Hoor Shaik	05/09/2023 16:38	Mohammad Ghaffari	2404307
	05/01/2023	05/06/2023 08:30	Hoor Shaik	05/09/2023 17:10	Mohammad Ghaffari	2404308

Chemical Analysis Report

SIS-2023-05-04-01

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

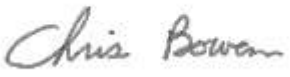
Event Description: **Tallahassee FTD ERIC_7413**
Request ID: **RQ-2023-04-17-07**
Customer: **SIS**
Project ID: **SIS-PFAS**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Road
Twin Towers Bldg. MS# 4515
Tallahassee, FL 32399
Attn: Nicole Knutson

For additional information please contact
Colin Wright, Ph.D.
Chris Bowen, B.S.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Chris Bowen, Environmental Administrator

Date Certified: 24-MAY-2023 08:23



Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical group are included in this report: Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

A - Value reported is the mean of two or more determinations.
B - Results based on colony counts outside the acceptable range.
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J - Estimated value and/or the analysis did not meet established quality control criteria.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
N - Presumptive evidence of presence of material.
O - Sampled, but analysis lost or not performed.
Q - Sample held beyond normal holding time.
T - Value reported is less than the criterion of detection.
U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
V - Analyte was detected in both sample and method blank.
X - Too few individuals to calculate SCI value.
Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: COTFTF **Collection Date/Time: 05/01/2023 11:46**

Field ID: DEPMW-21 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2405882	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	550		ng/L	P429750	
		Perfluorobutanoic acid (PFBA)	300		ng/L	P429750	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429750	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429750	
		Perfluoroheptanoic acid (PFHpA)	460		ng/L	P429750	RPD
		Perfluorohexanesulfonic acid (PFHxS)	2.7E+03		ng/L	P429750	
		Perfluorohexanoic acid (PFHxA)	520		ng/L	P429750	
		Perfluorononanoic acid (PFNA)	51		ng/L	P429750	
		Perfluorooctanoic acid (PFOA)	320		ng/L	P429750	
		Perfluorooctanesulfonic acid (PFOS)	2.9E+03		ng/L	P429750	
		Perfluoropentanoic acid (PFPeA)	690		ng/L	P429750	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429750	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429750	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429750	
		Perfluoropentanesulfonic acid (PFPeS)	540		ng/L	P429750	
		Perfluoroheptanesulfonic acid (PFHpS)	120		ng/L	P429750	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429750	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429750	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429750	
		Perfluoro-1-butane sulfonamide (FBSA)	400		ng/L	P429750	
		Perfluoro-1-hexane sulfonamide (FHxSA)	440		ng/L	P429750	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429750	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429750	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429750	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	19		ng/L	P429750	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	1.6E+03		ng/L	P429750	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	16		ng/L	P429750	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429750	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429750	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429750	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429750	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429750	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429750	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429750	
		Perfluoropropanesulfonic acid (PFPrS)	350		ng/L	P429750	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429750	

Field ID: DEPMW-21 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Ref. Method and Comment:
DEP SOP: LC-001-3: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: COTFTF **Collection Date/Time: 05/03/2023 09:19**

Field ID: MW001 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2405883	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	310		ng/L	P429750	
		Perfluorobutanoic acid (PFBA)	770		ng/L	P429750	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429750	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429750	
		Perfluoroheptanoic acid (PFHpA)	1.0E+03		ng/L	P429750	RPD
		Perfluorohexanesulfonic acid (PFHxS)	3.4E+03		ng/L	P429750	
		Perfluorohexanoic acid (PFHxA)	2.0E+03		ng/L	P429750	
		Perfluorononanoic acid (PFNA)	140		ng/L	P429750	
		Perfluorooctanoic acid (PFOA)	400		ng/L	P429750	
		Perfluorooctanesulfonic acid (PFOS)	6.7E+03		ng/L	P429750	
		Perfluoropentanoic acid (PFPeA)	3.9E+03		ng/L	P429750	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429750	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429750	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429750	
		Perfluoropentanesulfonic acid (PFPeS)	440		ng/L	P429750	
		Perfluoroheptanesulfonic acid (PFHpS)	210		ng/L	P429750	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429750	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429750	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429750	
		Perfluoro-1-butane sulfonamide (FBSA)	190		ng/L	P429750	
		Perfluoro-1-hexane sulfonamide (FHxSA)	280		ng/L	P429750	
		Perfluoro-1-octane sulfonamide (FOSA)	0.60	I	ng/L	P429750	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429750	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429750	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	77		ng/L	P429750	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	3.9E+03	I	ng/L	P429750	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	52		ng/L	P429750	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429750	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429750	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429750	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429750	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429750	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429750	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429750	
		Perfluoropropanesulfonic acid (PFPrS)	200		ng/L	P429750	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429750	

Field ID: MW001 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Ref. Method and Comment:
DEP SOP: LC-001-3: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample. 6:2 FTS is reported as "I" value due to required dilution of sample matrix.

Sample Location: COTFTF **Collection Date/Time: 05/02/2023 11:43**

Field ID: MW002 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2405884	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	19		ng/L	P429750	
		Perfluorobutanoic acid (PFBA)	85		ng/L	P429750	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429750	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429750	
		Perfluoroheptanoic acid (PFHpA)	75		ng/L	P429750	RPD
		Perfluorohexanesulfonic acid (PFHxS)	330		ng/L	P429750	
		Perfluorohexanoic acid (PFHxA)	120		ng/L	P429750	
		Perfluorononanoic acid (PFNA)	38		ng/L	P429750	
		Perfluorooctanoic acid (PFOA)	71		ng/L	P429750	
		Perfluorooctanesulfonic acid (PFOS)	1.7E+03		ng/L	P429750	
		Perfluoropentanoic acid (PFPeA)	280		ng/L	P429750	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429750	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429750	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429750	
		Perfluoropentanesulfonic acid (PFPeS)	27		ng/L	P429750	
		Perfluoroheptanesulfonic acid (PFHpS)	20		ng/L	P429750	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429750	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429750	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429750	
		Perfluoro-1-butane sulfonamide (FBSA)	3.9		ng/L	P429750	
		Perfluoro-1-hexane sulfonamide (FHxSA)	2.0	I	ng/L	P429750	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429750	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429750	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429750	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.7	I	ng/L	P429750	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	82		ng/L	P429750	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P429750	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429750	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429750	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429750	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429750	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429750	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429750	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429750	
		Perfluoropropanesulfonic acid (PFPrS)	8.1	I	ng/L	P429750	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429750	

Field ID: MW002 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Ref. Method and Comment:
DEP SOP: LC-001-3: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: COTFTF **Collection Date/Time: 05/02/2023 14:37**

Field ID: MW003 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2405885	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	4.7E+03		ng/L	P429750	
		Perfluorobutanoic acid (PFBA)	1.2E+03		ng/L	P429750	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429750	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429750	
		Perfluoroheptanoic acid (PFHpA)	1.0E+03		ng/L	P429750	RPD
		Perfluorohexanesulfonic acid (PFHxS)	1.7E+04		ng/L	P429750	
		Perfluorohexanoic acid (PFHxA)	3.6E+03		ng/L	P429750	
		Perfluorononanoic acid (PFNA)	190		ng/L	P429750	
		Perfluorooctanoic acid (PFOA)	1.9E+03		ng/L	P429750	
		Perfluorooctanesulfonic acid (PFOS)	3.2E+04		ng/L	P429750	
		Perfluoropentanoic acid (PFPeA)	3.5E+03		ng/L	P429750	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429750	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429750	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429750	
		Perfluoropentanesulfonic acid (PFPeS)	4.2E+03		ng/L	P429750	
		Perfluoroheptanesulfonic acid (PFHpS)	1.2E+03		ng/L	P429750	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429750	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429750	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429750	
		Perfluoro-1-butane sulfonamide (FBSA)	8.9E+03		ng/L	P429750	
		Perfluoro-1-hexane sulfonamide (FHxSA)	9.0E+03		ng/L	P429750	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429750	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429750	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429750	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	140		ng/L	P429750	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	5.8E+03	I	ng/L	P429750	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	6.5	I	ng/L	P429750	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429750	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429750	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429750	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429750	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	3.2	I	ng/L	P429750	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	1.9	I	ng/L	P429750	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429750	
		Perfluoropropanesulfonic acid (PFPrS)	3.1E+03		ng/L	P429750	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429750	

Field ID: MW003 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Ref. Method and Comment:
DEP SOP: LC-001-3: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample. 6:2 FTS is reported as "I" value due to required dilution of sample matrix.

Sample Location: COTFTF **Collection Date/Time: 05/01/2023 14:08**

Field ID: MW004 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2405886	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	18		ng/L	P429750	
		Perfluorobutanoic acid (PFBA)	180		ng/L	P429750	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429750	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429750	
		Perfluoroheptanoic acid (PFHpA)	150		ng/L	P429750	RPD
		Perfluorohexanesulfonic acid (PFHxS)	91		ng/L	P429750	
		Perfluorohexanoic acid (PFHxA)	460		ng/L	P429750	
		Perfluorononanoic acid (PFNA)	9.0		ng/L	P429750	
		Perfluorooctanoic acid (PFOA)	40		ng/L	P429750	
		Perfluorooctanesulfonic acid (PFOS)	290		ng/L	P429750	
		Perfluoropentanoic acid (PFPeA)	330		ng/L	P429750	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429750	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429750	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429750	
		Perfluoropentanesulfonic acid (PFPeS)	18		ng/L	P429750	
		Perfluoroheptanesulfonic acid (PFHpS)	2.7	I	ng/L	P429750	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429750	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429750	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429750	
		Perfluoro-1-butane sulfonamide (FBSA)	3.5		ng/L	P429750	
		Perfluoro-1-hexane sulfonamide (FHxSA)	2.3	I	ng/L	P429750	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429750	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429750	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429750	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P429750	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P429750	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P429750	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429750	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429750	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429750	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429750	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429750	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429750	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429750	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P429750	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429750	

Field ID: MW004 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Ref. Method and Comment:
DEP SOP: LC-001-3: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: COTFTF **Collection Date/Time: 05/02/2023 13:06**

Field ID: MW005 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2405887	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	4.1		ng/L	P429750	
		Perfluorobutanoic acid (PFBA)	19		ng/L	P429750	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429750	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429750	
		Perfluoroheptanoic acid (PFHpA)	16		ng/L	P429750	RPD
		Perfluorohexanesulfonic acid (PFHxS)	8.0		ng/L	P429750	
		Perfluorohexanoic acid (PFHxA)	21		ng/L	P429750	
		Perfluorononanoic acid (PFNA)	7.1	I	ng/L	P429750	
		Perfluorooctanoic acid (PFOA)	17		ng/L	P429750	
		Perfluorooctanesulfonic acid (PFOS)	74		ng/L	P429750	
		Perfluoropentanoic acid (PFPeA)	28		ng/L	P429750	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429750	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429750	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429750	
		Perfluoropentanesulfonic acid (PFPeS)	0.96	I	ng/L	P429750	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P429750	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429750	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429750	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429750	
		Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L	P429750	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P429750	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429750	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429750	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429750	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P429750	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P429750	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P429750	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429750	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429750	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429750	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429750	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429750	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429750	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429750	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P429750	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429750	

Field ID: MW005 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Ref. Method and Comment:
DEP SOP: LC-001-3: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: COTFTF **Collection Date/Time: 05/03/2023 15:16**

Field ID: MW006 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2405888	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	500		ng/L	P429750	
		Perfluorobutanoic acid (PFBA)	150		ng/L	P429750	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429750	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429750	
		Perfluoroheptanoic acid (PFHpA)	160		ng/L	P429750	RPD
		Perfluorohexanesulfonic acid (PFHxS)	2.5E+03		ng/L	P429750	
		Perfluorohexanoic acid (PFHxA)	380		ng/L	P429750	
		Perfluorononanoic acid (PFNA)	17		ng/L	P429750	
		Perfluorooctanoic acid (PFOA)	270		ng/L	P429750	
		Perfluorooctanesulfonic acid (PFOS)	5.5E+03		ng/L	P429750	
		Perfluoropentanoic acid (PFPeA)	320		ng/L	P429750	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429750	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429750	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429750	
		Perfluoropentanesulfonic acid (PFPeS)	560		ng/L	P429750	
		Perfluoroheptanesulfonic acid (PFHpS)	130		ng/L	P429750	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429750	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429750	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429750	
		Perfluoro-1-butane sulfonamide (FBSA)	410		ng/L	P429750	
		Perfluoro-1-hexane sulfonamide (FHxSA)	360		ng/L	P429750	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429750	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429750	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429750	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	7.8	I	ng/L	P429750	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	660		ng/L	P429750	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	14		ng/L	P429750	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429750	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429750	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429750	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429750	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429750	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429750	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429750	
		Perfluoropropanesulfonic acid (PFPrS)	260		ng/L	P429750	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429750	

Field ID: MW006 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Ref. Method and Comment:
DEP SOP: LC-001-3: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: COTFTF **Collection Date/Time: 05/02/2023 10:48**

Field ID: MW007 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2405889	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	68		ng/L	P429750	
		Perfluorobutanoic acid (PFBA)	470		ng/L	P429750	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429750	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429750	
		Perfluoroheptanoic acid (PFHpA)	600		ng/L	P429750	RPD
		Perfluorohexanesulfonic acid (PFHxS)	380		ng/L	P429750	
		Perfluorohexanoic acid (PFHxA)	990		ng/L	P429750	
		Perfluorononanoic acid (PFNA)	49		ng/L	P429750	
		Perfluorooctanoic acid (PFOA)	850		ng/L	P429750	
		Perfluorooctanesulfonic acid (PFOS)	480		ng/L	P429750	
		Perfluoropentanoic acid (PFPeA)	2.3E+03		ng/L	P429750	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429750	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429750	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429750	
		Perfluoropentanesulfonic acid (PFPeS)	84		ng/L	P429750	
		Perfluoroheptanesulfonic acid (PFHpS)	14		ng/L	P429750	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429750	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429750	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429750	
		Perfluoro-1-butane sulfonamide (FBSA)	36		ng/L	P429750	
		Perfluoro-1-hexane sulfonamide (FHxSA)	19		ng/L	P429750	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429750	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429750	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429750	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	330		ng/L	P429750	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	5.6E+03	I	ng/L	P429750	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	78		ng/L	P429750	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429750	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429750	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429750	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429750	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429750	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429750	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429750	
		Perfluoropropanesulfonic acid (PFPrS)	30		ng/L	P429750	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429750	

Field ID: MW007 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Ref. Method and Comment:
DEP SOP: LC-001-3: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample. 6:2 FTS is reported as "I" value due to required dilution of sample matrix.

Sample Location: COTFTF **Collection Date/Time: 05/01/2023 16:13**

Field ID: MW008 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2405890	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	95		ng/L	P429750	
		Perfluorobutanoic acid (PFBA)	95		ng/L	P429750	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429750	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429750	
		Perfluoroheptanoic acid (PFHpA)	67		ng/L	P429750	RPD
		Perfluorohexanesulfonic acid (PFHxS)	390		ng/L	P429750	
		Perfluorohexanoic acid (PFHxA)	140		ng/L	P429750	
		Perfluorononanoic acid (PFNA)	5.0	I	ng/L	P429750	
		Perfluorooctanoic acid (PFOA)	230		ng/L	P429750	
		Perfluorooctanesulfonic acid (PFOS)	590		ng/L	P429750	
		Perfluoropentanoic acid (PFPeA)	420		ng/L	P429750	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429750	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429750	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429750	
		Perfluoropentanesulfonic acid (PFPeS)	100		ng/L	P429750	
		Perfluoroheptanesulfonic acid (PFHpS)	15		ng/L	P429750	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429750	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429750	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429750	
		Perfluoro-1-butane sulfonamide (FBSA)	50		ng/L	P429750	
		Perfluoro-1-hexane sulfonamide (FHxSA)	15		ng/L	P429750	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429750	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429750	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429750	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P429750	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	150		ng/L	P429750	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P429750	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429750	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429750	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429750	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429750	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429750	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429750	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429750	
		Perfluoropropanesulfonic acid (PFPrS)	37		ng/L	P429750	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429750	

Field ID: MW008 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Ref. Method and Comment:
DEP SOP: LC-001-3: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: COTFTF **Collection Date/Time: 05/03/2023 13:59**

Field ID: MW009 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2405891	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	190		ng/L	P429750	
		Perfluorobutanoic acid (PFBA)	130		ng/L	P429750	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429750	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429750	
		Perfluoroheptanoic acid (PFHpA)	160		ng/L	P429750	RPD
		Perfluorohexanesulfonic acid (PFHxS)	790		ng/L	P429750	
		Perfluorohexanoic acid (PFHxA)	240		ng/L	P429750	
		Perfluorononanoic acid (PFNA)	15		ng/L	P429750	
		Perfluorooctanoic acid (PFOA)	140		ng/L	P429750	
		Perfluorooctanesulfonic acid (PFOS)	920		ng/L	P429750	
		Perfluoropentanoic acid (PFPeA)	310		ng/L	P429750	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429750	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429750	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429750	
		Perfluoropentanesulfonic acid (PFPeS)	210		ng/L	P429750	
		Perfluoroheptanesulfonic acid (PFHpS)	26		ng/L	P429750	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429750	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429750	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429750	
		Perfluoro-1-butane sulfonamide (FBSA)	160		ng/L	P429750	
		Perfluoro-1-hexane sulfonamide (FHxSA)	110		ng/L	P429750	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429750	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429750	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429750	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	5.4	I	ng/L	P429750	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	410	I	ng/L	P429750	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	5.3	I	ng/L	P429750	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429750	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429750	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429750	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429750	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429750	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429750	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429750	
		Perfluoropropanesulfonic acid (PFPrS)	62		ng/L	P429750	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429750	

Field ID: MW009 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Ref. Method and Comment:
DEP SOP: LC-001-3: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample. The MDL for 6:2 FTS is elevated due to required dilution of sample matrix.

Sample Location: COTFTF **Collection Date/Time: 05/02/2023 09:34**

Field ID: MW010 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2405892	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	3.9		ng/L	P429750	
		Perfluorobutanoic acid (PFBA)	6.8	I	ng/L	P429750	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429750	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429750	
		Perfluoroheptanoic acid (PFHpA)	5.8	I	ng/L	P429750	RPD
		Perfluorohexanesulfonic acid (PFHxS)	13		ng/L	P429750	
		Perfluorohexanoic acid (PFHxA)	11		ng/L	P429750	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P429750	
		Perfluorooctanoic acid (PFOA)	6.1	I	ng/L	P429750	
		Perfluorooctanesulfonic acid (PFOS)	23		ng/L	P429750	
		Perfluoropentanoic acid (PFPeA)	12		ng/L	P429750	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429750	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429750	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429750	
		Perfluoropentanesulfonic acid (PFPeS)	1.9		ng/L	P429750	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P429750	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429750	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429750	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429750	
		Perfluoro-1-butane sulfonamide (FBSA)	1.8	I	ng/L	P429750	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P429750	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429750	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429750	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429750	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P429750	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P429750	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P429750	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429750	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429750	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429750	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429750	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429750	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429750	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429750	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P429750	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429750	

Field ID: MW010 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Ref. Method and Comment:
DEP SOP: LC-001-3: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample.

Sample Location: COTFTF **Collection Date/Time: 05/01/2023 15:26**

Field ID: MW011 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2405893	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	77		ng/L	P429750	
		Perfluorobutanoic acid (PFBA)	100		ng/L	P429750	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429750	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429750	
		Perfluoroheptanoic acid (PFHpA)	130	J	ng/L	P429750	RPD
		Perfluorohexanesulfonic acid (PFHxS)	300		ng/L	P429750	
		Perfluorohexanoic acid (PFHxA)	200		ng/L	P429750	
		Perfluorononanoic acid (PFNA)	13		ng/L	P429750	
		Perfluorooctanoic acid (PFOA)	180		ng/L	P429750	
		Perfluorooctanesulfonic acid (PFOS)	410		ng/L	P429750	
		Perfluoropentanoic acid (PFPeA)	210		ng/L	P429750	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429750	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429750	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429750	
		Perfluoropentanesulfonic acid (PFPeS)	80		ng/L	P429750	
		Perfluoroheptanesulfonic acid (PFHpS)	12		ng/L	P429750	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429750	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429750	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429750	
		Perfluoro-1-butane sulfonamide (FBSA)	72		ng/L	P429750	
		Perfluoro-1-hexane sulfonamide (FHxSA)	19		ng/L	P429750	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429750	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429750	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429750	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	4.2	I	ng/L	P429750	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	250		ng/L	P429750	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.6	I	ng/L	P429750	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429750	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429750	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429750	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429750	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429750	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429750	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429750	
		Perfluoropropanesulfonic acid (PFPrS)	32		ng/L	P429750	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429750	

Field ID: MW011 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Ref. Method and Comment:
DEP SOP: LC-001-3: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: COTFTF **Collection Date/Time: 05/03/2023 12:23**

Field ID: MW012 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2405894	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	14		ng/L	P429751	
		Perfluorobutanoic acid (PFBA)	13	I	ng/L	P429751	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429751	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429751	
		Perfluoroheptanoic acid (PFHpA)	19		ng/L	P429751	
		Perfluorohexanesulfonic acid (PFHxS)	73		ng/L	P429751	
		Perfluorohexanoic acid (PFHxA)	27		ng/L	P429751	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P429751	
		Perfluorooctanoic acid (PFOA)	11		ng/L	P429751	
		Perfluorooctanesulfonic acid (PFOS)	150		ng/L	P429751	
		Perfluoropentanoic acid (PFPeA)	37		ng/L	P429751	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429751	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429751	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429751	
		Perfluoropentanesulfonic acid (PFPeS)	15		ng/L	P429751	
		Perfluoroheptanesulfonic acid (PFHpS)	2.4	I	ng/L	P429751	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429751	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429751	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429751	
		Perfluoro-1-butane sulfonamide (FBSA)	31		ng/L	P429751	
		Perfluoro-1-hexane sulfonamide (FHxSA)	33		ng/L	P429751	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429751	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429751	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429751	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P429751	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	37	I	ng/L	P429751	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	I	ng/L	P429751	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429751	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429751	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429751	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429751	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429751	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429751	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429751	
		Perfluoropropanesulfonic acid (PFPrS)	6.2	I	ng/L	P429751	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429751	

Sample Location: COTFTF **Collection Date/Time: 05/03/2023 10:17**

Field ID: MW013 Matrix: W-GROUND

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2405895	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	0.40	U	ng/L	P429751	
		Perfluorobutanoic acid (PFBA)	4.0	U	ng/L	P429751	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429751	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429751	
		Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L	P429751	
		Perfluorohexanesulfonic acid (PFHxS)	1.1	I	ng/L	P429751	
		Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L	P429751	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P429751	
		Perfluorooctanoic acid (PFOA)	2.0	U	ng/L	P429751	
		Perfluorooctanesulfonic acid (PFOS)	2.1	I	ng/L	P429751	
		Perfluoropentanoic acid (PFPeA)	2.0	U	ng/L	P429751	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429751	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429751	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429751	
		Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L	P429751	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P429751	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429751	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429751	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429751	
		Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L	P429751	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P429751	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429751	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429751	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429751	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P429751	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P429751	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P429751	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429751	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429751	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429751	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429751	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429751	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429751	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429751	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P429751	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429751	

Sample Location: COTFTF **Collection Date/Time: 05/03/2023 15:36**

Field ID: EQB16 Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2405896	DEP SOP: LC-001-3	Perfluorobutanesulfonic acid (PFBS)	0.40	U	ng/L	P429751	
		Perfluorobutanoic acid (PFBA)	4.0	U	ng/L	P429751	
		Perfluorodecanoic acid (PFDA)	4.0	U	ng/L	P429751	
		Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L	P429751	
		Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L	P429751	
		Perfluorohexanesulfonic acid (PFHxS)	0.80	U	ng/L	P429751	
		Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L	P429751	
		Perfluorononanoic acid (PFNA)	2.0	U	ng/L	P429751	
		Perfluorooctanoic acid (PFOA)	2.0	U	ng/L	P429751	
		Perfluorooctanesulfonic acid (PFOS)	2.0	U	ng/L	P429751	
		Perfluoropentanoic acid (PFPeA)	2.0	U	ng/L	P429751	
		Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L	P429751	
		Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L	P429751	
		Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L	P429751	
		Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L	P429751	
		Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L	P429751	
		Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L	P429751	
		Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L	P429751	
		4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L	P429751	
		Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L	P429751	
		Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L	P429751	
		Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L	P429751	
		11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L	P429751	
		9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L	P429751	
		1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L	P429751	
		1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L	P429751	
		1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L	P429751	
		N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L	P429751	
		N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L	P429751	
		Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L	P429751	
		Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L	P429751	
		Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L	P429751	
		Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L	P429751	
		Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L	P429751	
		Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L	P429751	
		Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L	P429751	

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: LC-001-3
Batch ID: P429750

Component	Result	Code	Units
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L
Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L
Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L
Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L
Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L
Perfluorobutanesulfonic acid (PFBS)	0.40	U	ng/L
Perfluorobutanoic acid (PFBA)	4.0	U	ng/L
Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L
Perfluorodecanoic acid (PFDA)	4.0	U	ng/L
Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L
Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L
Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L
Perfluorohexanesulfonic acid (PFHxS)	0.80	U	ng/L
Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L
Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L
Perfluorononanoic acid (PFNA)	2.0	U	ng/L
Perfluorooctanesulfonic acid (PFOS)	2.0	U	ng/L
Perfluorooctanoic acid (PFOA)	2.0	U	ng/L
Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L
Perfluoropentanoic acid (PFPeA)	2.0	U	ng/L
Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L
Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L
Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L
Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L

Reference Method: DEP SOP: LC-001-3
Batch ID: P429751

Component	Result	Code	Units
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	2.0	U	ng/L
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	2.0	U	ng/L
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	2.0	U	ng/L
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	16	U	ng/L
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.40	U	ng/L
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	2.0	U	ng/L
Hexafluoropropylene oxide dimer acid (HFPO-DA)	4.0	U	ng/L
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.80	U	ng/L
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.80	U	ng/L
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.0	U	ng/L
Perfluoro-1-butane sulfonamide (FBSA)	0.80	U	ng/L

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: LC-001-3
Batch ID: P429751

Component	Result	Code	Units
Perfluoro-1-hexane sulfonamide (FHxSA)	0.80	U	ng/L
Perfluoro-1-octane sulfonamide (FOSA)	0.40	U	ng/L
Perfluoro-3-methoxypropanoic acid (PFMPA)	0.80	U	ng/L
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	0.80	U	ng/L
Perfluoro-4-methoxybutanoic acid (PFMBA)	0.80	U	ng/L
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	0.80	U	ng/L
Perfluorobutanesulfonic acid (PFBS)	0.40	U	ng/L
Perfluorobutanoic acid (PFBA)	4.0	U	ng/L
Perfluorodecanesulfonic acid (PFDS)	0.40	U	ng/L
Perfluorodecanoic acid (PFDA)	4.0	U	ng/L
Perfluorododecanoic acid (PFDoA)	2.0	U	ng/L
Perfluoroheptanesulfonic acid (PFHpS)	0.80	U	ng/L
Perfluoroheptanoic acid (PFHpA)	2.0	U	ng/L
Perfluorohexanesulfonic acid (PFHxS)	0.80	U	ng/L
Perfluorohexanoic acid (PFHxA)	2.0	U	ng/L
Perfluorononanesulfonic acid (PFNS)	0.40	U	ng/L
Perfluorononanoic acid (PFNA)	2.0	U	ng/L
Perfluorooctanesulfonic acid (PFOS)	2.0	U	ng/L
Perfluorooctanoic acid (PFOA)	2.0	U	ng/L
Perfluoropentanesulfonic acid (PFPeS)	0.40	U	ng/L
Perfluoropentanoic acid (PFPeA)	2.0	U	ng/L
Perfluoropropanesulfonic acid (PFPrS)	4.0	U	ng/L
Perfluorotetradecanoic acid (PFTeA)	2.0	U	ng/L
Perfluorotridecanoic acid (PFTriA)	2.0	U	ng/L
Perfluoroundecanoic acid (PFUnA)	2.0	U	ng/L

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: DEP SOP: LC-001-3
Batch ID: P429750

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	76.5		P	30 - 160
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	44.7		P	30 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	63.2		P	30 - 160
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	62.0		P	30 - 160
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	84.8		P	30 - 160
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	85.7		P	30 - 160
Hexafluoropropylene oxide dimer acid (HFPO-DA)	77.3		P	30 - 160
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	73.2		P	30 - 160
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	79.4		P	30 - 160
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	75.4		P	30 - 160
Perfluoro-1-butane sulfonamide (FBSA)	96.7		P	30 - 160
Perfluoro-1-hexane sulfonamide (FHxSA)	90.2		P	30 - 160
Perfluoro-1-octane sulfonamide (FOSA)	79.8		P	30 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	80.1		P	30 - 160
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	80.1		P	30 - 160
Perfluoro-4-methoxybutanoic acid (PFMBA)	82.4		P	30 - 160
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	88.1		P	30 - 160
Perfluorobutanesulfonic acid (PFBS)	84.0		P	30 - 160
Perfluorobutanoic acid (PFBA)	83.4		P	30 - 160
Perfluorodecanesulfonic acid (PFDS)	73.7		P	30 - 160
Perfluorodecanoic acid (PFDA)	128		P	30 - 160
Perfluorododecanoic acid (PFDoA)	87.6		P	30 - 160
Perfluoroheptanesulfonic acid (PFHpS)	80.6		P	30 - 160
Perfluoroheptanoic acid (PFHpA)	91.7		P	30 - 160
Perfluorohexanesulfonic acid (PFHxS)	87.6		P	30 - 160
Perfluorohexanoic acid (PFHxA)	56.4		P	30 - 160
Perfluorononanesulfonic acid (PFNS)	84.5		P	30 - 160
Perfluorononanoic acid (PFNA)	102		P	30 - 160
Perfluorooctanesulfonic acid (PFOS)	82.5		P	30 - 160
Perfluorooctanoic acid (PFOA)	92.6		P	30 - 160
Perfluoropentanesulfonic acid (PFPeS)	85.3		P	30 - 160
Perfluoropentanoic acid (PFPeA)	89.6		P	30 - 160
Perfluoropropanesulfonic acid (PFPrS)	83.3		P	30 - 160
Perfluorotetradecanoic acid (PFTeA)	81.8		P	30 - 160
Perfluorotridecanoic acid (PFTriA)	90.1		P	30 - 160
Perfluoroundecanoic acid (PFUnA)	93.2		P	30 - 160

Reference Method: DEP SOP: LC-001-3
Batch ID: P429751

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	88.1		P	30 - 160
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	68.6		P	30 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	70.9		P	30 - 160
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	74.1		P	30 - 160
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	63.3		P	30 - 160
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	114		P	30 - 160
Hexafluoropropylene oxide dimer acid (HFPO-DA)	104		P	30 - 160
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	76.0		P	30 - 160
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	95.6		P	30 - 160
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	83.1		P	30 - 160
Perfluoro-1-butane sulfonamide (FBSA)	116		P	30 - 160

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: DEP SOP: LC-001-3
Batch ID: P429751

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Perfluoro-1-hexane sulfonamide (FHxSA)	115		P	30 - 160
Perfluoro-1-octane sulfonamide (FOSA)	92.1		P	30 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	103		P	30 - 160
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	94.4		P	30 - 160
Perfluoro-4-methoxybutanoic acid (PFMBA)	118		P	30 - 160
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	96.7		P	30 - 160
Perfluorobutanesulfonic acid (PFBS)	89.6		P	30 - 160
Perfluorobutanoic acid (PFBA)	94.9		P	30 - 160
Perfluorodecanesulfonic acid (PFDS)	97.6		P	30 - 160
Perfluorodecanoic acid (PFDA)	81.5		P	30 - 160
Perfluorododecanoic acid (PFDoA)	81.2		P	30 - 160
Perfluoroheptanesulfonic acid (PFHpS)	94.1		P	30 - 160
Perfluoroheptanoic acid (PFHpA)	93.3		P	30 - 160
Perfluorohexanesulfonic acid (PFHxS)	85.1		P	30 - 160
Perfluorohexanoic acid (PFHxA)	79.6		P	30 - 160
Perfluorononanesulfonic acid (PFNS)	101		P	30 - 160
Perfluorononanoic acid (PFNA)	90.4		P	30 - 160
Perfluorooctanesulfonic acid (PFOS)	101		P	30 - 160
Perfluorooctanoic acid (PFOA)	89.3		P	30 - 160
Perfluoropentanesulfonic acid (PFPeS)	97.7		P	30 - 160
Perfluoropentanoic acid (PFPeA)	82.2		P	30 - 160
Perfluoropropanesulfonic acid (PFPrS)	116		P	30 - 160
Perfluorotetradecanoic acid (PFTeA)	69.4		P	30 - 160
Perfluorotridecanoic acid (PFTriA)	94.1		P	30 - 160
Perfluoroundecanoic acid (PFUnA)	139		P	30 - 160

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: DEP SOP: LC-001-3
Batch ID: P429750

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2405893	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	66.5	56.3	P/P	30 - 160
2405893	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	42.4	35.6	P/P	30 - 160
2405893	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	76.6	82.1	P/P	30 - 160
2405893	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	100	93.0	P/P	30 - 160
2405893	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	94.4	89.9	P/P	30 - 160
2405893	Hexafluoropropylene oxide dimer acid (HFPO-DA)	83.7	74.6	P/P	30 - 160
2405893	N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	88.2	93.6	P/P	30 - 160
2405893	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	87.8	82.2	P/P	30 - 160
2405893	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	121	111	P/P	30 - 160
2405893	Perfluoro-1-hexane sulfonamide (FHxSA)	64.3	83.4	P/P	30 - 160
2405893	Perfluoro-1-octane sulfonamide (FOSA)	81.4	87.0	P/P	30 - 160
2405893	Perfluoro-3-methoxypropanoic acid (PFMPA)	79.7	85.3	P/P	30 - 160
2405893	Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	83.1	87.5	P/P	30 - 160
2405893	Perfluoro-4-methoxybutanoic acid (PFMBA)	91.1	103	P/P	30 - 160
2405893	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	99.6	101	P/P	30 - 160
2405893	Perfluorodecanesulfonic acid (PFDS)	62.9	62.1	P/P	30 - 160
2405893	Perfluorodecanoic acid (PFDA)	87.6	86.1	P/P	30 - 160
2405893	Perfluorododecanoic acid (PFDoA)	113	95.1	P/P	30 - 160
2405893	Perfluoroheptanesulfonic acid (PFHpS)	77.1	86.9	P/P	30 - 160
2405893	Perfluorononanesulfonic acid (PFNS)	78.2	75.9	P/P	30 - 160
2405893	Perfluorononanoic acid (PFNA)	101	79.5	P/P	30 - 160
2405893	Perfluorotetradecanoic acid (PFTeA)	76.4	70.1	P/P	30 - 160
2405893	Perfluorotridecanoic acid (PFTriA)	99.4	126	P/P	30 - 160
2405893	Perfluoroundecanoic acid (PFUnA)	90.0	101	P/P	30 - 160

Reference Method: DEP SOP: LC-001-3
Batch ID: P429751

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2407764	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	49.7	46.8	P/P	30 - 160
2407764	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	85.5	108	P/P	30 - 160
2407764	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	75.7	97.5	P/P	30 - 160
2407764	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	132	159	P/P	30 - 160
2407764	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	92.7	91.7	P/P	30 - 160
2407764	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	116	142	P/P	30 - 160
2407764	Hexafluoropropylene oxide dimer acid (HFPO-DA)	155	137	P/P	30 - 160
2407764	N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	110	94.8	P/P	30 - 160
2407764	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	117	146	P/P	30 - 160
2407764	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	84.9	82.0	P/P	30 - 160
2407764	Perfluoro-1-butane sulfonamide (FBSA)	132	144	P/P	30 - 160
2407764	Perfluoro-1-hexane sulfonamide (FHxSA)	127	146	P/P	30 - 160
2407764	Perfluoro-1-octane sulfonamide (FOSA)	125	136	P/P	30 - 160
2407764	Perfluoro-3-methoxypropanoic acid (PFMPA)	139	152	P/P	30 - 160
2407764	Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	115	141	P/P	30 - 160
2407764	Perfluoro-4-methoxybutanoic acid (PFMBA)	119	118	P/P	30 - 160
2407764	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	117	133	P/P	30 - 160
2407764	Perfluorobutanesulfonic acid (PFBS)	113	123	P/P	30 - 160
2407764	Perfluorobutanoic acid (PFBA)	136	151	P/P	30 - 160
2407764	Perfluorodecanesulfonic acid (PFDS)	60.3	69.4	P/P	30 - 160
2407764	Perfluorodecanoic acid (PFDA)	102	99.1	P/P	30 - 160
2407764	Perfluorododecanoic acid (PFDoA)	159	143	P/P	30 - 160
2407764	Perfluoroheptanesulfonic acid (PFHpS)	112	130	P/P	30 - 160

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: DEP SOP: LC-001-3
Batch ID: P429751

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2407764	Perfluoroheptanoic acid (PFHpA)	112	135	P/P	30 - 160
2407764	Perfluorohexanesulfonic acid (PFHxS)	109	127	P/P	30 - 160
2407764	Perfluorohexanoic acid (PFHxA)	116	125	P/P	30 - 160
2407764	Perfluorononanesulfonic acid (PFNS)	107	116	P/P	30 - 160
2407764	Perfluorononanoic acid (PFNA)	136	146	P/P	30 - 160
2407764	Perfluorooctanesulfonic acid (PFOS)	119	145	P/P	30 - 160
2407764	Perfluorooctanoic acid (PFOA)	128	130	P/P	30 - 160
2407764	Perfluoropentanesulfonic acid (PFPeS)	134	136	P/P	30 - 160
2407764	Perfluoropentanoic acid (PFPeA)	125	131	P/P	30 - 160
2407764	Perfluoropropanesulfonic acid (PFPrS)	129	138	P/P	30 - 160
2407764	Perfluorotetradecanoic acid (PFTeA)	85.2	85.7	P/P	30 - 160
2407764	Perfluorotridecanoic acid (PFTriA)	77.4	96.8	P/P	30 - 160
2407764	Perfluoroundecanoic acid (PFUnA)	110	104	P/P	30 - 160

Quality Assurance Report
Precision

Reference Method: DEP SOP: LC-001-3
Batch ID: P429750

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2405893	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	16.6	Spike	P	0 - 30
2405893	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	12.4	Spike	P	0 - 30
2405893	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	5.16	Spike	P	0 - 30
2405893	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	13.3	Spike	P	0 - 30
2405893	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.49	Spike	P	0 - 30
2405893	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	4.95	Spike	P	0 - 30
2405893	Hexafluoropropylene oxide dimer acid (HFPO-DA)	11.5	Spike	P	0 - 30
2405893	N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	5.93	Spike	P	0 - 30
2405893	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	6.53	Spike	P	0 - 30
2405893	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	8.26	Spike	P	0 - 30
2405893	Perfluoro-1-butane sulfonamide (FBSA)	8.31	Spike	P	0 - 30
2405893	Perfluoro-1-hexane sulfonamide (FHxSA)	9.92	Spike	P	0 - 30
2405893	Perfluoro-1-octane sulfonamide (FOSA)	6.61	Spike	P	0 - 30
2405893	Perfluoro-3-methoxypropanoic acid (PFMPA)	6.73	Spike	P	0 - 30
2405893	Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	5.11	Spike	P	0 - 30
2405893	Perfluoro-4-methoxybutanoic acid (PFMBA)	12.7	Spike	P	0 - 30
2405893	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	1.69	Spike	P	0 - 30
2405893	Perfluorobutanesulfonic acid (PFBS)	2.77	Spike	P	0 - 30
2405893	Perfluorobutanoic acid (PFBA)	2.24	Spike	P	0 - 30
2405893	Perfluorodecanesulfonic acid (PFDS)	1.38	Spike	P	0 - 30
2405893	Perfluorodecanoic acid (PFDA)	1.69	Spike	P	0 - 30
2405893	Perfluorododecanoic acid (PFDoA)	17.6	Spike	P	0 - 30
2405893	Perfluoroheptanesulfonic acid (PFHpS)	6.28	Spike	P	0 - 30
2405893	Perfluoroheptanoic acid (PFHpA)	33.7	Spike	F	0 - 30
2405893	Perfluorohexanesulfonic acid (PFHxS)	1.83	Spike	P	0 - 30
2405893	Perfluorohexanoic acid (PFHxA)	2.04	Spike	P	0 - 30
2405893	Perfluorononanesulfonic acid (PFNS)	2.99	Spike	P	0 - 30
2405893	Perfluorononanoic acid (PFNA)	12.7	Spike	P	0 - 30
2405893	Perfluorooctanesulfonic acid (PFOS)	7.10	Spike	P	0 - 30
2405893	Perfluorooctanoic acid (PFOA)	24.6	Spike	P	0 - 30
2405893	Perfluoropentanesulfonic acid (PFPeS)	1.66	Spike	P	0 - 30
2405893	Perfluoropentanoic acid (PFPeA)	5.96	Spike	P	0 - 30
2405893	Perfluoropropanesulfonic acid (PFPrS)	0.391	Spike	P	0 - 30
2405893	Perfluorotetradecanoic acid (PFTeA)	8.63	Spike	P	0 - 30
2405893	Perfluorotridecanoic acid (PFTriA)	23.3	Spike	P	0 - 30
2405893	Perfluoroundecanoic acid (PFUnA)	11.9	Spike	P	0 - 30

Reference Method: DEP SOP: LC-001-3
Batch ID: P429751

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2407764	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	5.99	Spike	P	0 - 30
2407764	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	23.0	Spike	P	0 - 30
2407764	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	25.2	Spike	P	0 - 30
2407764	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	18.4	Spike	P	0 - 30
2407764	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.10	Spike	P	0 - 30
2407764	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	20.0	Spike	P	0 - 30
2407764	Hexafluoropropylene oxide dimer acid (HFPO-DA)	12.4	Spike	P	0 - 30
2407764	N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	14.7	Spike	P	0 - 30
2407764	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	22.1	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: DEP SOP: LC-001-3
Batch ID: P429751

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2407764	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	3.43	Spike	P	0 - 30
2407764	Perfluoro-1-butane sulfonamide (FBSA)	9.12	Spike	P	0 - 30
2407764	Perfluoro-1-hexane sulfonamide (FHxSA)	13.4	Spike	P	0 - 30
2407764	Perfluoro-1-octane sulfonamide (FOSA)	8.68	Spike	P	0 - 30
2407764	Perfluoro-3-methoxypropanoic acid (PFMPA)	8.74	Spike	P	0 - 30
2407764	Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	20.3	Spike	P	0 - 30
2407764	Perfluoro-4-methoxybutanoic acid (PFMBA)	0.977	Spike	P	0 - 30
2407764	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	12.5	Spike	P	0 - 30
2407764	Perfluorobutanesulfonic acid (PFBS)	8.12	Spike	P	0 - 30
2407764	Perfluorobutanoic acid (PFBA)	10.7	Spike	P	0 - 30
2407764	Perfluorodecanesulfonic acid (PFDS)	14.1	Spike	P	0 - 30
2407764	Perfluorodecanoic acid (PFDA)	2.52	Spike	P	0 - 30
2407764	Perfluorododecanoic acid (PFDoA)	11.0	Spike	P	0 - 30
2407764	Perfluoroheptanesulfonic acid (PFHpS)	14.7	Spike	P	0 - 30
2407764	Perfluoroheptanoic acid (PFHpA)	18.9	Spike	P	0 - 30
2407764	Perfluorohexanesulfonic acid (PFHxS)	15.2	Spike	P	0 - 30
2407764	Perfluorohexanoic acid (PFHxA)	7.42	Spike	P	0 - 30
2407764	Perfluorononanesulfonic acid (PFNS)	8.03	Spike	P	0 - 30
2407764	Perfluorononanoic acid (PFNA)	7.19	Spike	P	0 - 30
2407764	Perfluorooctanesulfonic acid (PFOS)	15.3	Spike	P	0 - 30
2407764	Perfluorooctanoic acid (PFOA)	1.52	Spike	P	0 - 30
2407764	Perfluoropentanesulfonic acid (PFPeS)	1.07	Spike	P	0 - 30
2407764	Perfluoropentanoic acid (PFPeA)	4.56	Spike	P	0 - 30
2407764	Perfluoropropanesulfonic acid (PFPrS)	6.32	Spike	P	0 - 30
2407764	Perfluorotetradecanoic acid (PFTeA)	0.503	Spike	P	0 - 30
2407764	Perfluorotridecanoic acid (PFTriA)	22.2	Spike	P	0 - 30
2407764	Perfluoroundecanoic acid (PFUnA)	5.42	Spike	P	0 - 30

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report
Surrogates

Lab Sample ID: 2405882
Field Sample ID: DEPMW-21

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	95.5	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	90.9	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	93.2	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	107	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	98.2	P	30 - 160

Lab Sample ID: 2405883
Field Sample ID: MW001

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	113	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	78.7	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	105	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	81.8	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	142	P	30 - 160

Lab Sample ID: 2405884
Field Sample ID: MW002

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	64.9	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	110	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	90.9	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	120	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	82.0	P	30 - 160

Lab Sample ID: 2405885
Field Sample ID: MW003

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	142	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	43.0	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	151	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	42.5	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	130	P	30 - 160

Lab Sample ID: 2405886
Field Sample ID: MW004

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	123	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	95.3	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	150	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	110	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	106	P	30 - 160

Lab Sample ID: 2405887
Field Sample ID: MW005

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	95.0	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	89.9	P	30 - 160

Quality Assurance Report
Surrogates

Lab Sample ID: 2405887
Field Sample ID: MW005

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	145	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	106	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	110	P	30 - 160

Lab Sample ID: 2405888
Field Sample ID: MW006

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	71.3	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	107	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	78.9	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	113	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	106	P	30 - 160

Lab Sample ID: 2405889
Field Sample ID: MW007

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	62.6	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	91.4	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	99.4	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	117	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	95.5	P	30 - 160

Lab Sample ID: 2405890
Field Sample ID: MW008

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	64.7	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	91.3	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	86.6	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	103	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	105	P	30 - 160

Lab Sample ID: 2405891
Field Sample ID: MW009

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	98.8	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	89.0	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	98.4	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	108	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	102	P	30 - 160

Lab Sample ID: 2405892
Field Sample ID: MW010

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	106	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	98.2	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	115	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	115	P	30 - 160

Quality Assurance Report
Surrogates

Lab Sample ID: 2405892
Field Sample ID: MW010

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	104	P	30 - 160

Lab Sample ID: 2405893
Field Sample ID: MW011

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	64.3	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	104	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	110	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	115	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	106	P	30 - 160

Lab Sample ID: 2405894
Field Sample ID: MW012

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	97.5	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	96.4	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	103	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	114	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	98.5	P	30 - 160

Lab Sample ID: 2405895
Field Sample ID: MW013

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	92.5	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	82.9	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	76.9	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	98.3	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	105	P	30 - 160

Lab Sample ID: 2405896
Field Sample ID: EQB16

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: LC-001-3	Hexafluoropropylene oxide dimer acid-13C	80.6	P	30 - 160
DEP SOP: LC-001-3	Perfluorobutanesulfonic acid-13C	86.4	P	30 - 160
DEP SOP: LC-001-3	Perfluorodecanoic acid-13C	77.0	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanesulfonic acid-13C	91.6	P	30 - 160
DEP SOP: LC-001-3	Perfluorohexanoic acid-13C	89.3	P	30 - 160

Quality Assurance Report
Calibration Verification

Reference Method: DEP SOP: LC-001-3
Run ID: A119200
Included Lab Sample IDs: 2405882, 2405883, 2405884, 2405885, 2405886, 2405887, 2405888, 2405889, 2405890, 2405891, 2405892, 2405893

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	107	109	P/P	60 - 160
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	109	106	P/P	60 - 160
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	98.9	107	P/P	60 - 160
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	75.7	84.4	P/P	60 - 160
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	84.4	91.8	P/P	60 - 160
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	91.2	75.7	P/P	60 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	86.6	87.9	P/P	60 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	87.9	80.4	P/P	60 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	94.0	86.6	P/P	60 - 160
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	101	112	P/P	60 - 160
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	112	88.4	P/P	60 - 160
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	118	102	P/P	60 - 160
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	86.3	118	P/P	60 - 160
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	97.3	101	P/P	60 - 160
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	122	105	P/P	60 - 160
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	129	122	P/P	60 - 160
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	88.9	129	P/P	60 - 160
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	103	111	P/P	60 - 160
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	107	107	P/P	60 - 160
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	111	107	P/P	60 - 160
Hexafluoropropylene oxide dimer acid (HFPO-DA)	100	67.6	P/P	60 - 160
Hexafluoropropylene oxide dimer acid (HFPO-DA)	63.9	79.4	P/P	60 - 160
Hexafluoropropylene oxide dimer acid (HFPO-DA)	79.4	100	P/P	60 - 160
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	102	96.4	P/P	60 - 160
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	103	102	P/P	60 - 160
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	96.4	87.7	P/P	60 - 160
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	111	100	P/P	60 - 160
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	91.0	109	P/P	60 - 160
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	100	91.0	P/P	60 - 160
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	107	115	P/P	60 - 160
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	115	150	P/P	60 - 160
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	118	107	P/P	60 - 160
Perfluoro-1-butane sulfonamide (FBSA)	85.2	86.6	P/P	60 - 160
Perfluoro-1-butane sulfonamide (FBSA)	88.1	88.4	P/P	60 - 160
Perfluoro-1-butane sulfonamide (FBSA)	88.4	90.1	P/P	60 - 160
Perfluoro-1-butane sulfonamide (FBSA)	90.1	87.2	P/P	60 - 160
Perfluoro-1-hexane sulfonamide (FHxSA)	88.5	89.2	P/P	60 - 160
Perfluoro-1-hexane sulfonamide (FHxSA)	89.8	88.5	P/P	60 - 160
Perfluoro-1-hexane sulfonamide (FHxSA)	91.6	92.4	P/P	60 - 160
Perfluoro-1-hexane sulfonamide (FHxSA)	92.4	93.8	P/P	60 - 160
Perfluoro-1-hexane sulfonamide (FHxSA)	93.8	94.8	P/P	60 - 160
Perfluoro-1-octane sulfonamide (FOSA)	94.6	99.0	P/P	60 - 160
Perfluoro-1-octane sulfonamide (FOSA)	94.7	94.6	P/P	60 - 160
Perfluoro-1-octane sulfonamide (FOSA)	99.0	99.5	P/P	60 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	103	99.0	P/P	60 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	107	103	P/P	60 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	99.0	98.8	P/P	60 - 160
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	85.9	95.5	P/P	60 - 160
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	89.6	89.8	P/P	60 - 160
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	95.5	89.6	P/P	60 - 160
Perfluoro-4-methoxybutanoic acid (PFMBA)	103	90.7	P/P	60 - 160

Quality Assurance Report
Calibration Verification

Reference Method: DEP SOP: LC-001-3
Run ID: A119200
Included Lab Sample IDs: 2405882, 2405883, 2405884, 2405885, 2405886, 2405887, 2405888, 2405889, 2405890, 2405891, 2405892, 2405893

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluoro-4-methoxybutanoic acid (PFMBA)	119	103	P/P	60 - 160
Perfluoro-4-methoxybutanoic acid (PFMBA)	90.7	94.3	P/P	60 - 160
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	101	97.5	P/P	60 - 160
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	93.0	101	P/P	60 - 160
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	97.5	95.8	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	93.6	97.0	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	94.1	95.5	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	96.9	97.6	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	97.0	94.1	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	98.1	96.9	P/P	60 - 160
Perfluorobutanoic acid (PFBA)	102	98.4	P/P	60 - 160
Perfluorobutanoic acid (PFBA)	105	100	P/P	60 - 160
Perfluorobutanoic acid (PFBA)	97.3	105	P/P	60 - 160
Perfluorobutanoic acid (PFBA)	97.4	102	P/P	60 - 160
Perfluorobutanoic acid (PFBA)	98.4	96.4	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	106	108	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	94.0	94.7	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	94.7	106	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	69.3	86.4	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	73.2	88.5	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	86.4	73.2	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	141	152	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	152	79.4	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	79.4	104	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	85.7	87.8	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	88.1	95.9	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	89.3	87.8	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	95.9	89.3	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	83.3	94.0	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	88.8	91.4	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	90.6	117	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	91.4	93.0	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	94.0	90.6	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	110	99.1	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	96.1	98.8	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	98.8	101	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	99.1	98.5	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	104	107	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	107	80.4	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	74.6	78.8	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	76.0	74.6	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	78.6	76.0	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	97.4	99.5	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	98.5	97.4	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	99.5	108	P/P	60 - 160
Perfluorononanoic acid (PFNA)	110	96.6	P/P	60 - 160
Perfluorononanoic acid (PFNA)	119	132	P/P	60 - 160
Perfluorononanoic acid (PFNA)	132	110	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	109	111	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	111	117	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	112	114	P/P	60 - 160

Quality Assurance Report
Calibration Verification

Reference Method: DEP SOP: LC-001-3
Run ID: A119200
Included Lab Sample IDs: 2405882, 2405883, 2405884, 2405885, 2405886, 2405887, 2405888, 2405889, 2405890, 2405891, 2405892, 2405893

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluorooctanoic acid (PFOA)	102	93.6	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	104	94.5	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	76.8	81.2	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	93.6	115	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	94.5	76.8	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	101	96.9	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	94.6	101	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	96.9	99.2	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	96.9	98.1	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	98.1	96.0	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	112	95.2	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	83.0	95.6	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	95.6	82.0	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	95.7	112	P/P	60 - 160
Perfluoropropanesulfonic acid (PFPrS)	110	110	P/P	60 - 160
Perfluoropropanesulfonic acid (PFPrS)	110	113	P/P	60 - 160
Perfluoropropanesulfonic acid (PFPrS)	119	107	P/P	60 - 160
Perfluoropropanesulfonic acid (PFPrS)	119	110	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	102	78.9	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	78.9	76.8	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	82.2	102	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	111	87.9	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	128	111	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	141	128	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	121	129	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	126	121	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	129	102	P/P	60 - 160

Reference Method: DEP SOP: LC-001-3
Run ID: A119201
Included Lab Sample IDs: 2405894, 2405895, 2405896

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	102	103	P/P	60 - 160
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	109	102	P/P	60 - 160
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	72.0	75.3	P/P	60 - 160
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	75.3	83.6	P/P	60 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	81.9	87.2	P/P	60 - 160
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	83.1	81.9	P/P	60 - 160
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	103	82.6	P/P	60 - 160
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	110	103	P/P	60 - 160
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	60.9	69.3	P/P	60 - 160
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	62.2	60.9	P/P	60 - 160
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	102	103	P/P	60 - 160
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	106	102	P/P	60 - 160
Hexafluoropropylene oxide dimer acid (HFPO-DA)	103	87.0	P/P	60 - 160
Hexafluoropropylene oxide dimer acid (HFPO-DA)	93.3	103	P/P	60 - 160
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	87.4	77.3	P/P	60 - 160
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	88.5	87.4	P/P	60 - 160
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	85.8	97.2	P/P	60 - 160
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	90.7	85.8	P/P	60 - 160

Quality Assurance Report
Calibration Verification

Reference Method: DEP SOP: LC-001-3
Run ID: A119201
Included Lab Sample IDs: 2405894, 2405895, 2405896

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	116	155	P/P	60 - 160
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	155	115	P/P	60 - 160
Perfluoro-1-butane sulfonamide (FBSA)	86.6	88.7	P/P	60 - 160
Perfluoro-1-butane sulfonamide (FBSA)	88.7	82.0	P/P	60 - 160
Perfluoro-1-hexane sulfonamide (FHxSA)	85.1	85.4	P/P	60 - 160
Perfluoro-1-hexane sulfonamide (FHxSA)	85.4	84.4	P/P	60 - 160
Perfluoro-1-octane sulfonamide (FOSA)	103	96.6	P/P	60 - 160
Perfluoro-1-octane sulfonamide (FOSA)	96.6	96.6	P/P	60 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	109	111	P/P	60 - 160
Perfluoro-3-methoxypropanoic acid (PFMPA)	111	105	P/P	60 - 160
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	96.3	97.6	P/P	60 - 160
Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	97.6	99.7	P/P	60 - 160
Perfluoro-4-methoxybutanoic acid (PFMBA)	129	126	P/P	60 - 160
Perfluoro-4-methoxybutanoic acid (PFMBA)	131	129	P/P	60 - 160
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	89.8	93.9	P/P	60 - 160
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	93.9	94.6	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	86.2	89.3	P/P	60 - 160
Perfluorobutanesulfonic acid (PFBS)	89.3	88.2	P/P	60 - 160
Perfluorobutanoic acid (PFBA)	94.1	93.9	P/P	60 - 160
Perfluorobutanoic acid (PFBA)	94.4	94.1	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	104	96.6	P/P	60 - 160
Perfluorodecanesulfonic acid (PFDS)	96.6	100	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	91.6	88.2	P/P	60 - 160
Perfluorodecanoic acid (PFDA)	95.1	91.6	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	84.4	89.0	P/P	60 - 160
Perfluorododecanoic acid (PFDoA)	89.0	76.8	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	91.5	97.2	P/P	60 - 160
Perfluoroheptanesulfonic acid (PFHpS)	97.2	99.3	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	101	88.2	P/P	60 - 160
Perfluoroheptanoic acid (PFHpA)	88.2	96.0	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	87.2	93.1	P/P	60 - 160
Perfluorohexanesulfonic acid (PFHxS)	93.1	88.2	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	76.1	77.2	P/P	60 - 160
Perfluorohexanoic acid (PFHxA)	80.7	76.1	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	101	105	P/P	60 - 160
Perfluorononanesulfonic acid (PFNS)	108	101	P/P	60 - 160
Perfluorononanoic acid (PFNA)	94.2	136	P/P	60 - 160
Perfluorononanoic acid (PFNA)	97.2	94.2	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	93.8	97.8	P/P	60 - 160
Perfluorooctanesulfonic acid (PFOS)	98.1	93.8	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	85.4	98.0	P/P	60 - 160
Perfluorooctanoic acid (PFOA)	90.7	85.4	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	104	104	P/P	60 - 160
Perfluoropentanesulfonic acid (PFPeS)	97.1	104	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	90.2	89.8	P/P	60 - 160
Perfluoropentanoic acid (PFPeA)	96.7	90.2	P/P	60 - 160
Perfluoropropanesulfonic acid (PFPrS)	104	104	P/P	60 - 160
Perfluoropropanesulfonic acid (PFPrS)	105	104	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	72.4	72.0	P/P	60 - 160
Perfluorotetradecanoic acid (PFTeA)	77.8	72.4	P/P	60 - 160
Perfluorotridecanoic acid (PFTriA)	89.7	98.8	P/P	60 - 160

Quality Assurance Report
Calibration Verification

Reference Method: DEP SOP: LC-001-3
Run ID: A119201
Included Lab Sample IDs: 2405894, 2405895, 2405896

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Perfluorotridecanoic acid (PFTriA)	98.8	84.5	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	116	121	P/P	60 - 160
Perfluoroundecanoic acid (PFUnA)	120	116	P/P	60 - 160

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
DEP SOP: LC-001-3	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	76.5	66.5	56.3			16.6
	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	88.1	49.7	46.8			5.99
	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	44.7	42.4	35.6			12.4
	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	68.6	85.5	108			23.0
	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	63.2	76.6	82.1			5.16
	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	70.9	75.7	97.5			25.2
	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	62.0					13.3
	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	74.1	132	159			18.4
	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	84.8	100	93.0			7.49
	4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	63.3	92.7	91.7			1.10
	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	85.7	94.4	89.9			4.95
	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	114	116	142			20.0
	Hexafluoropropylene oxide dimer acid (HFPO-DA)	77.3	83.7	74.6			11.5
	Hexafluoropropylene oxide dimer acid (HFPO-DA)	104	155	137			12.4
	N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	73.2	88.2	93.6			5.93
	N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	76.0	110	94.8			14.7
	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	79.4	87.8	82.2			6.53
	N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	95.6	117	146			22.1
	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	75.4	121	111			8.26
	Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	83.1	84.9	82.0			3.43
	Perfluoro-1-butane sulfonamide (FBSA)	96.7					8.31
	Perfluoro-1-butane sulfonamide (FBSA)	116	132	144			9.12
	Perfluoro-1-hexane sulfonamide (FHxSA)	90.2	64.3	83.4			9.92
	Perfluoro-1-hexane sulfonamide (FHxSA)	115	127	146			13.4
	Perfluoro-1-octane sulfonamide (FOSA)	79.8	81.4	87.0			6.61
	Perfluoro-1-octane sulfonamide (FOSA)	92.1	125	136			8.68
	Perfluoro-3-methoxypropanoic acid (PFMPA)	80.1	79.7	85.3			6.73
	Perfluoro-3-methoxypropanoic acid (PFMPA)	103	139	152			8.74

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
DEP SOP: LC-001-3	Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	80.1	83.1	87.5			5.11
	Perfluoro-4-ethylcyclohexanesulfonic acid (PFECHS)	94.4	115	141			20.3
	Perfluoro-4-methoxybutanoic acid (PFMBA)	82.4	91.1	103			12.7
	Perfluoro-4-methoxybutanoic acid (PFMBA)	118	119	118			0.977
	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	88.1	99.6	101			1.69
	Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	96.7	117	133			12.5
	Perfluorobutanesulfonic acid (PFBS)	84.0					2.77
	Perfluorobutanesulfonic acid (PFBS)	89.6	113	123			8.12
	Perfluorobutanoic acid (PFBA)	83.4					2.24
	Perfluorobutanoic acid (PFBA)	94.9	136	151			10.7
	Perfluorodecanesulfonic acid (PFDS)	73.7	62.9	62.1			1.38
	Perfluorodecanesulfonic acid (PFDS)	97.6	60.3	69.4			14.1
	Perfluorodecanoic acid (PFDA)	128	87.6	86.1			1.69
	Perfluorodecanoic acid (PFDA)	81.5	102	99.1			2.52
	Perfluorododecanoic acid (PFDoA)	87.6	113	95.1			17.6
	Perfluorododecanoic acid (PFDoA)	81.2	159	143			11.0
	Perfluoroheptanesulfonic acid (PFHpS)	80.6	77.1	86.9			6.28
	Perfluoroheptanesulfonic acid (PFHpS)	94.1	112	130			14.7
	Perfluoroheptanoic acid (PFHpA)	91.7					33.7
	Perfluoroheptanoic acid (PFHpA)	93.3	112	135			18.9
	Perfluorohexanesulfonic acid (PFHxS)	87.6					1.83
	Perfluorohexanesulfonic acid (PFHxS)	85.1	109	127			15.2
	Perfluorohexanoic acid (PFHxA)	56.4					2.04
	Perfluorohexanoic acid (PFHxA)	79.6	116	125			7.42
	Perfluorononanesulfonic acid (PFNS)	84.5	78.2	75.9			2.99
	Perfluorononanesulfonic acid (PFNS)	101	107	116			8.03
	Perfluorononanoic acid (PFNA)	102	101	79.5			12.7
	Perfluorononanoic acid (PFNA)	90.4	136	146			7.19
	Perfluorooctanesulfonic acid (PFOS)	82.5					7.10
	Perfluorooctanesulfonic acid (PFOS)	101	119	145			15.3
	Perfluorooctanoic acid (PFOA)	92.6					24.6
	Perfluorooctanoic acid (PFOA)	89.3	128	130			1.52
	Perfluoropentanesulfonic acid (PFPeS)	85.3					1.66
	Perfluoropentanesulfonic acid (PFPeS)	97.7	134	136			1.07
	Perfluoropentanoic acid (PFPeA)	89.6					5.96
	Perfluoropentanoic acid (PFPeA)	82.2	125	131			4.56
	Perfluoropropanesulfonic acid (PFPrS)	83.3					0.391

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
DEP SOP: LC-001-3	Perfluoropropanesulfonic acid (PFPrS)	116	129	138			6.32
	Perfluorotetradecanoic acid (PFTeA)	81.8	76.4	70.1			8.63
	Perfluorotetradecanoic acid (PFTeA)	69.4	85.2	85.7			0.503
	Perfluorotridecanoic acid (PFTriA)	90.1	99.4	126			23.3
	Perfluorotridecanoic acid (PFTriA)	94.1	77.4	96.8			22.2
	Perfluoroundecanoic acid (PFUnA)	93.2	90.0	101			11.9
	Perfluoroundecanoic acid (PFUnA)	139	110	104			5.42

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: LC-001-3	Perfluorinated alkyl substances in water matrices by HPLC/MS/MS	2405882, 2405883, 2405884, 2405885, 2405886, 2405887, 2405888, 2405889, 2405890, 2405891, 2405892, 2405893, 2405894, 2405895, 2405896

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: LC-001-3	05/04/2023	05/12/2023 12:00	Touraj Touran	05/15/2023 19:35	Tae K Lee	2405896
	05/04/2023	05/12/2023 12:00	Touraj Touran	05/15/2023 21:23	Tae K Lee	2405894
	05/04/2023	05/12/2023 12:00	Touraj Touran	05/15/2023 21:34	Tae K Lee	2405895
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 10:19	Mohammad Ghaffari	2405893
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 11:34	Mohammad Ghaffari	2405882
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 11:45	Mohammad Ghaffari	2405883
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 11:56	Mohammad Ghaffari	2405884
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 12:18	Mohammad Ghaffari	2405885
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 12:28	Mohammad Ghaffari	2405886
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 12:39	Mohammad Ghaffari	2405887
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 12:50	Mohammad Ghaffari	2405888
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 13:01	Mohammad Ghaffari	2405889
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 13:11	Mohammad Ghaffari	2405890
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 13:22	Mohammad Ghaffari	2405891
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 13:33	Mohammad Ghaffari	2405892
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 19:07	Mohammad Ghaffari	2405893
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 19:29	Mohammad Ghaffari	2405882
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 19:40	Mohammad Ghaffari	2405883
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 20:01	Mohammad Ghaffari	2405885
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 20:12	Mohammad Ghaffari	2405883
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 20:23	Mohammad Ghaffari	2405884
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 20:34	Mohammad Ghaffari	2405885
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 21:06	Mohammad Ghaffari	2405888
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 21:17	Mohammad Ghaffari	2405889
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 21:28	Mohammad Ghaffari	2405886
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 21:38	Mohammad Ghaffari	2405888
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 21:49	Mohammad Ghaffari	2405889
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 22:00	Mohammad Ghaffari	2405890
	05/04/2023	05/15/2023 09:00	Hoor Shaik	05/16/2023 22:22	Mohammad Ghaffari	2405891

APPENDIX E
Monitoring Well Survey

Well #	Northing	Easting	Elevation	Description
DEPMW-14	524362.042	2019835.149	63.74	DEPMW-14 LID
DEPMW-14	524362.027	2019835.13	63.31	DEPMW-14 TOP CASING
DEPMW-15	524282.025	2019495.641	64.11	DEPMW-15 LID
DEPMW-15	524282.065	2019495.666	63.73	DEPMW-15 TOP CASING
DEPMW-16	523909.269	2019489.216	64.18	DEPMW-16 LID
DEPMW-16	523909.297	2019489.225	63.81	DEPMW-16 TOP CASING
DEPMW-17	523314.212	2019508.071	64.69	DEPMW-17 LID
DEPMW-17	523314.236	2019508.049	64.32	DEPMW-17 TOP CASING
DEPMW-18	523174.589	2020292.401	62.08	DEPMW-18 LID
DEPMW-18	523174.644	2020292.418	61.65	DEPMW-18 TOP CASING
DEPMW-19	523490.898	2020696.693	60.77	DEPMW-19 LID
DEPMW-19	523490.891	2020696.691	60.41	DEPMW-19 TOP CASING
DEPMW-20	523851.136	2020548.569	59.22	DEPMW-20 LID
DEPMW-20	523851.124	2020548.582	58.81	DEPMW-20 TOP CASING
DEPMW-21	524361.351	2019827.507	63.92	DEPMW-21 LID
DEPMW-21	524361.381	2019827.513	63.59	DEPMW-21 TOP CASING
DEPMW-22	524280.801	2019489.219	64.22	DEPMW-22 LID
DEPMW-22	524280.742	2019489.196	63.77	DEPMW-22 TOP CASING
DEPMW-23	523899.974	2019489.248	64.21	DEPMW-23 LID
DEPMW-23	523900.002	2019489.257	63.63	DEPMW-23 TOP CASING
DEPMW-24	523304.202	2019508.238	64.73	DEPMW-24 LID
DEPMW-24	523304.163	2019508.251	64.21	DEPMW-24 TOP CASING
DEPMW-25	523174.589	2020283.288	62.01	DEPMW-25 LID
DEPMW-25	523174.622	2020283.281	61.63	DEPMW-25 TOP CASING
DEPMW-26	523497.427	2020696.354	60.71	DEPMW-26 LID
DEPMW-26	523497.401	2020696.362	60.42	DEPMW-26 TOP CASING
DEPMW-27	523859.636	2020548.153	59.16	DEPMW-27 LID
DEPMW-27	523859.581	2020548.165	58.76	DEPMW-27 TOP CASING
DEPMW-28	523174.697	2020298.703	62.12	DEPMW-28 LID
DEPMW-28	523174.669	2020298.731	61.62	DEPMW-28 TOP CASING
DEPMW-29	523484.188	2020696.703	60.89	DEPMW-29 LID
DEPMW-29	523484.142	2020696.712	60.56	DEPMW-29 TOP CASING
DEPMW-30	523845.763	2020548.677	59.21	DEPMW-30 LID
DEPMW-30	523845.784	2020548.664	58.75	DEPMW-30 TOP CASING

APPENDIX F
Final IDW Manifests

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

GENERATOR

5. Generator's Name and Mailing Address
Florida Department of Environmental Protection
2600 Blair Stone Road, Tallahassee, FL 32399
Generator's Phone: (850) 245-8700

Generator's Site Address (if different than mailing address)
Tallahassee Fire Training Division (ERIC_7413)
2964 Municipal Way
Tallahassee, FL 32304

6. Transporter 1 Company Name: Erwin Remediation, Inc.
U.S. EPA ID Number: FLR000223867

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Ecosouth Services
12950-A Highway 43
Facility's Phone: Axis, AL 36505
U.S. EPA ID Number: 49-21

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Regulated Soil	5	DM			
2.	Non-Regulated Groundwater	22	DM			
3.						
4.						

13. Special Handling Instructions and Additional Information

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and governmental regulations.

Generator's/~~Offeror's~~ Printed/Typed Name: Tyler Barnett
Signature:
Month: 3 Day: 14 Year: 23

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S.
Transporter Signature (for exports only):
Port of Entry/Exit:
Date Leaving U.S.:

TRANSPORTER

16. Transport Acknowledgement of Receipt of Materials

Transporter 1 Printed/Typed Name: Jonathan Erwin
Signature:
Month: 3 Day: 14 Year: 22

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA IS Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in item 17a

Printed/Typed Name: M. Morissette
Signature: M. Morissette
Month: 3 Day: 17 Year: 23

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

GENERATOR

5. Generator's Name and Mailing Address

Generator's Phone:

Generator's Site Address (if different than mailing address)

Tallahassee Fire Training Division (ERIC_7413)

2964 MUNICIPAL WAY/TALL. / FL 32304

6. Transporter 1 Company Name: Erwin Remediation, Inc.

U.S. EPA ID Number: FLR000223867

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address

Facility's Phone:

Ecosouth Services
12950-A Highway 43
Axis, AL 36505

U.S. EPA ID Number

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Regulated Groundwater	23	DM	23		
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and governmental regulations.

Generator's/Offeror's Printed/Typed Name: J. Brown Baldwin

Signature

Month: 3 Day: 22 Year: 23

INTL

15. International Shipments ☐ Import to U.S. ☐ Export from U.S.

Transporter Signature (for exports only):

Port of Entry/Exit:

Date Leaving U.S.:

TRANSPORTER

16. Transport Acknowledgement of Receipt of Materials

Transporter 1 Printed/Typed Name: Loring Dobbins

Signature

Month: 03 Day: 22 Year: 2023

Transporter 2 Printed/Typed Name

Signature

Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)

U.S. EPA IS Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)

Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in item 17a

Printed/Typed Name: Linda Nichols

Signature

Month: 3 Day: 23 Year: 23

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

GENERATOR

5. Generator's Name and Mailing Address

Generator's Phone:

Generator's Site Address (if different than mailing address)

Tallahassee Fire Training Division
2964 Municipal Way
Tallahassee, FL 32304

6. Transporter 1 Company Name: Erwin Remediation, Inc.

U.S. EPA ID Number: FLR000223867

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address

Facility's Phone:

Ecosouth Services
12950-A Highway 43
Axis, AL 36505

U.S. EPA ID Number

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-Hazardous Soil	16	DM			
2.	Non-Hazardous Groundwater	33	DM			
3.						
4.						

13. Special Handling Instructions and Additional Information

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and governmental regulations.

Generator's/Offeror's Printed/Typed Name: Tyler Barnett | Signature | Month: 4 | Day: 6 | Year: 2023

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of Entry/Exit:

Transporter Signature (for exports only): Date Leaving U.S.:

TRANSPORTER

16. Transport Acknowledgement of Receipt of Materials

Transporter 1 Printed/Typed Name: Loring Dobbins | Signature | Month: 04 | Day: 06 | Year: 2023

Transporter 2 Printed/Typed Name | Signature | Month | Day | Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)

U.S. EPA IS Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) | Month | Day | Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in item 17a

Printed/Typed Name: Linda Nichols | Signature | Month: 4 | Day: 7 | Year: 23

NON-HAZARDOUS WASTE MANIFEST

e Tracking Number
2260

5. Generator's Name and

Tallahassee Fire Training Division
2964 Municipal Way
Tallahassee, FL 32304

Generator's Phone:

U.S. EPA ID Number
FLR000223867

6. Transport 1 Company Name
Erwin Remediation, Inc.

U.S. EPA ID Number

7. Transport 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
Aqua Clean Environmental Co Inc
3210 Whitten Road
Lakeland, FL 33811
(863) 644-0665

GENERATOR

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quanity	12. Unit Wt/Vol.	
	1. Non-Hazardous Water	10	DM			
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information
2023-1350

14.GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labled/placarded, and are in al respects in propertt condition for transport according to applicable international and govenemental regulations.

Generator's/Offeror's Printed/Typed Name: I. BROOKS BALOW IV AS AN AGENT FOR FDEP

Signature

Month: 5 Day: 31 Year: 23

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of Entry/Exit:
Transporter Signature (for exports only): Date Leaving U.S.:

TRANSPORTER

16. Transport Acknowledgement of Receipt of Materials

Transporter 1 Printed/Typed Name: William Collum

Signature

Month: 5 Day: 31 Year: 2023

Transporter 2 Printed/Typed Name

Signature

Month: Day: Year:

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facilty (or Generator)

Facility's Phone:

17c. Signature of Alternate Facilty (or Generator)

Month: Day: Year:

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in item 17a

Printed/Typed Name

Signature

Month: Day: Year: