

# Site Investigation Update

Former Burke Wastewater Treatment Plant Property  
1401 Packers Avenue  
Madison, Wisconsin

Prepared for:

Wisconsin Department of Natural Resources  
Remediation and Redevelopment Program  
3911 Fish Hatchery Road  
Fitchburg, Wisconsin 53711

**SCS ENGINEERS**

25218175.00 | May 5, 2021

2830 Dairy Drive  
Madison, WI 53718-6751  
608-224-2830

May 5, 2021  
File No. 25218175.00

Mr. Steve Martin  
Wisconsin Department of Natural Resources  
3911 Fish Hatchery Road  
Fitchburg, WI 53711

Subject: Site Investigation Update  
Former Burke Wastewater Treatment Plant Property  
1401 Packers Ave., Madison, Wisconsin  
BRRTS #02-13-315773

Dear Mr. Martin:

SCS Engineers (SCS) has prepared this Site Investigation Update, on behalf of Madison Gas and Electric (MGE), to address the per- and polyfluoroalkyl substances (PFAS) contamination at the former Burke Wastewater Treatment Plant site (**Figure 1**). This Site Investigation Update details SCS's activities at the site since June 2020.

## SITE BACKGROUND

The Town of Burke Wastewater Treatment Plant (WWTP) was formerly located and operated on the property from approximately 1914 to 1976. Sludge lagoons associated with the WWTP were installed to the east of the treatment plant between 1955 and 1962. At some point prior to complete demolition of the plant, municipal solid waste was placed in a portion of the facility as part of an academic research study. The treatment plant was demolished in the late 1980s or early 1990s and available records suggest that the plant structures were either buried in place or were demolished and buried on the site. **Figure 2** depicts the historic layout of the site and WWTP. The site was assigned BRRTS # 02-13-315773 in June 2006 in response to a Phase 2 environmental site assessment that identified limited metals contamination in soil and groundwater.

Site investigation and remediation activities completed over the last few years include the following:

- Excavation and off-site disposal of municipal solid waste material from a former treatment area associated with the WWTP - overseen by Seymour Environmental in 2018.
- Installation and sampling of nine direct-push soil borings on site in areas where contaminants were historically identified and four monitoring wells at locations of the former sludge pond, former decant pond, sludge drying area, and near the former headworks structure. Analyses included volatile organic compounds (VOCs), metals, polycyclic aromatic hydrocarbons (PAHs), and total polychlorinated biphenyls in soil and metals in groundwater (Seymour, 2019).
- Phase 1 Environmental Site Assessment for MGE completed by SCS in 2018.
- Sampling on site monitoring wells TW-1 through TW-4 for PFAS in February 2019 (SCS).



- Sampling buried WWTP sludge for PFAS from direct push borings GP-101 through GP-104 and collecting groundwater samples for PFAS from monitoring wells TW-1 through TW-4 in August 2019 (SCS).
- Collecting groundwater samples for PFAS from monitoring wells TW-1 through TW-4, MW-5 and TG-2 in March 2020 (SCS).

Seymour documented their work in correspondence to the Wisconsin Department of Natural Resources (WDNR) dated January 17, 2019, and February 20, 2019. Seymour's investigative activities identified the presence of wastewater sludge and widespread fill material. The primary contaminants detected included metals and PAHs with isolated occurrences of tetrachloroethylene in soil.

SCS documented the August 2019 and March 2020 site work in the June 2020 Site Investigation Update that was submitted to the WDNR on June 29, 2020. One or more PFAS were detected in each soil/sludge sample. One or more PFAS compounds were detected in all site monitoring wells. Groundwater samples from monitoring wells TW-1 and TW-4 showed concentrations of PFAS that exceeded the proposed groundwater enforcement standard (ES) of 20 ng/L for PFOA+PFOS combined.

Based on the confirmed presence of PFAS in soil and groundwater at the site and suspected volume of buried source material (WWTP sludge), WDNR requested the installation of additional monitoring wells and piezometers along the western and southern property boundaries. SCS provided a drawing showing the proposed well locations to WDNR in an email dated November 9, 2020.

## RECENT SITE INVESTIGATION ACTIVITIES

### Monitoring Well Installation

SCS geologists, Mrs. Jackie Rennebohm and Mr. Ryan Matzuk, oversaw the installation of monitoring wells and piezometers on November 30 and December 1, 2020. The wells were located to identify the horizontal and vertical extent of PFAS at the site and assess the potential for off-site migration. On-site Environmental Services, Inc. of Sun Prairie, Wisconsin, performed the drilling services. The new monitoring well and piezometers, along with previous sample locations are shown on **Figure 3**.

Soils at each piezometer location were sampled with a geoprobe and then overdrilled using hollow stem augers. SCS logged and classified soils following the Unified Soil Classification System (USCS) and screened soils at approximate 2.5-foot intervals using a photo-ionization detector (PID). Soils observed consist of glacial outwash or lake sediments with varying amounts of silt, sandy silt, silty sand, and sand and gravel. Non-native fill soils consisting of silty sand and poorly graded sands and gravel were observed in all borings. The thickness of fill materials ranged from 0.5 feet to 5 feet below ground surface (bgs). The apparent water table was observed between 6 to 16 feet bgs. No soil samples were collected for analysis. Soil boring logs are included in **Appendix A**.

Piezometers were installed to total depths ranging from between 47 and 50 feet bgs and were constructed with 5-foot screens. Water table monitoring wells installed adjacent to each piezometer were blind drilled using hollow stem augers to a depth of 15 to 24.5 feet bgs and were constructed with 10-foot screens. All wells were provided with a stick-up protective casing and locking cap. Monitoring well construction forms are included in **Appendix A**.

Soil cuttings generated during the construction of monitoring wells were thin spread on the ground. SCS developed monitoring wells consistent with Wisconsin Administrative Code NR 141. Development purge water was discharged to the ground. Monitoring well development forms are included in **Appendix A**. Monitoring well top-of casing elevations were surveyed relative to existing site wells TG-2 and MW5.

## Groundwater Sampling

SCS sampled the new site monitoring wells and measured water levels at all site wells on January 20, 2021, and sampled all site wells on March 29 and 30, 2021. Monitoring well locations are shown on **Figure 3**. Groundwater samples were analyzed for PFAS.

Groundwater sampling during both events was conducted to minimize the risk of cross-contamination that could occur from sampling equipment, field clothing and personal protective equipment, personal hygiene and personal care products, food packaging, and the environment itself. Depth to water was collected from each well but not total depth as to minimize the amount of equipment in contact with groundwater. The water level indicator was rinsed with an Alconox solution and laboratory provided PFAS-free water immediately before collecting a depth to water measurement. Dedicated bailers were removed after depth to water measurement and set aside on PFAS-free plastic sheeting.

Sampling was performed using a peristaltic pump and low-flow techniques. Specific conductivity, temperature, dissolved oxygen, pH, turbidity, and oxidation-reduction potential were measured until stabilization was achieved. Groundwater sampling forms for the January and March 2021 sampling events are included in **Appendix B**. During both events, each well was sampled using new high-density polyethylene tubing. Tubing remained in its original package until it was lowered into the well. Tube cutters were rinsed with Alconox solution and laboratory provided PFAS-free water immediately before cutting the desired length of tubing. Extra caution was taken when collecting the sample; sample containers were opened immediately before and capped immediately after sample collection, and the sampling tubing did not come into contact with the sample container. All groundwater sample containers were double-bagged in Ziploc® bags and remained bagged upon analysis. Samples were shipped overnight to a WDNR-certified laboratory.

Wells were sampled starting with those expected to be the cleanest. Purge water was discharged to the ground surface. One equipment blank and one field blank was collected using laboratory supplied PFAS-free water. The equipment blank was collected through a new piece of high-density polyethylene tubing using the peristaltic pump. The field blank was collected downwind of suspected PFAS air emission sources.

## Storm Sewer Evaluation

Based on the January 2021 water levels, the water table contours indicated converging flow approximately mid-way across the site. The data provided by the new monitoring wells lead to the investigation and sampling of a network of storm sewers that cross near the middle of the property from west to east (**Figure 3**). The approximate storm sewer pipe and access structure locations are based on an ALTA/NSPS Land Title Survey drawing by Wyser Engineering dated January 29, 2018.

On February 25, 2021, SCS inspected storm drains at the site and measured water levels in storm sewer access structures (SAS) 018, 019, and 021. SCS returned to the site on March 4, 2021, to



measure rim elevations at SAS 018, 019, 020, and 021. On March 4 and 29, 2021, SCS collected storm sewer water from the access structures for analysis of PFAS. Samples were collected using a peristaltic pump in a manner similar to the monitoring well sampling procedure. SCS also collected surface water from Starkweather Creek on the Bridges Golf Course approximately 1,500 feet east of the eastern lot line of the Burke WWTP property on March 29, 2021. This location corresponds to the approximate location WDNR's October 2019 Starkweather Creek sample #8 as shown in WDNR's Informational Packet dated January 15, 2020 (WDNR, 2020).

## SITE INVESTIGATION RESULTS

### Groundwater Analytical Results

One or more PFAS compounds were detected in all site monitoring wells. Groundwater analytical results are summarized in **Table 1**, and analytical reports are included in **Appendix C**. The brown shading in the groundwater summary table indicates that the shaded compound was also detected in sludge/soil samples collected at the site. Monitoring wells TW-1 and TW-4 consistently showed concentrations of PFAS that exceed the proposed groundwater ES of 20 ng/L for PFOA+PFOS combined. Truax well MW-10 exceeded the proposed ES for PFOA+PFOS combined for the first time during the March 2021 sampling event. None of the samples collected from the other wells exceeded the proposed ES for PFAS.

PFAS compounds were generally not detected in the new monitoring wells and piezometers. Most detected results were estimated concentrations below the laboratory limit of quantitation (J flag) (**Table 1**).

A total of four PFAS compounds (Perfluorobutanoic acid (PFBA), Perfluorohexanesulfonic acid (PFHxS), N-Methylperfluorooctanesulfonamide (N-MeFOSA), and N-Ethylperfluorooctanesulfonamidoethanol (N-etFOSE)) were detected in one or more of the equipment and field blanks. All of the compounds identified in the blanks were detected at estimated concentrations below the laboratory's limit of quantitation.

### Groundwater Elevations

A summary of groundwater elevations is provided as **Table 2**. Water table maps depicting the January and March 2021 measurement events are provided as **Figure 4** and **Figure 5**, respectively.

Based on the water levels from the January and March 2021 events, groundwater flow at the water table is towards the south/southwest on the northern portion of the property and towards the north on the southern portion of the property. Groundwater flow apparently converges toward the middle of the property. The hydraulic gradient is greater at the northeast end of the site and gradually flattens out at the southern end of the site. As discussed in detail below, shallow groundwater flow at the site appears to be influenced by the storm sewers that run approximately east-west mid-way across the site.

During the January and March 2021 sampling events, upward vertical hydraulic gradients were detected at the MW101-PZ101 and MW102-PZ well nest ranging from 0.003 to 0.007 feet per foot. Downward vertical hydraulic gradients were detected at the MW103-PZ103 well nest ranging from -0.003 to -0.019 feet per foot.

## Storm Sewer Results

One or more PFAS compounds were detected in all of the storm sewer water samples. Groundwater analytical results are summarized in **Table 1**, and analytical reports are included in **Appendix C**. Storm sewer samples 019, 020, and 021 contained concentrations of PFAS that exceed the proposed groundwater ES of 20 ng/L for PFOA+PFOS combined. The samples collected from SAS 018 and Starkweather creek contained detectable concentrations of PFAS, but did not exceed the proposed ES. The PFOA+PFOS concentration of 10.3 ng/L detected in SCS's sample from the creek is very comparable to the 12.8 ng/L concentration reported for the October 2019 sample reported by WDNR for this location.

Measurements indicate that the water level gradient in the storm sewer is essentially flat (subject to survey and measurement errors), but the expected flow direction is east toward outfall at the ditch that discharges to Starkweather Creek.

## CONCLUSIONS

- Three of the 10 water table monitoring wells sampled at the site contain combined PFOA and PFOS concentrations greater than the proposed ES of 20 ng/l.
- The three wells where PFAS exceeds the proposed ES are located in areas where Seymour identified buried wastewater treatment sludge.
- None of the piezometers had combined concentrations of PFOA and PFOS in excess of the proposed ES.
- PFAS concentrations greater than the proposed ES do not appear to be migrating off site in groundwater.
- Groundwater flow at the site appears to be influenced by the network of storm sewers that run east-west mid-way across the site.
- Three of the four storm water manholes sampled at the site contain combined PFOA+PFOS concentrations greater than the proposed ES of 20 ng/l; however, the detected PFOA+PFOS concentrations in the ditch/creek downstream from the storm sewer pipe outfall do not exceed the 20 ng/l threshold.
- Given consistency of the groundwater sampling results and the fact that the lagoons were closed approximately 40 years ago, it appears that conditions at the site are stable.

## REFERENCES

SCS Engineers, 2018, Phase 1 Environmental Site Assessment Report, Poynette Development LLC Property, 1401 Packers Avenue, Madison, WI 53703, November 2018.

SCS Engineers, 2019, Additional Site Investigation Workplan, Former Burke Wastewater Treatment Plant Property, June 2019.

Mr. Steve Martin  
May 5, 2021  
Page 6

SCS Engineers, 2020, Site Investigation Update, Former Burke Wastewater Treatment Plant Property, June 2020.

Seymour Environmental Services, Inc., 2019, Environmental Sampling Update Former Town of Burke WWTP – Madison, Wisconsin, January 2019.

Seymour Environmental Services, Inc., 2019, Memo Former Town of Burke WWTP – Madison, Wisconsin, February 2019.

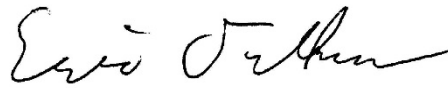
Wisconsin Department of Natural Resources, 2020, Informational Packet :DNR Sampling Shows Elevated Levels of PFAS Contamination in Fish and Surface water in Starkweather Creek and Lake Monona: January 5, 2020  
(<https://dnr.wi.gov/topic/Contaminants/documents/pfas/Starkweather20200115.pdf>)

Please do not hesitate to contact us if you have any questions regarding this report.

Sincerely,



Jackie Rennebohm  
Staff Geologist  
SCS Engineers



Eric Oelkers, PG  
Senior Project Manager  
SCS Engineers

JR/AJR/EO

cc: Jeff Jaeckels, MGE  
Kyle Kramer, MGE

Encl. Table 1 – Groundwater Analytical Results Summary – PFAS  
Table 2 – Water Level Summary  
Figure 1 – Site Location Map  
Figure 2 – Historic Site Layout  
Figure 3 – Detailed Site Map  
Figure 4 – Water Table Map – January 20, 2021  
Figure 5 – Water Table Map – March 29 - 30, 2021  
Appendix A – Soil Boring Logs and Monitoring Well Forms  
Appendix B – Groundwater Sampling Forms  
Appendix C – TestAmerica and Pace Analytical Reports

I:\25218175.00\Deliverables\Site Update\_April 2021\210505\_Martin\_Site Update.docx

## Tables

- 1 Groundwater Analytical Results Summary – PFAS
- 2 Water Level Summary



**Table 2. Water Level Summary**  
**MG&E Burke Site - Madison, WI / SCS Engineers Project #25218175.00**

Raw Data	Depth to Water in feet below top of well casing																	Lake	
	TW1	TG2	TW2	TW3	TW4	MW5	MW10	MW101	MW102	MW103	PZ101	PZ102	PZ103	018	019	020	021	Monona	
<b>Measurement Date</b>																			
February 26, 2019	9.45	NM	21.36	14.97	18.20	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	--
August 23, 2019	10.67	NM	21.24	15.05	18.30	NM	6.40	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	--
March 25, 2020	4.8	10.98	20.85	14.03	17.05	5.34	5.70	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	--
November 30, 2020 *	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	18.40	NM	NM	NM	NM	NM	--
December 1, 2020 *	NM	NM	NM	NM	NM	NM	NM	20.98	8.53	9.05	20.34	NM	9.13	NM	NM	NM	NM	NM	--
January 20, 2021	10.86	12.61	22.05	15.88	18.96	8.10	6.81	20.84	8.57	9.44	20.59	8.67	9.37	NM	NM	NM	NM	NM	--
February 25, 2021	NM	NM	22.30	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	20.35	13.5	18.81	14.59		--
March 4, 2021	11.32	12.45	22.08	15.83	18.89	6.48	NM	20.98	8.06	7.74	20.68	8.33	8.90	20.30	13.42	NM	14.43		--
March 29, 2021	NM	12.14	21.61	15.03	NM	7.08	NM	20.46	7.93	8.04	20.13	7.91	8.56	20.29	13.42	18.72	14.45		--
March 30, 2021	6.58	NM	NM	NM	18.17	NM	6.59	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	--

Well Number	Ground Water Elevation in feet above mean sea level (amsl)																	Lake	
	TW1	TG2	TW2	TW3	TW4	MW5	MW10	MW101	MW102	MW103	PZ101	PZ102	PZ103	018	019	020	021	Monona	
<b>Top of Casing Elevation (feet amsl)</b>	860.29	860.49	869.67	863.42	866.81	856.17	858.86	868.97	856.37	857.37	868.82	856.58	857.19	866.70	859.85	865.17	860.88		Monona
<b>Screen Length (ft)</b>	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	5.00	5.00	5.00	--	--	--	--	--	--
<b>Total Depth (ft from top of casing)</b>	17.30	20.40	27.10	22.10	24.30	17.70	18.20	26.90	17.97	18.10	52.60	50.60	52.03	23.00	16.38	21.63	16.38		--
<b>Top of Well Screen Elevation (ft)</b>	852.99	850.09	852.57	851.32	852.51	848.47	850.66	852.07	848.40	849.27	821.22	810.98	810.16	--	--	--	--		--
<b>Measurement Date</b>																			
February 26, 2019	850.84	NM	848.31	848.45	848.61	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	--
August 23, 2019	849.62	NM	848.43	848.37	848.51	NM	852.46	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	--
March 25, 2020	855.49	849.51	848.82	849.39	849.76	850.83	853.16	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	--
November 30, 2020 *	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	838.18	NM	NM	NM	NM	NM	--
December 1, 2020 *	NM	NM	NM	NM	NM	NM	NM	847.99	847.84	848.32	848.48	NM	848.06	NM	NM	NM	NM	NM	--
January 20, 2021	849.43	847.88	847.62	847.54	847.85	848.07	852.05	848.13	847.80	847.93	848.23	847.91	847.82	NM	NM	NM	NM	NM	--
February 25, 2021	NM	NM	847.37	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	846.35	846.35	846.36	846.29	844.21	
March 4, 2021	848.97	848.04	847.59	847.59	847.92	849.69	NM	847.99	848.31	849.63	848.14	848.25	848.29	846.40	846.43	NM	846.45	844.44	
March 29, 2021	NM	848.35	848.06	848.39	NM	849.09	NM	848.51	848.44	849.33	848.69	848.67	848.63	846.41	846.43	846.45	846.43	844.38	
March 30, 2021	853.71	NM	NM	NM	848.64	NM	852.27	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	--
<b>Bottom of Well Elevation (ft)</b>	842.99	840.09	842.57	841.32	842.51	838.47	840.66	842.07	838.40	839.27	816.22	805.98	805.16	843.70	843.48	843.55	844.51		--

<b>Min</b>	848.97	847.88	847.37	847.54	847.85	848.07	852.05	847.99	847.80	847.93	848.14	847.91	847.82	846.35	846.35	846.36	846.29	844.21	
<b>Max</b>	855.49	849.51	848.82	849.39	849.76	850.83	853.16	848.51	848.44	849.63	848.69	848.67	848.63	846.41	846.43	846.45	846.45	844.44	
<b>Range</b>	6.52	1.63	1.45	1.85	1.91	2.76	1.11	0.52	0.64	1.70	0.55	0.76	0.81	0.06	0.08	0.09	0.16	0.23	

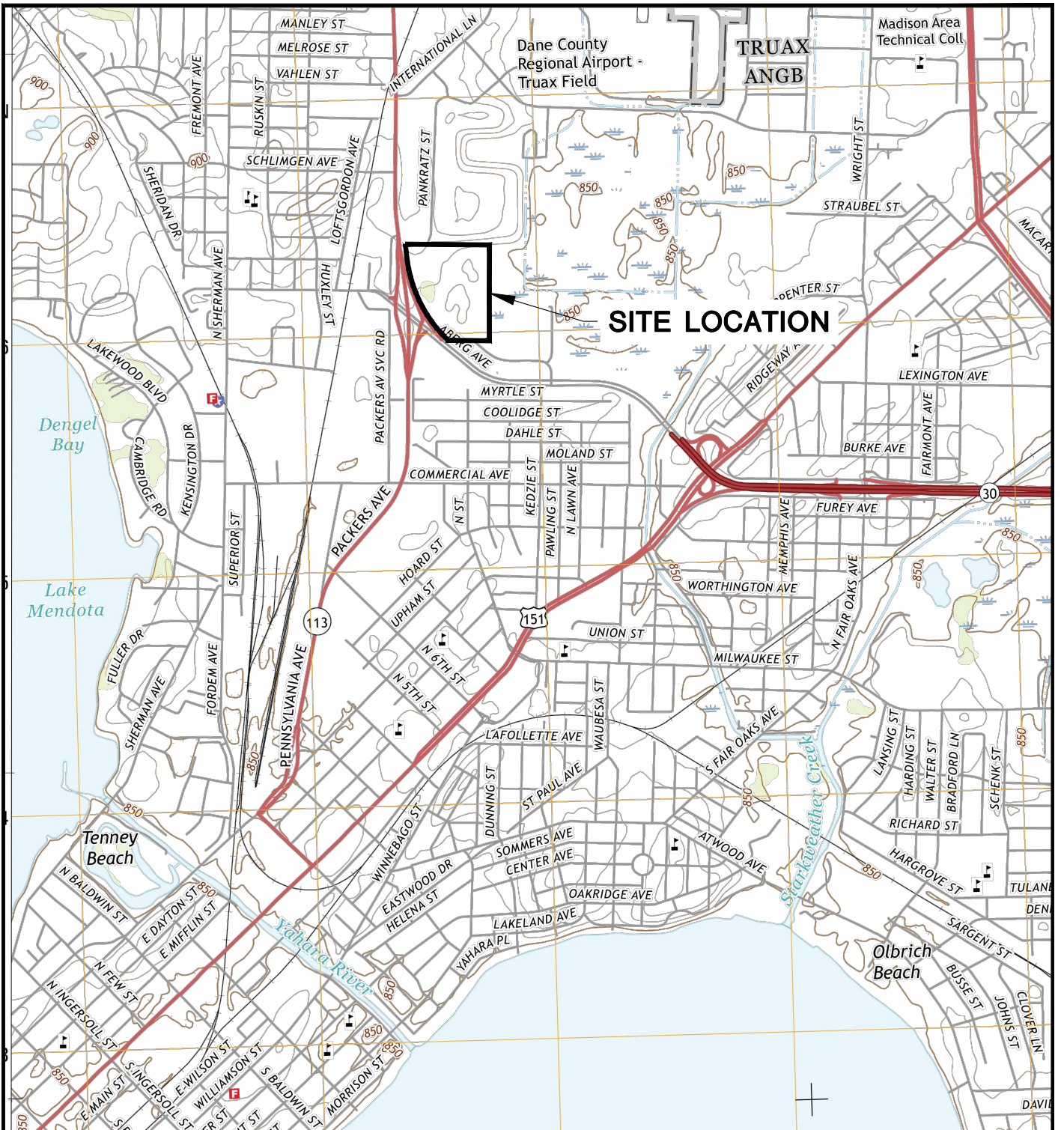
Notes:  
 NM = not measured  
 \* = water measurement before monitoring well development

Created by: JR Date: 4/4/2019  
 Last revision by: JR Date: 4/7/2021  
 Checked by: RM Date: 4/8/2021

I:\25218175.00\Deliverables\Site Update\_April 2021\Tables\[2\_wlstat\_r1.xlsx]levels


## Figures

- 1 Site Location Map
- 2 Historic Site Layout
- 3 Detailed Site Map
- 4 Water Table Map – January 20, 2021
- 5 Water Table Map – March 29 - 30, 2021



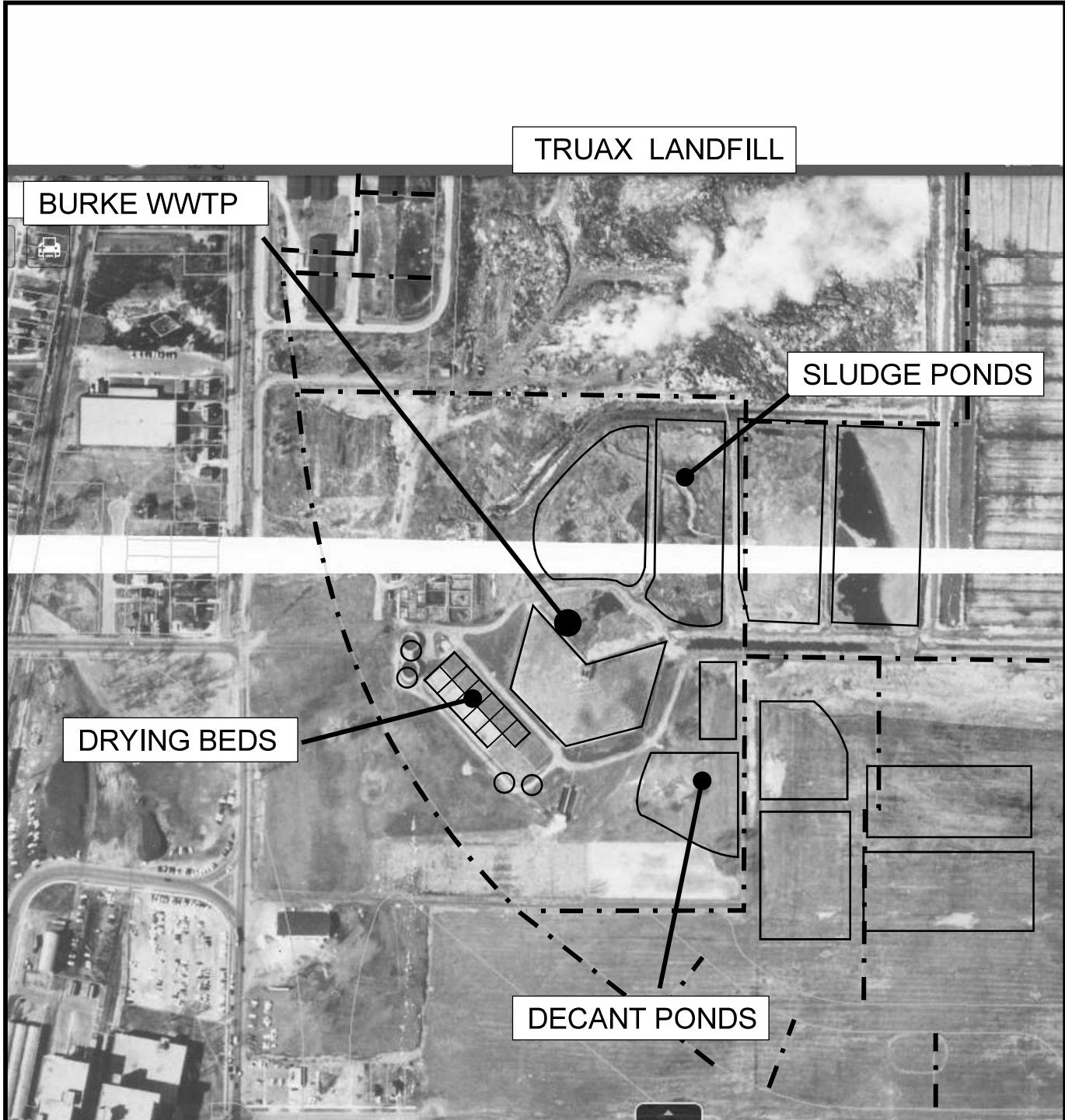
MADISON EAST QUADRANGLE  
 WISCONSIN-DANE CO.  
 7.5 MINUTE SERIES (TOPOGRAPHIC)  
 2016  
 SCALE: 1" = 2,000'



<b>CLIENT</b>  MADISON GAS AND ELECTRIC 120 S. BALDWIN ST. MADISON, WI, 53703	<b>SITE</b> FORMER BURKE WWTP 1401 PACKERS AVENUE MADISON, WISCONSIN	SITE LOCATION MAP	
		PROJECT NO. 25218175.00 DRAWN: 10/24/18 REVISED: 05/09/19	DRAWN BY: KP CHECKED BY: NK APPROVED BY: EO 04/30/21



# Figure 2. Historic Site Layout



0 400' 800'

1 INCH = 400 FEET  
SCALE IS APPROXIMATE

FILE/PATH: D:\PROJECTS\IRUEDEBUSCH\BurkeWWTP-layout.cdr

DATE: 01/08/2019

PREPARED: MDF APPROVED:

SOURCE:  
Dane County Public Mapping  
Aerial Photo from 1957

SEYMOUR  
ENVIRONMENTAL  
SERVICES, INC.

HISTORIC SITE LAYOUT  
Burke Wastewater Treatment Plant  
1401 Packers Avenue  
Madison, Wisconsin

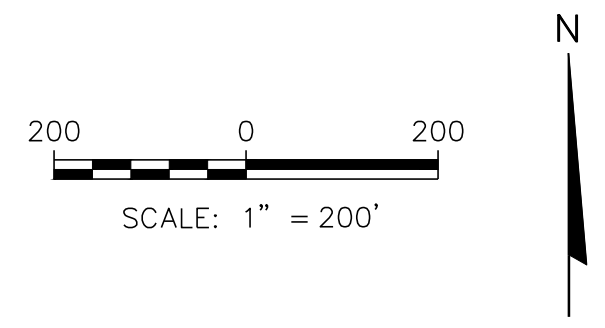
FIGURE

2



LEGEND	
×	BENCHMARK (SEE NOTE 6)
⊕	MONITORING WELL
⊕	GEOPROBE SOIL BORING
⊕	PIEZOMETER
---	PROPERTY LINE
— ST —	STORM SEWER (APPROXIMATE)
— ST —>	STORM SEWER FLOW
○ STR-018	STORM SEWER MANHOLE

- NOTES:
- MARCH 19, 2018 AERIAL PHOTOGRAPH SOURCES: ESRI, DIGITALGLOBE, GEOEYE, I-CUBED, USDA FSA, USGS, AEX, GETMAPPING, AEROGRID, IGN, IGP, SWISSTOPO, AND THE GIS USER COMMUNITY
  - MAP IN NAD83 WISCONSIN STATE PLANE, SOUTH ZONE COORDINATE SYSTEM.
  - MONITORING WELL LOCATIONS SURVEYED BY SCS ENGINEERS ON MARCH 25, 2020 AND DECEMBER 7, 2020.
  - BORINGS GP-1 THROUGH GP-9 WERE INSTALLED BY SEYMOUR ENVIRONMENTAL SERVICES, INC.
  - BORINGS GP-101 THROUGH GP-104 WERE INSTALLED BY SCS ENGINEERS.
  - BENCHMARKS BASED ON TOPOGRAPHIC SURVEY DRAWING BY WILLIAMSON SURVEYING & ASSOCIATES, LLC. DATED OCTOBER 3, 2017. BENCHMARKS ELEVATIONS ADJUSTED FROM NGVD 29 DATUM AS SHOWN IN WILLIAMSON DRAWING TO NAVD 88 DATUM. BENCHMARKS LOCATED BY SCS ENGINEERS DURING MARCH 25, 2020 SURVEY.
  - PROPERTY LINE BASED ON ALTA/NSPS LAND TITLE SURVEY PREPARED BY WYSER ENGINEERING, DATED JANUARY 29, 2018.
  - APPROXIMATE STORM SEWER AND MANHOLE LOCATIONS BASED ON ALTA/NSPS LAND TITLE SURVEY DRAWING BY WYSER ENGINEERING DATED JANUARY 29, 2018.



PROJECT NO.	25218175.00	DRAWN BY:	BSS/MJT
DRAWN:	03/27/2020	CHECKED BY:	JR
REVISED:	04/30/2021	APPROVED BY:	EO 04/30/21

**SCS ENGINEERS**  
 2830 DAIRY DRIVE MADISON, WI 53718-6751  
 PHONE: (608) 224-2830

**CLIENT** **mg&e** MADISON GAS AND ELECTRIC  
 120 S. BALDWIN ST.  
 MADISON, WI, 53703

**SITE** MG&E BURKE SITE  
 1401 PACKERS AVENUE  
 MADISON, WI

DETAILED SITE MAP

FIGURE  
3

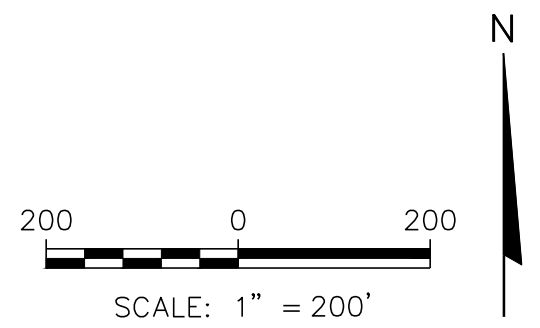
I:\25218175.00\Drawings\Site Plan.dwg, 4/30/2021 9:25:28 AM





LEGEND	
×	BENCHMARK (SEE NOTE 4)
⊕	MONITORING WELL
⊙	PIEZOMETER
853.16	WATER TABLE ELEVATION MEASURED ON JANUARY 20, 2021
—	WATER TABLE CONTOUR
→	APPROXIMATE GROUNDWATER FLOW DIRECTION
- - -	PROPERTY LINE
— ST —	STORM SEWER (APPROXIMATE)
— ST →	STORM SEWER FLOW
○ STR-018	STORM SEWER MANHOLE

- NOTES:
- MARCH 19, 2018 AERIAL PHOTOGRAPH SOURCES: ESRI, DIGITALGLOBE, GEOEYE, I-CUBED, USDA FSA, USGS, AEX, GETMAPPING, AEROGRID, IGN, IGP, SWISSTOPO, AND THE GIS USER COMMUNITY
  - MAP IN NAD83 WISCONSIN STATE PLANE, SOUTH ZONE COORDINATE SYSTEM.
  - MONITORING WELL LOCATIONS SURVEYED BY SCS ENGINEERS ON MARCH 25, 2020 AND DECEMBER 7, 2020.
  - BENCHMARKS BASED ON TOPOGRAPHIC SURVEY DRAWING BY WILLIAMSON SURVEYING & ASSOCIATES, LLC. DATED OCTOBER 3, 2017. BENCHMARKS ELEVATIONS ADJUSTED FROM NGVD 29 DATUM AS SHOWN IN WILLIAMSON DRAWING TO NAVD 88 DATUM. BENCHMARKS LOCATED BY SCS ENGINEERS DURING MARCH 25, 2020 SURVEY.
  - APPROXIMATE STORM SEWER AND MANHOLE LOCATIONS BASED ON ALTA/NSPS LAND TITLE SURVEY DRAWING BY WYSER ENGINEERING DATED JANUARY 29, 2018.



PROJECT NO. 25218175.00	DRAWN BY: KP/MJT	 2830 DAIRY DRIVE MADISON, WI 53718-6751 PHONE: (608) 224-2830	 MADISON GAS AND ELECTRIC 120 S. BALDWIN ST. MADISON, WI, 53703	SITE MG&E BURKE SITE 1401 PACKERS AVENUE MADISON, WI	WATER TABLE MAP JANUARY 20, 2021	FIGURE
DRAWN: 04/27/2020	CHECKED BY: JR					4
REVISD: 04/30/2021	APPROVED BY: EO 04/30/21					

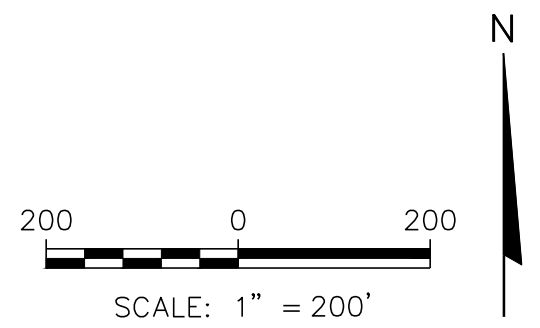
I:\25218175.00\Drawings\Wtbl.dwg, 4/30/2021 9:25:31 AM





LEGEND	
×	BENCHMARK (SEE NOTE 4)
⊕	MONITORING WELL
⊙	PIEZOMETER
<b>848.97</b>	WATER TABLE ELEVATION MEASURED ON MARCH 29-30, 2021
—	WATER TABLE CONTOUR
→	APPROXIMATE GROUNDWATER FLOW DIRECTION
- - -	PROPERTY LINE
— ST —	STORM SEWER (APPROXIMATE)
— ST →	STORM SEWER FLOW
○ STR-018	STORM SEWER MANHOLE

- NOTES:
- MARCH 19, 2018 AERIAL PHOTOGRAPH SOURCES: ESRI, DIGITALGLOBE, GEOEYE, I-CUBED, USDA FSA, USGS, AEX, GETMAPPING, AEROGRI, IGN, IGP, SWISSTOPO, AND THE GIS USER COMMUNITY
  - MAP IN NAD83 WISCONSIN STATE PLANE, SOUTH ZONE COORDINATE SYSTEM.
  - MONITORING WELL LOCATIONS SURVEYED BY SCS ENGINEERS ON MARCH 25, 2020 AND DECEMBER 7, 2020.
  - BENCHMARKS BASED ON TOPOGRAPHIC SURVEY DRAWING BY WILLIAMSON SURVEYING & ASSOCIATES, LLC. DATED OCTOBER 3, 2017. BENCHMARKS ELEVATIONS ADJUSTED FROM NGVD 29 DATUM AS SHOWN IN WILLIAMSON DRAWING TO NAVD 88 DATUM. BENCHMARKS LOCATED BY SCS ENGINEERS DURING MARCH 25, 2020 SURVEY.
  - APPROXIMATE STORM SEWER AND MANHOLE LOCATIONS BASED ON ALTA/NSPS LAND TITLE SURVEY DRAWING BY WYSER ENGINEERING DATED JANUARY 29, 2018.



PROJECT NO.	25218175.00	DRAWN BY:	KP/MJT
DRAWN:	04/27/2020	CHECKED BY:	JR/EO
REVISED:	04/30/2021	APPROVED BY:	EO 04/30/21


**SCS ENGINEERS**  
 2830 DAIRY DRIVE MADISON, WI 53718-6751  
 PHONE: (608) 224-2830

**CLIENT**  
**mg&e** MADISON GAS AND ELECTRIC  
 120 S. BALDWIN ST.  
 MADISON, WI, 53703

**SITE**  
 MG&E BURKE SITE  
 1401 PACKERS AVENUE  
 MADISON, WI

WATER TABLE MAP  
 MARCH 29-30, 2021

FIGURE  
 5



## Appendix A

### Soil Boring Logs and Well Construction Forms

Route To: Watershed/Wastewater  Waste Management   
Remediation/Redevelopment  Other

Facility/Project Name Former Burke WWTP Property SCS#: 25218175.00		License/Permit/Monitoring Number		Boring Number MW-101		
Boring Drilled By: Name of crew chief (first, last) and Firm Tony Kapugi On-site Environmental Services, Inc.			Date Drilling Started 12/1/2020		Date Drilling Completed 12/1/2020	
Drilling Method HSA	WI Unique Well No. WC244	DNR Well ID No.	Common Well Name MW-101	Final Static Water Level Feet MSL		
				Surface Elevation 860.05 Feet MSL		
				Borehole Diameter 8.25 in.		
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Boring Location <input checked="" type="checkbox"/> State Plane 406,987 N, 2,140,958 E S/C/N NW 1/4 of SE 1/4 of Section 31, T 8 N, R 10 E			Lat _____ ' _____ '' Long _____ ' _____ ''		Local Grid Location Feet <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
Facility ID		County Dane	County Code 13	Civil Town/City/ or Village Madison		

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
			1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Blind drilled to 24.5 feet. See boring log PZ-101 for lithology.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature <i>Jackie Rennebohm</i>	Firm SCS Engineers 2830 Dairy Drive, Madison, WI 608-224-2038	Tel: Fax:
-----------------------------------	--	--------------

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.



Route To: Watershed/Wastewater  Waste Management   
Remediation/Redevelopment  Other

Facility/Project Name Former Burke WWTP Property SCS#: 25218175.00		License/Permit/Monitoring Number		Boring Number MW-102	
Boring Drilled By: Name of crew chief (first, last) and Firm Tony Kapugi On-site Environmental Services, Inc.			Date Drilling Started 11/30/2020	Date Drilling Completed 11/30/2020	Drilling Method HSA
WI Unique Well No. WC246	DNR Well ID No.	Common Well Name MW-102	Final Static Water Level Feet MSL	Surface Elevation 854.00 Feet MSL	Borehole Diameter 8.25 in.
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Boring Location <input checked="" type="checkbox"/> State Plane 406,490 N, 2,141,136 E S/C/N NW 1/4 of SE 1/4 of Section 31, T 8 N, R 10 E			Lat _____ " _____ "	Local Grid Location Feet <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
Facility ID		County Dane	County Code 13	Civil Town/City/ or Village Madison	

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
			1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Blind drilled to 16 feet. See boring log PZ-102 for lithology.										


I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm <b>SCS Engineers</b> 2830 Dairy Drive, Madison, WI 608-224-2038	Tel: Fax:
-----------	---	--------------

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.



Boring Number **MW-102** Use only as an attachment to Form 4400-122. Page **2** of **2**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
			16	End of boring at 16 feet. Installed monitoring well MW-102.										

Route To: Watershed/Wastewater  Waste Management   
Remediation/Redevelopment  Other

Facility/Project Name Former Burke WWTP Property SCS#: 25218175.00		License/Permit/Monitoring Number		Boring Number MW-103	
Boring Drilled By: Name of crew chief (first, last) and Firm Gage Kapugi On-site Environmental Services, Inc.			Date Drilling Started 11/30/2020		Date Drilling Completed 11/30/2020
Drilling Method HSA	WI Unique Well No. WC248	DNR Well ID No.	Common Well Name MW-103	Final Static Water Level Feet MSL	Surface Elevation 855.00 Feet MSL
Borehole Diameter 8.25 in.	Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Boring Location <input checked="" type="checkbox"/>	State Plane 406,140 N, 2,141,617 E S/C/N	Lat _____ ' _____ "	Local Grid Location	Feet <input type="checkbox"/> N <input type="checkbox"/> S
NW 1/4 of SE 1/4 of Section 31, T 8 N, R 10 E	Long _____ ' _____ "	Feet <input type="checkbox"/> E <input type="checkbox"/> W	Facility ID	County Dane	County Code 13
					Civil Town/City/ or Village Madison

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
			1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	Blind drilled to 15 feet. See boring log PZ-103 for lithology.										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature <i>Jackie Rennebohm</i>	Firm SCS Engineers 2830 Dairy Drive, Madison, WI 608-224-2038	Tel: Fax:
--------------------------------------	---	--------------

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.



Route To: Watershed/Wastewater  Waste Management   
Remediation/Redevelopment  Other

Facility/Project Name Former Burke WWTP Property		SCS#: 25218175.00		License/Permit/Monitoring Number		Boring Number PZ-101					
Boring Drilled By: Name of crew chief (first, last) and Firm Tony Kapugi On-site Environmental Services, Inc.				Date Drilling Started 12/1/2020		Date Drilling Completed 12/1/2020		Drilling Method Geoprobe/HSA			
WI Unique Well No. WC245		DNR Well ID No.		Common Well Name PZ-101		Final Static Water Level Feet MSL		Surface Elevation 860.05 Feet MSL		Borehole Diameter 2.0/8.25 in.	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Boring Location <input checked="" type="checkbox"/> State Plane 406,982 N, 2,140,955 E S/C/N NW 1/4 of SE 1/4 of Section 31, T 8 N, R 10 E				Lat _____ ' _____ "		Local Grid Location		Feet <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W		Long _____ ' _____ "	
Facility ID		County Dane		County Code 13		Civil Town/City/ or Village Madison					

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200		
S1	38		1	ORGANIC SILT, black/brown, (topsoil).	OL										
			2	POORLY GRADED SAND AND GRAVEL, fine to coarse, black, with glass and cinders, (fill).	SP			2.0		M					
S2	38		3	SILTY SAND, fine, tan, (fill).	SM			2.4		M					
			5	Layer of gravel at base. SILTY SAND, fine, tan.				1.4		M					
S3	38		6					2.3		M					
			7					1.4		M					
S4	35		8					1.7		M					
			9					1.7		M					
S5	35		10					1.4		M					
			11					1.4		M					
S6	35		12					1.4		M					
			13					1.4		M					
			14					1.7		M					
			15					1.7		M					

I hereby certify that the information on this form is true and correct to the best of my knowledge.

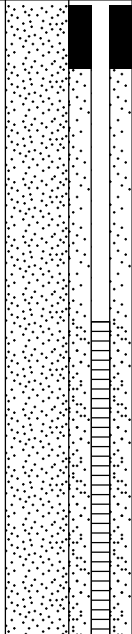
Signature 	Firm SCS Engineers 2830 Dairy Drive, Madison, WI 608-224-2038	Tel: Fax:
---------------	---	--------------

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Boring Number **PZ-101** Use only as an attachment to Form 4400-122. Page **2** of **3**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S7			16					2.4	W					Depth to water at ~16 feet
	45		17											
S8			18					1.2	W					
			19											
			20											
S9			21					2.0	W					
	47		22											
			23											
S10			24					1.8	W					
			25											
			26											
S11			27		SM			1.5	W					
	57		28											
S12			29					1.1	W					
			30											
			31											
S13			32					1.3	W					
	47		33											
S14			34					0.3	W					
			35											
			36											
S15			37					1.7	W					
	54		38											
			39											
S16			40		SP			1.8	W					

Boring Number **PZ-101** Use only as an attachment to Form 4400-122. Page **3** of **3**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S17			41	POORLY GRADED SAND, fine to coarse, tan/brown.	SP			0.5	W					
	60		42											
S18			43											
			44											
			45											
S19			46											
	60		47											
			48											
S20			49											
			50											
				End of boring at 50 feet. Installed piezometer PZ-101.										

Route To: Watershed/Wastewater  Waste Management   
Remediation/Redevelopment  Other

Facility/Project Name Former Burke WWTP Property SCS#: 25218175.00		License/Permit/Monitoring Number		Boring Number PZ-102	
Boring Drilled By: Name of crew chief (first, last) and Firm Tony Kapugi On-site Environmental Services, Inc.			Date Drilling Started 11/30/2020		Date Drilling Completed 11/30/2020
Drilling Method Geoprobe/HSA	WI Unique Well No. WC247	DNR Well ID No.	Common Well Name PZ-102	Final Static Water Level Feet MSL	Surface Elevation 854.00 Feet MSL
Borehole Diameter 2.0/8.25 in.	Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Boring Location <input checked="" type="checkbox"/>	State Plane 406,488 N, 2,141,140 E S/C/N	Lat _____ ' _____ "	Local Grid Location	Feet <input type="checkbox"/> N <input type="checkbox"/> S
NW 1/4 of SE 1/4 of Section 31, T 8 N, R 10 E	Long _____ ' _____ "	Feet <input type="checkbox"/> E <input type="checkbox"/> W	Facility ID	County Dane	County Code 13
					Civil Town/City/ or Village Madison

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S1	30		1	ORGANIC SILT, black, (topsoil).	OL			3.5		M				
			2	POORLY GRADED SAND AND GRAVEL, fine to coarse, light brown, trace cinders, (fill).	SP									
S2			3					3.3		M				
			4	PEAT, black, spongy	PT									
S3	37		5	SILT, gray with rusty mottling, with clay.	ML			3.6		M+				
			6											
S4			7	SILTY SAND, fine to medium, gray.	SM			3.8		M				
			8	POORLY GRADED SAND, fine to coarse, tan.										
S5	60		9							W				
			10											
S6			11							W				
			12											
			13											
			14											
			15											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature <i>Jackie Rennebohm</i>	Firm SCS Engineers 2830 Dairy Drive, Madison, WI 608-224-2038	Tel: Fax:
--------------------------------------	---	--------------

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Boring Number **PZ-102** Use only as an attachment to Form 4400-122. Page **2** of **3**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S7			16					5.5	W					
	60		17											
S8			18											
			19		SP			6.7	W					
			20											
S9			21											
	60		22					6.0	W					
			23											
S10			24	SANDY SILT, fine, light gray/tan.	ML			7.4	W					
			25	POORLY GRADED SAND, fine to coarse, light brown/tan.										
S11			26		SP			1.9	W					
	60		27											
S12			28	SANDY SILT, fine to medium, light gray/brown.										
			29					5.9	W					
			30											
S13			31											
	60		32					4.6	W					
			33											
S14			34		ML									
			35					6.8	W					
			36											
S15			37											
	60		38					4.2	W					
			39											
S16			40					5.1	W					



Boring Number **PZ-102** Use only as an attachment to Form 4400-122. Page **3** of **3**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments		
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200			
S17			41	SILTY SAND, fine to coarse, light brown, with fine to coarse angular gravel.	SM			10.5								
	60		42													
S18			43													
			44									16.6				
S19			45													
			46													
	60		47													
			48													
S20			49					6.5								
			50													
				End of boring at 50 feet. Installed piezometer PZ-102.												

Route To: Watershed/Wastewater  Waste Management   
Remediation/Redevelopment  Other

Facility/Project Name Former Burke WWTP Property SCS#: 25218175.00		License/Permit/Monitoring Number		Boring Number <b>PZ-103</b>		
Boring Drilled By: Name of crew chief (first, last) and Firm Gage Kapugi On-site Environmental Services, Inc.			Date Drilling Started 11/30/2021		Date Drilling Completed 11/30/2020	
Drilling Method Geoprobe/HSA	WI Unique Well No. WC249	DNR Well ID No.	Common Well Name PZ-103	Final Static Water Level Feet MSL		
				Surface Elevation 855.00 Feet MSL		
				Borehole Diameter 2.0/8.25 in.		
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Boring Location <input checked="" type="checkbox"/> State Plane 406,142 N, 2,141,613 E S/C/N NW 1/4 of SE 1/4 of Section 31, T 8 N, R 10 E			Lat _____ " _____ "		Local Grid Location	
					Feet <input type="checkbox"/> N <input type="checkbox"/> S	
					Feet <input type="checkbox"/> E <input type="checkbox"/> W	
Facility ID		County Dane	County Code 13	Civil Town/City/ or Village Madison		

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S1			1	ORGANIC SILT, black, (topsoil).	OL			2.1		M				
			2	SILTY SAND, medium, brown, (possible fill).	SM									
S2	37		3	SILT, brown with mottling, with clay.	ML			0.9		M				
			4											
S3			5	POORLY GRADED SAND, fine to coarse, tan to brown.				0.5		W				
			6											
S4			7					0.7		W				
			8											
S5			9					0.5		M				
			10											
S6			11					0.5		M				
			12											
			13					0.3		M				
			14											
			15											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature <i>Jackie Rennebohm</i>	Firm SCS Engineers 2830 Dairy Drive, Madison, WI 608-224-2038	Tel: Fax:
--------------------------------------	---	--------------

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Boring Number **PZ-103** Use only as an attachment to Form 4400-122. Page **2** of **3**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Standard Penetration	Moisture Content	Liquid Limit	Plasticity Index	P 200	
S7			16					0.2	W					
	60		17											
S8			18											
			19		SP			0.0	W					
			20											
S9			21					0.1	W					
	60		22											
			23											
S10			24	SANDY SILT, fine, gray/brown.				0.4	W					
			25											
S11			26		ML			1.1	W					
	60		27											
			28											
S12			29					0.9	W					
			30	SILTY SAND, fine to coarse, gray/brown, with trace fine rounded gravel.										
			31											
S13			32					1.0	W					
	60		33											
			34											
S14			35		SM			0.8	W					
			36											
S15			37					2.0	W					
	60		38											
			39											
S16			40					1.7	W					



Facility/Project Name Former Burke WWTP Property	Local Grid Location of Well ft. <input type="checkbox"/> N. <input type="checkbox"/> S. <input type="checkbox"/> E. <input type="checkbox"/> W.	Well Name MW-101
Facility License, Permit or Monitoring No.	Local Grid Origin (estimated: <input type="checkbox"/> ) or Well Location <input type="checkbox"/> Lat. " Long. " or " or "	Wis. Unique Well No. <u>WC244</u> DNR Well ID No. _____
Facility ID	St. Plane <u>406978</u> ft. N, <u>2140958</u> ft. E. S/C/N	Date Well Installed, <u>12</u> / <u>01</u> / <u>2020</u> m m d d y y y y
Type of Well Well Code <u>11</u> / MW	Section Location of Waste/Source NW 1/4 of SE 1/4 of Sec. <u>31</u> , T. <u>08</u> N, R. <u>10</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W	Well Installed By: Name (first, last) and Firm <u>Tony Kapugi</u>
Distance from Waste/Source _____ ft.	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	Gov. Lot Number _____
Enf. Stds. Apply <input checked="" type="checkbox"/>		On-site Environmental Services, Inc.

A. Protective pipe, top elevation \_\_\_\_\_ ft. MSL  
B. Well casing, top elevation 868.97 ft. MSL  
C. Land surface elevation \_\_\_\_\_ ft. MSL  
D. Surface seal, bottom \_\_\_\_\_ ft. MSL or \_\_\_\_\_ ft.

12. USCS classification of soil near screen:  
GP  GM  GC  GW  SW  SP   
SM  SC  ML  MH  CL  CH   
Bedrock

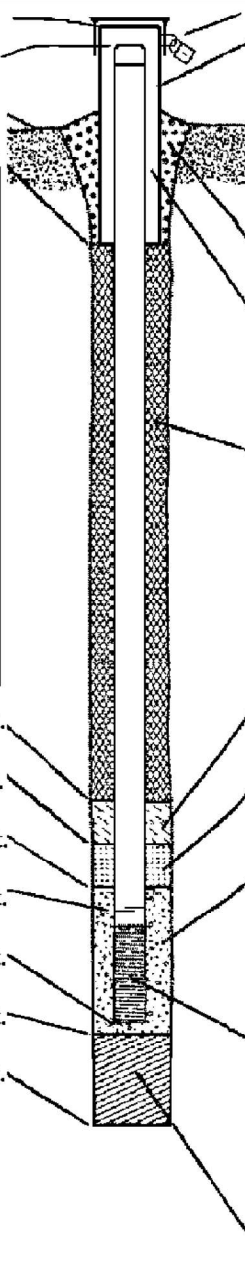
13. Sieve analysis performed?  Yes  No

14. Drilling method used: Rotary  5 0  
Hollow Stem Auger  4 1  
Other

15. Drilling fluid used: Water  0 2 Air  0 1  
Drilling Mud  0 3 None  9 9

16. Drilling additives used?  Yes  No  
Describe --

17. Source of water (attach analysis, if required):  
--



1. Cap and lock?  Yes  No

2. Protective cover pipe:  
a. Inside diameter: \_\_\_\_\_ in.  
b. Length: 5 ft.  
c. Material: Steel  0 4  
Other   
d. Additional protection?  Yes  No  
If yes, describe: \_\_\_\_\_

3. Surface seal: Bentonite  3 0  
Concrete  0 1  
Other

4. Material between well casing and protective pipe:  
Bentonite  3 0  
Filter Sand

5. Annular space seal: a. Granular/Chipped Bentonite  3 3  
b. \_\_\_\_\_ Lbs/gal mud weight . . . Bentonite-sand slurry  3 5  
c. \_\_\_\_\_ Lbs/gal mud weight . . . . Bentonite slurry  3 1  
d. \_\_\_\_\_ % Bentonite . . . . . Bentonite-cement grout  5 0  
e. 3.9 Ft<sup>3</sup> volume added for any of the above  
f. How installed: Tremie  0 1  
Tremie pumped  0 2  
Gravity  0 8

6. Bentonite seal: a. Bentonite granules  3 3  
b.  1/4 in.  3/8 in.  1/2 in. Bentonite chips  3 2  
c. \_\_\_\_\_ Other

7. Fine sand material: Manufacturer, product name & mesh size  
a. RW Sidley #5   
b. Volume added 0.74 ft<sup>3</sup>

8. Filter pack material: Manufacturer, product name & mesh size  
a. RW Sidley #7   
b. Volume added 0.74 ft<sup>3</sup>

9. Well casing: Flush threaded PVC schedule 40  2 3  
Flush threaded PVC schedule 80  2 4  
Other

10. Screen material: PVC  
a. Screen type: Factory cut  1 1  
Continuous slot  0 1  
Other   
b. Manufacturer Mono Flex  
c. Slot size: 0.010 in.  
d. Slotted length: 10 ft.

11. Backfill material (below filter pack): None  1 4  
Other

E. Bentonite seal, top 868.97 ft. MSL or 0 ft.  
F. Fine sand, top 858.47 ft. MSL or 10.5 ft.  
G. Filter pack, top 856.47 ft. MSL or 12.5 ft.  
H. Screen joint, top 854.47 ft. MSL or 14.5 ft.  
I. Well bottom 844.47 ft. MSL or 24.5 ft.  
J. Filter pack, bottom 844.47 ft. MSL or 24.5 ft.  
K. Borehole, bottom 844.47 ft. MSL or 24.5 ft.  
L. Borehole, diameter 8.25 in.  
M. O.D. well casing 2.38 in.  
N. I.D. well casing 2.01 in.

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Jackie Rennelohm Firm SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

Facility/Project Name Former Burke WWTP Property	Local Grid Location of Well ft. <input type="checkbox"/> N. <input type="checkbox"/> S. <input type="checkbox"/> E. <input type="checkbox"/> W.	Well Name MW-102
Facility License, Permit or Monitoring No.	Local Grid Origin (estimated: <input type="checkbox"/> ) or Well Location <input type="checkbox"/> Lat. " Long. " or " or "	Wis. Unique Well No. <u>WC246</u> DNR Well ID No. _____
Facility ID	St. Plane <u>406490</u> ft. N, <u>2141136</u> ft. E. S/C/N	Date Well Installed, <u>11</u> / <u>30</u> / <u>2020</u> m m d d y y y y
Type of Well Well Code <u>11</u> / MW	Section Location of Waste/Source NW 1/4 of SE 1/4 of Sec. <u>31</u> , T. <u>08</u> N, R. <u>10</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W	Well Installed By: Name (first, last) and Firm <u>Tony Kapugi</u>
Distance from Waste/Source _____ ft.	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	On-site Environmental Services, Inc.

A. Protective pipe, top elevation \_\_\_\_\_ ft. MSL  
B. Well casing, top elevation 856.37 ft. MSL  
C. Land surface elevation \_\_\_\_\_ ft. MSL  
D. Surface seal, bottom \_\_\_\_\_ ft. MSL or \_\_\_\_\_ ft.

12. USCS classification of soil near screen:  
GP  GM  GC  GW  SW  SP   
SM  SC  ML  MH  CL  CH   
Bedrock

13. Sieve analysis performed?  Yes  No

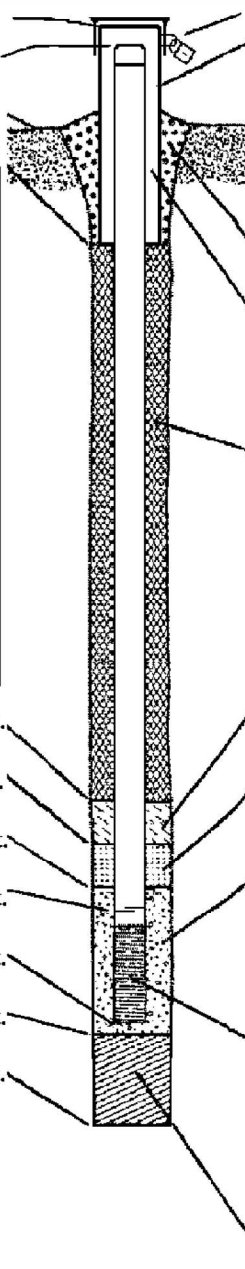
14. Drilling method used: Rotary  5 0  
Hollow Stem Auger  4 1  
Other

15. Drilling fluid used: Water  0 2 Air  0 1  
Drilling Mud  0 3 None  9 9

16. Drilling additives used?  Yes  No

Describe --

17. Source of water (attach analysis, if required):  
--



1. Cap and lock?  Yes  No

2. Protective cover pipe:  
a. Inside diameter: \_\_\_\_\_ in.  
b. Length: 5 ft.  
c. Material: Steel  0 4  
Other   
d. Additional protection?  Yes  No  
If yes, describe: \_\_\_\_\_

3. Surface seal: Bentonite  3 0  
Concrete  0 1  
Other

4. Material between well casing and protective pipe:  
Bentonite  3 0  
Filter Sand

5. Annular space seal: a. Granular/Chipped Bentonite  3 3  
b. \_\_\_\_\_ Lbs/gal mud weight . . . Bentonite-sand slurry  3 5  
c. \_\_\_\_\_ Lbs/gal mud weight . . . . Bentonite slurry  3 1  
d. \_\_\_\_\_ % Bentonite . . . . . Bentonite-cement grout  5 0  
e. 1.49 Ft<sup>3</sup> volume added for any of the above  
f. How installed: Tremie  0 1  
Tremie pumped  0 2  
Gravity  0 8

6. Bentonite seal: a. Bentonite granules  3 3  
b.  1/4 in.  3/8 in.  1/2 in. Bentonite chips  3 2  
c. \_\_\_\_\_ Other

7. Fine sand material: Manufacturer, product name & mesh size  
a. \_\_\_\_\_  
b. Volume added \_\_\_\_\_ ft<sup>3</sup>

8. Filter pack material: Manufacturer, product name & mesh size  
a. \_\_\_\_\_ RW Sidley #7   
b. Volume added 0.74 ft<sup>3</sup>

9. Well casing: Flush threaded PVC schedule 40  2 3  
Flush threaded PVC schedule 80  2 4  
Other

10. Screen material: \_\_\_\_\_ PVC  
a. Screen type: Factory cut  1 1  
Continuous slot  0 1  
Other   
b. Manufacturer Mono Flex  
c. Slot size: 0.010 in.  
d. Slotted length: 10 ft.

11. Backfill material (below filter pack): None  1 4  
Other

E. Bentonite seal, top 856.37 ft. MSL or 0 ft.  
F. Fine sand, top \_\_\_\_\_ ft. MSL or \_\_\_\_\_ ft.  
G. Filter pack, top 852.37 ft. MSL or 4 ft.  
H. Screen joint, top 850.37 ft. MSL or 6 ft.  
I. Well bottom 840.37 ft. MSL or 16 ft.  
J. Filter pack, bottom 840.37 ft. MSL or 16 ft.  
K. Borehole, bottom 840.37 ft. MSL or 16 ft.  
L. Borehole, diameter 8.25 in.  
M. O.D. well casing 2.38 in.  
N. I.D. well casing 2.01 in.

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature \_\_\_\_\_ Firm SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.



Facility/Project Name Former Burke WWTP Property	Local Grid Location of Well ft. <input type="checkbox"/> N. <input type="checkbox"/> S. <input type="checkbox"/> E. <input type="checkbox"/> W.	Well Name MW-103
Facility License, Permit or Monitoring No.	Local Grid Origin (estimated: <input type="checkbox"/> ) or Well Location <input type="checkbox"/> Lat. " Long. " or " or "	Wis. Unique Well No. <u>WC248</u> DNR Well ID No. _____
Facility ID	St. Plane <u>406140</u> ft. N, <u>2141617</u> ft. E. S/C/N	Date Well Installed, <u>11</u> / <u>30</u> / <u>2020</u> m m d d y y y y
Type of Well Well Code <u>11</u> / MW	Section Location of Waste/Source NW 1/4 of SE 1/4 of Sec. <u>31</u> , T. <u>08</u> N, R. <u>10</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W	Well Installed By: Name (first, last) and Firm <u>Gage Kapugi</u>
Distance from Waste/Source _____ ft.	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	On-site Environmental Services, Inc.

<p>A. Protective pipe, top elevation _____ ft. MSL</p> <p>B. Well casing, top elevation _____ 857.37 ft. MSL</p> <p>C. Land surface elevation _____ ft. MSL</p> <p>D. Surface seal, bottom _____ ft. MSL or _____ ft.</p> <div style="border: 1px solid black; padding: 5px;"> <p>12. USCS classification of soil near screen:                  GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input checked="" type="checkbox"/>                  SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/>                  Bedrock <input type="checkbox"/></p> <p>13. Sieve analysis performed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>14. Drilling method used: Rotary <input type="checkbox"/> 5 0                  Hollow Stem Auger <input checked="" type="checkbox"/> 4 1                  Other <input type="checkbox"/></p> <p>15. Drilling fluid used: Water <input type="checkbox"/> 0 2 Air <input type="checkbox"/> 0 1                  Drilling Mud <input type="checkbox"/> 0 3 None <input checked="" type="checkbox"/> 9 9</p> <p>16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe -- _____</p> <p>17. Source of water (attach analysis, if required):                  _____</p> </div> <p>E. Bentonite seal, top _____ 857.37 ft. MSL or _____ 0 ft.</p> <p>F. Fine sand, top _____ ft. MSL or _____ ft.</p> <p>G. Filter pack, top _____ 853.37 ft. MSL or _____ 4 ft.</p> <p>H. Screen joint, top _____ 852.37 ft. MSL or _____ 5 ft.</p> <p>I. Well bottom _____ 842.37 ft. MSL or _____ 15 ft.</p> <p>J. Filter pack, bottom _____ 842.37 ft. MSL or _____ 15 ft.</p> <p>K. Borehole, bottom _____ 842.37 ft. MSL or _____ 15 ft.</p> <p>L. Borehole, diameter _____ 8.25 in.</p> <p>M. O.D. well casing _____ 2.38 in.</p> <p>N. I.D. well casing _____ 2.01 in.</p>	<p>1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Protective cover pipe:                  a. Inside diameter: _____ 6 in.                  b. Length: _____ 5 ft.                  c. Material: Steel <input checked="" type="checkbox"/> 0 4                  Other <input type="checkbox"/>                  d. Additional protection? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                  If yes, describe: _____</p> <p>3. Surface seal: Bentonite <input checked="" type="checkbox"/> 3 0                  Concrete <input type="checkbox"/> 0 1                  Other <input type="checkbox"/></p> <p>4. Material between well casing and protective pipe:                  Bentonite <input type="checkbox"/> 3 0                  Filter Sand <input checked="" type="checkbox"/></p> <p>5. Annular space seal: a. Granular/Chipped Bentonite <input checked="" type="checkbox"/> 3 3                  b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/> 3 5                  c. _____ Lbs/gal mud weight . . . . . Bentonite slurry <input type="checkbox"/> 3 1                  d. _____ % Bentonite . . . . . Bentonite-cement grout <input type="checkbox"/> 5 0                  e. _____ 1.49 Ft<sup>3</sup> volume added for any of the above                  f. How installed: Tremie <input type="checkbox"/> 0 1                  Tremie pumped <input type="checkbox"/> 0 2                  Gravity <input checked="" type="checkbox"/> 0 8</p> <p>6. Bentonite seal: a. Bentonite granules <input type="checkbox"/> 3 3                  b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input checked="" type="checkbox"/> 3 2                  c. _____ Other <input type="checkbox"/></p> <p>7. Fine sand material: Manufacturer, product name &amp; mesh size                  a. _____ <input type="checkbox"/>                  b. Volume added _____ ft<sup>3</sup></p> <p>8. Filter pack material: Manufacturer, product name &amp; mesh size                  a. _____ RW Sidley #7 <input checked="" type="checkbox"/>                  b. Volume added _____ 0.37 ft<sup>3</sup></p> <p>9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/> 2 3                  Flush threaded PVC schedule 80 <input type="checkbox"/> 2 4                  Other <input type="checkbox"/></p> <p>10. Screen material: _____ PVC <input type="checkbox"/>                  a. Screen type: Factory cut <input checked="" type="checkbox"/> 1 1                  Continuous slot <input type="checkbox"/> 0 1                  Other <input type="checkbox"/>                  b. Manufacturer _____ Mono Flex                  c. Slot size: _____ 0.010 in.                  d. Slotted length: _____ 10 ft.</p> <p>11. Backfill material (below filter pack): None <input checked="" type="checkbox"/> 1 4                  Other <input type="checkbox"/></p>
---	--

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Jackie Rennsbohm Firm SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

Facility/Project Name Former Burke WWTP Property	Local Grid Location of Well ft. <input type="checkbox"/> N. <input type="checkbox"/> S. <input type="checkbox"/> E. <input type="checkbox"/> W.	Well Name PZ-101
Facility License, Permit or Monitoring No.	Local Grid Origin (estimated: <input type="checkbox"/> ) or Well Location <input type="checkbox"/> Lat. " Long. " or " or "	Wis. Unique Well No. <u>WC245</u> DNR Well ID No. _____
Facility ID	St. Plane <u>406982</u> ft. N, <u>2140955</u> ft. E. S/C/N	Date Well Installed, <u>12</u> / <u>01</u> / <u>2020</u> m m d d y y y y
Type of Well Well Code <u>12</u> / <u>PZ</u>	Section Location of Waste/Source NW 1/4 of SE 1/4 of Sec. <u>31</u> , T. <u>08</u> N, R. <u>10</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W	Well Installed By: Name (first, last) and Firm <u>Tony Kapugi</u>
Distance from Waste/Source _____ ft.	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	Gov. Lot Number _____
Enf. Stds. Apply <input checked="" type="checkbox"/>		On-site Environmental Services, Inc.

A. Protective pipe, top elevation \_\_\_\_\_ ft. MSL

B. Well casing, top elevation \_\_\_\_\_ 868.82 ft. MSL

C. Land surface elevation \_\_\_\_\_ ft. MSL

D. Surface seal, bottom \_\_\_\_\_ ft. MSL or \_\_\_\_\_ ft.

12. USCS classification of soil near screen:  
 GP  GM  GC  GW  SW  SP   
 SM  SC  ML  MH  CL  CH   
 Bedrock

13. Sieve analysis performed?  Yes  No

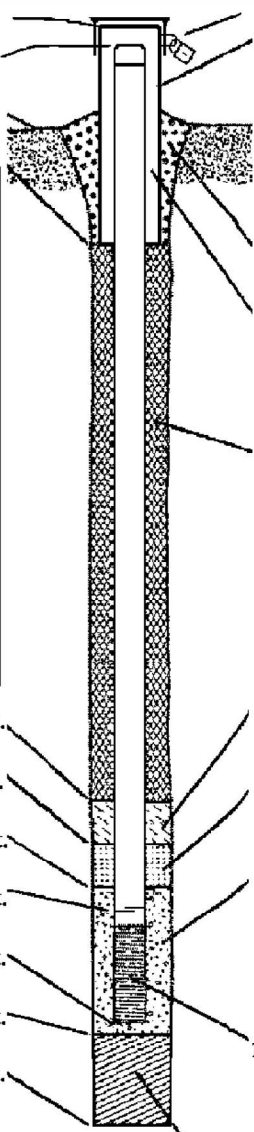
14. Drilling method used: Rotary  5 0  
 Hollow Stem Auger  4 1  
 Other

15. Drilling fluid used: Water  0 2 Air  0 1  
 Drilling Mud  0 3 None  9 9

16. Drilling additives used?  Yes  No

Describe -- \_\_\_\_\_

17. Source of water (attach analysis, if required):  
 --



1. Cap and lock?  Yes  No

2. Protective cover pipe:  
 a. Inside diameter: \_\_\_\_\_ 6 in.  
 b. Length: \_\_\_\_\_ 5 ft.  
 c. Material: Steel  0 4  
 Other   
 d. Additional protection?  Yes  No  
 If yes, describe: \_\_\_\_\_

3. Surface seal: Bentonite  3 0  
 Concrete  0 1  
 Other

4. Material between well casing and protective pipe:  
 Bentonite  3 0  
 Filter Sand

5. Annular space seal: a. Granular/Chipped Bentonite  3 3  
 b. \_\_\_\_\_ Lbs/gal mud weight . . . Bentonite-sand slurry  3 5  
 c. \_\_\_\_\_ Lbs/gal mud weight . . . . Bentonite slurry  3 1  
 d. \_\_\_\_\_ % Bentonite . . . . . Bentonite-cement grout  5 0  
 e. \_\_\_\_\_ 15.24 Ft<sup>3</sup> volume added for any of the above  
 f. How installed: Tremie  0 1  
 Tremie pumped  0 2  
 Gravity  0 8

6. Bentonite seal: a. Bentonite granules  3 3  
 b.  1/4 in.  3/8 in.  1/2 in. Bentonite chips  3 2  
 c. \_\_\_\_\_ Other

7. Fine sand material: Manufacturer, product name & mesh size  
 a. RW Sidley #5   
 b. Volume added 0.74 ft<sup>3</sup>

8. Filter pack material: Manufacturer, product name & mesh size  
 a. RW Sidley #7   
 b. Volume added 0.74 ft<sup>3</sup>

9. Well casing: Flush threaded PVC schedule 40  2 3  
 Flush threaded PVC schedule 80  2 4  
 Other

10. Screen material: PVC  
 a. Screen type: Factory cut  1 1  
 Continuous slot  0 1  
 Other   
 b. Manufacturer Mono Flex  
 c. Slot size: \_\_\_\_\_ 0.010 in.  
 d. Slotted length: \_\_\_\_\_ 5 ft.

11. Backfill material (below filter pack): None  1 4  
 Other

E. Bentonite seal, top \_\_\_\_\_ 868.82 ft. MSL or \_\_\_\_\_ 0 ft.

F. Fine sand, top \_\_\_\_\_ 827.82 ft. MSL or \_\_\_\_\_ 41 ft.

G. Filter pack, top \_\_\_\_\_ 825.82 ft. MSL or \_\_\_\_\_ 43 ft.

H. Screen joint, top \_\_\_\_\_ 823.82 ft. MSL or \_\_\_\_\_ 45 ft.

I. Well bottom \_\_\_\_\_ 818.82 ft. MSL or \_\_\_\_\_ 50 ft.

J. Filter pack, bottom \_\_\_\_\_ 818.82 ft. MSL or \_\_\_\_\_ 50 ft.

K. Borehole, bottom \_\_\_\_\_ 818.82 ft. MSL or \_\_\_\_\_ 50 ft.

L. Borehole, diameter \_\_\_\_\_ 8.25 in.

M. O.D. well casing \_\_\_\_\_ 2.38 in.

N. I.D. well casing \_\_\_\_\_ 2.01 in.

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature \_\_\_\_\_ Firm SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.



Facility/Project Name Former Burke WWTP Property	Local Grid Location of Well ft. <input type="checkbox"/> N. <input type="checkbox"/> S. <input type="checkbox"/> E. <input type="checkbox"/> W.	Well Name PZ-102
Facility License, Permit or Monitoring No.	Local Grid Origin (estimated: <input type="checkbox"/> ) or Well Location <input type="checkbox"/> Lat. " Long. " or " or "	Wis. Unique Well No. <u>WC247</u> DNR Well ID No. _____
Facility ID	St. Plane <u>406488</u> ft. N, <u>2141140</u> ft. E. S/C/N	Date Well Installed, <u>11</u> / <u>30</u> / <u>2020</u> m m d d y y y y
Type of Well Well Code <u>12</u> / <u>PZ</u>	Section Location of Waste/Source NW 1/4 of SE 1/4 of Sec. <u>31</u> , T. <u>08</u> N, R. <u>10</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W	Well Installed By: Name (first, last) and Firm <u>Tony Kapugi</u>
Distance from Waste/Source _____ ft.	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	Gov. Lot Number _____
Enf. Stds. Apply <input checked="" type="checkbox"/>		On-site Environmental Services, Inc.

A. Protective pipe, top elevation \_\_\_\_\_ ft. MSL  
B. Well casing, top elevation \_\_\_\_\_ 856.58 ft. MSL  
C. Land surface elevation \_\_\_\_\_ ft. MSL  
D. Surface seal, bottom \_\_\_\_\_ ft. MSL or \_\_\_\_\_ ft.

12. USCS classification of soil near screen:  
GP  GM  GC  GW  SW  SP   
SM  SC  ML  MH  CL  CH   
Bedrock

13. Sieve analysis performed?  Yes  No

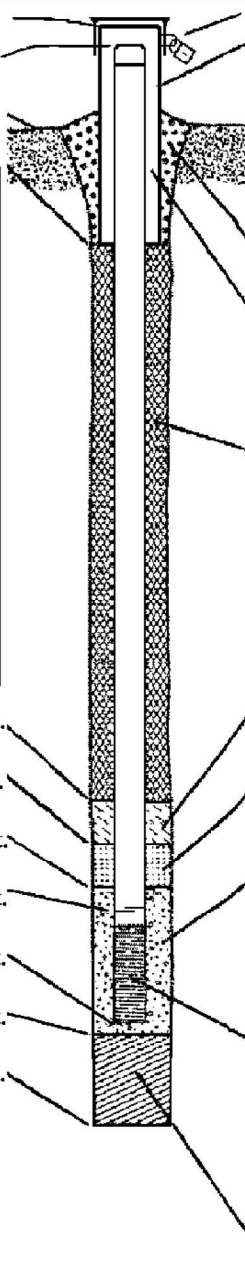
14. Drilling method used: Rotary  5 0  
Hollow Stem Auger  4 1  
Other

15. Drilling fluid used: Water  0 2 Air  0 1  
Drilling Mud  0 3 None  9 9

16. Drilling additives used?  Yes  No

Describe -- \_\_\_\_\_

17. Source of water (attach analysis, if required):  
\_\_\_\_\_



1. Cap and lock?  Yes  No

2. Protective cover pipe:  
a. Inside diameter: \_\_\_\_\_ 6 in.  
b. Length: \_\_\_\_\_ 5 ft.  
c. Material: Steel  0 4  
Other

d. Additional protection?  Yes  No  
If yes, describe: \_\_\_\_\_

3. Surface seal: Bentonite  3 0  
Concrete  0 1  
Other

4. Material between well casing and protective pipe:  
Bentonite  3 0  
Filter Sand

5. Annular space seal: a. Granular/Chipped Bentonite  3 3  
b. \_\_\_\_\_ Lbs/gal mud weight . . . Bentonite-sand slurry  3 5  
c. \_\_\_\_\_ Lbs/gal mud weight . . . . Bentonite slurry  3 1  
d. \_\_\_\_\_ % Bentonite . . . . . Bentonite-cement grout  5 0  
e. \_\_\_\_\_ 15.24 Ft<sup>3</sup> volume added for any of the above  
f. How installed: Tremie  0 1  
Tremie pumped  0 2  
Gravity  0 8

6. Bentonite seal: a. Bentonite granules  3 3  
b.  1/4 in.  3/8 in.  1/2 in. Bentonite chips  3 2  
c. \_\_\_\_\_ Other

7. Fine sand material: Manufacturer, product name & mesh size  
a. RW Sidley #5   
b. Volume added 0.74 ft<sup>3</sup>

8. Filter pack material: Manufacturer, product name & mesh size  
a. RW Sidley #7   
b. Volume added 0.74 ft<sup>3</sup>

9. Well casing: Flush threaded PVC schedule 40  2 3  
Flush threaded PVC schedule 80  2 4  
Other

10. Screen material: PVC  
a. Screen type: Factory cut  1 1  
Continuous slot  0 1  
Other

b. Manufacturer Mono Flex  
c. Slot size: 0.010 in.  
d. Slotted length: 5 ft.

11. Backfill material (below filter pack): None  1 4  
Other

E. Bentonite seal, top \_\_\_\_\_ 856.58 ft. MSL or \_\_\_\_\_ 0 ft.

F. Fine sand, top \_\_\_\_\_ 815.58 ft. MSL or \_\_\_\_\_ 41 ft.

G. Filter pack, top \_\_\_\_\_ 813.58 ft. MSL or \_\_\_\_\_ 43 ft.

H. Screen joint, top \_\_\_\_\_ 811.58 ft. MSL or \_\_\_\_\_ 45 ft.

I. Well bottom \_\_\_\_\_ 806.58 ft. MSL or \_\_\_\_\_ 50 ft.

J. Filter pack, bottom \_\_\_\_\_ 806.58 ft. MSL or \_\_\_\_\_ 50 ft.

K. Borehole, bottom \_\_\_\_\_ 806.58 ft. MSL or \_\_\_\_\_ 50 ft.

L. Borehole, diameter \_\_\_\_\_ 8.25 in.

M. O.D. well casing \_\_\_\_\_ 2.38 in.

N. I.D. well casing \_\_\_\_\_ 2.01 in.

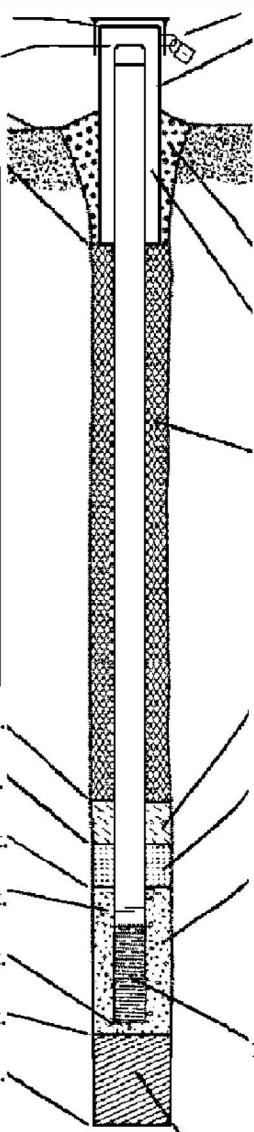
I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Jackie Rennsbohm Firm SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

Facility/Project Name Former Burke WWTP Property	Local Grid Location of Well ft. <input type="checkbox"/> N. <input type="checkbox"/> S. <input type="checkbox"/> E. <input type="checkbox"/> W.	Well Name PZ-103
Facility License, Permit or Monitoring No.	Local Grid Origin (estimated: <input type="checkbox"/> ) or Well Location <input type="checkbox"/> Lat. " Long. " or " or "	Wis. Unique Well No. <u>WC249</u> DNR Well ID No. _____
Facility ID	St. Plane <u>406142</u> ft. N, <u>2141613</u> ft. E. S/C/N	Date Well Installed, <u>12</u> / <u>1</u> / <u>2020</u> m m d d y y y y
Type of Well Well Code <u>12</u> / <u>PZ</u>	Section Location of Waste/Source NW 1/4 of SE 1/4 of Sec. <u>31</u> , T. <u>08</u> N, R. <u>10</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W	Well Installed By: Name (first, last) and Firm <u>Gage Kapugi</u>
Distance from Waste/Source _____ ft.	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	On-site Environmental Services, Inc.

A. Protective pipe, top elevation _____ ft. MSL	1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B. Well casing, top elevation <u>857.19</u> ft. MSL	2. Protective cover pipe: a. Inside diameter: _____ in. b. Length: _____ ft. c. Material: Steel <input checked="" type="checkbox"/> 04 Other <input type="checkbox"/> d. Additional protection? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, describe: _____
C. Land surface elevation _____ ft. MSL	3. Surface seal: Bentonite <input checked="" type="checkbox"/> 30 Concrete <input type="checkbox"/> 01 Other <input type="checkbox"/>
D. Surface seal, bottom _____ ft. MSL or _____ ft.	4. Material between well casing and protective pipe: Bentonite <input type="checkbox"/> 30 Filter Sand <input checked="" type="checkbox"/>
12. USCS classification of soil near screen: GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input checked="" type="checkbox"/> SM <input type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock <input type="checkbox"/>	5. Annular space seal: a. Granular/Chipped Bentonite <input checked="" type="checkbox"/> 33 b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/> 35 c. _____ Lbs/gal mud weight . . . . Bentonite slurry <input type="checkbox"/> 31 d. _____ % Bentonite . . . . . Bentonite-cement grout <input type="checkbox"/> 50 e. <u>15.99</u> Ft <sup>3</sup> volume added for any of the above f. How installed: Tremie <input type="checkbox"/> 01 Tremie pumped <input type="checkbox"/> 02 Gravity <input checked="" type="checkbox"/> 08
13. Sieve analysis performed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6. Bentonite seal: a. Bentonite granules <input type="checkbox"/> 33 b. <input type="checkbox"/> 1/4 in. <input checked="" type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input checked="" type="checkbox"/> 32 c. _____ Other <input type="checkbox"/>
14. Drilling method used: Rotary <input type="checkbox"/> 50 Hollow Stem Auger <input checked="" type="checkbox"/> 41 Other <input type="checkbox"/>	7. Fine sand material: Manufacturer, product name & mesh size a. _____ b. Volume added _____ ft <sup>3</sup>
15. Drilling fluid used: Water <input type="checkbox"/> 02 Air <input type="checkbox"/> 01 Drilling Mud <input type="checkbox"/> 03 None <input checked="" type="checkbox"/> 99	8. Filter pack material: Manufacturer, product name & mesh size a. _____ RW Sidley #7 <input checked="" type="checkbox"/> b. Volume added <u>0.74</u> ft <sup>3</sup>
16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/> 23 Flush threaded PVC schedule 80 <input type="checkbox"/> 24 Other <input type="checkbox"/>
17. Source of water (attach analysis, if required): _____ _____	10. Screen material: _____ PVC a. Screen type: Factory cut <input checked="" type="checkbox"/> 11 Continuous slot <input type="checkbox"/> 01 Other <input type="checkbox"/> b. Manufacturer <u>Mono Flex</u> c. Slot size: <u>0.010</u> in. d. Slotted length: _____ 5 ft.
E. Bentonite seal, top <u>857.19</u> ft. MSL or _____ ft.	11. Backfill material (below filter pack): None <input checked="" type="checkbox"/> 14 Other <input type="checkbox"/>
F. Fine sand, top _____ ft. MSL or _____ ft.	
G. Filter pack, top <u>817.19</u> ft. MSL or <u>40</u> ft.	
H. Screen joint, top <u>815.19</u> ft. MSL or <u>42</u> ft.	
I. Well bottom <u>810.19</u> ft. MSL or <u>47</u> ft.	
J. Filter pack, bottom <u>810.19</u> ft. MSL or <u>47</u> ft.	
K. Borehole, bottom <u>810.19</u> ft. MSL or <u>47</u> ft.	
L. Borehole, diameter <u>8.25</u> in.	
M. O.D. well casing <u>2.38</u> in.	
N. I.D. well casing <u>2.01</u> in.	



I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature <i>Jackie Rennobohm</i>	Firm SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718
--------------------------------------	--

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.



Route to: Watershed/Wastewater  Waste Management   
Remediation/Redevelopment  Other

Facility/Project Name Former Burke WWTP	County Name Dane	Well Name MW-101	
Facility License, Permit or Monitoring Number	County Code 13	Wis. Unique Well Number WC244	DNR Well ID Number

1. Can this well be purged dry?  Yes  No
2. Well development method
- surged with bailer and bailed  4 1
  - surged with ~~bailer~~<sup>pump</sup> and pumped  6 1
  - surged with block and bailed  4 2
  - surged with block and pumped  6 2
  - surged with block, bailed and pumped  7 0
  - compressed air  2 0
  - bailed only  1 0
  - pumped only  5 1
  - pumped slowly  5 0
  - Other  \_\_\_\_\_
3. Time spent developing well \_\_\_\_\_ 21 min.
4. Depth of well (from top of well casing) \_\_\_\_\_ 26.9 ft.
5. Inside diameter of well \_\_\_\_\_ 2.01 in.
6. Volume of water in filter pack and well casing \_\_\_\_\_ 3.2 gal.
7. Volume of water removed from well \_\_\_\_\_ 15.0 gal.
8. Volume of water added (if any) \_\_\_\_\_ 0.0 gal.
9. Source of water added \_\_\_\_\_ NA
10. Analysis performed on water added?  Yes  No  
(If yes, attach results)

- |  |                           |                          |
|--|---------------------------|--------------------------|
|  | <u>Before Development</u> | <u>After Development</u> |
|--|---------------------------|--------------------------|
11. Depth to Water (from top of well casing)  
a. \_\_\_\_\_ 20 \_\_\_\_\_ 98 ft. \_\_\_\_\_ 26 \_\_\_\_\_ 90 ft.
- Date  
b. \_\_\_\_\_ 12 / \_\_\_\_\_ 01 / \_\_\_\_\_ 2020 \_\_\_\_\_ 12 / \_\_\_\_\_ 01 / \_\_\_\_\_ 2020  
m m d d y y y y m m d d y y y y
- Time  
c. \_\_\_\_\_ 12 : 14 \_\_\_\_\_ a.m. \_\_\_\_\_ 12 : 35 \_\_\_\_\_ a.m.  
\_\_\_\_\_ p.m.  \_\_\_\_\_ p.m.
12. Sediment in well bottom \_\_\_\_\_ . \_\_\_\_\_ inches \_\_\_\_\_ . \_\_\_\_\_ inches
13. Water clarity  
Clear  1 0      Clear  2 0  
Turbid  1 5      Turbid  2 5  
(Describe)      (Describe)
- light brown
- Fill in if drilling fluids were used and well is at solid waste facility:
14. Total suspended \_\_\_\_\_ . \_\_\_\_\_ mg/l \_\_\_\_\_ . \_\_\_\_\_ mg/l  
solids
15. COD \_\_\_\_\_ . \_\_\_\_\_ mg/l \_\_\_\_\_ . \_\_\_\_\_ mg/l

16. Well developed by: Name (first, last) and Firm  
First Name: Ryan      Last Name: Matzuk  
Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

17. Additional comments on development:  
Purged and surged 15-gallons, well went dry.

Name and Address of Facility Contact /Owner/Responsible Party  
First Name: Jeff      Last Name: Jaeckles  
Facility/Firm: Madison Gas & Electric  
Street: 120 S. Baldwin Street  
City/State/Zip: Madison, WI 53703

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: \_\_\_\_\_  
Print Name: Ryan Matzuk  
Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

NOTE: See instructions for more information including a list of county codes and well type codes.

Route to: Watershed/Wastewater  Waste Management   
Remediation/Redevelopment  Other

Facility/Project Name Former Burke WWTP	County Name Dane	Well Name MW-102	
Facility License, Permit or Monitoring Number	County Code 13	Wis. Unique Well Number WC246	DNR Well ID Number

1. Can this well be purged dry?  Yes  No

2. Well development method
- surged with bailer and bailed  4 1
  - surged with ~~bailer~~ pump and pumped  6 1
  - surged with block and bailed  4 2
  - surged with block and pumped  6 2
  - surged with block, bailed and pumped  7 0
  - compressed air  2 0
  - bailed only  1 0
  - pumped only  5 1
  - pumped slowly  5 0
  - Other  \_\_\_\_\_

3. Time spent developing well \_\_\_\_\_ 65 min.

4. Depth of well (from top of well casing) \_\_\_\_\_ 17.97 ft.

5. Inside diameter of well \_\_\_\_\_ 2.01 in.

6. Volume of water in filter pack and well casing \_\_\_\_\_ 5.0 gal.

7. Volume of water removed from well \_\_\_\_\_ 98.0 gal.

8. Volume of water added (if any) \_\_\_\_\_ 0.0 gal.

9. Source of water added \_\_\_\_\_ NA

10. Analysis performed on water added?  Yes  No  
(If yes, attach results)

17. Additional comments on development:

Surged and purged for 30 min - removed 45-gallons  
Pump rate 1.5g/min  
Pumped from 09:05 - 09:40, removed 52.5-gallons

11. Depth to Water Before Development After Development

(from top of well casing) a. \_\_\_\_\_ 8.53 ft. \_\_\_\_\_ 8.30 ft.

Date b. 12 / 1 / 2020 12 / 1 / 2020  
m m d d y y y y m m d d y y y y

Time c. 08 : 35  a.m.  p.m. 09 : 40  a.m.  p.m.

12. Sediment in well bottom \_\_\_\_\_ inches \_\_\_\_\_ inches

13. Water clarity Clear  1 0 Clear  2 0  
Turbid  1 5 Turbid  2 5  
(Describe) (Describe)

tan, sandy

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended \_\_\_\_\_ mg/l \_\_\_\_\_ mg/l  
solids

15. COD \_\_\_\_\_ mg/l \_\_\_\_\_ mg/l

16. Well developed by: Name (first, last) and Firm

First Name: Jackie Last Name: Rennebohm

Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

Name and Address of Facility Contact /Owner/Responsible Party

First Name: Jeff Last Name: Jaekles

Facility/Firm: Madison Gas & Electric

Street: 120 S. Baldwin Street

City/State/Zip: Madison, WI 53703

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: Jackie Rennebohm

Print Name: Jackie Rennebohm

Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

Route to: Watershed/Wastewater  Waste Management   
Remediation/Redevelopment  Other

Facility/Project Name Former Burke WWTP	County Name Dane	Well Name MW-103	
Facility License, Permit or Monitoring Number	County Code 13	Wis. Unique Well Number WC248	DNR Well ID Number

1. Can this well be purged dry?  Yes  No

2. Well development method

surged with bailer and bailed	<input type="checkbox"/>	4 1
surged with <del>bailer</del> pump and pumped	<input checked="" type="checkbox"/>	6 1
surged with block and bailed	<input type="checkbox"/>	4 2
surged with block and pumped	<input type="checkbox"/>	6 2
surged with block, bailed and pumped	<input type="checkbox"/>	7 0
compressed air	<input type="checkbox"/>	2 0
bailed only	<input type="checkbox"/>	1 0
pumped only	<input type="checkbox"/>	5 1
pumped slowly	<input type="checkbox"/>	5 0
Other _____	<input type="checkbox"/>	

3. Time spent developing well \_\_\_\_\_ 60 min.

4. Depth of well (from top of well casing) \_\_\_\_\_ 18.1 ft.

5. Inside diameter of well \_\_\_\_\_ 2.01 in.

6. Volume of water in filter pack and well casing \_\_\_\_\_ 4.8 gal.

7. Volume of water removed from well \_\_\_\_\_ 90.0 gal.

8. Volume of water added (if any) \_\_\_\_\_ 0.0 gal.

9. Source of water added \_\_\_\_\_ NA

---

10. Analysis performed on water added?  Yes  No  
(If yes, attach results)

	<u>Before Development</u>	<u>After Development</u>
--	---------------------------	--------------------------

11. Depth to Water (from top of well casing) a. \_\_\_\_\_ 9.05 ft. \_\_\_\_\_ 10.30 ft.

Date b. 12 / 1 / 2020 12 / 1 / 2020  
m m d d y y y y m m d d y y y y

Time c. 08:00  a.m. 09:00  a.m.  
 p.m.  p.m.

12. Sediment in well bottom \_\_\_\_\_ inches \_\_\_\_\_ inches

13. Water clarity Clear  1 0 Clear  2 0  
Turbid  1 5 Turbid  2 5  
(Describe) (Describe)

thick, sandy

---

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended \_\_\_\_\_ mg/l \_\_\_\_\_ mg/l  
solids

15. COD \_\_\_\_\_ mg/l \_\_\_\_\_ mg/l

16. Well developed by: Name (first, last) and Firm

First Name: Jackie Last Name: Rennebohm

Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

17. Additional comments on development:

Surged and purged for 30 min - removed 45-gallons  
Pump rate 1.5g/min  
Pumped from 08:30 - 09:00, removed 45-gallons

Name and Address of Facility Contact /Owner/Responsible Party

First Name: Jeff Last Name: Jaekles

Facility/Firm: Madison Gas & Electric

Street: 120 S. Baldwin Street

City/State/Zip: Madison, WI 53703

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: Jackie Rennebohm

Print Name: Jackie Rennebohm

Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

NOTE: See instructions for more information including a list of county codes and well type codes.



Route to: Watershed/Wastewater  Waste Management   
Remediation/Redevelopment  Other

Facility/Project Name Former Burke WWTP	County Name Dane	Well Name PZ-101	
Facility License, Permit or Monitoring Number	County Code 13	Wis. Unique Well Number WC245	DNR Well ID Number

1. Can this well be purged dry?  Yes  No

2. Well development method

surged with bailer and bailed	<input type="checkbox"/>	4 1
surged with <del>bailer</del> pump and pumped	<input checked="" type="checkbox"/>	6 1
surged with block and bailed	<input type="checkbox"/>	4 2
surged with block and pumped	<input type="checkbox"/>	6 2
surged with block, bailed and pumped	<input type="checkbox"/>	7 0
compressed air	<input type="checkbox"/>	2 0
bailed only	<input type="checkbox"/>	1 0
pumped only	<input type="checkbox"/>	5 1
pumped slowly	<input type="checkbox"/>	5 0
Other _____	<input type="checkbox"/>	___

3. Time spent developing well \_\_\_\_\_ 26 min.

4. Depth of well (from top of well casing) \_\_\_\_\_ 52.6 ft.

5. Inside diameter of well \_\_\_\_\_ 2.01 in.

6. Volume of water in filter pack and well casing \_\_\_\_\_ 7.8 gal.

7. Volume of water removed from well \_\_\_\_\_ 38.0 gal.

8. Volume of water added (if any) \_\_\_\_\_ 0.0 gal.

9. Source of water added \_\_\_\_\_ NA

10. Analysis performed on water added?  Yes  No  
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. _____ 20 _____ 34 ft.	_____ . _____ ft.
Date	b. <u>12</u> / <u>01</u> / <u>2020</u>	<u>12</u> / <u>01</u> / <u>2020</u>
	m m d d y y y y	m m d d y y y y
Time	c. _____ 1 : 57 <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.	_____ 2 : 23 <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.
12. Sediment in well bottom	_____ . _____ inches	_____ . _____ inches
13. Water clarity	Clear <input type="checkbox"/> 1 0 Turbid <input checked="" type="checkbox"/> 1 5 (Describe) light brown	Clear <input checked="" type="checkbox"/> 2 0 Turbid <input type="checkbox"/> 2 5 (Describe)
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	_____ . _____ mg/l	_____ . _____ mg/l
15. COD	_____ . _____ mg/l	_____ . _____ mg/l

16. Well developed by: Name (first, last) and Firm

First Name: Ryan Last Name: Matzuk

Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

17. Additional comments on development:  
Purged until water went clear after 38-gallons removed.

Name and Address of Facility Contact/Owner/Responsible Party


First Name: Jeff Last Name: Jaeckles

Facility/Firm: Madison Gas & Electric

Street: 120 S. Baldwin Street

City/State/Zip: Madison, WI 53703

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: 

Print Name: Ryan Matzuk

Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

NOTE: See instructions for more information including a list of county codes and well type codes.

Route to: Watershed/Wastewater  Waste Management   
Remediation/Redevelopment  Other

Facility/Project Name Former Burke WWTP	County Name Dane	Well Name PZ-102	
Facility License, Permit or Monitoring Number	County Code 13	Wis. Unique Well Number WC247	DNR Well ID Number

1. Can this well be purged dry?  Yes  No

2. Well development method

surged with bailer and bailed	<input type="checkbox"/>	4 1
surged with <sup>pump</sup> bailer and pumped	<input checked="" type="checkbox"/>	6 1
surged with block and bailed	<input type="checkbox"/>	4 2
surged with block and pumped	<input type="checkbox"/>	6 2
surged with block, bailed and pumped	<input type="checkbox"/>	7 0
compressed air	<input type="checkbox"/>	2 0
bailed only	<input type="checkbox"/>	1 0
pumped only	<input type="checkbox"/>	5 1
pumped slowly	<input type="checkbox"/>	5 0
Other _____	<input type="checkbox"/>	___

3. Time spent developing well \_\_\_\_\_ 55 min.

4. Depth of well (from top of well casing) \_\_\_\_\_ 50.60 ft.

5. Inside diameter of well \_\_\_\_\_ 2.01 in.

6. Volume of water in filter pack and well casing \_\_\_\_\_ 7.9 gal.

7. Volume of water removed from well \_\_\_\_\_ 36.0 gal.

8. Volume of water added (if any) \_\_\_\_\_ 0.0 gal.

9. Source of water added \_\_\_\_\_ NA

10. Analysis performed on water added?  Yes  No  
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. _____ 18 . _____ 40 ft.	_____ 50 . _____ 0 ft.
Date	b. <u>11</u> / <u>30</u> / <u>2020</u>	<u>11</u> / <u>30</u> / <u>2020</u>
Time	c. _____ 14 : 10 <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.	_____ 15 : 05 <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.
12. Sediment in well bottom	_____ . _____ inches	_____ . _____ inches
13. Water clarity	Clear <input type="checkbox"/> 1 0 Turbid <input checked="" type="checkbox"/> 1 5 (Describe) _____	Clear <input checked="" type="checkbox"/> 2 0 Turbid <input type="checkbox"/> 2 5 (Describe) _____
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	_____ . _____ mg/l	_____ . _____ mg/l
15. COD	_____ . _____ mg/l	_____ . _____ mg/l

16. Well developed by: Name (first, last) and Firm

First Name: Jackie Last Name: Rennebohm

Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

17. Additional comments on development:

Surged and purged for 10 min - well went dry. Quick recharge, cleared quickly.  
Purged and surged for 10 min - well went dry and clear  
Pump rate is 1.5g/min  
Purged and surged for 4 min - well went dry

Name and Address of Facility Contact /Owner/Responsible Party

First Name: Jeff Last Name: Jaeckles

Facility/Firm: Madison Gas & Electric

Street: 120 S. Baldwin Street

City/State/Zip: Madison, WI 53703

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: Jackie Rennebohm

Print Name: Jackie Rennebohm

Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

NOTE: See instructions for more information including a list of county codes and well type codes.

Route to: Watershed/Wastewater  Waste Management   
Remediation/Redevelopment  Other

Facility/Project Name Former Burke WWTP	County Name Dane	Well Name PZ-103	
Facility License, Permit or Monitoring Number	County Code 13	Wis. Unique Well Number WC249	DNR Well ID Number

1. Can this well be purged dry?  Yes  No
2. Well development method
- surged with bailer and bailed  4 1
  - surged with ~~bailer~~ pump and pumped  6 1
  - surged with block and bailed  4 2
  - surged with block and pumped  6 2
  - surged with block, bailed and pumped  7 0
  - compressed air  2 0
  - bailed only  1 0
  - pumped only  5 1
  - pumped slowly  5 0
  - Other  \_\_\_\_\_
3. Time spent developing well \_\_\_\_\_ 72 min.
4. Depth of well (from top of well casing) \_\_\_\_\_ 52.03 ft.
5. Inside diameter of well \_\_\_\_\_ 2.01 in.
6. Volume of water in filter pack and well casing \_\_\_\_\_ 9.6 gal.
7. Volume of water removed from well \_\_\_\_\_ 108.0 gal.
8. Volume of water added (if any) \_\_\_\_\_ 0.0 gal.
9. Source of water added \_\_\_\_\_ NA
10. Analysis performed on water added?  Yes  No  
(If yes, attach results)

- |  |                           |                          |
|--|---------------------------|--------------------------|
|  | <u>Before Development</u> | <u>After Development</u> |
|--|---------------------------|--------------------------|
11. Depth to Water (from top of well casing)  
a. \_\_\_\_\_ 9.13 ft. \_\_\_\_\_ 9.25 ft.
- Date  
b. 12 / 1 / 2020    12 / 1 / 2020  
m m d d y y y y    m m d d y y y y
- Time  
c. \_\_\_\_\_ 12:08  a.m.  p.m.    \_\_\_\_\_ 13:20  a.m.  p.m.
12. Sediment in well bottom \_\_\_\_\_ inches    \_\_\_\_\_ inches
13. Water clarity  
Clear  1 0    Clear  2 0  
Turbid  1 5    Turbid  2 5  
(Describe)    (Describe)
- light gray, silty
- Fill in if drilling fluids were used and well is at solid waste facility:
14. Total suspended solids \_\_\_\_\_ mg/l    \_\_\_\_\_ mg/l
15. COD \_\_\_\_\_ mg/l    \_\_\_\_\_ mg/l

16. Well developed by: Name (first, last) and Firm  
 First Name: Jackie    Last Name: Rennebohm  
 Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

17. Additional comments on development:  
 Surged and purged for 30 min - removed 45-gallons  
 Pump rate 1.5g/min  
 Pumped from 12:38 to 13:20 - removed 63-gallons


Name and Address of Facility Contact/Owner/Responsible Party  
 First Name: Jeff    Last Name: Jaeckles  
 Facility/Firm: Madison Gas & Electric  
 Street: 120 S. Baldwin Street  
 City/State/Zip: Madison, WI 53703

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: Jackie Rennebohm  
 Print Name: Jackie Rennebohm  
 Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

NOTE: See instructions for more information including a list of county codes and well type codes.





Appendix B  
Groundwater Sampling Forms

**Groundwater Sampling Log**

Project No. 25218175.00 Site Burke  
 Well No. PZ-101 Date 1/20/2021  
 Sampling Personnel AU  
 Safety Issues Noted \_\_\_\_\_  
 Total Well Depth \_\_\_\_\_ Sampling Device Peristaltic Pump  
 Depth to Water 20.59' Other Info. \_\_\_\_\_  
 Well Volume \_\_\_\_\_ Pumping Rate 250 ml/min  
 Color/Odor Clear/none Pump Start/Stop Time 900 / 1040  
 Temperature: 8° Wind Direction: N E (S) W Precip: (None) Light Heavy Sky: (Cloudy) Sunny (Partly)

Time	Depth to Water (ft)	Temp. (deg. C)	pH (standard units)	DO (mg/L)	Cond. (µs/cm)	ORP (mV)	Turbidity (NTU)	Notes
920	20.59'	8.9	7.07	5.53	1420	103.3	1.52	
925		8.9	7.06	5.36	1470	95.0	1.33	
930		8.6	7.07	4.96	1466	89.4	0.00	
935		8.2	7.06	4.96	1467	86.3	0.00	
940		7.6	7.07	5.60	1467	85.5	0.00	
945		7.5	7.07	5.65	1467	85.2	0.50	
950		7.2	7.06	6.04	1469	85.2	0.00	
955		6.6	7.07	6.51	1468	86.0	0.45	
1000		6.4	7.07	6.63	1473	86.4	0.00	
1005		6.0	7.07	6.89	1470	86.9	0.00	
1015		6.1	7.07	5.51	1468	87.4	0.00	
1020		8.4	7.06	4.95	1471	86.4	2.07	Pump froze and failed at 1010, had to adjust to get working
Stability Requirements - last 3 consecutive readings must be within:		+/- 3%	+/- 0.1 unit	+/- 10% or 3 readings <0.5 mg/L	+/- 3%	+/- 10mV	+/- 10% or 3 readings <5 NTU	

Sample Types Collected (circle): Metals (non-mercury) Mercury Anions (Cl-, F-, SO4<sup>2-</sup>) TDS Radium pH Other (note below) \_\_\_\_\_  
 Sample Date /Time: \_\_\_\_\_  
 Additional Notes: \_\_\_\_\_

Volume in 1/4" I.D. Tubing = 10 mL/ft      Volume in a 2-inch well = 617 ml/ft,      Vol<sub>cylinder</sub> = πr<sup>2</sup>h

S:\1\_Scientist Log Forms\LOG FORMS\Grounwater Sampling log (Updated Format).docx



## Groundwater Sampling Log

**Project No.** 25218175.00      **Site** Burke  
**Well No.** PZ-10A      **Date** 1/20/2021  
**Sampling Personnel** AW  
**Safety Issues Noted** \_\_\_\_\_  
**Total Well Depth** \_\_\_\_\_      **Sampling Device** Peristaltic Pump  
**Depth to Water** 20.59      **Other Info.** \_\_\_\_\_  
**Well Volume** \_\_\_\_\_      **Pumping Rate** 250 ml/min  
**Color/Odor** Clear/none      **Pump Start/Stop Time** 900 / 1040  
**Temperature:** 8'      **Wind** \_\_\_\_\_  
**Direction:** N E  W      **Precip:**  None    Light    Heavy    **Sky:**  Cloudy     Sunny     Partly

Time	Depth to Water (ft)	Temp. (deg. C)	pH (standard units)	DO (mg/L)	Cond. (µs/cm)	ORP (mV)	Turbidity (NTU)	Notes
1025	20.59'	8.4	7.06	5.30	1469	87.2	2.06	
1030		8.1	7.06	5.94	1471	87.6	2.08	sampled
<b>Stability Requirements - last 3 consecutive readings must be within:</b>		+/- 3%	+/- 0.1 unit	+/- 10% or 3 readings <0.5 mg/L	+/- 3%	+/- 10mV	+/- 10% or 3 readings <5 NTU	

**Sample Types Collected (circle):**    Metals (non-mercury)    Mercury    Anions (Cl-, F-, SO4<sup>2-</sup>)    TDS    Radium    pH    Other (note below)

**Sample Date /Time:** \_\_\_\_\_

**Additional Notes:** \_\_\_\_\_

Volume in ¼" I.D. Tubing = 10 mL/ft      Volume in a 2-inch well = 617 ml/ft,      Vol<sub>cylinder</sub> = πr<sup>2</sup>h

S:\1\_Scientist Log Forms\LOG FORMS\Grounwater Sampling log (Updated Format).docx



## Groundwater Sampling Log

Project No. 25218175.00 Site Burke  
 Well No. MW-101 Date 1/20/2021  
 Sampling Personnel AW  
 Safety Issues Noted \_\_\_\_\_  
 Total Well Depth \_\_\_\_\_ Sampling Device Peristaltic Pump  
 Depth to Water 20.84' Other Info. \_\_\_\_\_  
 Well Volume \_\_\_\_\_ Pumping Rate 200 mL/min  
 Color/Odor clear/none Pump Start/Stop Time ~~1030~~ 1050 / 1210  
 Temperature: 8° Wind Direction: N E (S) W Precip: (None) Light Heavy Sky: (Cloudy) Sunny (Partly)

*Pump kept freezing*

Time	Depth to Water (ft)	Temp. (deg. C)	pH (standard units)	DO (mg/L)	Cond. (µs/cm)	ORP (mV)	Turbidity (NTU)	Notes
1105	20.84'	8.3	7.04	2.36	3420	105.6	115.3	
1110		8.1	7.04	1.85	3424	99.7	85.73	
1115		8.1	7.04	1.74	3432	96.0	65.73	
1120		8.6	7.05	1.53	3420	91.7	43.02	<i>Adjusted pump due to freezing</i>
1125		8.4	6.82	1.50	3434	89.3	20.00	
1130		8.5	6.87	1.44	3411	86.2	15.33	
1135		8.6	6.87	1.40	3416	84.5	11.74	
1140		8.4	6.86	1.37	3383	82.3	8.97	
1145		8.7	6.86	1.37	3387	80.2	7.02	
1150		8.7	6.86	1.36	3373	79.2	5.92	
1155		8.5	6.87	1.37	3383	78.0	4.43	
1200		8.4	6.87	1.36	3387	76.9	2.83	<i>Sampled</i>
Stability Requirements - last 3 consecutive readings must be within:		+/- 3%	+/- 0.1 unit	+/- 10% or 3 readings <0.5 mg/L	+/- 3%	+/- 10mV	+/- 10% or 3 readings <5 NTU	

**Sample Types Collected (circle):** Metals (non-mercury) Mercury Anions (Cl-, F-, SO4<sup>2-</sup>) TDS Radium pH Other (note below)  
**Sample Date /Time:** \_\_\_\_\_  
**Additional Notes:** \_\_\_\_\_

Volume in ¼" I.D. Tubing = 10 mL/ft      Volume in a 2-inch well = 617 ml/ft,      Vol<sub>cylinder</sub> = πr<sup>2</sup>h

S:\1\_Scientist Log Forms\LOG FORMS\Grounwater Sampling log (Updated Format).docx

## Groundwater Sampling Log

Project No. 25218175.00 Site Burke  
 Well No. PZ-102 Date 1/20/2021  
 Sampling Personnel AW  
 Safety Issues Noted \_\_\_\_\_  
 Total Well Depth \_\_\_\_\_ Sampling Device Peristaltic Pump  
 Depth to Water 8.67' Other Info. \_\_\_\_\_  
 Well Volume \_\_\_\_\_ Pumping Rate 400 mL/min  
 Color/Odor Clear/none Pump Start/Stop Time 1225 / 1326  
 Temperature: 17° Wind \_\_\_\_\_ Direction: N E  W Precip:  None Light Heavy Sky:  Cloudy  Sunny  Partly

Time	Depth to Water (ft)	Temp. (deg. C)	pH (standard units)	DO (mg/L)	Cond. (µs/cm)	ORP (mV)	Turbidity (NTU)	Notes
1235	8.67'	9.7	7.08	1.09	2042	62.7	3.65	
1240		9.8	7.07	0.68	2040	64.7	4.83	
1245		9.8	7.07	0.63	2043	65.9	4.38	
1250		9.8	7.05	0.50	2082	32.4	4.29	
1255		9.9	7.05	0.38	2086	-2.9	3.34	
1300		9.9	7.06	0.33	2075	-26.9	2.91	
1305		9.9	7.06	0.39	2076	-40.1	2.56	
1310		10.0	7.04	0.32	2073	-46.7	3.38	
1315		9.9	7.04	0.30	2071	-50.4	3.04	
1320		10.0	7.05	0.34	2072	-54.8	3.33	
								<i>Sampled Also took field Duplicate.</i>
Stability Requirements - last 3 consecutive readings must be within:		+/- 3%	+/- 0.1 unit	+/- 10% or 3 readings <0.5 mg/L	+/- 3%	+/- 10mV	+/- 10% or 3 readings <5 NTU	

**Sample Types Collected (circle):** Metals (non-mercury) Mercury Anions (Cl-, F-, SO<sub>4</sub><sup>2-</sup>) TDS Radium pH Other (note below) \_\_\_\_\_  
**Sample Date /Time:** \_\_\_\_\_  
**Additional Notes:** \_\_\_\_\_

Volume in ¼" I.D. Tubing = 10 mL/ft      Volume in a 2-inch well = 617 ml/ft,      Vol<sub>cylinder</sub> = πr<sup>2</sup>h

S:\1\_Scientist Log Forms\LOG FORMS\Grounwater Sampling log (Updated Format).docx



## Groundwater Sampling Log

**Project No.** 252 18175 .00      **Site** Burke  
**Well No.** MW-102      **Date** 1/20/2021  
**Sampling Personnel** AW  
**Safety Issues Noted** \_\_\_\_\_  
**Total Well Depth** \_\_\_\_\_      **Sampling Device** Peristaltic Pump  
**Depth to Water** 8.57'      **Other Info.** \_\_\_\_\_  
**Well Volume** \_\_\_\_\_      **Pumping Rate** 300 mL/min  
**Color/Odor** clear/none      **Pump Start/Stop Time** 1320 / 1400  
**Temperature:** 17'      **Wind** \_\_\_\_\_  
**Direction:** N E  W      **Precip:**  None    Light    Heavy    **Sky:**  Cloudy    Sunny     Partly

Time	Depth to Water (ft)	Temp. (deg. C)	pH (standard units)	DO (mg/L)	Cond. (µs/cm)	ORP (mV)	Turbidity (NTU)	Notes
1335	8.57'	8.3	6.80	0.92	1618	30.3	6.10	
1340		8.3	6.78	0.78	1616	34.0	4.61	
1345		8.4	6.78	0.74	1610	36.6	4.58	
1350		8.4	6.78	0.74	1606	39.3	3.96	Sampled
<b>Stability Requirements - last 3 consecutive readings must be within:</b>		+/- 3%	+/- 0.1 unit	+/- 10% or 3 readings <0.5 mg/L	+/- 3%	+/- 10mV	+/- 10% or 3 readings <5 NTU	

**Sample Types Collected (circle):**    Metals (non-mercury)    Mercury    Anions (Cl-, F-, SO4<sup>2-</sup>)    TDS    Radium    pH    Other (note below)

**Sample Date /Time:** \_\_\_\_\_

**Additional Notes:** \_\_\_\_\_

Volume in 1/4" I.D. Tubing = 10 mL/ft      Volume in a 2-inch well = 617 ml/ft,      Vol<sub>cylinder</sub> = πr<sup>2</sup>h

S:\1\_Scientist Log Forms\LOG FORMS\Grounwater Sampling log (Updated Format).docx

## Groundwater Sampling Log

**Project No.** 25218175.00 **Site** Burke  
**Well No.** PZ-103 **Date** 1/20/2021  
**Sampling Personnel** AW  
**Safety Issues Noted** \_\_\_\_\_  
**Total Well Depth** \_\_\_\_\_ **Sampling Device** Peristaltic Pump  
**Depth to Water** 9.37' **Other Info.** \_\_\_\_\_  
**Well Volume** \_\_\_\_\_ **Pumping Rate** 400 ml/min  
**Color/Odor** Clear/none **Pump Start/Stop Time** 1420 / 1520  
**Temperature:** 19° **Wind** \_\_\_\_\_ **Direction:**  E  S  W **Precip:**  None  Light  Heavy **Sky:**  Cloudy  Sunny  Partly

Time	Depth to Water (ft)	Temp. (deg. C)	pH (standard units)	DO (mg/L)	Cond. (µs/cm)	ORP (mV)	Turbidity (NTU)	Notes
1435	9.37'	9.7	7.02	0.31	1679	12.1	3.24	
1440		9.6	7.02	0.42	1687	-9.3	2.90	
1445		9.8	7.02	0.38	1706	-35.4	1.70	
1450		9.8	7.02	0.14	1704	-47.2	2.75	
1455		9.8	7.02	0.14	1705	-58.6	1.32	
1500		9.7	7.03	0.26	1702	-66.9	0.00	
1505		9.8	7.02	0.13	1700	-69.8	1.83	
1510		9.8	7.02	0.12	1704	-72.2	0.00	Sampled
<b>Stability Requirements</b> - last 3 consecutive readings must be within:		+/- 3%	+/- 0.1 unit	+/- 10% or 3 readings <0.5 mg/L	+/- 3%	+/- 10mV	+/- 10% or 3 readings <5 NTU	

**Sample Types Collected (circle):**  Metals (non-mercury)  Mercury  Anions (Cl-, F-, SO4<sup>2-</sup>)  TDS  Radium  pH  Other (note below) \_\_\_\_\_  
**Sample Date /Time:** \_\_\_\_\_  
**Additional Notes:** \_\_\_\_\_

Volume in 1/4" I.D. Tubing = 10 mL/ft      Volume in a 2-inch well = 617 ml/ft,      Vol<sub>cylinder</sub> = πr<sup>2</sup>h

S:\1\_Scientist Log Forms\LOG FORMS\Grounwater Sampling log (Updated Format).docx















## Groundwater Sampling Log

Project No. 25218175.00 Site Barke  
 Well No. TW-4 Date 3/30/2021  
 Sampling Personnel Adam Watson  
 Safety Issues Noted \_\_\_\_\_  
 Total Well Depth \_\_\_\_\_ Sampling Device Peristaltic pump  
 Depth to Water 18.17' (same as sampling) Other Info. \_\_\_\_\_  
 Well Volume \_\_\_\_\_ Pumping Rate 325 ml/min  
 Color/Odor Clear/none Pump Start/Stop Time 949 / 1025  
 Temperature: 53° Wind Direction: N E S W Precip: None Light Heavy Sky: Cloudy Sunny Partly

Time	Depth to Water (ft)	Temp. (deg. C)	pH (standard units)	DO (mg/L)	Cond. (µs/cm)	ORP (mV)	Turbidity (NTU)	Notes
955	18.53'	10.3	6.37	0.89	1410	-13.0	3.63	
1000	18.53'	10.3	6.48	0.45	1396	-40.7	4.02	
1005	18.53'	10.3	6.54	0.27	1383	-57.2	3.17	
1010	18.53'	10.3	6.56	0.20	1374	-64.1	3.34	
1015	18.53'	10.2	6.56	0.17	1366	-68.3	2.02	
1020	18.53'	10.3	6.56	0.13	1361	-71.1	1.82	Sampled
Stability Requirements - last 3 consecutive readings must be within:		+/- 3%	+/- 0.1 unit	+/- 10% or 3 readings <0.5 mg/L	+/- 3%	+/- 10mV	+/- 10% or 3 readings <5 NTU	

**Sample Types Collected (circle):** Metals (non-mercury) Mercury Anions (Cl-, F-, SO4<sup>2-</sup>) TDS Radium pH Other (note below)

Sample Date /Time: \_\_\_\_\_

Additional Notes: 1 bottle sampled

Volume in 1/4" I.D. Tubing = 10 mL/ft      Volume in a 2-inch well = 617 ml/ft,      Vol<sub>cylinder</sub> = πr<sup>2</sup>h

S:\1\_Scientist Log Forms\LOG FORMS\Grounwater Sampling log (Updated Format).docx



## Groundwater Sampling Log

Project No. 25218175.00 Site Burke  
 Well No. TG-2 Date 3/29/2021  
 Sampling Personnel Adam Watson  
 Safety Issues Noted \_\_\_\_\_  
 Total Well Depth \_\_\_\_\_ Sampling Device Peristaltic Pump  
 Depth to Water 12.14' Other Info. \_\_\_\_\_  
 Well Volume OK Pumping Rate 250 mL/min  
 Color/Odor clear/none Pump Start/Stop Time 1018 / ~~1103~~  
 Temperature: 45° Wind Direction: N E S W Precip: None Light Heavy Sky: Cloudy Sunny Partly

Time	Depth to Water (ft)	Temp. (deg. C)	pH (standard units)	DO (mg/L)	Cond. (µs/cm)	ORP (mV)	Turbidity (NTU)	Notes
1030	12.34'	9.8	7.18	0.44	1578	85.0	10.27	
1035	12.34'	9.8	7.10	0.28	1592	86.8	7.60	
1040	12.34'	9.9	7.08	0.20	1601	88.3	6.88	
1045	12.34'	9.9	7.08	0.19	1620	89.2	<del>6.88</del> <sup>4.30</sup>	
1050	12.34'	10.0	7.08	0.15	1625	89.7	3.90	
1055	12.34'	10.0	7.08	0.12	1640	89.5	3.00	Sampled
Stability Requirements - last 3 consecutive readings must be within:		+/- 3%	+/- 0.1 unit	+/- 10% or 3 readings <0.5 mg/L	+/- 3%	+/- 10mV	+/- 10% or 3 readings <5 NTU	

**Sample Types Collected (circle):** Metals (non-mercury) Mercury Anions (Cl-, F-, SO<sub>4</sub><sup>2-</sup>) TDS Radium pH Other (note below)

**Sample Date /Time:** \_\_\_\_\_

**Additional Notes:** 2 bottle samples, 250 mL each

Volume in 1/4" I.D. Tubing = 10 mL/ft      Volume in a 2-inch well = 617 ml/ft,      Vol<sub>cylinder</sub> = πr<sup>2</sup>h

S:\1\_Scientist Log Forms\LOG FORMS\Grounwater Sampling log (Updated Format).docx



## Groundwater Sampling Log

Project No. 25218175.00 Site Burke  
 Well No. MW-5 Date 3/29/2021  
 Sampling Personnel Adam Watson  
 Safety Issues Noted \_\_\_\_\_  
 Total Well Depth \_\_\_\_\_ Sampling Device Peristaltic Pump  
 Depth to Water 7.08' Other Info. \_\_\_\_\_  
 Well Volume \_\_\_\_\_ Pumping Rate 325 mL/min  
 Color/Odor Clear/none Pump Start/Stop Time 1255 / 1345  
 Temperature: 54° Wind Direction: N E  S W Precip:  None Light Heavy Sky: Cloudy  Sunny Partly

Time	Depth to Water (ft)	Temp. (deg. C)	pH (standard units)	DO (mg/L)	Cond. (µs/cm)	ORP (mV)	Turbidity (NTU)	Notes
1305	7.08'	8.9	6.88	0.70	417.7	70.4	4.22	
1310	7.08'	8.8	6.98	0.61	414.8	70.7	3.42	
1315	7.08'	8.6	7.04	0.53	399.1	70.3	3.63	
1320	7.08'	8.6	7.03	0.52	391.2	70.4	2.55	
1325	7.08'	8.6	7.05	0.60	388.5	70.6	2.44	
1330	7.08'	8.6	7.09	0.60	384.0	70.4	0.61	
1335	7.08'	8.6	7.10	0.60	382.1	70.1	2.18	Sampled
Stability Requirements - last 3 consecutive readings must be within:		+/- 3%	+/- 0.1 unit	+/- 10% or 3 readings <0.5 mg/L	+/- 3%	+/- 10mV	+/- 10% or 3 readings <5 NTU	

Sample Types Collected (circle): Metals (non-mercury) Mercury Anions (Cl-, F-, SO4<sup>2-</sup>) TDS Radium pH Other (note below)

Sample Date / Time: \_\_\_\_\_  
 Additional Notes: 2 bottled samples

Volume in 1/4" I.D. Tubing = 10 mL/ft      Volume in a 2-inch well = 617 ml/ft,      Vol<sub>cylinder</sub> = πr<sup>2</sup>h

S:\1\_Scientist Log Forms\LOG FORMS\Grounwater Sampling log (Updated Format).docx









## Groundwater Sampling Log

**Project No.** 25218175.00 **Site** Burke  
**Well No.** PZ-101 **Date** 3/29/2021  
**Sampling Personnel** Adam Watson  
**Safety Issues Noted** \_\_\_\_\_  
**Total Well Depth** \_\_\_\_\_ **Sampling Device** Peristaltic Pump  
**Depth to Water** 20.13' **Other Info.** \_\_\_\_\_  
**Well Volume** \_\_\_\_\_ **Pumping Rate** 300 mL/min  
**Color/Odor** clear/none **Pump Start/Stop Time** 755 / 930  
**Temperature:** 36° **Wind** \_\_\_\_\_ **Direction:** N E  W Precip:  None Light Heavy Sky:  Cloudy  Sunny  Partly

Time	Depth to Water (ft)	Temp. (deg. C)	pH (standard units)	DO (mg/L)	Cond. (µs/cm)	ORP (mV)	Turbidity (NTU)	Notes
855	20.13'	10.9	7.02	0.20	1417	128.8	0.54	Calibrated YSI
900	20.13'	10.9	7.02	0.20	1415	117.6	1.17	+ turbidity meter
905	20.13'	10.9	7.02	0.19	1417	106.7	1.71	
910	20.13'	10.9	7.02	0.16	1411	99.5	0.00	
915	20.13'	10.9	7.02	0.16	1412	95.8	1.08	
920	20.13'	10.9	7.02	0.14	1410	91.9	0.35	
925	20.13'	10.0	7.02	0.15	1413	89.2	0.15	sampled
Stability Requirements - last 3 consecutive readings must be within:		+/- 3%	+/- 0.1 unit	+/- 10% or 3 readings < 0.5 mg/L	+/- 3%	+/- 10mV	+/- 10% or 3 readings < 5 NTU	

**Sample Types Collected (circle):** Metals (non-mercury) Mercury Anions (Cl-, F-, SO4<sup>2-</sup>) TDS Radium pH Other (note below)

**Sample Date /Time:** \_\_\_\_\_

**Additional Notes:** 1 bottle sampled

Volume in ¼" I.D. Tubing = 10 mL/ft      Volume in a 2-inch well = 617 ml/ft,      Vol<sub>cylinder</sub> = πr<sup>2</sup>h

S:\1\_Scientist Log Forms\LOG FORMS\Grounwater Sampling log (Updated Format).docx



## Groundwater Sampling Log

Project No. 25218175.00 Site Burke  
 Well No. MU-102 Date 3/29/2021  
 Sampling Personnel Adam Watson

**Safety Issues Noted** \_\_\_\_\_

Total Well Depth \_\_\_\_\_ Sampling Device Peristaltic Pump  
 Depth to Water 7.93' Other Info. \_\_\_\_\_  
 Well Volume \_\_\_\_\_ Pumping Rate 300 mL/min  
 Color/Odor clear/none Pump Start/Stop Time 1145 / 1238  
 Temperature: 49° Wind Direction: N E  W Precip:  None Light Heavy Sky: Cloudy  Sunny Partly

Time	Depth to Water (ft)	Temp. (deg. C)	pH (standard units)	DO (mg/L)	Cond. (µs/cm)	ORP (mV)	Turbidity (NTU)	Notes
1215	7.93'	8.6	6.72	0.20	1472	69.6	3.67	
1220	7.93'	8.6	6.71	0.20	1431	68.3	2.91	
1225	7.93'	8.6	6.73	0.25	1421	67.4	2.65	
1230	7.93'	8.6	6.73	0.31	1399	66.2	3.21	Sampled
<b>Stability Requirements</b> - last 3 consecutive readings must be within:		+/- 3%	+/- 0.1 unit	+/- 10% or 3 readings <0.5 mg/L	+/- 3%	+/- 10mV	+/- 10% or 3 readings <5 NTU	

**Sample Types Collected (circle):** Metals (non-mercury) Mercury Anions (Cl-, F-, SO<sub>4</sub><sup>2-</sup>) TDS Radium pH Other (note below)

**Sample Date /Time:** \_\_\_\_\_  
**Additional Notes:** 1 bottle sampled.

Volume in 1/4" I.D. Tubing = 10 mL/ft      Volume in a 2-inch well = 617 ml/ft,      Vol<sub>cylinder</sub> = πr<sup>2</sup>h

S:\1\_Scientist Log Forms\LOG FORMS\Grounwater Sampling log (Updated Format).docx



## Groundwater Sampling Log

Project No. 25218175.00 Site Burke  
 Well No. MW-103 Date 3/29/2021  
 Sampling Personnel Adam Watson

Safety Issues Noted \_\_\_\_\_

Total Well Depth \_\_\_\_\_ Sampling Device Peristaltic Pump  
 Depth to Water 8.04 Other Info. \_\_\_\_\_  
 Well Volume \_\_\_\_\_ Pumping Rate 300 mL/min  
 Color/Odor Clear/none Pump Start/Stop Time 1423 / 1459  
 Temperature: 61° Wind Direction: N E (S) W Precip: (None) Light Heavy Sky: Cloudy (Sunny) Partly

Time	Depth to Water (ft)	Temp. (deg. C)	pH (standard units)	DO (mg/L)	Cond. (µs/cm)	ORP (mV)	Turbidity (NTU)	Notes
1445	8.04'	7.6	7.02	0.27	628.4	40.0	1.88	
1450	8.04'	7.6	7.02	0.24	632.3	40.7	2.49	
1455	8.04'	7.5	7.02	0.24	632.7	41.4	1.49	<i>Sampled</i>
Stability Requirements - last 3 consecutive readings must be within:		+/- 3%	+/- 0.1 unit	+/- 10% or 3 readings <0.5 mg/L	+/- 3%	+/- 10mV	+/- 10% or 3 readings <5 NTU	

**Sample Types Collected (circle):** Metals (non-mercury) Mercury Anions (Cl-, F-, SO4<sup>2-</sup>) TDS Radium pH Other (note below)

**Sample Date /Time:** \_\_\_\_\_

**Additional Notes:** 1 bottle sampled

Volume in 1/4" I.D. Tubing = 10 mL/ft      Volume in a 2-inch well = 617 ml/ft,      Vol<sub>cylinder</sub> = πr<sup>2</sup>h

S:\1\_Scientist Log Forms\LOG FORMS\Grounwater Sampling log (Updated Format).docx

### Groundwater Sampling Log

**Project No.** 25218175.00 **Site** Burke  
**Well No.** PZ-103 **Date** 3/29/2021  
**Sampling Personnel** Adam Watson  
**Safety Issues Noted** \_\_\_\_\_  
**Total Well Depth** \_\_\_\_\_ **Sampling Device** Peristaltic Pump  
**Depth to Water** 8.56' **Other Info.** \_\_\_\_\_  
**Well Volume** \_\_\_\_\_ **Pumping Rate** 300 mL/min  
**Color/Odor** clear/none **Pump Start/Stop Time** 1410 / 1440  
**Temperature:** 61° **Wind** \_\_\_\_\_ **Direction:** N E  W Precip:  None Light Heavy Sky: Cloudy  Sunny Partly

Time	Depth to Water (ft)	Temp. (deg. C)	pH (standard units)	DO (mg/L)	Cond. (µs/cm)	ORP (mV)	Turbidity (NTU)	Notes
1420	8.56'	9.3	7.26	3.69	1400	78.9	2.21	
1425	8.56'	9.5	7.28	3.58	1623	72.1	2.64	
1430	8.56'	9.6	7.28	3.44	1621	68.5	2.18	
1435	8.56'	9.6	7.28	3.34	1619	65.2	2.01	Sampled
Stability Requirements - last 3 consecutive readings must be within:		+/- 3%	+/- 0.1 unit	+/- 10% or 3 readings <0.5 mg/L	+/- 3%	+/- 10mV	+/- 10% or 3 readings <5 NTU	

**Sample Types Collected (circle):** Metals (non-mercury) Mercury Anions (Cl-, F-, SO4<sup>2-</sup>) TDS Radium pH Other (note below)

**Sample Date /Time:** \_\_\_\_\_  
**Additional Notes:** 1 bottle sampled

Volume in 1/4" I.D. Tubing = 10 mL/ft      Volume in a 2-inch well = 617 ml/ft,      Vol<sub>cylinder</sub> = πr<sup>2</sup>h

S:\1\_Scientist Log Forms\LOG FORMS\Grounwater Sampling log (Updated Format).docx

## Groundwater Sampling Log

Project No. 25218175.00 Site Burke  
 Well No. STR-018 Date 3/29/2021  
 Sampling Personnel Adam Watson

Safety Issues Noted \_\_\_\_\_

Total Well Depth \_\_\_\_\_ Sampling Device Peristaltic pump

Depth to Water 20.29 Other Info. \_\_\_\_\_

Well Volume \_\_\_\_\_ Pumping Rate \_\_\_\_\_

Color/Odor \_\_\_\_\_ Pump Start/Stop Time 1

Temperature: 61° Wind Direction: N E W W Precip: None Light Heavy Sky: Cloudy Sunny Partly

Time	Depth to Water (ft)	Temp. (deg. C)	pH (standard units)	DO (mg/L)	Cond. (µs/cm)	ORP (mV)	Turbidity (NTU)	Notes
<u>15:40</u>	<u>20.29</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>NONE</u>	<u>Grab sample</u>
Stability Requirements - last 3 consecutive readings must be within:		+/- 3%	+/- 0.1 unit	+/- 10% or 3 readings <0.5 mg/L	+/- 3%	+/- 10mV	+/- 10% or 3 readings <5 NTU	

Sample Types Collected (circle): Metals (non-mercury) Mercury Anions (Cl-, F-, SO4<sup>2-</sup>) TDS Radium pH Other (note below)

Sample Date /Time: \_\_\_\_\_

Additional Notes: 1 bottle sampled

Volume in ¼" I.D. Tubing = 10 mL/ft      Volume in a 2-inch well = 617 ml/ft,      Vol<sub>cylinder</sub> = πr<sup>2</sup>h

S:\1\_Scientist Log Forms\LOG FORMS\Grounwater Sampling log (Updated Format).docx





## Groundwater Sampling Log

Project No. 25218125.00 Site Burke  
 Well No. STR-020 Date 3/29/2021  
 Sampling Personnel Adam Watson  
 Safety Issues Noted \_\_\_\_\_  
 Total Well Depth \_\_\_\_\_ Sampling Device Peristaltic Pump  
 Depth to Water 18.72' Other Info. \_\_\_\_\_  
 Well Volume \_\_\_\_\_ Pumping Rate \_\_\_\_\_  
 Color/Odor clear/none Pump Start/Stop Time \_\_\_\_\_  
 Temperature: 61° Wind Direction: N E  S W Precip:  None Light Heavy Sky:  Cloudy  Sunny Partly

Time	Depth to Water (ft)	Temp. (deg. C)	pH (standard units)	DO (mg/L)	Cond. (µs/cm)	ORP (mV)	Turbidity (NTU)	Notes
1620	18.72	/	/	/	/	/	Slight	Grab Sample
Stability Requirements - last 3 consecutive readings must be within:		+/- 3%	+/- 0.1 unit	+/- 10% or 3 readings <0.5 mg/L	+/- 3%	+/- 10mV	+/- 10% or 3 readings <5 NTU	

**Sample Types Collected (circle):** Metals (non-mercury) Mercury Anions (Cl-, F-, SO<sub>4</sub><sup>2-</sup>) TDS Radium pH Other (note below)

**Sample Date /Time:** \_\_\_\_\_

**Additional Notes:** 1 bottle sampled

Volume in ¼" I.D. Tubing = 10 mL/ft      Volume in a 2-inch well = 617 ml/ft,      Vol<sub>cylinder</sub> = πr<sup>2</sup>h

S:\1\_Scientist Log Forms\LOG FORMS\Grounwater Sampling log (Updated Format).docx



## Groundwater Sampling Log

**Project No.** 252/8175.00      **Site** Burke  
**Well No.** STR-021      **Date** 3/29/2021  
**Sampling Personnel** Adam Watson  
**Safety Issues Noted** \_\_\_\_\_  
**Total Well Depth** \_\_\_\_\_      **Sampling Device** Peristaltic Pump  
**Depth to Water** 14.45'      **Other Info.** \_\_\_\_\_  
**Well Volume** \_\_\_\_\_      **Pumping Rate** \_\_\_\_\_  
**Color/Odor** light Gray-Grey/none      **Pump Start/Stop Time** \_\_\_\_\_  
**Temperature:** 61°      **Wind** \_\_\_\_\_      **Direction:** N E  W      **Precip:**  None      Light      Heavy      **Sky:** Cloudy       Sunny      Partly

Time	Depth to Water (ft)	Temp. (deg. C)	pH (standard units)	DO (mg/L)	Cond. (µs/cm)	ORP (mV)	Turbidity (NTU)	Notes
1645	14.45'	/	/	/	/	/	<del>Dark</del> Very	Grab Sample
<b>Stability Requirements - last 3 consecutive readings must be within:</b>		+/- 3%	+/- 0.1 unit	+/- 10% or 3 readings <0.5 mg/L	+/- 3%	+/- 10mV	+/- 10% or 3 readings <5 NTU	

**Sample Types Collected (circle):**      Metals (non-mercury)      Mercury      Anions (Cl-, F-, SO4<sup>2-</sup>)      TDS      Radium      pH      Other (note below)

**Sample Date /Time:** \_\_\_\_\_  
**Additional Notes:**      1 bottle sampled

Volume in 1/4" I.D. Tubing = 10 mL/ft      Volume in a 2-inch well = 617 ml/ft,      Vol<sub>cylinder</sub> = πr<sup>2</sup>h

S:\1\_Scientist Log Forms\LOG FORMS\Grounwater Sampling log (Updated Format).docx

## Groundwater Sampling Log

**Project No.** 25218175.00      **Site** Burke  
**Well No.** Stormwater Creek      **Date** 3/30/2021  
**Sampling Personnel** Adam Watson  
**Safety Issues Noted** \_\_\_\_\_  
**Total Well Depth** \_\_\_\_\_      **Sampling Device** Grab sample  
**Depth to Water** \_\_\_\_\_      **Other Info.** \_\_\_\_\_  
**Well Volume** \_\_\_\_\_      **Pumping Rate** \_\_\_\_\_  
**Color/Odor** \_\_\_\_\_      **Pump Start/Stop Time** 1327 /  
**Temperature:** 57°      **Wind** \_\_\_\_\_  
**Direction:** N E S  W      **Precip:**  None    Light    Heavy    **Sky:** Cloudy  Sunny    Partly

Time	Depth to Water (ft)	Temp. (deg. C)	pH (standard units)	DO (mg/L)	Cond. (µs/cm)	ORP (mV)	Turbidity (NTU)	Notes
1327	✓	✓	✓	✓	✓	✓	✓	<del>Very Slight</del> Grab Sample
<b>Stability Requirements</b> - last 3 consecutive readings must be within:		+/- 3%	+/- 0.1 unit	+/- 10% or 3 readings <0.5 mg/L	+/- 3%	+/- 10mV	+/- 10% or 3 readings <5 NTU	

**Sample Types Collected (circle):**    Metals (non-mercury)    Mercury    Anions (Cl-, F-, SO4<sup>2-</sup>)    TDS    Radium    pH    Other (note below) \_\_\_\_\_  
**Sample Date /Time:** \_\_\_\_\_  
**Additional Notes:** \_\_\_\_\_

Volume in ¼" I.D. Tubing = 10 mL/ft      Volume in a 2-inch well = 617 ml/ft,      Vol<sub>cylinder</sub> = πr<sup>2</sup>h

S:\1\_Scientist Log Forms\LOG FORMS\Grounwater Sampling log (Updated Format).docx

### Groundwater Sampling Log

**Project No.** 25218175.00      **Site** Burke  
**Well No.** Rinse Blank      **Date** 3/30/2021  
**Sampling Personnel** Adam Watson  
**Safety Issues Noted** \_\_\_\_\_  
**Total Well Depth** \_\_\_\_\_      **Sampling Device** Peristaltic Pump  
**Depth to Water** \_\_\_\_\_      **Other Info.** \_\_\_\_\_  
**Well Volume** \_\_\_\_\_      **Pumping Rate** \_\_\_\_\_  
**Color/Odor** \_\_\_\_\_      **Pump Start/Stop Time** 1340 /  
**Temperature:** \_\_\_\_\_      **Wind** \_\_\_\_\_  
**Direction:** N E S W      **Precip:** None Light Heavy      **Sky:** Cloudy Sunny Partly

Time	Depth to Water (ft)	Temp. (deg. C)	pH (standard units)	DO (mg/L)	Cond. (µs/cm)	ORP (mV)	Turbidity (NTU)	Notes
1340	✓	✓	✓	✓	✓	✓	✓	Rinse Blank
<b>Stability Requirements - last 3 consecutive readings must be within:</b>		+/- 3%	+/- 0.1 unit	+/- 10% or 3 readings <0.5 mg/L	+/- 3%	+/- 10mV	+/- 10% or 3 readings <5 NTU	

**Sample Types Collected (circle):**      Metals (non-mercury)    Mercury    Anions (Cl-, F-, SO4<sup>2-</sup>)    TDS    Radium    pH    Other (note below)

**Sample Date /Time:** \_\_\_\_\_  
**Additional Notes:** \_\_\_\_\_

Volume in ¼" I.D. Tubing = 10 mL/ft      Volume in a 2-inch well = 617 ml/ft,      Vol<sub>cylinder</sub> = πr<sup>2</sup>h

S:\1\_Scientist Log Forms\LOG FORMS\Grounwater Sampling log (Updated Format).docx



## Appendix C

### TestAmerica and Pace Analytical Reports

## ANALYTICAL REPORT

Eurofins TestAmerica, Sacramento  
880 Riverside Parkway  
West Sacramento, CA 95605  
Tel: (916)373-5600

Laboratory Job ID: 320-69200-1  
Client Project/Site: MGE Burke Site - 25218175

For:  
SCS Engineers  
2830 Dairy Dr  
Madison, Wisconsin 53718

Attn: Mr. Eric Oelkers



Authorized for release by:  
1/31/2021 6:09:37 PM

Sandie Fredrick, Project Manager II  
(920)261-1660  
[sandra.fredrick@eurofinset.com](mailto:sandra.fredrick@eurofinset.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

*The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Definitions/Glossary . . . . .	3
Case Narrative . . . . .	4
Detection Summary . . . . .	5
Client Sample Results . . . . .	6
Isotope Dilution Summary . . . . .	22
QC Sample Results . . . . .	24
QC Association Summary . . . . .	29
Lab Chronicle . . . . .	30
Certification Summary . . . . .	32
Method Summary . . . . .	33
Sample Summary . . . . .	34
Chain of Custody . . . . .	35
Receipt Checklists . . . . .	36

# Definitions/Glossary

Client: SCS Engineers  
Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

## Qualifiers

### LCMS

Qualifier	Qualifier Description
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: SCS Engineers  
Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

---

## Job ID: 320-69200-1

---

### Laboratory: Eurofins TestAmerica, Sacramento

#### Narrative

#### Job Narrative 320-69200-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 1/22/2021 9:20 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.0° C.

#### LCMS

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-4:2 FTS in the following sample: PZ-103 (320-69200-5). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for 13C2 PFHxDA, M2-6:2 FTS and M2-8:2 FTS in the following sample: MW-103 (320-69200-6). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-4:2 FTS for the following sample: MW-102 (320-69200-4). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-4:2 FTS; M2-6:2 FTS; and 13C2 PFHxDA for the following sample: PZ-101 (320-69200-1). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): Results for sample MW-102 (320-69200-4) were reported from the analysis of a diluted extract due to matrix interference affecting the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-455410. 320-455410 Method: 3535 PFC Matrix: Water

Method 3535: The following samples are yellow and contained floating particulates at the bottom of the bottle containers prior to extraction: PZ-102 (320-69200-3), MW-102 (320-69200-4), PZ-103 (320-69200-5) and MW-103 (320-69200-6). preparation batch 320-455410 Method: 3535 PFC Matrix: Water

Method 3535: The following samples are yellow after final volume: MW-102 (320-69200-4) and MW-103 (320-69200-6). preparation batch 320-455410 Method: 3535 PFC Matrix: Water

Method 3535: During the solid phase extraction process, the following samples have non-settleable particulates which clogged the solid phase extraction column: MW-102 (320-69200-4) and MW-103 (320-69200-6). preparation batch 320-455410 Method: 3535 PFC Matrix: Water

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



# Detection Summary

Client: SCS Engineers  
Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

## Client Sample ID: PZ-101

Lab Sample ID: 320-69200-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	3.4		1.7	0.47	ng/L	1		537 (modified)	Total/NA

## Client Sample ID: MW-101

Lab Sample ID: 320-69200-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	7.3		4.1	2.0	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.4	J	1.6	0.16	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.41	J	1.6	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.4	J	1.6	0.47	ng/L	1		537 (modified)	Total/NA

## Client Sample ID: PZ-102

Lab Sample ID: 320-69200-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	1.2	J	1.6	0.46	ng/L	1		537 (modified)	Total/NA

## Client Sample ID: MW-102

Lab Sample ID: 320-69200-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	38	J	41	19	ng/L	10		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.8	J	16	1.6	ng/L	10		537 (modified)	Total/NA

## Client Sample ID: PZ-103

Lab Sample ID: 320-69200-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.52	J	1.7	0.48	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.71	J	1.7	0.46	ng/L	1		537 (modified)	Total/NA

## Client Sample ID: MW-103

Lab Sample ID: 320-69200-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	9.1		4.2	2.0	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.1	J	1.7	0.48	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.85	J	1.7	0.21	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	0.85	J	1.7	0.71	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.30	J	1.7	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.0	J	1.7	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.4	J	1.7	0.47	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.7		1.7	0.45	ng/L	1		537 (modified)	Total/NA

## Client Sample ID: Field Blank

Lab Sample ID: 320-69200-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
NMeFOSA	0.50	J	1.7	0.38	ng/L	1		537 (modified)	Total/NA
NEtFOSE	0.75	J	1.7	0.74	ng/L	1		537 (modified)	Total/NA

## Client Sample ID: Equipment Blank

Lab Sample ID: 320-69200-8

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Sacramento

# Client Sample Results

Client: SCS Engineers  
Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

**Client Sample ID: PZ-101**

**Lab Sample ID: 320-69200-1**

**Date Collected: 01/20/21 10:30**

**Matrix: Water**

**Date Received: 01/22/21 09:20**

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<2.0		4.1	2.0	ng/L		01/25/21 18:33	01/28/21 03:46	1
Perfluoropentanoic acid (PFPeA)	<0.41		1.7	0.41	ng/L		01/25/21 18:33	01/28/21 03:46	1
Perfluorohexanoic acid (PFHxA)	<0.48		1.7	0.48	ng/L		01/25/21 18:33	01/28/21 03:46	1
Perfluoroheptanoic acid (PFHpA)	<0.21		1.7	0.21	ng/L		01/25/21 18:33	01/28/21 03:46	1
Perfluorooctanoic acid (PFOA)	<0.70		1.7	0.70	ng/L		01/25/21 18:33	01/28/21 03:46	1
Perfluorononanoic acid (PFNA)	<0.22		1.7	0.22	ng/L		01/25/21 18:33	01/28/21 03:46	1
Perfluorodecanoic acid (PFDA)	<0.26		1.7	0.26	ng/L		01/25/21 18:33	01/28/21 03:46	1
Perfluoroundecanoic acid (PFUnA)	<0.91		1.7	0.91	ng/L		01/25/21 18:33	01/28/21 03:46	1
Perfluorododecanoic acid (PFDoA)	<0.46		1.7	0.46	ng/L		01/25/21 18:33	01/28/21 03:46	1
Perfluorotridecanoic acid (PFTriA)	<1.1		1.7	1.1	ng/L		01/25/21 18:33	01/28/21 03:46	1
Perfluorotetradecanoic acid (PFTeA)	<0.60		1.7	0.60	ng/L		01/25/21 18:33	01/28/21 03:46	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<0.74		1.7	0.74	ng/L		01/25/21 18:33	01/28/21 03:46	1
Perfluoro-n-octadecanoic acid (PFODA)	<0.78		1.7	0.78	ng/L		01/25/21 18:33	01/28/21 03:46	1
Perfluorobutanesulfonic acid (PFBS)	<0.17		1.7	0.17	ng/L		01/25/21 18:33	01/28/21 03:46	1
Perfluoropentanesulfonic acid (PFPeS)	<0.25		1.7	0.25	ng/L		01/25/21 18:33	01/28/21 03:46	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>3.4</b>		1.7	0.47	ng/L		01/25/21 18:33	01/28/21 03:46	1
Perfluoroheptanesulfonic Acid (PFHpS)	<0.16		1.7	0.16	ng/L		01/25/21 18:33	01/28/21 03:46	1
Perfluorooctanesulfonic acid (PFOS)	<0.45		1.7	0.45	ng/L		01/25/21 18:33	01/28/21 03:46	1
Perfluorononanesulfonic acid (PFNS)	<0.31		1.7	0.31	ng/L		01/25/21 18:33	01/28/21 03:46	1
Perfluorodecanesulfonic acid (PFDS)	<0.26		1.7	0.26	ng/L		01/25/21 18:33	01/28/21 03:46	1
Perfluorododecanesulfonic acid (PFDoS)	<0.80		1.7	0.80	ng/L		01/25/21 18:33	01/28/21 03:46	1
Perfluorooctanesulfonamide (FOSA)	<0.81		1.7	0.81	ng/L		01/25/21 18:33	01/28/21 03:46	1
NEtFOSA	<0.72		1.7	0.72	ng/L		01/25/21 18:33	01/28/21 03:46	1
NMeFOSA	<0.36		1.7	0.36	ng/L		01/25/21 18:33	01/28/21 03:46	1
NMeFOSAA	<0.99		4.1	0.99	ng/L		01/25/21 18:33	01/28/21 03:46	1
NEtFOSAA	<1.1		4.1	1.1	ng/L		01/25/21 18:33	01/28/21 03:46	1
NMeFOSE	<1.2		3.3	1.2	ng/L		01/25/21 18:33	01/28/21 03:46	1
NEtFOSE	<0.70		1.7	0.70	ng/L		01/25/21 18:33	01/28/21 03:46	1
4:2 FTS	<0.20		1.7	0.20	ng/L		01/25/21 18:33	01/28/21 03:46	1
6:2 FTS	<2.1		4.1	2.1	ng/L		01/25/21 18:33	01/28/21 03:46	1
8:2 FTS	<0.38		1.7	0.38	ng/L		01/25/21 18:33	01/28/21 03:46	1
10:2 FTS	<0.55		1.7	0.55	ng/L		01/25/21 18:33	01/28/21 03:46	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.33		1.7	0.33	ng/L		01/25/21 18:33	01/28/21 03:46	1
HFPO-DA (GenX)	<1.2		3.3	1.2	ng/L		01/25/21 18:33	01/28/21 03:46	1
F-53B Major	<0.20		1.7	0.20	ng/L		01/25/21 18:33	01/28/21 03:46	1
F-53B Minor	<0.26		1.7	0.26	ng/L		01/25/21 18:33	01/28/21 03:46	1
<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C4 PFBA	43		25 - 150				01/25/21 18:33	01/28/21 03:46	1
13C5 PFPeA	35		25 - 150				01/25/21 18:33	01/28/21 03:46	1
13C2 PFHxA	79		25 - 150				01/25/21 18:33	01/28/21 03:46	1
13C4 PFHpA	78		25 - 150				01/25/21 18:33	01/28/21 03:46	1
13C4 PFOA	106		25 - 150				01/25/21 18:33	01/28/21 03:46	1
13C5 PFNA	107		25 - 150				01/25/21 18:33	01/28/21 03:46	1
13C2 PFDA	118		25 - 150				01/25/21 18:33	01/28/21 03:46	1

Eurofins TestAmerica, Sacramento

# Client Sample Results

Client: SCS Engineers  
 Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

**Client Sample ID: PZ-101**

**Lab Sample ID: 320-69200-1**

**Date Collected: 01/20/21 10:30**

**Matrix: Water**

**Date Received: 01/22/21 09:20**

**Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)**

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C2 PFUnA	115		25 - 150	01/25/21 18:33	01/28/21 03:46	1
13C2 PFDoA	105		25 - 150	01/25/21 18:33	01/28/21 03:46	1
13C2 PFTeDA	133		25 - 150	01/25/21 18:33	01/28/21 03:46	1
13C2 PFHxDA	154	*5+	25 - 150	01/25/21 18:33	01/28/21 03:46	1
13C3 PFBS	46		25 - 150	01/25/21 18:33	01/28/21 03:46	1
18O2 PFHxS	83		25 - 150	01/25/21 18:33	01/28/21 03:46	1
13C4 PFOS	94		25 - 150	01/25/21 18:33	01/28/21 03:46	1
13C8 FOSA	98		10 - 150	01/25/21 18:33	01/28/21 03:46	1
d3-NMeFOSAA	86		25 - 150	01/25/21 18:33	01/28/21 03:46	1
d5-NEtFOSAA	83		25 - 150	01/25/21 18:33	01/28/21 03:46	1
d-N-MeFOSA-M	105		10 - 150	01/25/21 18:33	01/28/21 03:46	1
d-N-EtFOSA-M	87		10 - 150	01/25/21 18:33	01/28/21 03:46	1
d7-N-MeFOSE-M	75		10 - 150	01/25/21 18:33	01/28/21 03:46	1
d9-N-EtFOSE-M	55		10 - 150	01/25/21 18:33	01/28/21 03:46	1
M2-4:2 FTS	167	*5+	25 - 150	01/25/21 18:33	01/28/21 03:46	1
M2-6:2 FTS	171	*5+	25 - 150	01/25/21 18:33	01/28/21 03:46	1
M2-8:2 FTS	145		25 - 150	01/25/21 18:33	01/28/21 03:46	1
13C3 HFPO-DA	68		25 - 150	01/25/21 18:33	01/28/21 03:46	1

# Client Sample Results

Client: SCS Engineers  
Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

**Client Sample ID: MW-101**

**Lab Sample ID: 320-69200-2**

**Date Collected: 01/20/21 12:00**

**Matrix: Water**

**Date Received: 01/22/21 09:20**

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Perfluorobutanoic acid (PFBA)</b>	<b>7.3</b>		4.1	2.0	ng/L		01/25/21 18:33	01/28/21 03:55	1
Perfluoropentanoic acid (PFPeA)	<0.40		1.6	0.40	ng/L		01/25/21 18:33	01/28/21 03:55	1
Perfluorohexanoic acid (PFHxA)	<0.48		1.6	0.48	ng/L		01/25/21 18:33	01/28/21 03:55	1
Perfluoroheptanoic acid (PFHpA)	<0.21		1.6	0.21	ng/L		01/25/21 18:33	01/28/21 03:55	1
Perfluorooctanoic acid (PFOA)	<0.70		1.6	0.70	ng/L		01/25/21 18:33	01/28/21 03:55	1
Perfluorononanoic acid (PFNA)	<0.22		1.6	0.22	ng/L		01/25/21 18:33	01/28/21 03:55	1
Perfluorodecanoic acid (PFDA)	<0.26		1.6	0.26	ng/L		01/25/21 18:33	01/28/21 03:55	1
Perfluoroundecanoic acid (PFUnA)	<0.91		1.6	0.91	ng/L		01/25/21 18:33	01/28/21 03:55	1
Perfluorododecanoic acid (PFDoA)	<0.45		1.6	0.45	ng/L		01/25/21 18:33	01/28/21 03:55	1
Perfluorotridecanoic acid (PFTriA)	<1.1		1.6	1.1	ng/L		01/25/21 18:33	01/28/21 03:55	1
Perfluorotetradecanoic acid (PFTeA)	<0.60		1.6	0.60	ng/L		01/25/21 18:33	01/28/21 03:55	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<0.73		1.6	0.73	ng/L		01/25/21 18:33	01/28/21 03:55	1
Perfluoro-n-octadecanoic acid (PFODA)	<0.77		1.6	0.77	ng/L		01/25/21 18:33	01/28/21 03:55	1
<b>Perfluorobutanesulfonic acid (PFBS)</b>	<b>1.4 J</b>		1.6	0.16	ng/L		01/25/21 18:33	01/28/21 03:55	1
<b>Perfluoropentanesulfonic acid (PFPeS)</b>	<b>0.41 J</b>		1.6	0.25	ng/L		01/25/21 18:33	01/28/21 03:55	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>1.4 J</b>		1.6	0.47	ng/L		01/25/21 18:33	01/28/21 03:55	1
Perfluoroheptanesulfonic Acid (PFHpS)	<0.16		1.6	0.16	ng/L		01/25/21 18:33	01/28/21 03:55	1
Perfluorooctanesulfonic acid (PFOS)	<0.44		1.6	0.44	ng/L		01/25/21 18:33	01/28/21 03:55	1
Perfluorononanesulfonic acid (PFNS)	<0.30		1.6	0.30	ng/L		01/25/21 18:33	01/28/21 03:55	1
Perfluorodecanesulfonic acid (PFDS)	<0.26		1.6	0.26	ng/L		01/25/21 18:33	01/28/21 03:55	1
Perfluorododecanesulfonic acid (PFDoS)	<0.80		1.6	0.80	ng/L		01/25/21 18:33	01/28/21 03:55	1
Perfluorooctanesulfonamide (FOSA)	<0.81		1.6	0.81	ng/L		01/25/21 18:33	01/28/21 03:55	1
NEtFOSA	<0.72		1.6	0.72	ng/L		01/25/21 18:33	01/28/21 03:55	1
NMeFOSA	<0.35		1.6	0.35	ng/L		01/25/21 18:33	01/28/21 03:55	1
NMeFOSAA	<0.99		4.1	0.99	ng/L		01/25/21 18:33	01/28/21 03:55	1
NEtFOSAA	<1.1		4.1	1.1	ng/L		01/25/21 18:33	01/28/21 03:55	1
NMeFOSE	<1.2		3.3	1.2	ng/L		01/25/21 18:33	01/28/21 03:55	1
NEtFOSE	<0.70		1.6	0.70	ng/L		01/25/21 18:33	01/28/21 03:55	1
4:2 FTS	<0.20		1.6	0.20	ng/L		01/25/21 18:33	01/28/21 03:55	1
6:2 FTS	<2.1		4.1	2.1	ng/L		01/25/21 18:33	01/28/21 03:55	1
8:2 FTS	<0.38		1.6	0.38	ng/L		01/25/21 18:33	01/28/21 03:55	1
10:2 FTS	<0.55		1.6	0.55	ng/L		01/25/21 18:33	01/28/21 03:55	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.33		1.6	0.33	ng/L		01/25/21 18:33	01/28/21 03:55	1
HFPO-DA (GenX)	<1.2		3.3	1.2	ng/L		01/25/21 18:33	01/28/21 03:55	1
F-53B Major	<0.20		1.6	0.20	ng/L		01/25/21 18:33	01/28/21 03:55	1
F-53B Minor	<0.26		1.6	0.26	ng/L		01/25/21 18:33	01/28/21 03:55	1
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C4 PFBA	56		25 - 150				01/25/21 18:33	01/28/21 03:55	1
13C5 PFPeA	41		25 - 150				01/25/21 18:33	01/28/21 03:55	1
13C2 PFHxA	92		25 - 150				01/25/21 18:33	01/28/21 03:55	1
13C4 PFHpA	88		25 - 150				01/25/21 18:33	01/28/21 03:55	1
13C4 PFOA	108		25 - 150				01/25/21 18:33	01/28/21 03:55	1
13C5 PFNA	103		25 - 150				01/25/21 18:33	01/28/21 03:55	1

Eurofins TestAmerica, Sacramento

# Client Sample Results

Client: SCS Engineers  
 Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

**Client Sample ID: MW-101**

**Lab Sample ID: 320-69200-2**

**Date Collected: 01/20/21 12:00**

**Matrix: Water**

**Date Received: 01/22/21 09:20**

**Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)**

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C2 PFDA	114		25 - 150	01/25/21 18:33	01/28/21 03:55	1
13C2 PFUnA	106		25 - 150	01/25/21 18:33	01/28/21 03:55	1
13C2 PFDoA	114		25 - 150	01/25/21 18:33	01/28/21 03:55	1
13C2 PFTeDA	132		25 - 150	01/25/21 18:33	01/28/21 03:55	1
13C2 PFHxDA	139		25 - 150	01/25/21 18:33	01/28/21 03:55	1
13C3 PFBS	63		25 - 150	01/25/21 18:33	01/28/21 03:55	1
18O2 PFHxS	89		25 - 150	01/25/21 18:33	01/28/21 03:55	1
13C4 PFOS	91		25 - 150	01/25/21 18:33	01/28/21 03:55	1
13C8 FOSA	92		10 - 150	01/25/21 18:33	01/28/21 03:55	1
d3-NMeFOSAA	79		25 - 150	01/25/21 18:33	01/28/21 03:55	1
d5-NEtFOSAA	76		25 - 150	01/25/21 18:33	01/28/21 03:55	1
d-N-MeFOSA-M	88		10 - 150	01/25/21 18:33	01/28/21 03:55	1
d-N-EtFOSA-M	67		10 - 150	01/25/21 18:33	01/28/21 03:55	1
d7-N-MeFOSE-M	61		10 - 150	01/25/21 18:33	01/28/21 03:55	1
d9-N-EtFOSE-M	53		10 - 150	01/25/21 18:33	01/28/21 03:55	1
M2-4:2 FTS	148		25 - 150	01/25/21 18:33	01/28/21 03:55	1
M2-6:2 FTS	120		25 - 150	01/25/21 18:33	01/28/21 03:55	1
M2-8:2 FTS	116		25 - 150	01/25/21 18:33	01/28/21 03:55	1
13C3 HFPO-DA	75		25 - 150	01/25/21 18:33	01/28/21 03:55	1



# Client Sample Results

Client: SCS Engineers  
Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

**Client Sample ID: PZ-102**

**Lab Sample ID: 320-69200-3**

**Date Collected: 01/20/21 13:20**

**Matrix: Water**

**Date Received: 01/22/21 09:20**

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<2.0		4.1	2.0	ng/L		01/25/21 18:33	01/28/21 04:04	1
Perfluoropentanoic acid (PFPeA)	<0.40		1.6	0.40	ng/L		01/25/21 18:33	01/28/21 04:04	1
Perfluorohexanoic acid (PFHxA)	<0.47		1.6	0.47	ng/L		01/25/21 18:33	01/28/21 04:04	1
Perfluoroheptanoic acid (PFHpA)	<0.20		1.6	0.20	ng/L		01/25/21 18:33	01/28/21 04:04	1
Perfluorooctanoic acid (PFOA)	<0.69		1.6	0.69	ng/L		01/25/21 18:33	01/28/21 04:04	1
Perfluorononanoic acid (PFNA)	<0.22		1.6	0.22	ng/L		01/25/21 18:33	01/28/21 04:04	1
Perfluorodecanoic acid (PFDA)	<0.25		1.6	0.25	ng/L		01/25/21 18:33	01/28/21 04:04	1
Perfluoroundecanoic acid (PFUnA)	<0.90		1.6	0.90	ng/L		01/25/21 18:33	01/28/21 04:04	1
Perfluorododecanoic acid (PFDoA)	<0.45		1.6	0.45	ng/L		01/25/21 18:33	01/28/21 04:04	1
Perfluorotridecanoic acid (PFTriA)	<1.1		1.6	1.1	ng/L		01/25/21 18:33	01/28/21 04:04	1
Perfluorotetradecanoic acid (PFTeA)	<0.60		1.6	0.60	ng/L		01/25/21 18:33	01/28/21 04:04	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<0.73		1.6	0.73	ng/L		01/25/21 18:33	01/28/21 04:04	1
Perfluoro-n-octadecanoic acid (PFODA)	<0.77		1.6	0.77	ng/L		01/25/21 18:33	01/28/21 04:04	1
Perfluorobutanesulfonic acid (PFBS)	<0.16		1.6	0.16	ng/L		01/25/21 18:33	01/28/21 04:04	1
Perfluoropentanesulfonic acid (PFPeS)	<0.24		1.6	0.24	ng/L		01/25/21 18:33	01/28/21 04:04	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>1.2 J</b>		1.6	0.46	ng/L		01/25/21 18:33	01/28/21 04:04	1
Perfluoroheptanesulfonic Acid (PFHpS)	<0.15		1.6	0.15	ng/L		01/25/21 18:33	01/28/21 04:04	1
Perfluorooctanesulfonic acid (PFOS)	<0.44		1.6	0.44	ng/L		01/25/21 18:33	01/28/21 04:04	1
Perfluorononanesulfonic acid (PFNS)	<0.30		1.6	0.30	ng/L		01/25/21 18:33	01/28/21 04:04	1
Perfluorodecanesulfonic acid (PFDS)	<0.26		1.6	0.26	ng/L		01/25/21 18:33	01/28/21 04:04	1
Perfluorododecanesulfonic acid (PFDoS)	<0.79		1.6	0.79	ng/L		01/25/21 18:33	01/28/21 04:04	1
Perfluorooctanesulfonamide (FOSA)	<0.80		1.6	0.80	ng/L		01/25/21 18:33	01/28/21 04:04	1
NEtFOSA	<0.71		1.6	0.71	ng/L		01/25/21 18:33	01/28/21 04:04	1
NMeFOSA	<0.35		1.6	0.35	ng/L		01/25/21 18:33	01/28/21 04:04	1
NMeFOSAA	<0.98		4.1	0.98	ng/L		01/25/21 18:33	01/28/21 04:04	1
NEtFOSAA	<1.1		4.1	1.1	ng/L		01/25/21 18:33	01/28/21 04:04	1
NMeFOSE	<1.1		3.3	1.1	ng/L		01/25/21 18:33	01/28/21 04:04	1
NEtFOSE	<0.69		1.6	0.69	ng/L		01/25/21 18:33	01/28/21 04:04	1
4:2 FTS	<0.20		1.6	0.20	ng/L		01/25/21 18:33	01/28/21 04:04	1
6:2 FTS	<2.0		4.1	2.0	ng/L		01/25/21 18:33	01/28/21 04:04	1
8:2 FTS	<0.38		1.6	0.38	ng/L		01/25/21 18:33	01/28/21 04:04	1
10:2 FTS	<0.55		1.6	0.55	ng/L		01/25/21 18:33	01/28/21 04:04	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.33		1.6	0.33	ng/L		01/25/21 18:33	01/28/21 04:04	1
HFPO-DA (GenX)	<1.2		3.3	1.2	ng/L		01/25/21 18:33	01/28/21 04:04	1
F-53B Major	<0.20		1.6	0.20	ng/L		01/25/21 18:33	01/28/21 04:04	1
F-53B Minor	<0.26		1.6	0.26	ng/L		01/25/21 18:33	01/28/21 04:04	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	45		25 - 150	01/25/21 18:33	01/28/21 04:04	1
13C5 PFPeA	37		25 - 150	01/25/21 18:33	01/28/21 04:04	1
13C2 PFHxA	79		25 - 150	01/25/21 18:33	01/28/21 04:04	1
13C4 PFHpA	81		25 - 150	01/25/21 18:33	01/28/21 04:04	1
13C4 PFOA	101		25 - 150	01/25/21 18:33	01/28/21 04:04	1
13C5 PFNA	105		25 - 150	01/25/21 18:33	01/28/21 04:04	1
13C2 PFDA	111		25 - 150	01/25/21 18:33	01/28/21 04:04	1

Eurofins TestAmerica, Sacramento

# Client Sample Results

Client: SCS Engineers  
 Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

**Client Sample ID: PZ-102**  
**Date Collected: 01/20/21 13:20**  
**Date Received: 01/22/21 09:20**

**Lab Sample ID: 320-69200-3**  
**Matrix: Water**

**Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)**

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C2 PFUnA	98		25 - 150	01/25/21 18:33	01/28/21 04:04	1
13C2 PFDoA	105		25 - 150	01/25/21 18:33	01/28/21 04:04	1
13C2 PFTeDA	116		25 - 150	01/25/21 18:33	01/28/21 04:04	1
13C2 PFHxDA	137		25 - 150	01/25/21 18:33	01/28/21 04:04	1
13C3 PFBS	45		25 - 150	01/25/21 18:33	01/28/21 04:04	1
18O2 PFHxS	84		25 - 150	01/25/21 18:33	01/28/21 04:04	1
13C4 PFOS	90		25 - 150	01/25/21 18:33	01/28/21 04:04	1
13C8 FOSA	89		10 - 150	01/25/21 18:33	01/28/21 04:04	1
d3-NMeFOSAA	81		25 - 150	01/25/21 18:33	01/28/21 04:04	1
d5-NEtFOSAA	74		25 - 150	01/25/21 18:33	01/28/21 04:04	1
d-N-MeFOSA-M	89		10 - 150	01/25/21 18:33	01/28/21 04:04	1
d-N-EtFOSA-M	75		10 - 150	01/25/21 18:33	01/28/21 04:04	1
d7-N-MeFOSE-M	65		10 - 150	01/25/21 18:33	01/28/21 04:04	1
d9-N-EtFOSE-M	53		10 - 150	01/25/21 18:33	01/28/21 04:04	1
M2-4:2 FTS	142		25 - 150	01/25/21 18:33	01/28/21 04:04	1
M2-6:2 FTS	131		25 - 150	01/25/21 18:33	01/28/21 04:04	1
M2-8:2 FTS	133		25 - 150	01/25/21 18:33	01/28/21 04:04	1
13C3 HFPO-DA	69		25 - 150	01/25/21 18:33	01/28/21 04:04	1

# Client Sample Results

Client: SCS Engineers  
Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

**Client Sample ID: MW-102**

**Lab Sample ID: 320-69200-4**

**Date Collected: 01/20/21 13:50**

**Matrix: Water**

**Date Received: 01/22/21 09:20**

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Perfluorobutanoic acid (PFBA)</b>	<b>38</b>	<b>J</b>	41	19	ng/L		01/25/21 18:33	01/28/21 22:14	10
Perfluoropentanoic acid (PFPeA)	<4.0		16	4.0	ng/L		01/25/21 18:33	01/28/21 22:14	10
Perfluorohexanoic acid (PFHxA)	<4.7		16	4.7	ng/L		01/25/21 18:33	01/28/21 22:14	10
Perfluoroheptanoic acid (PFHpA)	<2.0		16	2.0	ng/L		01/25/21 18:33	01/28/21 22:14	10
Perfluorooctanoic acid (PFOA)	<6.9		16	6.9	ng/L		01/25/21 18:33	01/28/21 22:14	10
Perfluorononanoic acid (PFNA)	<2.2		16	2.2	ng/L		01/25/21 18:33	01/28/21 22:14	10
Perfluorodecanoic acid (PFDA)	<2.5		16	2.5	ng/L		01/25/21 18:33	01/28/21 22:14	10
Perfluoroundecanoic acid (PFUnA)	<8.9		16	8.9	ng/L		01/25/21 18:33	01/28/21 22:14	10
Perfluorododecanoic acid (PFDoA)	<4.5		16	4.5	ng/L		01/25/21 18:33	01/28/21 22:14	10
Perfluorotridecanoic acid (PFTriA)	<11		16	11	ng/L		01/25/21 18:33	01/28/21 22:14	10
Perfluorotetradecanoic acid (PFTeA)	<5.9		16	5.9	ng/L		01/25/21 18:33	01/28/21 22:14	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<7.2		16	7.2	ng/L		01/25/21 18:33	01/28/21 22:14	10
Perfluoro-n-octadecanoic acid (PFODA)	<7.6		16	7.6	ng/L		01/25/21 18:33	01/28/21 22:14	10
<b>Perfluorobutanesulfonic acid (PFBS)</b>	<b>1.8</b>	<b>J</b>	16	1.6	ng/L		01/25/21 18:33	01/28/21 22:14	10
Perfluoropentanesulfonic acid (PFPeS)	<2.4		16	2.4	ng/L		01/25/21 18:33	01/28/21 22:14	10
Perfluorohexanesulfonic acid (PFHxS)	<4.6		16	4.6	ng/L		01/25/21 18:33	01/28/21 22:14	10
Perfluoroheptanesulfonic Acid (PFHpS)	<1.5		16	1.5	ng/L		01/25/21 18:33	01/28/21 22:14	10
Perfluorooctanesulfonic acid (PFOS)	<4.4		16	4.4	ng/L		01/25/21 18:33	01/28/21 22:14	10
Perfluorononanesulfonic acid (PFNS)	<3.0		16	3.0	ng/L		01/25/21 18:33	01/28/21 22:14	10
Perfluorodecanesulfonic acid (PFDS)	<2.6		16	2.6	ng/L		01/25/21 18:33	01/28/21 22:14	10
Perfluorododecanesulfonic acid (PFDoS)	<7.9		16	7.9	ng/L		01/25/21 18:33	01/28/21 22:14	10
Perfluorooctanesulfonamide (FOSA)	<8.0		16	8.0	ng/L		01/25/21 18:33	01/28/21 22:14	10
NEtFOSA	<7.1		16	7.1	ng/L		01/25/21 18:33	01/28/21 22:14	10
NMeFOSA	<3.5		16	3.5	ng/L		01/25/21 18:33	01/28/21 22:14	10
NMeFOSAA	<9.7		41	9.7	ng/L		01/25/21 18:33	01/28/21 22:14	10
NEtFOSAA	<11		41	11	ng/L		01/25/21 18:33	01/28/21 22:14	10
NMeFOSE	<11		32	11	ng/L		01/25/21 18:33	01/28/21 22:14	10
NEtFOSE	<6.9		16	6.9	ng/L		01/25/21 18:33	01/28/21 22:14	10
4:2 FTS	<1.9		16	1.9	ng/L		01/25/21 18:33	01/28/21 22:14	10
6:2 FTS	<20		41	20	ng/L		01/25/21 18:33	01/28/21 22:14	10
8:2 FTS	<3.7		16	3.7	ng/L		01/25/21 18:33	01/28/21 22:14	10
10:2 FTS	<5.4		16	5.4	ng/L		01/25/21 18:33	01/28/21 22:14	10
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<3.2		16	3.2	ng/L		01/25/21 18:33	01/28/21 22:14	10
HFPO-DA (GenX)	<12		32	12	ng/L		01/25/21 18:33	01/28/21 22:14	10
F-53B Major	<1.9		16	1.9	ng/L		01/25/21 18:33	01/28/21 22:14	10
F-53B Minor	<2.6		16	2.6	ng/L		01/25/21 18:33	01/28/21 22:14	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	72		25 - 150	01/25/21 18:33	01/28/21 22:14	10
13C5 PFPeA	52		25 - 150	01/25/21 18:33	01/28/21 22:14	10
13C2 PFHxA	90		25 - 150	01/25/21 18:33	01/28/21 22:14	10
13C4 PFHpA	91		25 - 150	01/25/21 18:33	01/28/21 22:14	10
13C4 PFOA	111		25 - 150	01/25/21 18:33	01/28/21 22:14	10
13C5 PFNA	105		25 - 150	01/25/21 18:33	01/28/21 22:14	10
13C2 PFDA	113		25 - 150	01/25/21 18:33	01/28/21 22:14	10

Eurofins TestAmerica, Sacramento

# Client Sample Results

Client: SCS Engineers  
 Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

**Client Sample ID: MW-102**

**Lab Sample ID: 320-69200-4**

**Date Collected: 01/20/21 13:50**

**Matrix: Water**

**Date Received: 01/22/21 09:20**

**Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)**

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C2 PFluA	97		25 - 150	01/25/21 18:33	01/28/21 22:14	10
13C2 PFlDoA	107		25 - 150	01/25/21 18:33	01/28/21 22:14	10
13C2 PFlTeDA	110		25 - 150	01/25/21 18:33	01/28/21 22:14	10
13C2 PFlHxDA	143		25 - 150	01/25/21 18:33	01/28/21 22:14	10
13C3 PFlBS	67		25 - 150	01/25/21 18:33	01/28/21 22:14	10
18O2 PFlHxS	86		25 - 150	01/25/21 18:33	01/28/21 22:14	10
13C4 PFlOS	97		25 - 150	01/25/21 18:33	01/28/21 22:14	10
13C8 FOSA	90		10 - 150	01/25/21 18:33	01/28/21 22:14	10
d3-NMeFOSA	97		25 - 150	01/25/21 18:33	01/28/21 22:14	10
d5-NEtFOSA	88		25 - 150	01/25/21 18:33	01/28/21 22:14	10
d-N-MeFOSA-M	75		10 - 150	01/25/21 18:33	01/28/21 22:14	10
d-N-EtFOSA-M	63		10 - 150	01/25/21 18:33	01/28/21 22:14	10
d7-N-MeFOSE-M	61		10 - 150	01/25/21 18:33	01/28/21 22:14	10
d9-N-EtFOSE-M	50		10 - 150	01/25/21 18:33	01/28/21 22:14	10
M2-4:2 FTS	155	*5+	25 - 150	01/25/21 18:33	01/28/21 22:14	10
M2-6:2 FTS	142		25 - 150	01/25/21 18:33	01/28/21 22:14	10
M2-8:2 FTS	118		25 - 150	01/25/21 18:33	01/28/21 22:14	10
13C3 HFPO-DA	79		25 - 150	01/25/21 18:33	01/28/21 22:14	10
13C2 10:2 FTS				01/25/21 18:33	01/28/21 22:14	10

# Client Sample Results

Client: SCS Engineers  
Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

**Client Sample ID: PZ-103**

**Lab Sample ID: 320-69200-5**

**Date Collected: 01/20/21 15:10**

**Matrix: Water**

**Date Received: 01/22/21 09:20**

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<2.0		4.2	2.0	ng/L		01/25/21 18:33	01/28/21 04:51	1
Perfluoropentanoic acid (PFPeA)	<0.41		1.7	0.41	ng/L		01/25/21 18:33	01/28/21 04:51	1
Perfluorohexanoic acid (PFHxA)	<0.49		1.7	0.49	ng/L		01/25/21 18:33	01/28/21 04:51	1
Perfluoroheptanoic acid (PFHpA)	<0.21		1.7	0.21	ng/L		01/25/21 18:33	01/28/21 04:51	1
Perfluorooctanoic acid (PFOA)	<0.72		1.7	0.72	ng/L		01/25/21 18:33	01/28/21 04:51	1
Perfluorononanoic acid (PFNA)	<0.23		1.7	0.23	ng/L		01/25/21 18:33	01/28/21 04:51	1
Perfluorodecanoic acid (PFDA)	<0.26		1.7	0.26	ng/L		01/25/21 18:33	01/28/21 04:51	1
Perfluoroundecanoic acid (PFUnA)	<0.93		1.7	0.93	ng/L		01/25/21 18:33	01/28/21 04:51	1
Perfluorododecanoic acid (PFDoA)	<0.46		1.7	0.46	ng/L		01/25/21 18:33	01/28/21 04:51	1
Perfluorotridecanoic acid (PFTriA)	<1.1		1.7	1.1	ng/L		01/25/21 18:33	01/28/21 04:51	1
Perfluorotetradecanoic acid (PFTeA)	<0.62		1.7	0.62	ng/L		01/25/21 18:33	01/28/21 04:51	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<0.75		1.7	0.75	ng/L		01/25/21 18:33	01/28/21 04:51	1
Perfluoro-n-octadecanoic acid (PFODA)	<0.79		1.7	0.79	ng/L		01/25/21 18:33	01/28/21 04:51	1
Perfluorobutanesulfonic acid (PFBS)	<0.17		1.7	0.17	ng/L		01/25/21 18:33	01/28/21 04:51	1
Perfluoropentanesulfonic acid (PFPeS)	<0.25		1.7	0.25	ng/L		01/25/21 18:33	01/28/21 04:51	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>0.52 J</b>		1.7	0.48	ng/L		01/25/21 18:33	01/28/21 04:51	1
Perfluoroheptanesulfonic Acid (PFHpS)	<0.16		1.7	0.16	ng/L		01/25/21 18:33	01/28/21 04:51	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>0.71 J</b>		1.7	0.46	ng/L		01/25/21 18:33	01/28/21 04:51	1
Perfluorononanesulfonic acid (PFNS)	<0.31		1.7	0.31	ng/L		01/25/21 18:33	01/28/21 04:51	1
Perfluorodecanesulfonic acid (PFDS)	<0.27		1.7	0.27	ng/L		01/25/21 18:33	01/28/21 04:51	1
Perfluorododecanesulfonic acid (PFDoS)	<0.82		1.7	0.82	ng/L		01/25/21 18:33	01/28/21 04:51	1
Perfluorooctanesulfonamide (FOSA)	<0.83		1.7	0.83	ng/L		01/25/21 18:33	01/28/21 04:51	1
NEtFOSA	<0.73		1.7	0.73	ng/L		01/25/21 18:33	01/28/21 04:51	1
NMeFOSA	<0.36		1.7	0.36	ng/L		01/25/21 18:33	01/28/21 04:51	1
NMeFOSAA	<1.0		4.2	1.0	ng/L		01/25/21 18:33	01/28/21 04:51	1
NEtFOSAA	<1.1		4.2	1.1	ng/L		01/25/21 18:33	01/28/21 04:51	1
NMeFOSE	<1.2		3.4	1.2	ng/L		01/25/21 18:33	01/28/21 04:51	1
NEtFOSE	<0.72		1.7	0.72	ng/L		01/25/21 18:33	01/28/21 04:51	1
4:2 FTS	<0.20		1.7	0.20	ng/L		01/25/21 18:33	01/28/21 04:51	1
6:2 FTS	<2.1		4.2	2.1	ng/L		01/25/21 18:33	01/28/21 04:51	1
8:2 FTS	<0.39		1.7	0.39	ng/L		01/25/21 18:33	01/28/21 04:51	1
10:2 FTS	<0.57		1.7	0.57	ng/L		01/25/21 18:33	01/28/21 04:51	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.34		1.7	0.34	ng/L		01/25/21 18:33	01/28/21 04:51	1
HFPO-DA (GenX)	<1.3		3.4	1.3	ng/L		01/25/21 18:33	01/28/21 04:51	1
F-53B Major	<0.20		1.7	0.20	ng/L		01/25/21 18:33	01/28/21 04:51	1
F-53B Minor	<0.27		1.7	0.27	ng/L		01/25/21 18:33	01/28/21 04:51	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	45		25 - 150				01/25/21 18:33	01/28/21 04:51	1
13C5 PFPeA	38		25 - 150				01/25/21 18:33	01/28/21 04:51	1
13C2 PFHxA	84		25 - 150				01/25/21 18:33	01/28/21 04:51	1
13C4 PFHpA	81		25 - 150				01/25/21 18:33	01/28/21 04:51	1
13C4 PFOA	107		25 - 150				01/25/21 18:33	01/28/21 04:51	1
13C5 PFNA	103		25 - 150				01/25/21 18:33	01/28/21 04:51	1

Euofins TestAmerica, Sacramento



# Client Sample Results

Client: SCS Engineers  
 Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

**Client Sample ID: PZ-103**  
**Date Collected: 01/20/21 15:10**  
**Date Received: 01/22/21 09:20**

**Lab Sample ID: 320-69200-5**  
**Matrix: Water**

**Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)**

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C2 PFDA	121		25 - 150	01/25/21 18:33	01/28/21 04:51	1
13C2 PFUnA	110		25 - 150	01/25/21 18:33	01/28/21 04:51	1
13C2 PFDoA	115		25 - 150	01/25/21 18:33	01/28/21 04:51	1
13C2 PFTeDA	114		25 - 150	01/25/21 18:33	01/28/21 04:51	1
13C2 PFHxDA	137		25 - 150	01/25/21 18:33	01/28/21 04:51	1
13C3 PFBS	51		25 - 150	01/25/21 18:33	01/28/21 04:51	1
18O2 PFHxS	82		25 - 150	01/25/21 18:33	01/28/21 04:51	1
13C4 PFOS	95		25 - 150	01/25/21 18:33	01/28/21 04:51	1
13C8 FOSA	91		10 - 150	01/25/21 18:33	01/28/21 04:51	1
d3-NMeFOSAA	87		25 - 150	01/25/21 18:33	01/28/21 04:51	1
d5-NEtFOSAA	79		25 - 150	01/25/21 18:33	01/28/21 04:51	1
d-N-MeFOSA-M	96		10 - 150	01/25/21 18:33	01/28/21 04:51	1
d-N-EtFOSA-M	83		10 - 150	01/25/21 18:33	01/28/21 04:51	1
d7-N-MeFOSE-M	67		10 - 150	01/25/21 18:33	01/28/21 04:51	1
d9-N-EtFOSE-M	60		10 - 150	01/25/21 18:33	01/28/21 04:51	1
M2-4:2 FTS	153	*5+	25 - 150	01/25/21 18:33	01/28/21 04:51	1
M2-6:2 FTS	150		25 - 150	01/25/21 18:33	01/28/21 04:51	1
M2-8:2 FTS	130		25 - 150	01/25/21 18:33	01/28/21 04:51	1
13C3 HFPO-DA	70		25 - 150	01/25/21 18:33	01/28/21 04:51	1

# Client Sample Results

Client: SCS Engineers  
 Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

**Client Sample ID: MW-103**

**Lab Sample ID: 320-69200-6**

Date Collected: 01/20/21 15:45

Matrix: Water

Date Received: 01/22/21 09:20

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Perfluorobutanoic acid (PFBA)</b>	<b>9.1</b>		4.2	2.0	ng/L		01/25/21 18:33	01/28/21 05:01	1
Perfluoropentanoic acid (PFPeA)	<0.41		1.7	0.41	ng/L		01/25/21 18:33	01/28/21 05:01	1
<b>Perfluorohexanoic acid (PFHxA)</b>	<b>1.1</b>	<b>J</b>	1.7	0.48	ng/L		01/25/21 18:33	01/28/21 05:01	1
<b>Perfluoroheptanoic acid (PFHpA)</b>	<b>0.85</b>	<b>J</b>	1.7	0.21	ng/L		01/25/21 18:33	01/28/21 05:01	1
<b>Perfluorooctanoic acid (PFOA)</b>	<b>0.85</b>	<b>J</b>	1.7	0.71	ng/L		01/25/21 18:33	01/28/21 05:01	1
<b>Perfluorononanoic acid (PFNA)</b>	<b>0.30</b>	<b>J</b>	1.7	0.22	ng/L		01/25/21 18:33	01/28/21 05:01	1
Perfluorodecanoic acid (PFDA)	<0.26		1.7	0.26	ng/L		01/25/21 18:33	01/28/21 05:01	1
Perfluoroundecanoic acid (PFUnA)	<0.91		1.7	0.91	ng/L		01/25/21 18:33	01/28/21 05:01	1
Perfluorododecanoic acid (PFDoA)	<0.46		1.7	0.46	ng/L		01/25/21 18:33	01/28/21 05:01	1
Perfluorotridecanoic acid (PFTriA)	<1.1		1.7	1.1	ng/L		01/25/21 18:33	01/28/21 05:01	1
Perfluorotetradecanoic acid (PFTeA)	<0.61		1.7	0.61	ng/L		01/25/21 18:33	01/28/21 05:01	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<0.74		1.7	0.74	ng/L		01/25/21 18:33	01/28/21 05:01	1
Perfluoro-n-octadecanoic acid (PFODA)	<0.78		1.7	0.78	ng/L		01/25/21 18:33	01/28/21 05:01	1
<b>Perfluorobutanesulfonic acid (PFBS)</b>	<b>1.0</b>	<b>J</b>	1.7	0.17	ng/L		01/25/21 18:33	01/28/21 05:01	1
Perfluoropentanesulfonic acid (PFPeS)	<0.25		1.7	0.25	ng/L		01/25/21 18:33	01/28/21 05:01	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>1.4</b>	<b>J</b>	1.7	0.47	ng/L		01/25/21 18:33	01/28/21 05:01	1
Perfluoroheptanesulfonic Acid (PFHpS)	<0.16		1.7	0.16	ng/L		01/25/21 18:33	01/28/21 05:01	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1.7</b>		1.7	0.45	ng/L		01/25/21 18:33	01/28/21 05:01	1
Perfluorononanesulfonic acid (PFNS)	<0.31		1.7	0.31	ng/L		01/25/21 18:33	01/28/21 05:01	1
Perfluorodecanesulfonic acid (PFDS)	<0.27		1.7	0.27	ng/L		01/25/21 18:33	01/28/21 05:01	1
Perfluorododecanesulfonic acid (PFDoS)	<0.81		1.7	0.81	ng/L		01/25/21 18:33	01/28/21 05:01	1
Perfluorooctanesulfonamide (FOSA)	<0.81		1.7	0.81	ng/L		01/25/21 18:33	01/28/21 05:01	1
NEtFOSA	<0.72		1.7	0.72	ng/L		01/25/21 18:33	01/28/21 05:01	1
NMeFOSA	<0.36		1.7	0.36	ng/L		01/25/21 18:33	01/28/21 05:01	1
NMeFOSAA	<1.0		4.2	1.0	ng/L		01/25/21 18:33	01/28/21 05:01	1
NEtFOSAA	<1.1		4.2	1.1	ng/L		01/25/21 18:33	01/28/21 05:01	1
NMeFOSE	<1.2		3.3	1.2	ng/L		01/25/21 18:33	01/28/21 05:01	1
NEtFOSE	<0.71		1.7	0.71	ng/L		01/25/21 18:33	01/28/21 05:01	1
4:2 FTS	<0.20		1.7	0.20	ng/L		01/25/21 18:33	01/28/21 05:01	1
6:2 FTS	<2.1		4.2	2.1	ng/L		01/25/21 18:33	01/28/21 05:01	1
8:2 FTS	<0.38		1.7	0.38	ng/L		01/25/21 18:33	01/28/21 05:01	1
10:2 FTS	<0.56		1.7	0.56	ng/L		01/25/21 18:33	01/28/21 05:01	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.33		1.7	0.33	ng/L		01/25/21 18:33	01/28/21 05:01	1
HFPO-DA (GenX)	<1.2		3.3	1.2	ng/L		01/25/21 18:33	01/28/21 05:01	1
F-53B Major	<0.20		1.7	0.20	ng/L		01/25/21 18:33	01/28/21 05:01	1
F-53B Minor	<0.27		1.7	0.27	ng/L		01/25/21 18:33	01/28/21 05:01	1
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C4 PFBA	52		25 - 150				01/25/21 18:33	01/28/21 05:01	1
13C5 PFPeA	37		25 - 150				01/25/21 18:33	01/28/21 05:01	1
13C2 PFHxA	89		25 - 150				01/25/21 18:33	01/28/21 05:01	1
13C4 PFHpA	82		25 - 150				01/25/21 18:33	01/28/21 05:01	1
13C4 PFOA	106		25 - 150				01/25/21 18:33	01/28/21 05:01	1

Eurofins TestAmerica, Sacramento

# Client Sample Results

Client: SCS Engineers  
 Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

**Client Sample ID: MW-103**

**Lab Sample ID: 320-69200-6**

**Date Collected: 01/20/21 15:45**

**Matrix: Water**

**Date Received: 01/22/21 09:20**

**Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)**

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C5 PFNA	103		25 - 150	01/25/21 18:33	01/28/21 05:01	1
13C2 PFDA	126		25 - 150	01/25/21 18:33	01/28/21 05:01	1
13C2 PFUnA	116		25 - 150	01/25/21 18:33	01/28/21 05:01	1
13C2 PFDoA	114		25 - 150	01/25/21 18:33	01/28/21 05:01	1
13C2 PFTeDA	128		25 - 150	01/25/21 18:33	01/28/21 05:01	1
13C2 PFHxDA	156	*5+	25 - 150	01/25/21 18:33	01/28/21 05:01	1
13C3 PFBS	57		25 - 150	01/25/21 18:33	01/28/21 05:01	1
18O2 PFHxS	81		25 - 150	01/25/21 18:33	01/28/21 05:01	1
13C4 PFOS	91		25 - 150	01/25/21 18:33	01/28/21 05:01	1
13C8 FOSA	92		10 - 150	01/25/21 18:33	01/28/21 05:01	1
d3-NMeFOSAA	93		25 - 150	01/25/21 18:33	01/28/21 05:01	1
d5-NEtFOSAA	89		25 - 150	01/25/21 18:33	01/28/21 05:01	1
d-N-MeFOSA-M	99		10 - 150	01/25/21 18:33	01/28/21 05:01	1
d-N-EtFOSA-M	88		10 - 150	01/25/21 18:33	01/28/21 05:01	1
d7-N-MeFOSE-M	59		10 - 150	01/25/21 18:33	01/28/21 05:01	1
d9-N-EtFOSE-M	52		10 - 150	01/25/21 18:33	01/28/21 05:01	1
M2-4:2 FTS	146		25 - 150	01/25/21 18:33	01/28/21 05:01	1
M2-6:2 FTS	165	*5+	25 - 150	01/25/21 18:33	01/28/21 05:01	1
M2-8:2 FTS	156	*5+	25 - 150	01/25/21 18:33	01/28/21 05:01	1
13C3 HFPO-DA	73		25 - 150	01/25/21 18:33	01/28/21 05:01	1

# Client Sample Results

Client: SCS Engineers  
Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

**Client Sample ID: Field Blank**

**Lab Sample ID: 320-69200-7**

**Date Collected: 01/20/21 13:20**

**Matrix: Water**

**Date Received: 01/22/21 09:20**

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<2.1		4.4	2.1	ng/L		01/25/21 18:33	01/28/21 05:10	1
Perfluoropentanoic acid (PFPeA)	<0.43		1.7	0.43	ng/L		01/25/21 18:33	01/28/21 05:10	1
Perfluorohexanoic acid (PFHxA)	<0.51		1.7	0.51	ng/L		01/25/21 18:33	01/28/21 05:10	1
Perfluoroheptanoic acid (PFHpA)	<0.22		1.7	0.22	ng/L		01/25/21 18:33	01/28/21 05:10	1
Perfluorooctanoic acid (PFOA)	<0.74		1.7	0.74	ng/L		01/25/21 18:33	01/28/21 05:10	1
Perfluorononanoic acid (PFNA)	<0.24		1.7	0.24	ng/L		01/25/21 18:33	01/28/21 05:10	1
Perfluorodecanoic acid (PFDA)	<0.27		1.7	0.27	ng/L		01/25/21 18:33	01/28/21 05:10	1
Perfluoroundecanoic acid (PFUnA)	<0.96		1.7	0.96	ng/L		01/25/21 18:33	01/28/21 05:10	1
Perfluorododecanoic acid (PFDoA)	<0.48		1.7	0.48	ng/L		01/25/21 18:33	01/28/21 05:10	1
Perfluorotridecanoic acid (PFTriA)	<1.1		1.7	1.1	ng/L		01/25/21 18:33	01/28/21 05:10	1
Perfluorotetradecanoic acid (PFTeA)	<0.64		1.7	0.64	ng/L		01/25/21 18:33	01/28/21 05:10	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<0.78		1.7	0.78	ng/L		01/25/21 18:33	01/28/21 05:10	1
Perfluoro-n-octadecanoic acid (PFODA)	<0.82		1.7	0.82	ng/L		01/25/21 18:33	01/28/21 05:10	1
Perfluorobutanesulfonic acid (PFBS)	<0.17		1.7	0.17	ng/L		01/25/21 18:33	01/28/21 05:10	1
Perfluoropentanesulfonic acid (PFPeS)	<0.26		1.7	0.26	ng/L		01/25/21 18:33	01/28/21 05:10	1
Perfluorohexanesulfonic acid (PFHxS)	<0.50		1.7	0.50	ng/L		01/25/21 18:33	01/28/21 05:10	1
Perfluoroheptanesulfonic Acid (PFHpS)	<0.17		1.7	0.17	ng/L		01/25/21 18:33	01/28/21 05:10	1
Perfluorooctanesulfonic acid (PFOS)	<0.47		1.7	0.47	ng/L		01/25/21 18:33	01/28/21 05:10	1
Perfluorononanesulfonic acid (PFNS)	<0.32		1.7	0.32	ng/L		01/25/21 18:33	01/28/21 05:10	1
Perfluorodecanesulfonic acid (PFDS)	<0.28		1.7	0.28	ng/L		01/25/21 18:33	01/28/21 05:10	1
Perfluorododecanesulfonic acid (PFDoS)	<0.85		1.7	0.85	ng/L		01/25/21 18:33	01/28/21 05:10	1
Perfluorooctanesulfonamide (FOSA)	<0.85		1.7	0.85	ng/L		01/25/21 18:33	01/28/21 05:10	1
NEtFOSA	<0.76		1.7	0.76	ng/L		01/25/21 18:33	01/28/21 05:10	1
<b>NMeFOSA</b>	<b>0.50</b>	<b>J</b>	1.7	0.38	ng/L		01/25/21 18:33	01/28/21 05:10	1
NMeFOSAA	<1.0		4.4	1.0	ng/L		01/25/21 18:33	01/28/21 05:10	1
NEtFOSAA	<1.1		4.4	1.1	ng/L		01/25/21 18:33	01/28/21 05:10	1
NMeFOSE	<1.2		3.5	1.2	ng/L		01/25/21 18:33	01/28/21 05:10	1
<b>NEtFOSE</b>	<b>0.75</b>	<b>J</b>	1.7	0.74	ng/L		01/25/21 18:33	01/28/21 05:10	1
4:2 FTS	<0.21		1.7	0.21	ng/L		01/25/21 18:33	01/28/21 05:10	1
6:2 FTS	<2.2		4.4	2.2	ng/L		01/25/21 18:33	01/28/21 05:10	1
8:2 FTS	<0.40		1.7	0.40	ng/L		01/25/21 18:33	01/28/21 05:10	1
10:2 FTS	<0.58		1.7	0.58	ng/L		01/25/21 18:33	01/28/21 05:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.35		1.7	0.35	ng/L		01/25/21 18:33	01/28/21 05:10	1
HFPO-DA (GenX)	<1.3		3.5	1.3	ng/L		01/25/21 18:33	01/28/21 05:10	1
F-53B Major	<0.21		1.7	0.21	ng/L		01/25/21 18:33	01/28/21 05:10	1
F-53B Minor	<0.28		1.7	0.28	ng/L		01/25/21 18:33	01/28/21 05:10	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	88		25 - 150	01/25/21 18:33	01/28/21 05:10	1
13C5 PFPeA	76		25 - 150	01/25/21 18:33	01/28/21 05:10	1
13C2 PFHxA	99		25 - 150	01/25/21 18:33	01/28/21 05:10	1
13C4 PFHpA	97		25 - 150	01/25/21 18:33	01/28/21 05:10	1
13C4 PFOA	105		25 - 150	01/25/21 18:33	01/28/21 05:10	1
13C5 PFNA	103		25 - 150	01/25/21 18:33	01/28/21 05:10	1
13C2 PFDA	105		25 - 150	01/25/21 18:33	01/28/21 05:10	1
13C2 PFUnA	99		25 - 150	01/25/21 18:33	01/28/21 05:10	1

Eurofins TestAmerica, Sacramento

# Client Sample Results

Client: SCS Engineers  
 Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

**Client Sample ID: Field Blank**

**Lab Sample ID: 320-69200-7**

**Date Collected: 01/20/21 13:20**

**Matrix: Water**

**Date Received: 01/22/21 09:20**

**Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)**

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C2 PFDoA	90		25 - 150	01/25/21 18:33	01/28/21 05:10	1
13C2 PFTeDA	99		25 - 150	01/25/21 18:33	01/28/21 05:10	1
13C2 PFHxDA	110		25 - 150	01/25/21 18:33	01/28/21 05:10	1
13C3 PFBS	85		25 - 150	01/25/21 18:33	01/28/21 05:10	1
18O2 PFHxS	90		25 - 150	01/25/21 18:33	01/28/21 05:10	1
13C4 PFOS	90		25 - 150	01/25/21 18:33	01/28/21 05:10	1
13C8 FOSA	82		10 - 150	01/25/21 18:33	01/28/21 05:10	1
d3-NMeFOSAA	85		25 - 150	01/25/21 18:33	01/28/21 05:10	1
d5-NEtFOSAA	76		25 - 150	01/25/21 18:33	01/28/21 05:10	1
d-N-MeFOSA-M	95		10 - 150	01/25/21 18:33	01/28/21 05:10	1
d-N-EtFOSA-M	89		10 - 150	01/25/21 18:33	01/28/21 05:10	1
d7-N-MeFOSE-M	63		10 - 150	01/25/21 18:33	01/28/21 05:10	1
d9-N-EtFOSE-M	50		10 - 150	01/25/21 18:33	01/28/21 05:10	1
M2-4:2 FTS	95		25 - 150	01/25/21 18:33	01/28/21 05:10	1
M2-6:2 FTS	100		25 - 150	01/25/21 18:33	01/28/21 05:10	1
M2-8:2 FTS	118		25 - 150	01/25/21 18:33	01/28/21 05:10	1
13C3 HFPO-DA	98		25 - 150	01/25/21 18:33	01/28/21 05:10	1



# Client Sample Results

Client: SCS Engineers  
Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

**Client Sample ID: Equipment Blank**

**Lab Sample ID: 320-69200-8**

Date Collected: 01/20/21 15:45

Matrix: Water

Date Received: 01/22/21 09:20

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<2.3		4.8	2.3	ng/L		01/25/21 18:33	01/28/21 05:20	1
Perfluoropentanoic acid (PFPeA)	<0.47		1.9	0.47	ng/L		01/25/21 18:33	01/28/21 05:20	1
Perfluorohexanoic acid (PFHxA)	<0.56		1.9	0.56	ng/L		01/25/21 18:33	01/28/21 05:20	1
Perfluoroheptanoic acid (PFHpA)	<0.24		1.9	0.24	ng/L		01/25/21 18:33	01/28/21 05:20	1
Perfluorooctanoic acid (PFOA)	<0.82		1.9	0.82	ng/L		01/25/21 18:33	01/28/21 05:20	1
Perfluorononanoic acid (PFNA)	<0.26		1.9	0.26	ng/L		01/25/21 18:33	01/28/21 05:20	1
Perfluorodecanoic acid (PFDA)	<0.30		1.9	0.30	ng/L		01/25/21 18:33	01/28/21 05:20	1
Perfluoroundecanoic acid (PFUnA)	<1.1		1.9	1.1	ng/L		01/25/21 18:33	01/28/21 05:20	1
Perfluorododecanoic acid (PFDoA)	<0.53		1.9	0.53	ng/L		01/25/21 18:33	01/28/21 05:20	1
Perfluorotridecanoic acid (PFTriA)	<1.3		1.9	1.3	ng/L		01/25/21 18:33	01/28/21 05:20	1
Perfluorotetradecanoic acid (PFTeA)	<0.71		1.9	0.71	ng/L		01/25/21 18:33	01/28/21 05:20	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<0.86		1.9	0.86	ng/L		01/25/21 18:33	01/28/21 05:20	1
Perfluoro-n-octadecanoic acid (PFODA)	<0.91		1.9	0.91	ng/L		01/25/21 18:33	01/28/21 05:20	1
Perfluorobutanesulfonic acid (PFBS)	<0.19		1.9	0.19	ng/L		01/25/21 18:33	01/28/21 05:20	1
Perfluoropentanesulfonic acid (PFPeS)	<0.29		1.9	0.29	ng/L		01/25/21 18:33	01/28/21 05:20	1
Perfluorohexanesulfonic acid (PFHxS)	<0.55		1.9	0.55	ng/L		01/25/21 18:33	01/28/21 05:20	1
Perfluoroheptanesulfonic Acid (PFHpS)	<0.18		1.9	0.18	ng/L		01/25/21 18:33	01/28/21 05:20	1
Perfluorooctanesulfonic acid (PFOS)	<0.52		1.9	0.52	ng/L		01/25/21 18:33	01/28/21 05:20	1
Perfluorononanesulfonic acid (PFNS)	<0.36		1.9	0.36	ng/L		01/25/21 18:33	01/28/21 05:20	1
Perfluorodecanesulfonic acid (PFDS)	<0.31		1.9	0.31	ng/L		01/25/21 18:33	01/28/21 05:20	1
Perfluorododecanesulfonic acid (PFDoS)	<0.94		1.9	0.94	ng/L		01/25/21 18:33	01/28/21 05:20	1
Perfluorooctanesulfonamide (FOSA)	<0.95		1.9	0.95	ng/L		01/25/21 18:33	01/28/21 05:20	1
NEtFOSA	<0.84		1.9	0.84	ng/L		01/25/21 18:33	01/28/21 05:20	1
NMeFOSA	<0.42		1.9	0.42	ng/L		01/25/21 18:33	01/28/21 05:20	1
NMeFOSAA	<1.2		4.8	1.2	ng/L		01/25/21 18:33	01/28/21 05:20	1
NEtFOSAA	<1.3		4.8	1.3	ng/L		01/25/21 18:33	01/28/21 05:20	1
NMeFOSE	<1.4		3.9	1.4	ng/L		01/25/21 18:33	01/28/21 05:20	1
NEtFOSE	<0.82		1.9	0.82	ng/L		01/25/21 18:33	01/28/21 05:20	1
4:2 FTS	<0.23		1.9	0.23	ng/L		01/25/21 18:33	01/28/21 05:20	1
6:2 FTS	<2.4		4.8	2.4	ng/L		01/25/21 18:33	01/28/21 05:20	1
8:2 FTS	<0.45		1.9	0.45	ng/L		01/25/21 18:33	01/28/21 05:20	1
10:2 FTS	<0.65		1.9	0.65	ng/L		01/25/21 18:33	01/28/21 05:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.39		1.9	0.39	ng/L		01/25/21 18:33	01/28/21 05:20	1
HFPO-DA (GenX)	<1.5		3.9	1.5	ng/L		01/25/21 18:33	01/28/21 05:20	1
F-53B Major	<0.23		1.9	0.23	ng/L		01/25/21 18:33	01/28/21 05:20	1
F-53B Minor	<0.31		1.9	0.31	ng/L		01/25/21 18:33	01/28/21 05:20	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	93		25 - 150	01/25/21 18:33	01/28/21 05:20	1
13C5 PFPeA	84		25 - 150	01/25/21 18:33	01/28/21 05:20	1
13C2 PFHxA	100		25 - 150	01/25/21 18:33	01/28/21 05:20	1
13C4 PFHpA	100		25 - 150	01/25/21 18:33	01/28/21 05:20	1
13C4 PFOA	103		25 - 150	01/25/21 18:33	01/28/21 05:20	1
13C5 PFNA	103		25 - 150	01/25/21 18:33	01/28/21 05:20	1
13C2 PFDA	115		25 - 150	01/25/21 18:33	01/28/21 05:20	1
13C2 PFUnA	104		25 - 150	01/25/21 18:33	01/28/21 05:20	1

Eurofins TestAmerica, Sacramento

# Client Sample Results

Client: SCS Engineers  
 Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

**Client Sample ID: Equipment Blank**

**Lab Sample ID: 320-69200-8**

**Date Collected: 01/20/21 15:45**

**Matrix: Water**

**Date Received: 01/22/21 09:20**

**Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)**

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C2 PFDoA	106		25 - 150	01/25/21 18:33	01/28/21 05:20	1
13C2 PFTeDA	97		25 - 150	01/25/21 18:33	01/28/21 05:20	1
13C2 PFHxDA	103		25 - 150	01/25/21 18:33	01/28/21 05:20	1
13C3 PFBS	84		25 - 150	01/25/21 18:33	01/28/21 05:20	1
18O2 PFHxS	95		25 - 150	01/25/21 18:33	01/28/21 05:20	1
13C4 PFOS	93		25 - 150	01/25/21 18:33	01/28/21 05:20	1
13C8 FOSA	86		10 - 150	01/25/21 18:33	01/28/21 05:20	1
d3-NMeFOSAA	90		25 - 150	01/25/21 18:33	01/28/21 05:20	1
d5-NEtFOSAA	81		25 - 150	01/25/21 18:33	01/28/21 05:20	1
d-N-MeFOSA-M	94		10 - 150	01/25/21 18:33	01/28/21 05:20	1
d-N-EtFOSA-M	91		10 - 150	01/25/21 18:33	01/28/21 05:20	1
d7-N-MeFOSE-M	65		10 - 150	01/25/21 18:33	01/28/21 05:20	1
d9-N-EtFOSE-M	45		10 - 150	01/25/21 18:33	01/28/21 05:20	1
M2-4:2 FTS	96		25 - 150	01/25/21 18:33	01/28/21 05:20	1
M2-6:2 FTS	92		25 - 150	01/25/21 18:33	01/28/21 05:20	1
M2-8:2 FTS	126		25 - 150	01/25/21 18:33	01/28/21 05:20	1
13C3 HFPO-DA	104		25 - 150	01/25/21 18:33	01/28/21 05:20	1

# Isotope Dilution Summary

Client: SCS Engineers  
 Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

## Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-69200-1	PZ-101	43	35	79	78	106	107	118	115
320-69200-2	MW-101	56	41	92	88	108	103	114	106
320-69200-3	PZ-102	45	37	79	81	101	105	111	98
320-69200-4	MW-102	72	52	90	91	111	105	113	97
320-69200-5	PZ-103	45	38	84	81	107	103	121	110
320-69200-6	MW-103	52	37	89	82	106	103	126	116
320-69200-7	Field Blank	88	76	99	97	105	103	105	99
320-69200-8	Equipment Blank	93	84	100	100	103	103	115	104
LCS 320-455410/2-A	Lab Control Sample	93	89	96	98	107	103	107	102
LCSD 320-455410/3-A	Lab Control Sample Dup	95	94	97	100	108	107	108	99
MB 320-455410/1-A	Method Blank	96	93	101	97	108	107	105	101

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	PFHxDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)
320-69200-1	PZ-101	105	133	154 *5+	46	83	94	98	86
320-69200-2	MW-101	114	132	139	63	89	91	92	79
320-69200-3	PZ-102	105	116	137	45	84	90	89	81
320-69200-4	MW-102	107	110	143	67	86	97	90	97
320-69200-5	PZ-103	115	114	137	51	82	95	91	87
320-69200-6	MW-103	114	128	156 *5+	57	81	91	92	93
320-69200-7	Field Blank	90	99	110	85	90	90	82	85
320-69200-8	Equipment Blank	106	97	103	84	95	93	86	90
LCS 320-455410/2-A	Lab Control Sample	108	108	110	87	90	91	88	94
LCSD 320-455410/3-A	Lab Control Sample Dup	108	102	111	91	91	89	88	93
MB 320-455410/1-A	Method Blank	109	102	111	93	87	89	91	99

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	d5NEFOS (25-150)	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)
320-69200-1	PZ-101	83	105	87	75	55	167 *5+	171 *5+	145
320-69200-2	MW-101	76	88	67	61	53	148	120	116
320-69200-3	PZ-102	74	89	75	65	53	142	131	133
320-69200-4	MW-102	88	75	63	61	50	155 *5+	142	118
320-69200-5	PZ-103	79	96	83	67	60	153 *5+	150	130
320-69200-6	MW-103	89	99	88	59	52	146	165 *5+	156 *5+
320-69200-7	Field Blank	76	95	89	63	50	95	100	118
320-69200-8	Equipment Blank	81	94	91	65	45	96	92	126
LCS 320-455410/2-A	Lab Control Sample	84	88	86	73	50	92	94	105
LCSD 320-455410/3-A	Lab Control Sample Dup	86	91	85	81	55	90	96	115
MB 320-455410/1-A	Method Blank	88	93	92	69	57	89	98	111

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HFPODA (25-150)	M102FTS
320-69200-1	PZ-101	68	
320-69200-2	MW-101	75	
320-69200-3	PZ-102	69	
320-69200-4	MW-102	79	
320-69200-5	PZ-103	70	
320-69200-6	MW-103	73	
320-69200-7	Field Blank	98	

Eurofins TestAmerica, Sacramento

# Isotope Dilution Summary

Client: SCS Engineers  
Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

## Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HFPODA (25-150)	M102FTS
320-69200-8	Equipment Blank	104	
LCS 320-455410/2-A	Lab Control Sample	101	
LCSD 320-455410/3-A	Lab Control Sample Dup	101	
MB 320-455410/1-A	Method Blank	104	

### Surrogate Legend

PFBA = 13C4 PFBA  
PFPeA = 13C5 PFPeA  
PFHxA = 13C2 PFHxA  
C4PFHA = 13C4 PFHpA  
PFOA = 13C4 PFOA  
PFNA = 13C5 PFNA  
PFDA = 13C2 PFDA  
PFUnA = 13C2 PFUnA  
PFDoA = 13C2 PFDoA  
PFTDA = 13C2 PFTeDA  
PFHxDA = 13C2 PFHxDA  
C3PFBS = 13C3 PFBS  
PFHxS = 18O2 PFHxS  
PFOS = 13C4 PFOS  
PFOSA = 13C8 FOSA  
d3NMFOS = d3-NMeFOSAA  
d5NEFOS = d5-NEtFOSAA  
dMeFOSA = d-N-MeFOSA-M  
dEtFOSA = d-N-EtFOSA-M  
NMFm = d7-N-MeFOSE-M  
NEFM = d9-N-EtFOSE-M  
M242FTS = M2-4:2 FTS  
M262FTS = M2-6:2 FTS  
M282FTS = M2-8:2 FTS  
HFPODA = 13C3 HFPO-DA  
M102FTS = 13C2 10:2 FTS

# QC Sample Results

Client: SCS Engineers  
 Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

## Method: 537 (modified) - Fluorinated Alkyl Substances

**Lab Sample ID: MB 320-455410/1-A**  
**Matrix: Water**  
**Analysis Batch: 456054**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 455410**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorobutanoic acid (PFBA)	<2.4		5.0	2.4	ng/L		01/25/21 18:33	01/28/21 02:49	1
Perfluoropentanoic acid (PFPeA)	<0.49		2.0	0.49	ng/L		01/25/21 18:33	01/28/21 02:49	1
Perfluorohexanoic acid (PFHxA)	<0.58		2.0	0.58	ng/L		01/25/21 18:33	01/28/21 02:49	1
Perfluoroheptanoic acid (PFHpA)	<0.25		2.0	0.25	ng/L		01/25/21 18:33	01/28/21 02:49	1
Perfluorooctanoic acid (PFOA)	<0.85		2.0	0.85	ng/L		01/25/21 18:33	01/28/21 02:49	1
Perfluorononanoic acid (PFNA)	<0.27		2.0	0.27	ng/L		01/25/21 18:33	01/28/21 02:49	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	0.31	ng/L		01/25/21 18:33	01/28/21 02:49	1
Perfluoroundecanoic acid (PFUnA)	<1.1		2.0	1.1	ng/L		01/25/21 18:33	01/28/21 02:49	1
Perfluorododecanoic acid (PFDoA)	<0.55		2.0	0.55	ng/L		01/25/21 18:33	01/28/21 02:49	1
Perfluorotridecanoic acid (PFTriA)	<1.3		2.0	1.3	ng/L		01/25/21 18:33	01/28/21 02:49	1
Perfluorotetradecanoic acid (PFTeA)	<0.73		2.0	0.73	ng/L		01/25/21 18:33	01/28/21 02:49	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<0.89		2.0	0.89	ng/L		01/25/21 18:33	01/28/21 02:49	1
Perfluoro-n-octadecanoic acid (PFODA)	<0.94		2.0	0.94	ng/L		01/25/21 18:33	01/28/21 02:49	1
Perfluorobutanesulfonic acid (PFBS)	<0.20		2.0	0.20	ng/L		01/25/21 18:33	01/28/21 02:49	1
Perfluoropentanesulfonic acid (PFPeS)	<0.30		2.0	0.30	ng/L		01/25/21 18:33	01/28/21 02:49	1
Perfluorohexanesulfonic acid (PFHxS)	<0.57		2.0	0.57	ng/L		01/25/21 18:33	01/28/21 02:49	1
Perfluoroheptanesulfonic Acid (PFHpS)	<0.19		2.0	0.19	ng/L		01/25/21 18:33	01/28/21 02:49	1
Perfluorooctanesulfonic acid (PFOS)	<0.54		2.0	0.54	ng/L		01/25/21 18:33	01/28/21 02:49	1
Perfluorononanesulfonic acid (PFNS)	<0.37		2.0	0.37	ng/L		01/25/21 18:33	01/28/21 02:49	1
Perfluorodecanesulfonic acid (PFDS)	<0.32		2.0	0.32	ng/L		01/25/21 18:33	01/28/21 02:49	1
Perfluorododecanesulfonic acid (PFDoS)	<0.97		2.0	0.97	ng/L		01/25/21 18:33	01/28/21 02:49	1
Perfluorooctanesulfonamide (FOSA)	<0.98		2.0	0.98	ng/L		01/25/21 18:33	01/28/21 02:49	1
NEtFOSA	<0.87		2.0	0.87	ng/L		01/25/21 18:33	01/28/21 02:49	1
NMeFOSA	<0.43		2.0	0.43	ng/L		01/25/21 18:33	01/28/21 02:49	1
NMeFOSAA	<1.2		5.0	1.2	ng/L		01/25/21 18:33	01/28/21 02:49	1
NEtFOSAA	<1.3		5.0	1.3	ng/L		01/25/21 18:33	01/28/21 02:49	1
NMeFOSE	<1.4		4.0	1.4	ng/L		01/25/21 18:33	01/28/21 02:49	1
NEtFOSE	<0.85		2.0	0.85	ng/L		01/25/21 18:33	01/28/21 02:49	1
4:2 FTS	<0.24		2.0	0.24	ng/L		01/25/21 18:33	01/28/21 02:49	1
6:2 FTS	<2.5		5.0	2.5	ng/L		01/25/21 18:33	01/28/21 02:49	1
8:2 FTS	<0.46		2.0	0.46	ng/L		01/25/21 18:33	01/28/21 02:49	1
10:2 FTS	<0.67		2.0	0.67	ng/L		01/25/21 18:33	01/28/21 02:49	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.40		2.0	0.40	ng/L		01/25/21 18:33	01/28/21 02:49	1
HFPO-DA (GenX)	<1.5		4.0	1.5	ng/L		01/25/21 18:33	01/28/21 02:49	1
F-53B Major	<0.24		2.0	0.24	ng/L		01/25/21 18:33	01/28/21 02:49	1
F-53B Minor	<0.32		2.0	0.32	ng/L		01/25/21 18:33	01/28/21 02:49	1
Isotope Dilution	MB	MB	Limits	Prepared	Analyzed	Dil Fac			
	%Recovery	Qualifier							
13C4 PFBA	96		25 - 150	01/25/21 18:33	01/28/21 02:49	1			
13C5 PFPeA	93		25 - 150	01/25/21 18:33	01/28/21 02:49	1			
13C2 PFHxA	101		25 - 150	01/25/21 18:33	01/28/21 02:49	1			
13C4 PFHpA	97		25 - 150	01/25/21 18:33	01/28/21 02:49	1			
13C4 PFOA	108		25 - 150	01/25/21 18:33	01/28/21 02:49	1			
13C5 PFNA	107		25 - 150	01/25/21 18:33	01/28/21 02:49	1			

Eurofins TestAmerica, Sacramento



# QC Sample Results

Client: SCS Engineers  
 Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

## Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

**Lab Sample ID: MB 320-455410/1-A**  
**Matrix: Water**  
**Analysis Batch: 456054**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 455410**

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C2 PFDA	105		25 - 150	01/25/21 18:33	01/28/21 02:49	1
13C2 PFUnA	101		25 - 150	01/25/21 18:33	01/28/21 02:49	1
13C2 PFDoA	109		25 - 150	01/25/21 18:33	01/28/21 02:49	1
13C2 PFTeDA	102		25 - 150	01/25/21 18:33	01/28/21 02:49	1
13C2 PFHxDA	111		25 - 150	01/25/21 18:33	01/28/21 02:49	1
13C3 PFBS	93		25 - 150	01/25/21 18:33	01/28/21 02:49	1
18O2 PFHxS	87		25 - 150	01/25/21 18:33	01/28/21 02:49	1
13C4 PFOS	89		25 - 150	01/25/21 18:33	01/28/21 02:49	1
13C8 FOSA	91		10 - 150	01/25/21 18:33	01/28/21 02:49	1
d3-NMeFOSAA	99		25 - 150	01/25/21 18:33	01/28/21 02:49	1
d5-NEtFOSAA	88		25 - 150	01/25/21 18:33	01/28/21 02:49	1
d-N-MeFOSA-M	93		10 - 150	01/25/21 18:33	01/28/21 02:49	1
d-N-EtFOSA-M	92		10 - 150	01/25/21 18:33	01/28/21 02:49	1
d7-N-MeFOSE-M	69		10 - 150	01/25/21 18:33	01/28/21 02:49	1
d9-N-EtFOSE-M	57		10 - 150	01/25/21 18:33	01/28/21 02:49	1
M2-4:2 FTS	89		25 - 150	01/25/21 18:33	01/28/21 02:49	1
M2-6:2 FTS	98		25 - 150	01/25/21 18:33	01/28/21 02:49	1
M2-8:2 FTS	111		25 - 150	01/25/21 18:33	01/28/21 02:49	1
13C3 HFPO-DA	104		25 - 150	01/25/21 18:33	01/28/21 02:49	1

**Lab Sample ID: LCS 320-455410/2-A**  
**Matrix: Water**  
**Analysis Batch: 456054**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 455410**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoropentanoic acid (PFPeA)	40.0	39.3		ng/L		98	60 - 135
Perfluorohexanoic acid (PFHxA)	40.0	40.8		ng/L		102	60 - 135
Perfluoroheptanoic acid (PFHpA)	40.0	44.0		ng/L		110	60 - 135
Perfluorooctanoic acid (PFOA)	40.0	37.7		ng/L		94	60 - 135
Perfluorononanoic acid (PFNA)	40.0	42.1		ng/L		105	60 - 135
Perfluorodecanoic acid (PFDA)	40.0	40.6		ng/L		102	60 - 135
Perfluoroundecanoic acid (PFUnA)	40.0	45.4		ng/L		114	60 - 135
Perfluorododecanoic acid (PFDoA)	40.0	42.2		ng/L		105	60 - 135
Perfluorotridecanoic acid (PFTriA)	40.0	36.8		ng/L		92	60 - 135
Perfluorotetradecanoic acid (PFTeA)	40.0	39.3		ng/L		98	60 - 135
Perfluoro-n-hexadecanoic acid (PFHxDA)	40.0	39.8		ng/L		100	60 - 135
Perfluoro-n-octadecanoic acid (PFODA)	40.0	39.7		ng/L		99	60 - 135
Perfluorobutanesulfonic acid (PFBS)	35.4	37.9		ng/L		107	60 - 135
Perfluoropentanesulfonic acid (PFPeS)	37.5	41.0		ng/L		109	60 - 135
Perfluorohexanesulfonic acid (PFHxS)	36.4	35.9		ng/L		98	60 - 135

Eurofins TestAmerica, Sacramento

# QC Sample Results

Client: SCS Engineers  
 Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

## Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

**Lab Sample ID: LCS 320-455410/2-A**  
**Matrix: Water**  
**Analysis Batch: 456054**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 455410**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	40.6		ng/L		107	60 - 135
Perfluorooctanesulfonic acid (PFOS)	37.1	38.4		ng/L		103	60 - 135
Perfluorononanesulfonic acid (PFNS)	38.4	36.4		ng/L		95	60 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	40.3		ng/L		105	60 - 135
Perfluorododecanesulfonic acid (PFDoS)	38.7	36.6		ng/L		95	60 - 135
Perfluorooctanesulfonamide (FOSA)	40.0	41.4		ng/L		103	60 - 135
NEtFOSA	40.0	38.8		ng/L		97	60 - 135
NMeFOSA	40.0	39.8		ng/L		99	60 - 135
NMeFOSAA	40.0	37.9		ng/L		95	60 - 135
NEtFOSAA	40.0	42.5		ng/L		106	60 - 135
NMeFOSE	40.0	37.1		ng/L		93	60 - 135
NEtFOSE	40.0	39.8		ng/L		100	60 - 135
4:2 FTS	37.4	37.0		ng/L		99	60 - 135
6:2 FTS	37.9	39.5		ng/L		104	60 - 135
8:2 FTS	38.3	41.8		ng/L		109	60 - 135
10:2 FTS	38.6	41.1		ng/L		106	60 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.7	44.3		ng/L		118	60 - 135
HFPO-DA (GenX)	40.0	41.3		ng/L		103	60 - 135
F-53B Major	37.3	40.7		ng/L		109	60 - 135
F-53B Minor	37.7	43.0		ng/L		114	60 - 135

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	93		25 - 150
13C5 PFPeA	89		25 - 150
13C2 PFHxA	96		25 - 150
13C4 PFHpA	98		25 - 150
13C4 PFOA	107		25 - 150
13C5 PFNA	103		25 - 150
13C2 PFDA	107		25 - 150
13C2 PFUnA	102		25 - 150
13C2 PFDoA	108		25 - 150
13C2 PFTeDA	108		25 - 150
13C2 PFHxDA	110		25 - 150
13C3 PFBS	87		25 - 150
18O2 PFHxS	90		25 - 150
13C4 PFOS	91		25 - 150
13C8 FOSA	88		10 - 150
d3-NMeFOSAA	94		25 - 150
d5-NEtFOSAA	84		25 - 150
d-N-MeFOSA-M	88		10 - 150
d-N-EtFOSA-M	86		10 - 150
d7-N-MeFOSE-M	73		10 - 150
d9-N-EtFOSE-M	50		10 - 150

# QC Sample Results

Client: SCS Engineers  
 Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

## Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

**Lab Sample ID: LCS 320-455410/2-A**  
**Matrix: Water**  
**Analysis Batch: 456054**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 455410**

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
M2-4:2 FTS	92		25 - 150
M2-6:2 FTS	94		25 - 150
M2-8:2 FTS	105		25 - 150
13C3 HFPO-DA	101		25 - 150

**Lab Sample ID: LCSD 320-455410/3-A**  
**Matrix: Water**  
**Analysis Batch: 456054**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 455410**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD Limit
							Limits	RPD	
Perfluorobutanoic acid (PFBA)	40.0	41.8		ng/L		105	60 - 135	2	30
Perfluoropentanoic acid (PFPeA)	40.0	39.8		ng/L		100	60 - 135	1	30
Perfluorohexanoic acid (PFHxA)	40.0	42.6		ng/L		107	60 - 135	4	30
Perfluoroheptanoic acid (PFHpA)	40.0	44.0		ng/L		110	60 - 135	0	30
Perfluorooctanoic acid (PFOA)	40.0	39.1		ng/L		98	60 - 135	4	30
Perfluorononanoic acid (PFNA)	40.0	42.0		ng/L		105	60 - 135	0	30
Perfluorodecanoic acid (PFDA)	40.0	42.3		ng/L		106	60 - 135	4	30
Perfluoroundecanoic acid (PFUnA)	40.0	43.0		ng/L		107	60 - 135	6	30
Perfluorododecanoic acid (PFDoA)	40.0	42.2		ng/L		106	60 - 135	0	30
Perfluorotridecanoic acid (PFTriA)	40.0	40.9		ng/L		102	60 - 135	11	30
Perfluorotetradecanoic acid (PFTeA)	40.0	42.9		ng/L		107	60 - 135	9	30
Perfluoro-n-hexadecanoic acid (PFHxDA)	40.0	40.7		ng/L		102	60 - 135	2	30
Perfluoro-n-octadecanoic acid (PFODA)	40.0	41.1		ng/L		103	60 - 135	3	30
Perfluorobutanesulfonic acid (PFBS)	35.4	37.6		ng/L		106	60 - 135	1	30
Perfluoropentanesulfonic acid (PFPeS)	37.5	39.2		ng/L		104	60 - 135	5	30
Perfluorohexanesulfonic acid (PFHxS)	36.4	36.2		ng/L		99	60 - 135	1	30
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	42.6		ng/L		112	60 - 135	5	30
Perfluorooctanesulfonic acid (PFOS)	37.1	39.8		ng/L		107	60 - 135	4	30
Perfluorononanesulfonic acid (PFNS)	38.4	40.1		ng/L		104	60 - 135	10	30
Perfluorodecanesulfonic acid (PFDS)	38.6	41.4		ng/L		107	60 - 135	3	30
Perfluorododecanesulfonic acid (PFDoS)	38.7	37.5		ng/L		97	60 - 135	2	30
Perfluorooctanesulfonamide (FOSA)	40.0	42.1		ng/L		105	60 - 135	2	30
NEtFOSA	40.0	40.4		ng/L		101	60 - 135	4	30
NMeFOSA	40.0	40.9		ng/L		102	60 - 135	3	30
NMeFOSAA	40.0	37.3		ng/L		93	60 - 135	2	30
NEtFOSAA	40.0	42.5		ng/L		106	60 - 135	0	30
NMeFOSE	40.0	39.4		ng/L		98	60 - 135	6	30
NEtFOSE	40.0	44.5		ng/L		111	60 - 135	11	30

Eurofins TestAmerica, Sacramento

# QC Sample Results

Client: SCS Engineers  
 Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

## Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

**Lab Sample ID: LCSD 320-455410/3-A**  
**Matrix: Water**  
**Analysis Batch: 456054**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 455410**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4:2 FTS	37.4	39.4		ng/L		105	60 - 135	6	30
6:2 FTS	37.9	38.7		ng/L		102	60 - 135	2	30
8:2 FTS	38.3	41.7		ng/L		109	60 - 135	0	30
10:2 FTS	38.6	39.4		ng/L		102	60 - 135	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.7	46.0		ng/L		122	60 - 135	4	30
HFPO-DA (GenX)	40.0	40.4		ng/L		101	60 - 135	2	30
F-53B Major	37.3	43.1		ng/L		116	60 - 135	6	30
F-53B Minor	37.7	43.2		ng/L		115	60 - 135	1	30

Isotope Dilution	LCSD		Limits
	%Recovery	Qualifier	
13C4 PFBA	95		25 - 150
13C5 PFPeA	94		25 - 150
13C2 PFHxA	97		25 - 150
13C4 PFHpA	100		25 - 150
13C4 PFOA	108		25 - 150
13C5 PFNA	107		25 - 150
13C2 PFDA	108		25 - 150
13C2 PFUnA	99		25 - 150
13C2 PFDaA	108		25 - 150
13C2 PFTeDA	102		25 - 150
13C2 PFHxDA	111		25 - 150
13C3 PFBS	91		25 - 150
18O2 PFHxS	91		25 - 150
13C4 PFOS	89		25 - 150
13C8 FOSA	88		10 - 150
d3-NMeFOSAA	93		25 - 150
d5-NEtFOSAA	86		25 - 150
d-N-MeFOSA-M	91		10 - 150
d-N-EtFOSA-M	85		10 - 150
d7-N-MeFOSE-M	81		10 - 150
d9-N-EtFOSE-M	55		10 - 150
M2-4:2 FTS	90		25 - 150
M2-6:2 FTS	96		25 - 150
M2-8:2 FTS	115		25 - 150
13C3 HFPO-DA	101		25 - 150

# QC Association Summary

Client: SCS Engineers  
 Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

## LCMS

### Prep Batch: 455410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-69200-1	PZ-101	Total/NA	Water	3535	
320-69200-2	MW-101	Total/NA	Water	3535	
320-69200-3	PZ-102	Total/NA	Water	3535	
320-69200-4	MW-102	Total/NA	Water	3535	
320-69200-5	PZ-103	Total/NA	Water	3535	
320-69200-6	MW-103	Total/NA	Water	3535	
320-69200-7	Field Blank	Total/NA	Water	3535	
320-69200-8	Equipment Blank	Total/NA	Water	3535	
MB 320-455410/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-455410/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-455410/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

### Analysis Batch: 456054

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-69200-1	PZ-101	Total/NA	Water	537 (modified)	455410
320-69200-2	MW-101	Total/NA	Water	537 (modified)	455410
320-69200-3	PZ-102	Total/NA	Water	537 (modified)	455410
320-69200-5	PZ-103	Total/NA	Water	537 (modified)	455410
320-69200-6	MW-103	Total/NA	Water	537 (modified)	455410
320-69200-7	Field Blank	Total/NA	Water	537 (modified)	455410
320-69200-8	Equipment Blank	Total/NA	Water	537 (modified)	455410
MB 320-455410/1-A	Method Blank	Total/NA	Water	537 (modified)	455410
LCS 320-455410/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	455410
LCSD 320-455410/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	455410

### Analysis Batch: 456442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-69200-4	MW-102	Total/NA	Water	537 (modified)	455410



# Lab Chronicle

Client: SCS Engineers  
Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

## Client Sample ID: PZ-101

Date Collected: 01/20/21 10:30

Date Received: 01/22/21 09:20

## Lab Sample ID: 320-69200-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			302 mL	10.00 mL	455410	01/25/21 18:33	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1			456054	01/28/21 03:46	JRB	TAL SAC

## Client Sample ID: MW-101

Date Collected: 01/20/21 12:00

Date Received: 01/22/21 09:20

## Lab Sample ID: 320-69200-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			303.7 mL	10.00 mL	455410	01/25/21 18:33	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1			456054	01/28/21 03:55	JRB	TAL SAC

## Client Sample ID: PZ-102

Date Collected: 01/20/21 13:20

Date Received: 01/22/21 09:20

## Lab Sample ID: 320-69200-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			306.6 mL	10.00 mL	455410	01/25/21 18:33	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1			456054	01/28/21 04:04	JRB	TAL SAC

## Client Sample ID: MW-102

Date Collected: 01/20/21 13:50

Date Received: 01/22/21 09:20

## Lab Sample ID: 320-69200-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			308 mL	10.00 mL	455410	01/25/21 18:33	PV	TAL SAC
Total/NA	Analysis	537 (modified)		10			456442	01/28/21 22:14	RS1	TAL SAC

## Client Sample ID: PZ-103

Date Collected: 01/20/21 15:10

Date Received: 01/22/21 09:20

## Lab Sample ID: 320-69200-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			296.1 mL	10.00 mL	455410	01/25/21 18:33	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1			456054	01/28/21 04:51	JRB	TAL SAC

## Client Sample ID: MW-103

Date Collected: 01/20/21 15:45

Date Received: 01/22/21 09:20

## Lab Sample ID: 320-69200-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			301.1 mL	10.00 mL	455410	01/25/21 18:33	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1			456054	01/28/21 05:01	JRB	TAL SAC

# Lab Chronicle

Client: SCS Engineers  
Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

## Client Sample ID: Field Blank

Date Collected: 01/20/21 13:20

Date Received: 01/22/21 09:20

## Lab Sample ID: 320-69200-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			286.6 mL	10.00 mL	455410	01/25/21 18:33	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1			456054	01/28/21 05:10	JRB	TAL SAC

## Client Sample ID: Equipment Blank

Date Collected: 01/20/21 15:45

Date Received: 01/22/21 09:20

## Lab Sample ID: 320-69200-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			258.1 mL	10.00 mL	455410	01/25/21 18:33	PV	TAL SAC
Total/NA	Analysis	537 (modified)		1			456054	01/28/21 05:20	JRB	TAL SAC

### Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

# Accreditation/Certification Summary

Client: SCS Engineers  
Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

## Laboratory: Eurofins TestAmerica, Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	998204680	08-31-21

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

# Method Summary

Client: SCS Engineers  
Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
3535	Solid-Phase Extraction (SPE)	SW846	TAL SAC

**Protocol References:**

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



# Sample Summary

Client: SCS Engineers  
Project/Site: MGE Burke Site - 25218175

Job ID: 320-69200-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
320-69200-1	PZ-101	Water	01/20/21 10:30	01/22/21 09:20	
320-69200-2	MW-101	Water	01/20/21 12:00	01/22/21 09:20	
320-69200-3	PZ-102	Water	01/20/21 13:20	01/22/21 09:20	
320-69200-4	MW-102	Water	01/20/21 13:50	01/22/21 09:20	
320-69200-5	PZ-103	Water	01/20/21 15:10	01/22/21 09:20	
320-69200-6	MW-103	Water	01/20/21 15:45	01/22/21 09:20	
320-69200-7	Field Blank	Water	01/20/21 13:20	01/22/21 09:20	
320-69200-8	Equipment Blank	Water	01/20/21 15:45	01/22/21 09:20	





## Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 320-69200-1

**Login Number: 69200**

**List Source: Eurofins TestAmerica, Sacramento**

**List Number: 1**

**Creator: Oropeza, Salvador**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	1494442/1494443
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

## ANALYTICAL REPORT

Eurofins TestAmerica, Sacramento  
880 Riverside Parkway  
West Sacramento, CA 95605  
Tel: (916)373-5600

Laboratory Job ID: 320-70916-1  
Client Project/Site: MGE Burke 25218175

For:  
SCS Engineers  
2830 Dairy Dr  
Madison, Wisconsin 53718

Attn: Mr. Eric Oelkers



Authorized for release by:  
3/15/2021 5:36:18 PM

Sandie Fredrick, Project Manager II  
(920)261-1660  
[sandra.fredrick@eurofinset.com](mailto:sandra.fredrick@eurofinset.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:

[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

*The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Definitions/Glossary . . . . .	3
Case Narrative . . . . .	4
Detection Summary . . . . .	5
Client Sample Results . . . . .	6
Isotope Dilution Summary . . . . .	10
QC Sample Results . . . . .	12
QC Association Summary . . . . .	17
Lab Chronicle . . . . .	18
Certification Summary . . . . .	19
Method Summary . . . . .	20
Sample Summary . . . . .	21
Chain of Custody . . . . .	22
Receipt Checklists . . . . .	23

# Definitions/Glossary

Client: SCS Engineers  
Project/Site: MGE Burke 25218175

Job ID: 320-70916-1

## Qualifiers

### LCMS

Qualifier	Qualifier Description
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

# Case Narrative

Client: SCS Engineers  
Project/Site: MGE Burke 25218175

Job ID: 320-70916-1

---

## Job ID: 320-70916-1

---

### Laboratory: Eurofins TestAmerica, Sacramento

#### Narrative

---

#### Job Narrative 320-70916-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 3/6/2021 10:20 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.1° C.

#### LCMS

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside of the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty, and the reported value may have some high bias. However, analyst judgment was used to positively identify the analyte. (CCVL 320-469297/2) (CCVL 320-469684/2).

Method 537 (modified): Results for sample STR018 (320-70916-1) were reported from the analysis of a diluted extract due to the nature of the sample matrix interfering with the Internal Standard (ISTD) quantification of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for several analytes in the following sample: STR021 (320-70916-2). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries. The sample was re-analyzed with concurring results; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### Organic Prep

Method 3535: The following samples contain a thin layer of sediments at the bottom of the bottles:STR018 (320-70916-1) and STR021 (320-70916-2). Method Code:3535 PFC\_WI Matrix:Water preparation batch 320-469052

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-469052. Method Code:3535 PFC\_WI Matrix:Water

Method 3535: The following samples were yellow prior to extraction:STR018 (320-70916-1) and STR021 (320-70916-2). Method Code:3535 PFC\_WI Matrix:Water preparation batch 320-469052

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Detection Summary

Client: SCS Engineers  
Project/Site: MGE Burke 25218175

Job ID: 320-70916-1

**Client Sample ID: STR018**

**Lab Sample ID: 320-70916-1**

No Detections.

**Client Sample ID: STR021**

**Lab Sample ID: 320-70916-2**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	30		4.6	2.2	ng/L	1			537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	6.8		1.8	0.45	ng/L	1			537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	7.8		1.8	0.53	ng/L	1			537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	4.1		1.8	0.23	ng/L	1			537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	14		1.8	0.78	ng/L	1			537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.8		1.8	0.18	ng/L	1			537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	1.1	J	1.8	0.28	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	26		1.8	0.52	ng/L	1			537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	8.9		1.8	0.50	ng/L	1			537 (modified)	Total/NA
6:2 FTS	2.5	J	4.6	2.3	ng/L	1			537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Sacramento



# Client Sample Results

Client: SCS Engineers  
Project/Site: MGE Burke 25218175

Job ID: 320-70916-1

**Client Sample ID: STR018**

**Lab Sample ID: 320-70916-1**

**Date Collected: 03/04/21 09:18**

**Matrix: Water**

**Date Received: 03/06/21 10:20**

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<21		43	21	ng/L		03/10/21 12:12	03/12/21 11:02	10
Perfluoropentanoic acid (PFPeA)	<4.2		17	4.2	ng/L		03/10/21 12:12	03/12/21 11:02	10
Perfluorohexanoic acid (PFHxA)	<5.0		17	5.0	ng/L		03/10/21 12:12	03/12/21 11:02	10
Perfluoroheptanoic acid (PFHpA)	<2.1		17	2.1	ng/L		03/10/21 12:12	03/12/21 11:02	10
Perfluorooctanoic acid (PFOA)	<7.3		17	7.3	ng/L		03/10/21 12:12	03/12/21 11:02	10
Perfluorononanoic acid (PFNA)	<2.3		17	2.3	ng/L		03/10/21 12:12	03/12/21 11:02	10
Perfluorodecanoic acid (PFDA)	<2.7		17	2.7	ng/L		03/10/21 12:12	03/12/21 11:02	10
Perfluoroundecanoic acid (PFUnA)	<9.4		17	9.4	ng/L		03/10/21 12:12	03/12/21 11:02	10
Perfluorododecanoic acid (PFDoA)	<4.7		17	4.7	ng/L		03/10/21 12:12	03/12/21 11:02	10
Perfluorotridecanoic acid (PFTriA)	<11		17	11	ng/L		03/10/21 12:12	03/12/21 11:02	10
Perfluorotetradecanoic acid (PFTeA)	<6.3		17	6.3	ng/L		03/10/21 12:12	03/12/21 11:02	10
Perfluoro-n-hexadecanoic acid (PFHxDA)	<7.6		17	7.6	ng/L		03/10/21 12:12	03/12/21 11:02	10
Perfluoro-n-octadecanoic acid (PFODA)	<8.1		17	8.1	ng/L		03/10/21 12:12	03/12/21 11:02	10
Perfluorobutanesulfonic acid (PFBS)	<1.7		17	1.7	ng/L		03/10/21 12:12	03/12/21 11:02	10
Perfluoropentanesulfonic acid (PFPeS)	<2.6		17	2.6	ng/L		03/10/21 12:12	03/12/21 11:02	10
Perfluorohexanesulfonic acid (PFHxS)	<4.9		17	4.9	ng/L		03/10/21 12:12	03/12/21 11:02	10
Perfluoroheptanesulfonic Acid (PFHpS)	<1.6		17	1.6	ng/L		03/10/21 12:12	03/12/21 11:02	10
Perfluorooctanesulfonic acid (PFOS)	<4.6		17	4.6	ng/L		03/10/21 12:12	03/12/21 11:02	10
Perfluorononanesulfonic acid (PFNS)	<3.2		17	3.2	ng/L		03/10/21 12:12	03/12/21 11:02	10
Perfluorodecanesulfonic acid (PFDS)	<2.7		17	2.7	ng/L		03/10/21 12:12	03/12/21 11:02	10
Perfluorododecanesulfonic acid (PFDoS)	<8.3		17	8.3	ng/L		03/10/21 12:12	03/12/21 11:02	10
Perfluorooctanesulfonamide (FOSA)	<8.4		17	8.4	ng/L		03/10/21 12:12	03/12/21 11:02	10
NEtFOSA	<7.5		17	7.5	ng/L		03/10/21 12:12	03/12/21 11:02	10
NMeFOSA	<3.7		17	3.7	ng/L		03/10/21 12:12	03/12/21 11:02	10
NMeFOSAA	<10		43	10	ng/L		03/10/21 12:12	03/12/21 11:02	10
NEtFOSAA	<11		43	11	ng/L		03/10/21 12:12	03/12/21 11:02	10
NMeFOSE	<12		34	12	ng/L		03/10/21 12:12	03/12/21 11:02	10
NEtFOSE	<7.3		17	7.3	ng/L		03/10/21 12:12	03/12/21 11:02	10
4:2 FTS	<2.1		17	2.1	ng/L		03/10/21 12:12	03/12/21 11:02	10
6:2 FTS	<21		43	21	ng/L		03/10/21 12:12	03/12/21 11:02	10
8:2 FTS	<3.9		17	3.9	ng/L		03/10/21 12:12	03/12/21 11:02	10
10:2 FTS	<5.8		17	5.8	ng/L		03/10/21 12:12	03/12/21 11:02	10
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<3.4		17	3.4	ng/L		03/10/21 12:12	03/12/21 11:02	10
HFPO-DA (GenX)	<13		34	13	ng/L		03/10/21 12:12	03/12/21 11:02	10
F-53B Major	<2.1		17	2.1	ng/L		03/10/21 12:12	03/12/21 11:02	10
F-53B Minor	<2.7		17	2.7	ng/L		03/10/21 12:12	03/12/21 11:02	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	82		25 - 150	03/10/21 12:12	03/12/21 11:02	10
13C5 PFPeA	83		25 - 150	03/10/21 12:12	03/12/21 11:02	10
13C2 PFHxA	87		25 - 150	03/10/21 12:12	03/12/21 11:02	10
13C4 PFHpA	96		25 - 150	03/10/21 12:12	03/12/21 11:02	10
13C4 PFOA	96		25 - 150	03/10/21 12:12	03/12/21 11:02	10
13C5 PFNA	91		25 - 150	03/10/21 12:12	03/12/21 11:02	10
13C2 PFDA	85		25 - 150	03/10/21 12:12	03/12/21 11:02	10
13C2 PFUnA	89		25 - 150	03/10/21 12:12	03/12/21 11:02	10

Eurofins TestAmerica, Sacramento

# Client Sample Results

Client: SCS Engineers  
 Project/Site: MGE Burke 25218175

Job ID: 320-70916-1

**Client Sample ID: STR018**  
**Date Collected: 03/04/21 09:18**  
**Date Received: 03/06/21 10:20**

**Lab Sample ID: 320-70916-1**  
**Matrix: Water**

**Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)**

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C2 PFDoA	94		25 - 150	03/10/21 12:12	03/12/21 11:02	10
13C2 PFTeDA	87		25 - 150	03/10/21 12:12	03/12/21 11:02	10
13C2 PFHxDA	81		25 - 150	03/10/21 12:12	03/12/21 11:02	10
13C3 PFBS	84		25 - 150	03/10/21 12:12	03/12/21 11:02	10
18O2 PFHxS	79		25 - 150	03/10/21 12:12	03/12/21 11:02	10
13C4 PFOS	89		25 - 150	03/10/21 12:12	03/12/21 11:02	10
13C8 FOSA	86		10 - 150	03/10/21 12:12	03/12/21 11:02	10
d3-NMeFOSAA	95		25 - 150	03/10/21 12:12	03/12/21 11:02	10
d5-NEtFOSAA	91		25 - 150	03/10/21 12:12	03/12/21 11:02	10
d-N-MeFOSA-M	57		10 - 150	03/10/21 12:12	03/12/21 11:02	10
d-N-EtFOSA-M	62		10 - 150	03/10/21 12:12	03/12/21 11:02	10
d7-N-MeFOSE-M	63		10 - 150	03/10/21 12:12	03/12/21 11:02	10
d9-N-EtFOSE-M	79		10 - 150	03/10/21 12:12	03/12/21 11:02	10
M2-4:2 FTS	103		25 - 150	03/10/21 12:12	03/12/21 11:02	10
M2-6:2 FTS	138		25 - 150	03/10/21 12:12	03/12/21 11:02	10
M2-8:2 FTS	136		25 - 150	03/10/21 12:12	03/12/21 11:02	10
13C3 HFPO-DA	83		25 - 150	03/10/21 12:12	03/12/21 11:02	10
13C2 10:2 FTS	138		25 - 150	03/10/21 12:12	03/12/21 11:02	10

# Client Sample Results

Client: SCS Engineers  
Project/Site: MGE Burke 25218175

Job ID: 320-70916-1

**Client Sample ID: STR021**

**Lab Sample ID: 320-70916-2**

Date Collected: 03/04/21 09:45

Matrix: Water

Date Received: 03/06/21 10:20

**Method: 537 (modified) - Fluorinated Alkyl Substances**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	30		4.6	2.2	ng/L		03/10/21 12:12	03/11/21 15:06	1
Perfluoropentanoic acid (PFPeA)	6.8		1.8	0.45	ng/L		03/10/21 12:12	03/11/21 15:06	1
Perfluorohexanoic acid (PFHxA)	7.8		1.8	0.53	ng/L		03/10/21 12:12	03/11/21 15:06	1
Perfluoroheptanoic acid (PFHpA)	4.1		1.8	0.23	ng/L		03/10/21 12:12	03/11/21 15:06	1
Perfluorooctanoic acid (PFOA)	14		1.8	0.78	ng/L		03/10/21 12:12	03/11/21 15:06	1
Perfluorononanoic acid (PFNA)	<0.25		1.8	0.25	ng/L		03/10/21 12:12	03/11/21 15:06	1
Perfluorodecanoic acid (PFDA)	<0.29		1.8	0.29	ng/L		03/10/21 12:12	03/11/21 15:06	1
Perfluoroundecanoic acid (PFUnA)	<1.0		1.8	1.0	ng/L		03/10/21 12:12	03/11/21 15:06	1
Perfluorododecanoic acid (PFDoA)	<0.51		1.8	0.51	ng/L		03/10/21 12:12	03/11/21 15:06	1
Perfluorotridecanoic acid (PFTriA)	<1.2		1.8	1.2	ng/L		03/10/21 12:12	03/11/21 15:06	1
Perfluorotetradecanoic acid (PFTeA)	<0.67		1.8	0.67	ng/L		03/10/21 12:12	03/11/21 15:06	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<0.82		1.8	0.82	ng/L		03/10/21 12:12	03/11/21 15:06	1
Perfluoro-n-octadecanoic acid (PFODA)	<0.87		1.8	0.87	ng/L		03/10/21 12:12	03/11/21 15:06	1
Perfluorobutanesulfonic acid (PFBS)	1.8		1.8	0.18	ng/L		03/10/21 12:12	03/11/21 15:06	1
Perfluoropentanesulfonic acid (PFPeS)	1.1 J		1.8	0.28	ng/L		03/10/21 12:12	03/11/21 15:06	1
Perfluorohexanesulfonic acid (PFHxS)	26		1.8	0.52	ng/L		03/10/21 12:12	03/11/21 15:06	1
Perfluoroheptanesulfonic Acid (PFHpS)	<0.17		1.8	0.17	ng/L		03/10/21 12:12	03/11/21 15:06	1
Perfluorooctanesulfonic acid (PFOS)	8.9		1.8	0.50	ng/L		03/10/21 12:12	03/11/21 15:06	1
Perfluorononanesulfonic acid (PFNS)	<0.34		1.8	0.34	ng/L		03/10/21 12:12	03/11/21 15:06	1
Perfluorodecanesulfonic acid (PFDS)	<0.29		1.8	0.29	ng/L		03/10/21 12:12	03/11/21 15:06	1
Perfluorododecanesulfonic acid (PFDoS)	<0.89		1.8	0.89	ng/L		03/10/21 12:12	03/11/21 15:06	1
Perfluorooctanesulfonamide (FOSA)	<0.90		1.8	0.90	ng/L		03/10/21 12:12	03/11/21 15:06	1
NEtFOSA	<0.80		1.8	0.80	ng/L		03/10/21 12:12	03/11/21 15:06	1
NMeFOSA	<0.40		1.8	0.40	ng/L		03/10/21 12:12	03/11/21 15:06	1
NMeFOSAA	<1.1		4.6	1.1	ng/L		03/10/21 12:12	03/11/21 15:06	1
NEtFOSAA	<1.2		4.6	1.2	ng/L		03/10/21 12:12	03/11/21 15:06	1
NMeFOSE	<1.3		3.7	1.3	ng/L		03/10/21 12:12	03/11/21 15:06	1
NEtFOSE	<0.78		1.8	0.78	ng/L		03/10/21 12:12	03/11/21 15:06	1
4:2 FTS	<0.22		1.8	0.22	ng/L		03/10/21 12:12	03/11/21 15:06	1
6:2 FTS	2.5 J		4.6	2.3	ng/L		03/10/21 12:12	03/11/21 15:06	1
8:2 FTS	<0.42		1.8	0.42	ng/L		03/10/21 12:12	03/11/21 15:06	1
10:2 FTS	<0.62		1.8	0.62	ng/L		03/10/21 12:12	03/11/21 15:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.37		1.8	0.37	ng/L		03/10/21 12:12	03/11/21 15:06	1
HFPO-DA (GenX)	<1.4		3.7	1.4	ng/L		03/10/21 12:12	03/11/21 15:06	1
F-53B Major	<0.22		1.8	0.22	ng/L		03/10/21 12:12	03/11/21 15:06	1
F-53B Minor	<0.29		1.8	0.29	ng/L		03/10/21 12:12	03/11/21 15:06	1
<b>Isotope Dilution</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
13C4 PFBA	49		25 - 150				03/10/21 12:12	03/11/21 15:06	1
13C5 PFPeA	62		25 - 150				03/10/21 12:12	03/11/21 15:06	1
13C2 PFHxA	79		25 - 150				03/10/21 12:12	03/11/21 15:06	1
13C4 PFHpA	84		25 - 150				03/10/21 12:12	03/11/21 15:06	1
13C4 PFOA	92		25 - 150				03/10/21 12:12	03/11/21 15:06	1

Eurofins TestAmerica, Sacramento

# Client Sample Results

Client: SCS Engineers  
 Project/Site: MGE Burke 25218175

Job ID: 320-70916-1

**Client Sample ID: STR021**

**Lab Sample ID: 320-70916-2**

**Date Collected: 03/04/21 09:45**

**Matrix: Water**

**Date Received: 03/06/21 10:20**

**Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)**

<u>Isotope Dilution</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
13C5 PFNA	111		25 - 150	03/10/21 12:12	03/11/21 15:06	1
13C2 PFDA	109		25 - 150	03/10/21 12:12	03/11/21 15:06	1
13C2 PFUnA	108		25 - 150	03/10/21 12:12	03/11/21 15:06	1
13C2 PFDoA	121		25 - 150	03/10/21 12:12	03/11/21 15:06	1
13C2 PFTeDA	109		25 - 150	03/10/21 12:12	03/11/21 15:06	1
13C2 PFHxDA	144		25 - 150	03/10/21 12:12	03/11/21 15:06	1
13C3 PFBS	84		25 - 150	03/10/21 12:12	03/11/21 15:06	1
18O2 PFHxS	87		25 - 150	03/10/21 12:12	03/11/21 15:06	1
13C4 PFOS	98		25 - 150	03/10/21 12:12	03/11/21 15:06	1
13C8 FOSA	88		10 - 150	03/10/21 12:12	03/11/21 15:06	1
d3-NMeFOSAA	95		25 - 150	03/10/21 12:12	03/11/21 15:06	1
d5-NEtFOSAA	102		25 - 150	03/10/21 12:12	03/11/21 15:06	1
d-N-MeFOSA-M	80		10 - 150	03/10/21 12:12	03/11/21 15:06	1
d-N-EtFOSA-M	78		10 - 150	03/10/21 12:12	03/11/21 15:06	1
d7-N-MeFOSE-M	100		10 - 150	03/10/21 12:12	03/11/21 15:06	1
d9-N-EtFOSE-M	98		10 - 150	03/10/21 12:12	03/11/21 15:06	1
M2-4:2 FTS	156	*5+	25 - 150	03/10/21 12:12	03/11/21 15:06	1
M2-6:2 FTS	166	*5+	25 - 150	03/10/21 12:12	03/11/21 15:06	1
M2-8:2 FTS	171	*5+	25 - 150	03/10/21 12:12	03/11/21 15:06	1
13C3 HFPO-DA	81		25 - 150	03/10/21 12:12	03/11/21 15:06	1
13C2 10:2 FTS	178	*5+	25 - 150	03/10/21 12:12	03/11/21 15:06	1

# Isotope Dilution Summary

Client: SCS Engineers  
Project/Site: MGE Burke 25218175

Job ID: 320-70916-1

## Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-70916-1	STR018	82	83	87	96	96	91	85	89
320-70916-2	STR021	49	62	79	84	92	111	109	108
LCS 320-469052/2-A	Lab Control Sample	98	95	102	102	97	104	91	90
LCSD 320-469052/3-A	Lab Control Sample Dup	105	111	112	111	108	113	102	107
MB 320-469052/1-A	Method Blank	88	95	95	105	94	102	97	98

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFDaA (25-150)	PFTDA (25-150)	PFHxDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)
320-70916-1	STR018	94	87	81	84	79	89	86	95
320-70916-2	STR021	121	109	144	84	87	98	88	95
LCS 320-469052/2-A	Lab Control Sample	108	102	110	94	102	94	89	108
LCSD 320-469052/3-A	Lab Control Sample Dup	103	102	111	102	106	101	93	112
MB 320-469052/1-A	Method Blank	109	94	101	97	100	92	86	105

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	d5NEFOS (25-150)	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)
320-70916-1	STR018	91	57	62	63	79	103	138	136
320-70916-2	STR021	102	80	78	100	98	156 *5+	166 *5+	171 *5+
LCS 320-469052/2-A	Lab Control Sample	98	72	77	95	94	112	104	109
LCSD 320-469052/3-A	Lab Control Sample Dup	105	74	83	98	97	117	108	105
MB 320-469052/1-A	Method Blank	103	59	58	90	86	110	113	108

### Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	HFPODA (25-150)	M102FTS (25-150)
320-70916-1	STR018	83	138
320-70916-2	STR021	81	178 *5+
LCS 320-469052/2-A	Lab Control Sample	98	120
LCSD 320-469052/3-A	Lab Control Sample Dup	105	121
MB 320-469052/1-A	Method Blank	102	120

#### Surrogate Legend

- PFBA = 13C4 PFBA
- PFPeA = 13C5 PFPeA
- PFHxA = 13C2 PFHxA
- C4PFHA = 13C4 PFHpA
- PFOA = 13C4 PFOA
- PFNA = 13C5 PFNA
- PFDA = 13C2 PFDA
- PFUnA = 13C2 PFUnA
- PFDaA = 13C2 PFDaA
- PFTDA = 13C2 PFTeDA
- PFHxDA = 13C2 PFHxDA
- C3PFBS = 13C3 PFBS
- PFHxS = 18O2 PFHxS
- PFOS = 13C4 PFOS
- PFOSA = 13C8 FOSA
- d3NMFOS = d3-NMeFOSAA
- d5NEFOS = d5-NEtFOSAA
- dMeFOSA = d-N-MeFOSA-M

# Isotope Dilution Summary

Client: SCS Engineers

Project/Site: MGE Burke 25218175

Job ID: 320-70916-1

dEtFOSA = d-N-EtFOSA-M

NMFM = d7-N-MeFOSE-M

NEFM = d9-N-EtFOSE-M

M242FTS = M2-4:2 FTS

M262FTS = M2-6:2 FTS

M282FTS = M2-8:2 FTS

HFPODA = 13C3 HFPO-DA

M102FTS = 13C2 10:2 FTS

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15



# QC Sample Results

Client: SCS Engineers  
 Project/Site: MGE Burke 25218175

Job ID: 320-70916-1

## Method: 537 (modified) - Fluorinated Alkyl Substances

**Lab Sample ID: MB 320-469052/1-A**  
**Matrix: Water**  
**Analysis Batch: 469330**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 469052**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorobutanoic acid (PFBA)	<2.4		5.0	2.4	ng/L		03/10/21 12:12	03/11/21 14:29	1
Perfluoropentanoic acid (PFPeA)	<0.49		2.0	0.49	ng/L		03/10/21 12:12	03/11/21 14:29	1
Perfluorohexanoic acid (PFHxA)	<0.58		2.0	0.58	ng/L		03/10/21 12:12	03/11/21 14:29	1
Perfluoroheptanoic acid (PFHpA)	<0.25		2.0	0.25	ng/L		03/10/21 12:12	03/11/21 14:29	1
Perfluorooctanoic acid (PFOA)	<0.85		2.0	0.85	ng/L		03/10/21 12:12	03/11/21 14:29	1
Perfluorononanoic acid (PFNA)	<0.27		2.0	0.27	ng/L		03/10/21 12:12	03/11/21 14:29	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	0.31	ng/L		03/10/21 12:12	03/11/21 14:29	1
Perfluoroundecanoic acid (PFUnA)	<1.1		2.0	1.1	ng/L		03/10/21 12:12	03/11/21 14:29	1
Perfluorododecanoic acid (PFDoA)	<0.55		2.0	0.55	ng/L		03/10/21 12:12	03/11/21 14:29	1
Perfluorotridecanoic acid (PFTriA)	<1.3		2.0	1.3	ng/L		03/10/21 12:12	03/11/21 14:29	1
Perfluorotetradecanoic acid (PFTeA)	<0.73		2.0	0.73	ng/L		03/10/21 12:12	03/11/21 14:29	1
Perfluoro-n-hexadecanoic acid (PFHxDA)	<0.89		2.0	0.89	ng/L		03/10/21 12:12	03/11/21 14:29	1
Perfluoro-n-octadecanoic acid (PFODA)	<0.94		2.0	0.94	ng/L		03/10/21 12:12	03/11/21 14:29	1
Perfluorobutanesulfonic acid (PFBS)	<0.20		2.0	0.20	ng/L		03/10/21 12:12	03/11/21 14:29	1
Perfluoropentanesulfonic acid (PFPeS)	<0.30		2.0	0.30	ng/L		03/10/21 12:12	03/11/21 14:29	1
Perfluorohexanesulfonic acid (PFHxS)	<0.57		2.0	0.57	ng/L		03/10/21 12:12	03/11/21 14:29	1
Perfluoroheptanesulfonic Acid (PFHpS)	<0.19		2.0	0.19	ng/L		03/10/21 12:12	03/11/21 14:29	1
Perfluorooctanesulfonic acid (PFOS)	<0.54		2.0	0.54	ng/L		03/10/21 12:12	03/11/21 14:29	1
Perfluorononanesulfonic acid (PFNS)	<0.37		2.0	0.37	ng/L		03/10/21 12:12	03/11/21 14:29	1
Perfluorodecanesulfonic acid (PFDS)	<0.32		2.0	0.32	ng/L		03/10/21 12:12	03/11/21 14:29	1
Perfluorododecanesulfonic acid (PFDoS)	<0.97		2.0	0.97	ng/L		03/10/21 12:12	03/11/21 14:29	1
Perfluorooctanesulfonamide (FOSA)	<0.98		2.0	0.98	ng/L		03/10/21 12:12	03/11/21 14:29	1
NEtFOSA	<0.87		2.0	0.87	ng/L		03/10/21 12:12	03/11/21 14:29	1
NMeFOSA	<0.43		2.0	0.43	ng/L		03/10/21 12:12	03/11/21 14:29	1
NMeFOSAA	<1.2		5.0	1.2	ng/L		03/10/21 12:12	03/11/21 14:29	1
NEtFOSAA	<1.3		5.0	1.3	ng/L		03/10/21 12:12	03/11/21 14:29	1
NMeFOSE	<1.4		4.0	1.4	ng/L		03/10/21 12:12	03/11/21 14:29	1
NEtFOSE	<0.85		2.0	0.85	ng/L		03/10/21 12:12	03/11/21 14:29	1
4:2 FTS	<0.24		2.0	0.24	ng/L		03/10/21 12:12	03/11/21 14:29	1
6:2 FTS	<2.5		5.0	2.5	ng/L		03/10/21 12:12	03/11/21 14:29	1
8:2 FTS	<0.46		2.0	0.46	ng/L		03/10/21 12:12	03/11/21 14:29	1
10:2 FTS	<0.67		2.0	0.67	ng/L		03/10/21 12:12	03/11/21 14:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.40		2.0	0.40	ng/L		03/10/21 12:12	03/11/21 14:29	1
HFPO-DA (GenX)	<1.5		4.0	1.5	ng/L		03/10/21 12:12	03/11/21 14:29	1
F-53B Major	<0.24		2.0	0.24	ng/L		03/10/21 12:12	03/11/21 14:29	1
F-53B Minor	<0.32		2.0	0.32	ng/L		03/10/21 12:12	03/11/21 14:29	1
Isotope Dilution	MB	MB	Limits	Prepared	Analyzed	Dil Fac			
	%Recovery	Qualifier							
13C4 PFBA	88		25 - 150	03/10/21 12:12	03/11/21 14:29	1			
13C5 PFPeA	95		25 - 150	03/10/21 12:12	03/11/21 14:29	1			
13C2 PFHxA	95		25 - 150	03/10/21 12:12	03/11/21 14:29	1			
13C4 PFHpA	105		25 - 150	03/10/21 12:12	03/11/21 14:29	1			
13C4 PFOA	94		25 - 150	03/10/21 12:12	03/11/21 14:29	1			
13C5 PFNA	102		25 - 150	03/10/21 12:12	03/11/21 14:29	1			

Eurofins TestAmerica, Sacramento

# QC Sample Results

Client: SCS Engineers  
Project/Site: MGE Burke 25218175

Job ID: 320-70916-1

## Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

**Lab Sample ID: MB 320-469052/1-A**  
**Matrix: Water**  
**Analysis Batch: 469330**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 469052**

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C2 PFDA	97		25 - 150	03/10/21 12:12	03/11/21 14:29	1
13C2 PFUnA	98		25 - 150	03/10/21 12:12	03/11/21 14:29	1
13C2 PFDoA	109		25 - 150	03/10/21 12:12	03/11/21 14:29	1
13C2 PFTeDA	94		25 - 150	03/10/21 12:12	03/11/21 14:29	1
13C2 PFHxDA	101		25 - 150	03/10/21 12:12	03/11/21 14:29	1
13C3 PFBS	97		25 - 150	03/10/21 12:12	03/11/21 14:29	1
18O2 PFHxS	100		25 - 150	03/10/21 12:12	03/11/21 14:29	1
13C4 PFOS	92		25 - 150	03/10/21 12:12	03/11/21 14:29	1
13C8 FOSA	86		10 - 150	03/10/21 12:12	03/11/21 14:29	1
d3-NMeFOSAA	105		25 - 150	03/10/21 12:12	03/11/21 14:29	1
d5-NEtFOSAA	103		25 - 150	03/10/21 12:12	03/11/21 14:29	1
d-N-MeFOSA-M	59		10 - 150	03/10/21 12:12	03/11/21 14:29	1
d-N-EtFOSA-M	58		10 - 150	03/10/21 12:12	03/11/21 14:29	1
d7-N-MeFOSE-M	90		10 - 150	03/10/21 12:12	03/11/21 14:29	1
d9-N-EtFOSE-M	86		10 - 150	03/10/21 12:12	03/11/21 14:29	1
M2-4:2 FTS	110		25 - 150	03/10/21 12:12	03/11/21 14:29	1
M2-6:2 FTS	113		25 - 150	03/10/21 12:12	03/11/21 14:29	1
M2-8:2 FTS	108		25 - 150	03/10/21 12:12	03/11/21 14:29	1
13C3 HFPO-DA	102		25 - 150	03/10/21 12:12	03/11/21 14:29	1
13C2 10:2 FTS	120		25 - 150	03/10/21 12:12	03/11/21 14:29	1

**Lab Sample ID: LCS 320-469052/2-A**  
**Matrix: Water**  
**Analysis Batch: 469330**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 469052**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
Perfluoropentanoic acid (PFPeA)	40.0	37.5		ng/L		94	60 - 135	
Perfluorohexanoic acid (PFHxA)	40.0	39.3		ng/L		98	60 - 135	
Perfluoroheptanoic acid (PFHpA)	40.0	37.7		ng/L		94	60 - 135	
Perfluorooctanoic acid (PFOA)	40.0	41.5		ng/L		104	60 - 135	
Perfluorononanoic acid (PFNA)	40.0	41.2		ng/L		103	60 - 135	
Perfluorodecanoic acid (PFDA)	40.0	45.4		ng/L		114	60 - 135	
Perfluoroundecanoic acid (PFUnA)	40.0	45.6		ng/L		114	60 - 135	
Perfluorododecanoic acid (PFDoA)	40.0	37.7		ng/L		94	60 - 135	
Perfluorotridecanoic acid (PFTriA)	40.0	34.7		ng/L		87	60 - 135	
Perfluorotetradecanoic acid (PFTeA)	40.0	37.4		ng/L		94	60 - 135	
Perfluoro-n-hexadecanoic acid (PFHxDA)	40.0	42.7		ng/L		107	60 - 135	
Perfluoro-n-octadecanoic acid (PFODA)	40.0	31.9		ng/L		80	60 - 135	
Perfluorobutanesulfonic acid (PFBS)	35.4	35.7		ng/L		101	60 - 135	
Perfluoropentanesulfonic acid (PFPeS)	37.5	35.2		ng/L		94	60 - 135	
Perfluorohexanesulfonic acid (PFHxS)	36.4	36.2		ng/L		99	60 - 135	

Eurofins TestAmerica, Sacramento

# QC Sample Results

Client: SCS Engineers  
Project/Site: MGE Burke 25218175

Job ID: 320-70916-1

## Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

**Lab Sample ID: LCS 320-469052/2-A**  
**Matrix: Water**  
**Analysis Batch: 469330**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 469052**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	40.0		ng/L		105	60 - 135
Perfluorooctanesulfonic acid (PFOS)	37.1	37.8		ng/L		102	60 - 135
Perfluorononanesulfonic acid (PFNS)	38.4	38.6		ng/L		101	60 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	38.2		ng/L		99	60 - 135
Perfluorododecanesulfonic acid (PFDoS)	38.7	37.9		ng/L		98	60 - 135
Perfluorooctanesulfonamide (FOSA)	40.0	42.8		ng/L		107	60 - 135
NEtFOSA	40.0	29.0		ng/L		73	60 - 135
NMeFOSA	40.0	35.2		ng/L		88	60 - 135
NMeFOSAA	40.0	35.5		ng/L		89	60 - 135
NEtFOSAA	40.0	38.3		ng/L		96	60 - 135
NMeFOSE	40.0	37.2		ng/L		93	60 - 135
NEtFOSE	40.0	34.5		ng/L		86	60 - 135
4:2 FTS	37.4	36.9		ng/L		99	60 - 135
6:2 FTS	37.9	40.4		ng/L		106	60 - 135
8:2 FTS	38.3	37.2		ng/L		97	60 - 135
10:2 FTS	38.6	37.0		ng/L		96	60 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.7	42.1		ng/L		112	60 - 135
HFPO-DA (GenX)	40.0	38.2		ng/L		96	60 - 135
F-53B Major	37.3	39.3		ng/L		105	60 - 135
F-53B Minor	37.7	41.6		ng/L		110	60 - 135

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
13C4 PFBA	98		25 - 150
13C5 PFPeA	95		25 - 150
13C2 PFHxA	102		25 - 150
13C4 PFHpA	102		25 - 150
13C4 PFOA	97		25 - 150
13C5 PFNA	104		25 - 150
13C2 PFDA	91		25 - 150
13C2 PFUnA	90		25 - 150
13C2 PFDoA	108		25 - 150
13C2 PFTeDA	102		25 - 150
13C2 PFHxDA	110		25 - 150
13C3 PFBS	94		25 - 150
18O2 PFHxS	102		25 - 150
13C4 PFOS	94		25 - 150
13C8 FOSA	89		10 - 150
d3-NMeFOSAA	108		25 - 150
d5-NEtFOSAA	98		25 - 150
d-N-MeFOSA-M	72		10 - 150
d-N-EtFOSA-M	77		10 - 150
d7-N-MeFOSE-M	95		10 - 150
d9-N-EtFOSE-M	94		10 - 150

Eurofins TestAmerica, Sacramento

# QC Sample Results

Client: SCS Engineers  
Project/Site: MGE Burke 25218175

Job ID: 320-70916-1

## Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

**Lab Sample ID: LCS 320-469052/2-A**  
**Matrix: Water**  
**Analysis Batch: 469330**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 469052**

<i>Isotope Dilution</i>	<i>LCS</i>	<i>LCS</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
M2-4:2 FTS	112		25 - 150
M2-6:2 FTS	104		25 - 150
M2-8:2 FTS	109		25 - 150
13C3 HFPO-DA	98		25 - 150
13C2 10:2 FTS	120		25 - 150

**Lab Sample ID: LCSD 320-469052/3-A**  
**Matrix: Water**  
**Analysis Batch: 469330**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 469052**

<i>Analyte</i>	<i>Spike</i>	<i>LCSD</i>	<i>LCSD</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec.</i>	<i>RPD</i>	<i>RPD</i>	<i>Limit</i>
	<i>Added</i>	<i>Result</i>	<i>Qualifier</i>				<i>Limits</i>			
Perfluorobutanoic acid (PFBA)	40.0	38.0		ng/L		95	60 - 135	3		30
Perfluoropentanoic acid (PFPeA)	40.0	35.9		ng/L		90	60 - 135	4		30
Perfluorohexanoic acid (PFHxA)	40.0	35.5		ng/L		89	60 - 135	10		30
Perfluoroheptanoic acid (PFHpA)	40.0	36.0		ng/L		90	60 - 135	5		30
Perfluorooctanoic acid (PFOA)	40.0	37.9		ng/L		95	60 - 135	9		30
Perfluorononanoic acid (PFNA)	40.0	36.1		ng/L		90	60 - 135	13		30
Perfluorodecanoic acid (PFDA)	40.0	41.5		ng/L		104	60 - 135	9		30
Perfluoroundecanoic acid (PFUnA)	40.0	41.3		ng/L		103	60 - 135	10		30
Perfluorododecanoic acid (PFDoA)	40.0	42.5		ng/L		106	60 - 135	12		30
Perfluorotridecanoic acid (PFTriA)	40.0	37.4		ng/L		93	60 - 135	8		30
Perfluorotetradecanoic acid (PFTeA)	40.0	37.0		ng/L		93	60 - 135	1		30
Perfluoro-n-hexadecanoic acid (PFHxDA)	40.0	40.6		ng/L		102	60 - 135	5		30
Perfluoro-n-octadecanoic acid (PFODA)	40.0	24.1		ng/L		60	60 - 135	28		30
Perfluorobutanesulfonic acid (PFBS)	35.4	35.2		ng/L		100	60 - 135	1		30
Perfluoropentanesulfonic acid (PFPeS)	37.5	30.9		ng/L		82	60 - 135	13		30
Perfluorohexanesulfonic acid (PFHxS)	36.4	36.4		ng/L		100	60 - 135	1		30
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	37.5		ng/L		98	60 - 135	6		30
Perfluorooctanesulfonic acid (PFOS)	37.1	35.5		ng/L		96	60 - 135	6		30
Perfluorononanesulfonic acid (PFNS)	38.4	37.9		ng/L		99	60 - 135	2		30
Perfluorodecanesulfonic acid (PFDS)	38.6	37.4		ng/L		97	60 - 135	2		30
Perfluorododecanesulfonic acid (PFDoS)	38.7	36.8		ng/L		95	60 - 135	3		30
Perfluorooctanesulfonamide (FOSA)	40.0	42.5		ng/L		106	60 - 135	1		30
NEtFOSA	40.0	30.3		ng/L		76	60 - 135	4		30
NMeFOSA	40.0	38.0		ng/L		95	60 - 135	8		30
NMeFOSAA	40.0	33.9		ng/L		85	60 - 135	5		30
NEtFOSAA	40.0	37.8		ng/L		95	60 - 135	1		30
NMeFOSE	40.0	33.1		ng/L		83	60 - 135	12		30

Eurofins TestAmerica, Sacramento

# QC Sample Results

Client: SCS Engineers  
 Project/Site: MGE Burke 25218175

Job ID: 320-70916-1

## Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

**Lab Sample ID: LCSD 320-469052/3-A**  
**Matrix: Water**  
**Analysis Batch: 469330**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 469052**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
NEtFOSE	40.0	35.6		ng/L		89	60 - 135	3	30
4:2 FTS	37.4	33.6		ng/L		90	60 - 135	9	30
6:2 FTS	37.9	43.5		ng/L		115	60 - 135	8	30
8:2 FTS	38.3	38.2		ng/L		100	60 - 135	3	30
10:2 FTS	38.6	34.0		ng/L		88	60 - 135	9	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.7	40.0		ng/L		106	60 - 135	5	30
HFPO-DA (GenX)	40.0	39.0		ng/L		97	60 - 135	2	30
F-53B Major	37.3	39.9		ng/L		107	60 - 135	1	30
F-53B Minor	37.7	38.9		ng/L		103	60 - 135	7	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	LCSD Limits
13C4 PFBA	105		25 - 150
13C5 PFPeA	111		25 - 150
13C2 PFHxA	112		25 - 150
13C4 PFHpA	111		25 - 150
13C4 PFOA	108		25 - 150
13C5 PFNA	113		25 - 150
13C2 PFDA	102		25 - 150
13C2 PFUnA	107		25 - 150
13C2 PFDoA	103		25 - 150
13C2 PFTeDA	102		25 - 150
13C2 PFHxDA	111		25 - 150
13C3 PFBS	102		25 - 150
18O2 PFHxS	106		25 - 150
13C4 PFOS	101		25 - 150
13C8 FOSA	93		10 - 150
d3-NMeFOSAA	112		25 - 150
d5-NEtFOSAA	105		25 - 150
d-N-MeFOSA-M	74		10 - 150
d-N-EtFOSA-M	83		10 - 150
d7-N-MeFOSE-M	98		10 - 150
d9-N-EtFOSE-M	97		10 - 150
M2-4:2 FTS	117		25 - 150
M2-6:2 FTS	108		25 - 150
M2-8:2 FTS	105		25 - 150
13C3 HFPO-DA	105		25 - 150
13C2 10:2 FTS	121		25 - 150

# QC Association Summary

Client: SCS Engineers  
Project/Site: MGE Burke 25218175

Job ID: 320-70916-1

## LCMS

### Prep Batch: 469052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-70916-1	STR018	Total/NA	Water	3535	
320-70916-2	STR021	Total/NA	Water	3535	
MB 320-469052/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-469052/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-469052/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

### Analysis Batch: 469330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-70916-2	STR021	Total/NA	Water	537 (modified)	469052
MB 320-469052/1-A	Method Blank	Total/NA	Water	537 (modified)	469052
LCS 320-469052/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	469052
LCSD 320-469052/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	469052

### Analysis Batch: 469684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-70916-1	STR018	Total/NA	Water	537 (modified)	469052



# Lab Chronicle

Client: SCS Engineers  
 Project/Site: MGE Burke 25218175

Job ID: 320-70916-1

**Client Sample ID: STR018**  
**Date Collected: 03/04/21 09:18**  
**Date Received: 03/06/21 10:20**

**Lab Sample ID: 320-70916-1**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			291.2 mL	10.00 mL	469052	03/10/21 12:12	LA	TAL SAC
Total/NA	Analysis	537 (modified)		10			469684	03/12/21 11:02	JY1	TAL SAC

**Client Sample ID: STR021**  
**Date Collected: 03/04/21 09:45**  
**Date Received: 03/06/21 10:20**

**Lab Sample ID: 320-70916-2**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			271.5 mL	10.00 mL	469052	03/10/21 12:12	LA	TAL SAC
Total/NA	Analysis	537 (modified)		1			469330	03/11/21 15:06	S1M	TAL SAC

**Laboratory References:**

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



# Accreditation/Certification Summary

Client: SCS Engineers  
Project/Site: MGE Burke 25218175

Job ID: 320-70916-1

## Laboratory: Eurofins TestAmerica, Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	998204680	08-31-21

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Method Summary

Client: SCS Engineers  
Project/Site: MGE Burke 25218175

Job ID: 320-70916-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
3535	Solid-Phase Extraction (SPE)	SW846	TAL SAC

**Protocol References:**

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



# Sample Summary

Client: SCS Engineers  
Project/Site: MGE Burke 25218175

Job ID: 320-70916-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
320-70916-1	STR018	Water	03/04/21 09:18	03/06/21 10:20	
320-70916-2	STR021	Water	03/04/21 09:45	03/06/21 10:20	

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15



## Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 320-70916-1

**Login Number: 70916**

**List Source: Eurofins TestAmerica, Sacramento**

**List Number: 1**

**Creator: Oropeza, Salvador**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



April 15, 2021

Eric Oelkers  
SCS ENGINEERS  
2830 Dairy Drive  
Madison, WI 53718

RE: Project: 25218175.00 MG&E BURKE  
Pace Project No.: 40224246

Dear Eric Oelkers:

Enclosed are the analytical results for sample(s) received by the laboratory on March 31, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Dan Milewsky  
dan.milewsky@pacelabs.com  
(920)469-2436  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## SAMPLE SUMMARY

Project: 25218175.00 MG&E BURKE

Pace Project No.: 40224246

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40224246001	PZ-101	Water	03/29/21 09:25	03/31/21 08:00
40224246002	MW-101	Water	03/29/21 09:50	03/31/21 08:00
40224246003	TG-2	Water	03/29/21 10:55	03/31/21 08:00
40224246004	PZ-102	Water	03/29/21 12:05	03/31/21 08:00
40224246005	MW-102	Water	03/29/21 12:30	03/31/21 08:00
40224246006	MW-5	Water	03/29/21 13:35	03/31/21 08:00
40224246007	PZ-103	Water	03/29/21 14:35	03/31/21 08:00
40224246008	MW-103	Water	03/29/21 14:55	03/31/21 08:00
40224246009	STR-018	Water	03/29/21 15:40	03/31/21 08:00
40224246010	STR-019	Water	03/29/21 16:00	03/31/21 08:00
40224246011	STR-020	Water	03/29/21 16:20	03/31/21 08:00
40224246012	STR-021	Water	03/29/21 16:45	03/31/21 08:00
40224246013	TW-2	Water	03/29/21 17:45	03/31/21 08:00
40224246014	TW-3	Water	03/29/21 18:45	03/31/21 08:00
40224246015	TW-4	Water	03/30/21 10:20	03/31/21 08:00
40224246016	MW-10	Water	03/30/21 11:45	03/31/21 08:00
40224246017	TW-1	Water	03/30/21 12:35	03/31/21 08:00
40224246018	STARKWEATHER CREEK	Water	03/30/21 13:27	03/31/21 08:00
40224246019	RINSATE BLANK	Water	03/30/21 13:40	03/31/21 08:00

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.



(Please Print Clearly)

Company Name: SCS Engineers  
 Branch/Location: Madison, WI.  
 Project Contact: Eric Oelkers  
 Phone: 608-224-2830  
 Project Number: 25218175.00  
 Project Name: MG & E Burke  
 Project State: Wisconsin  
 Sampled By (Print): Adam Watson  
 Sampled By (Sign): *[Signature]*  
 PO #: \_\_\_\_\_ Regulatory Program: \_\_\_\_\_



UPPER MIDWEST REGION  
 MN: 612-607-1700 WI: 920-469-2436

40224246

### CHAIN OF CUSTODY

**Preservation Codes**  
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH  
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?  
(YES/NO)  
 PRESERVATION  
(CODE)\*

Y/N	Pick Letter	Analyses Requested																	
N	A	PFAS by 537m																	
N	A	PFAS by 537																	
		Equipment blank water																	

Quote #: \_\_\_\_\_  
 Mail To Contact: Eric Oelkers  
 Mail To Company: SCS Engineers  
 Mail To Address: \_\_\_\_\_  
 Eoelkers@scsengineers.com  
 Invoice To Contact: \_\_\_\_\_  
 Invoice To Company: \_\_\_\_\_  
 Invoice To Address: \_\_\_\_\_  
 Invoice To Phone: \_\_\_\_\_  
 CLIENT COMMENTS: \_\_\_\_\_  
 LAB COMMENTS (Lab Use Only): \_\_\_\_\_  
 Profile #: \_\_\_\_\_

**Data Package Options** (billable)  
 EPA Level III  
 EPA Level IV

**MS/MSD**  
 On your sample (billable)  
 NOT needed on your sample

**Matrix Codes**  
 A = Air W = Water  
 B = Biota DW = Drinking Water  
 C = Charcoal GW = Ground Water  
 O = Oil SW = Surface Water  
 S = Soil WW = Waste Water  
 SI = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION		MATRIX	Y/N	Pick Letter	Analyses Requested													
		DATE	TIME																	
014	TW-3	3/29/21	1845	W	X															
015	TW-4	3/30/21	1020		X															
016	MU-10		1145		X															
017	TW-1		1235		X															
018	Stormwater Creek		1327		X															
019	Rinsate Blnk		1340				X													

Rush Turnaround Time Requested - Prelims  
 (Rush TAT subject to approval/surcharge)  
 Date Needed: \_\_\_\_\_

Transmit Prelim Rush Results by (complete what you want): \_\_\_\_\_

Email #1: \_\_\_\_\_  
 Email #2: \_\_\_\_\_  
 Telephone: \_\_\_\_\_  
 Fax: \_\_\_\_\_

Samples on HOLD are subject to special pricing and release of liability

Relinquished By: *Adam Watson* Date/Time: 3/30/21 1530  
 Relinquished By: *[Signature]* Date/Time: 3/31/21 0800  
 Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received By: *Susan White* Date/Time: 3/31/21 0800  
 Received By: *[Signature]* Date/Time: \_\_\_\_\_  
 Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received By: \_\_\_\_\_ Date/Time: \_\_\_\_\_

PACE Project No. 40224246  
 Receipt Temp = 4 °C  
 Sample Receipt pH OK / Adjusted  
 Cooler Custody Seal Present / ~~Not Present~~ Intact / ~~Not Intact~~

# Pace Container Order #794975 - 40224246

Addresses		
Order By :	Ship To :	Return To:
Company <u>SCS ENGINEERS</u>	Company <u>SCS ENGINEERS</u>	Company <u>Pace Analytical Green Bay</u>
Contact <u>Oelkers, Eric</u>	Contact <u>Oelkers, Eric</u>	Contact <u>Milewsky, Dan</u>
Email <u>eoelkers@scsengineers.com</u>	Email <u>eoelkers@scsengineers.com</u>	Email <u>dan.milewsky@pacelabs.com</u>
Address <u>2830 Dairy Drive</u>	Address <u>2830 Dairy Drive</u>	Address <u>1241 Bellevue Street</u>
Address 2 _____	Address 2 _____	Address 2 <u>Suite 9</u>
City <u>Madison</u>	City <u>Madison</u>	City <u>Green Bay</u>
State <u>WI</u> Zip <u>53718</u>	State <u>WI</u> Zip <u>53718</u>	State <u>WI</u> Zip <u>54302</u>
Phone <u>608-224-2830</u>	Phone <u>608-224-2830</u>	Phone <u>(920)469-2436</u>

Info			
Project Name <u>MGE Burke Site PFAS</u>	Due Date <u>03/26/2021</u>	Profile <u>NA</u>	Quote _____
Project Manager <u>Milewsky, Dan</u>	Return Date _____	Carrier <u>Most Economical</u>	Location _____

Trip Blanks
<input checked="" type="checkbox"/> Include Trip Blanks

Bottle Labels
<input checked="" type="checkbox"/> Blank
<input type="checkbox"/> Pre-Printed No Sample IDs
<input type="checkbox"/> Pre-Printed With Sample IDs

Bottles
<input type="checkbox"/> Boxed Cases
<input type="checkbox"/> Individually Wrapped
<input type="checkbox"/> Grouped By Sample ID/Matrix

Return Shipping Labels
<input type="checkbox"/> No Shipper
<input type="checkbox"/> With Shipper

Misc	
<input checked="" type="checkbox"/> Sampling Instructions	<input type="checkbox"/> Extra Bubble Wrap
<input checked="" type="checkbox"/> Custody Seal	<input type="checkbox"/> Short Hold/Rush Stickers
<input checked="" type="checkbox"/> Temp. Blanks	<input type="checkbox"/> DI Water <input style="width: 50px;" type="text" value="Liter(s)"/>
<input checked="" type="checkbox"/> Coolers <input style="width: 150px;" type="text"/>	<input type="checkbox"/> USDA Regulated Soils
<input type="checkbox"/> Syringes <input style="width: 150px;" type="text"/>	

COC Options
<input checked="" type="checkbox"/> Number of Blanks <input style="width: 50px;" type="text" value="2"/>
<input type="checkbox"/> Pre-Printed <input style="width: 100px;" type="text"/>

# of Samples	Matrix	Test	Container	Total	# of	Lot #	Notes
2	WT	PFAS by 537 Equipment Blank Water	2 -250mL HDPE plastic unpreserved w/ DI water	4	0	M-0-322-01BB	
23	WT	PFAS by 537M	250mL HDPE plastic unpreserved	23	0	M-0-322-01BB	

### Hazard Shipping Placard In Place : NO

'Sample receiving hours are typically 8am-5pm, but may differ by location. Please check with your Pace Project Manager.

'Pace Analytical reserves the right to return hazardous, toxic, or radioactive samples to you.

'Pace Analytical reserves the right to charge for unused bottles, as well as cost associated with sample storage/disposal.

'Payment term are net 30 days.

'Please include the proposal number on the chain of custody to insure proper billing.

### LAB USE:

Ship Date :	<input style="width: 80px;" type="text" value="03/24/2021"/>
Prepared By:	<input style="width: 80px;" type="text" value="Mai Yer Her"/>
Verified By:	<input style="width: 80px;" type="text"/>

### Sample

### CLIENT USE (Optional):

Date Rec'd:	<input style="width: 80px;" type="text"/>
Received By:	<input style="width: 80px;" type="text"/>
Verified By:	<input style="width: 80px;" type="text"/>







Document Name:  
**Sample Condition Upon Receipt (SCUR)**  
 Document No.:  
**ENV-FRM-GBAY-0014-Rev.00**

Document Revised: 26Mar2020  
 Author:  
 Pace Green Bay Quality Office

**Sample Condition Upon Receipt Form (SCUR)**

Client Name: SCS Engineers Project #: \_\_\_\_\_  
 Courier:  CS Logistics  Fed Ex  Speedee  UPS  Walco  
 Client  Pace Other: \_\_\_\_\_

**WO# : 40224246**



Tracking #: \_\_\_\_\_  
 Custody Seal on Cooler/Box Present:  yes  no Seals intact:  yes  no  
 Custody Seal on Samples Present:  yes  no Seals intact:  yes  no  
 Packing Material:  Bubble Wrap  Bubble Bags  None  Other \_\_\_\_\_  
 Thermometer Used SR - 104 Type of Ice:  Wet  Blue  Dry  None  Samples on ice, cooling process has begun  
 Cooler Temperature Uncorr: 4 / Corr: 4  
 Temp Blank Present:  yes  no Biological Tissue is Frozen:  yes  no  
 Temp should be above freezing to 6°C.  
 Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Person examining contents:  
 Date: 3-31-21 / Initials: SKW  
 Labeled By Initials: MLK

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	2. <u>Invoice info.</u>
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No MS/MSD: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8. <u>All sample points except 0031006, + 016: lab received in BP3U. PM informed. MLK</u>
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>W</u>		
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

**Client Notification/ Resolution:** \_\_\_\_\_ If checked, see attached form for additional comments   
 Person Contacted: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Comments/ Resolution: \_\_\_\_\_

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logir

## Dan Milewsky

---

**From:** Watson, Adam <AWatson@scsengineers.com>  
**Sent:** Tuesday, March 30, 2021 7:14 PM  
**To:** Dan Milewsky  
**Subject:** Creek Sample  
**Attachments:** 1098\_001.pdf

**CAUTION:** This email originated from outside Pace Analytical. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Dan,

I sent samples to Pace Green Bay this afternoon and realized after that I mislabeled both the sample bottle and chain of custody. The sample stormwater creek should be Starkweather creek. Is it possible to change it so that the lab report lists it as Starkweather Creek?

Thank you

Adam Watson  
Geologist  
SCS Engineers  
2830 Dairy Drive  
Madison, WI 53718-6751 USA  
608-216-7345 (W)  
608-250-9985 (C)  
[awatson@scsengineers.com](mailto:awatson@scsengineers.com)

**Driven by Client Success**  
[www.scsengineers.com](http://www.scsengineers.com)

The email has been scanned by the Symantec Email Security.cloud service.  
For more information please visit [Http://www.symanteccloud.com](http://www.symanteccloud.com).



---

## Report of Analysis

**Pace Analytical Services, LLC**  
1241 Bellevue Street  
Suite 9  
Green Bay, WI 54302  
Attention: Dan Milewsky

Project Name: 25218175.00 MG-E BURKE

Project Number: 40224246

Lot Number: **WD02064**

Date Completed: 04/13/2021

*Karen Coonan*

04/14/2021 5:47 PM

Approved and released by:  
Project Manager II: **Karen L. Coonan**



The electronic signature above is the equivalent of a handwritten signature.  
This report shall not be reproduced, except in its entirety, without the written approval of Pace Analytical Services, LLC.

---

# PACE ANALYTICAL SERVICES, LLC

SC DHEC No: 32010001

NELAC No: E87653

NC DENR No: 329

NC Field Parameters No: 5639

## Case Narrative Pace Analytical Services, LLC Lot Number: WD02064

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved The NELAC Institute (TNI) standards, the Pace Analytical Services, LLC ("Pace") Laboratory Quality Manual, standard operating procedures (SOPs), and Pace policies. Any exceptions to the TNI standards, the Laboratory Quality Manual, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Pace Project Manager listed on the cover page.

Samples WD02064-012, WD02064-016 required centrifugation prior to extraction, due to excessive solids present in the samples. Centrifugation was performed following the PFAS Aqueous Centrifuge Protocol; samples were spiked with Surrogate (SUR; Extracted Internal Standard/EIS) and shaken vigorously before being poured into a conical bottle and centrifuged. The centrifuged aqueous sample was decanted back into the original sample bottle, off of the condensed solids remaining in the centrifuge bottle. Original sample bottle was rinsed as normal and centrifuge bottle was rinsed with 4mL of MeOH. Centrifuge bottle rinsate was added to the elution. Samples concentrated to <10mL and reconstituted to 10mL using MeOH by transfer pipet.

Surrogate recoveries for the following samples were outside the upper control limit: WD02064-001, WD02064-003, WD02064-004, WD02064-005, WD02064-006, WD02064-007, WD02064-008, WD02064-009, WD02064-010, WD02064-012, WD02064-013, WD02064-014, WD02064-015, WD02064-016, WD02064-017, WD02064-018. This sample did not contain any target analytes; therefore, re-extraction and re-analysis was not performed.

Surrogate recovery for the following sample was outside of acceptance limits: WD02064-011. There was insufficient sample to perform a re-extraction, results are reported.

# PACE ANALYTICAL SERVICES, LLC

**Sample Summary**  
**Pace Analytical Services, LLC**  
**Lot Number: WD02064**  
**Project Name: 25218175.00 MG-E BURKE**  
**Project Number: 40224246**

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	PZ-101	Aqueous	03/29/2021 0925	04/02/2021
002	MW-101	Aqueous	03/29/2021 0950	04/02/2021
003	TG-2	Aqueous	03/29/2021 1055	04/02/2021
004	PZ-102	Aqueous	03/29/2021 1205	04/02/2021
005	MW-102	Aqueous	03/29/2021 1230	04/02/2021
006	MW-5	Aqueous	03/29/2021 1335	04/02/2021
007	PZ-103	Aqueous	03/29/2021 1435	04/02/2021
008	MW-103	Aqueous	03/29/2021 1455	04/02/2021
009	STR-018	Aqueous	03/29/2021 1540	04/02/2021
010	STR-019	Aqueous	03/29/2021 1600	04/02/2021
011	STR-020	Aqueous	03/29/2021 1620	04/02/2021
012	STR-021	Aqueous	03/29/2021 1645	04/02/2021
013	TW-2	Aqueous	03/29/2021 1745	04/02/2021
014	TW-3	Aqueous	03/29/2021 1845	04/02/2021
015	TW-4	Aqueous	03/30/2021 1020	04/02/2021
016	MW-10	Aqueous	03/30/2021 1145	04/02/2021
017	TW-1	Aqueous	03/30/2021 1235	04/02/2021
018	STARKWEATHER CREEK	Aqueous	03/30/2021 1327	04/02/2021
019	RINSATE BLANK	Aqueous	03/30/2021 1340	04/02/2021

(19 samples)

# PACE ANALYTICAL SERVICES, LLC

**Detection Summary**  
**Pace Analytical Services, LLC**  
**Lot Number: WD02064**  
**Project Name: 25218175.00 MG-E BURKE**  
**Project Number: 40224246**

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	PZ-101	Aqueous	PFHxS	PFAS by ID	3.6		ng/L	7
001	PZ-101	Aqueous	PFBA	PFAS by ID	1.0	J	ng/L	7
002	MW-101	Aqueous	PFBS	PFAS by ID	0.85	J	ng/L	9
002	MW-101	Aqueous	PFHxS	PFAS by ID	1.8	J	ng/L	9
002	MW-101	Aqueous	PFBA	PFAS by ID	6.1		ng/L	9
003	TG-2	Aqueous	PFPeS	PFAS by ID	1.1	J	ng/L	11
003	TG-2	Aqueous	PFHxS	PFAS by ID	4.0		ng/L	11
003	TG-2	Aqueous	PFBA	PFAS by ID	6.0		ng/L	11
003	TG-2	Aqueous	PFOA	PFAS by ID	3.4	J	ng/L	11
003	TG-2	Aqueous	PFOS	PFAS by ID	3.0	J	ng/L	11
004	PZ-102	Aqueous	PFBS	PFAS by ID	1.6	J	ng/L	13
004	PZ-102	Aqueous	PFHxS	PFAS by ID	1.1	J	ng/L	13
004	PZ-102	Aqueous	PFBA	PFAS by ID	1.6	J	ng/L	13
005	MW-102	Aqueous	PFBS	PFAS by ID	1.7	J	ng/L	15
005	MW-102	Aqueous	PFHxS	PFAS by ID	0.92	J	ng/L	15
005	MW-102	Aqueous	PFBA	PFAS by ID	27		ng/L	15
005	MW-102	Aqueous	PFHxA	PFAS by ID	1.0	J	ng/L	15
005	MW-102	Aqueous	PFOA	PFAS by ID	2.3	J	ng/L	15
005	MW-102	Aqueous	PFPeA	PFAS by ID	1.4	J	ng/L	15
006	MW-5	Aqueous	PFBS	PFAS by ID	1.0	J	ng/L	17
006	MW-5	Aqueous	PFHxS	PFAS by ID	1.5	J	ng/L	17
006	MW-5	Aqueous	PFBA	PFAS by ID	6.5		ng/L	17
006	MW-5	Aqueous	PFHxA	PFAS by ID	1.2	J	ng/L	17
006	MW-5	Aqueous	PFOA	PFAS by ID	1.3	J	ng/L	17
006	MW-5	Aqueous	PFPeA	PFAS by ID	1.4	J	ng/L	17
006	MW-5	Aqueous	PFOS	PFAS by ID	1.3	J	ng/L	17
007	PZ-103	Aqueous	PFHxS	PFAS by ID	1.5	J	ng/L	19
007	PZ-103	Aqueous	PFBA	PFAS by ID	1.4	J	ng/L	19
007	PZ-103	Aqueous	PFHxA	PFAS by ID	1.4	J	ng/L	19
007	PZ-103	Aqueous	PFOA	PFAS by ID	1.2	J	ng/L	19
007	PZ-103	Aqueous	PFOS	PFAS by ID	4.9		ng/L	19
008	MW-103	Aqueous	PFBS	PFAS by ID	1.0	J	ng/L	21
008	MW-103	Aqueous	PFHxS	PFAS by ID	0.94	J	ng/L	21
008	MW-103	Aqueous	PFBA	PFAS by ID	7.4		ng/L	21
008	MW-103	Aqueous	PFPeA	PFAS by ID	0.90	J	ng/L	21
008	MW-103	Aqueous	PFOS	PFAS by ID	1.5	J	ng/L	21
009	STR-018	Aqueous	PFBS	PFAS by ID	1.2	J	ng/L	23
009	STR-018	Aqueous	PFHxS	PFAS by ID	3.3	J	ng/L	23
009	STR-018	Aqueous	PFBA	PFAS by ID	15		ng/L	23
009	STR-018	Aqueous	PFHpA	PFAS by ID	0.92	J	ng/L	23
009	STR-018	Aqueous	PFHxA	PFAS by ID	2.0	J	ng/L	23
009	STR-018	Aqueous	PFOA	PFAS by ID	4.0		ng/L	23
009	STR-018	Aqueous	PFPeA	PFAS by ID	2.1	J	ng/L	23



## Detection Summary (Continued)

Lot Number: WD02064

Sample ID	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
009	STR-018	Aqueous	PFOS	PFAS by ID	4.8		ng/L	23
010	STR-019	Aqueous	PFBS	PFAS by ID	2.8	J	ng/L	25
010	STR-019	Aqueous	PFHxS	PFAS by ID	17		ng/L	25
010	STR-019	Aqueous	PFBA	PFAS by ID	13		ng/L	25
010	STR-019	Aqueous	PFHpA	PFAS by ID	1.6	J	ng/L	25
010	STR-019	Aqueous	PFHxA	PFAS by ID	3.9		ng/L	25
010	STR-019	Aqueous	PFOA	PFAS by ID	8.9		ng/L	25
010	STR-019	Aqueous	PFPeA	PFAS by ID	3.1	J	ng/L	25
010	STR-019	Aqueous	PFOS	PFAS by ID	22		ng/L	25
011	STR-020	Aqueous	6:2 FTS	PFAS by ID	6.3	JQ	ng/L	27
011	STR-020	Aqueous	PFBS	PFAS by ID	44		ng/L	27
011	STR-020	Aqueous	PFHpS	PFAS by ID	1.2	J	ng/L	27
011	STR-020	Aqueous	PFPeS	PFAS by ID	29		ng/L	27
011	STR-020	Aqueous	PFHxS	PFAS by ID	120		ng/L	27
011	STR-020	Aqueous	PFBA	PFAS by ID	33		ng/L	27
011	STR-020	Aqueous	PFHpA	PFAS by ID	12		ng/L	27
011	STR-020	Aqueous	PFHxA	PFAS by ID	43		ng/L	27
011	STR-020	Aqueous	PFOA	PFAS by ID	46		ng/L	27
011	STR-020	Aqueous	PFPeA	PFAS by ID	29		ng/L	27
011	STR-020	Aqueous	PFOS	PFAS by ID	23		ng/L	27
012	STR-021	Aqueous	PFBS	PFAS by ID	3.1	J	ng/L	29
012	STR-021	Aqueous	PFPeS	PFAS by ID	2.0	J	ng/L	29
012	STR-021	Aqueous	PFHxS	PFAS by ID	16		ng/L	29
012	STR-021	Aqueous	PFBA	PFAS by ID	14		ng/L	29
012	STR-021	Aqueous	PFHpA	PFAS by ID	1.7	J	ng/L	29
012	STR-021	Aqueous	PFHxA	PFAS by ID	4.4		ng/L	29
012	STR-021	Aqueous	PFOA	PFAS by ID	9.1		ng/L	29
012	STR-021	Aqueous	PFOS	PFAS by ID	11		ng/L	29
013	TW-2	Aqueous	PFBA	PFAS by ID	40		ng/L	31
013	TW-2	Aqueous	PFHxA	PFAS by ID	0.98	J	ng/L	31
013	TW-2	Aqueous	PFOA	PFAS by ID	2.7	J	ng/L	31
013	TW-2	Aqueous	PFOS	PFAS by ID	4.0		ng/L	31
014	TW-3	Aqueous	PFBS	PFAS by ID	2.4	J	ng/L	33
014	TW-3	Aqueous	PFHxS	PFAS by ID	6.3		ng/L	33
014	TW-3	Aqueous	PFBA	PFAS by ID	27		ng/L	33
014	TW-3	Aqueous	PFHpA	PFAS by ID	0.92	J	ng/L	33
014	TW-3	Aqueous	PFHxA	PFAS by ID	2.6	J	ng/L	33
014	TW-3	Aqueous	PFOA	PFAS by ID	3.9		ng/L	33
014	TW-3	Aqueous	PFPeA	PFAS by ID	2.2	J	ng/L	33
014	TW-3	Aqueous	PFOS	PFAS by ID	1.8	J	ng/L	33
015	TW-4	Aqueous	PFBS	PFAS by ID	4.8		ng/L	35
015	TW-4	Aqueous	PFPeS	PFAS by ID	1.5	J	ng/L	35
015	TW-4	Aqueous	PFHxS	PFAS by ID	5.9		ng/L	35
015	TW-4	Aqueous	PFBA	PFAS by ID	32		ng/L	35
015	TW-4	Aqueous	PFHpA	PFAS by ID	2.1	J	ng/L	35
015	TW-4	Aqueous	PFHxA	PFAS by ID	2.0	J	ng/L	35
015	TW-4	Aqueous	PFNA	PFAS by ID	1.3	J	ng/L	35
015	TW-4	Aqueous	PFOA	PFAS by ID	17		ng/L	35

# Detection Summary (Continued)

Lot Number: WD02064

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
015	TW-4	Aqueous	PFOS	PFAS by ID	12		ng/L	35
016	MW-10	Aqueous	PFBS	PFAS by ID	6.4		ng/L	37
016	MW-10	Aqueous	PFPeS	PFAS by ID	5.2		ng/L	37
016	MW-10	Aqueous	PFHxS	PFAS by ID	5.4		ng/L	37
016	MW-10	Aqueous	PFBA	PFAS by ID	23		ng/L	37
016	MW-10	Aqueous	PFHpA	PFAS by ID	4.6		ng/L	37
016	MW-10	Aqueous	PFHxA	PFAS by ID	21		ng/L	37
016	MW-10	Aqueous	PFOA	PFAS by ID	12		ng/L	37
016	MW-10	Aqueous	PFPeA	PFAS by ID	9.6		ng/L	37
016	MW-10	Aqueous	PFOS	PFAS by ID	8.6		ng/L	37
017	TW-1	Aqueous	PFBS	PFAS by ID	1.8	J	ng/L	39
017	TW-1	Aqueous	PFPeS	PFAS by ID	1.7	J	ng/L	39
017	TW-1	Aqueous	PFHxS	PFAS by ID	41		ng/L	39
017	TW-1	Aqueous	PFBA	PFAS by ID	4.6		ng/L	39
017	TW-1	Aqueous	PFHpA	PFAS by ID	1.0	J	ng/L	39
017	TW-1	Aqueous	PFHxA	PFAS by ID	2.0	J	ng/L	39
017	TW-1	Aqueous	PFOA	PFAS by ID	18		ng/L	39
017	TW-1	Aqueous	PFPeA	PFAS by ID	1.0	J	ng/L	39
017	TW-1	Aqueous	PFOS	PFAS by ID	10		ng/L	39
018	STARKWEATHER CREEK	Aqueous	PFBS	PFAS by ID	2.9	J	ng/L	41
018	STARKWEATHER CREEK	Aqueous	PFOSA	PFAS by ID	1.3	J	ng/L	41
018	STARKWEATHER CREEK	Aqueous	PFHxS	PFAS by ID	5.9		ng/L	41
018	STARKWEATHER CREEK	Aqueous	PFBA	PFAS by ID	11		ng/L	41
018	STARKWEATHER CREEK	Aqueous	PFHpA	PFAS by ID	2.0	J	ng/L	41
018	STARKWEATHER CREEK	Aqueous	PFHxA	PFAS by ID	5.5		ng/L	41
018	STARKWEATHER CREEK	Aqueous	PFOA	PFAS by ID	4.5		ng/L	41
018	STARKWEATHER CREEK	Aqueous	PFPeA	PFAS by ID	4.4		ng/L	41
018	STARKWEATHER CREEK	Aqueous	PFOS	PFAS by ID	5.8		ng/L	41

(119 detections)

# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WD02064-001**

Description: **PZ-101**

Matrix: **Aqueous**

Date Sampled: **03/29/2021 0925**

Project Name: **25218175.00 MG-E BURKE**

Date Received: **04/02/2021**

Project Number: **40224246**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/07/2021 1419	JJG	04/05/2021 1105	87951

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND	Q	6.9	1.7	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	3.5	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>3.6</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>1.0</b>	<b>J</b>	<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-undecanoic acid (PFUDA)	2058-94-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS	N	225	25-150
13C2_6:2FTS		122	25-150
13C2_8:2FTS		108	25-150
13C2_PFDa		102	25-150
13C2_PFTeDA		103	25-150
13C3_PFBS		86	25-150
13C3_PFHxS		105	25-150
13C3-HFPO-DA		95	25-150
13C4_PFBA		82	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 ND = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 H = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-001</b>
Description: <b>PZ-101</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/29/2021 0925</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C4_PFHpA		118	25-150
13C5_PFHxA		110	25-150
13C5_PFPeA		95	25-150
13C6_PFDA		105	25-150
13C7_PFUdA		96	25-150
13C8_PFOA		99	25-150
13C8_PFOS		115	25-150
13C8_PFOSA		105	10-150
13C9_PFNA		108	25-150
d-EtFOSA		76	10-150
d5-EtFOSAA		104	25-150
d9-EtFOSE		95	10-150
d-MeFOSA		82	10-150
d3-MeFOSAA		114	25-150
d7-MeFOSE		97	10-150

---

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

---

Pace Analytical Services, LLC *(formerly Shealy Environmental Services, Inc.)*  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WD02064-002**

Description: **MW-101**

Matrix: **Aqueous**

Date Sampled: **03/29/2021 0950**

Project Name: **25218175.00 MG-E BURKE**

Date Received: **04/02/2021**

Project Number: **40224246**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/07/2021 1430	JJG	04/05/2021 1105	87951

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
4,8-dioxo-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	3.4	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
<b>Perfluoro-1-butanefluoronic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>0.85</b>	<b>J</b>	<b>3.4</b>	<b>0.85</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>1.8</b>	<b>J</b>	<b>3.4</b>	<b>0.85</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>6.1</b>		<b>3.4</b>	<b>0.85</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluoro-n-undecanoic acid (PFUDA)	2058-94-8	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		3.4	0.85	ng/L	1

Surrogate	Run 1 Q	Acceptance % Recovery	Limits
13C2_4:2FTS		140	25-150
13C2_6:2FTS		97	25-150
13C2_8:2FTS		98	25-150
13C2_PFDa		91	25-150
13C2_PFTeDA		96	25-150
13C3_PFBS		89	25-150
13C3_PFHxS		102	25-150
13C3-HFPO-DA		94	25-150
13C4_PFBA		101	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 ND = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 H = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-002</b>
Description: <b>MW-101</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/29/2021 0950</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C4_PFHpA		106	25-150
13C5_PFHxA		106	25-150
13C5_PFPeA		102	25-150
13C6_PFDA		97	25-150
13C7_PFUdA		92	25-150
13C8_PFOA		101	25-150
13C8_PFOS		105	25-150
13C8_PFOSA		95	10-150
13C9_PFNA		98	25-150
d-EtFOSA		80	10-150
d5-EtFOSAA		98	25-150
d9-EtFOSE		86	10-150
d-MeFOSA		83	10-150
d3-MeFOSAA		93	25-150
d7-MeFOSE		89	10-150

---

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

---

Pace Analytical Services, LLC *(formerly Shealy Environmental Services, Inc.)*  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-003</b>
Description: <b>TG-2</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/29/2021 1055</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/07/2021 1440	JJG	04/05/2021 1105	87951

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND	Q	6.9	1.7	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	3.5	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
<b>Perfluoro-1-pentanesulfonic acid (PFPeS)</b>	<b>2706-91-4</b>	<b>PFAS by ID SOP</b>	<b>1.1</b>	<b>J</b>	<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>4.0</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>6.0</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>3.4</b>	<b>J</b>	<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-undecanoic acid (PFUDA)	2058-94-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>3.0</b>	<b>J</b>	<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS	N	171	25-150
13C2_6:2FTS		105	25-150
13C2_8:2FTS		115	25-150
13C2_PFDaA		93	25-150
13C2_PFTeDA		97	25-150
13C3_PFBS		87	25-150
13C3_PFHxS		102	25-150
13C3-HFPO-DA		94	25-150
13C4_PFBA		99	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 ND = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 H = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com



# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-003</b>
Description: <b>TG-2</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/29/2021 1055</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C4_PFHpA		114	25-150
13C5_PFHxA		107	25-150
13C5_PFPeA		98	25-150
13C6_PFDA		105	25-150
13C7_PFUdA		87	25-150
13C8_PFOA		101	25-150
13C8_PFOS		107	25-150
13C8_PFOSA		100	10-150
13C9_PFNA		102	25-150
d-EtFOSA		79	10-150
d5-EtFOSAA		98	25-150
d9-EtFOSE		83	10-150
d-MeFOSA		78	10-150
d3-MeFOSAA		97	25-150
d7-MeFOSE		90	10-150

---

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 ND = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 H = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

---

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WD02064-004**

Description: **PZ-102**

Matrix: **Aqueous**

Date Sampled: **03/29/2021 1205**

Project Name: **25218175.00 MG-E BURKE**

Date Received: **04/02/2021**

Project Number: **40224246**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/07/2021 1502	JJG	04/05/2021 1105	87951

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND	Q	6.7	1.7	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		13	3.3	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
<b>Perfluoro-1-butanefluoronic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>1.6</b>	<b>J</b>	<b>3.3</b>	<b>0.83</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>1.1</b>	<b>J</b>	<b>3.3</b>	<b>0.83</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>1.6</b>	<b>J</b>	<b>3.3</b>	<b>0.83</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-n-undecanoic acid (PFUDA)	2058-94-8	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		3.3	0.83	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS	N	180	25-150
13C2_6:2FTS		97	25-150
13C2_8:2FTS		93	25-150
13C2_PFDa		88	25-150
13C2_PFTeDA		88	25-150
13C3_PFBS		79	25-150
13C3_PFHxS		92	25-150
13C3-HFPO-DA		85	25-150
13C4_PFBA		79	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 ND = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 H = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-004</b>
Description: <b>PZ-102</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/29/2021 1205</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C4_PFHpA		107	25-150
13C5_PFHxA		99	25-150
13C5_PFPeA		86	25-150
13C6_PFDA		97	25-150
13C7_PFUdA		84	25-150
13C8_PFOA		95	25-150
13C8_PFOS		104	25-150
13C8_PFOSA		89	10-150
13C9_PFNA		101	25-150
d-EtFOSA		68	10-150
d5-EtFOSAA		85	25-150
d9-EtFOSE		76	10-150
d-MeFOSA		76	10-150
d3-MeFOSAA		90	25-150
d7-MeFOSE		80	10-150

---

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

---

Pace Analytical Services, LLC *(formerly Shealy Environmental Services, Inc.)*  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-005</b>
Description: <b>MW-102</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/29/2021 1230</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/07/2021 1512	JJG	04/05/2021 1105	87951

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND	Q	6.8	1.7	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	3.4	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
<b>Perfluoro-1-butanefluoronic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>1.7</b>	<b>J</b>	<b>3.4</b>	<b>0.85</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>0.92</b>	<b>J</b>	<b>3.4</b>	<b>0.85</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>27</b>		<b>3.4</b>	<b>0.85</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>1.0</b>	<b>J</b>	<b>3.4</b>	<b>0.85</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>2.3</b>	<b>J</b>	<b>3.4</b>	<b>0.85</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>1.4</b>	<b>J</b>	<b>3.4</b>	<b>0.85</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluoro-n-undecanoic acid (PFUDA)	2058-94-8	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		3.4	0.85	ng/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS	N	253	25-150
13C2_6:2FTS		135	25-150
13C2_8:2FTS		117	25-150
13C2_PFDaA		97	25-150
13C2_PFTeDA		93	25-150
13C3_PFBS		75	25-150
13C3_PFHxS		100	25-150
13C3-HFPO-DA		83	25-150
13C4_PFBA		66	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 ND = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 H = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-005</b>
Description: <b>MW-102</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/29/2021 1230</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C4_PFHpA		113	25-150
13C5_PFHxA		102	25-150
13C5_PFPeA		82	25-150
13C6_PFDA		107	25-150
13C7_PFUdA		96	25-150
13C8_PFOA		103	25-150
13C8_PFOS		106	25-150
13C8_PFOSA		98	10-150
13C9_PFNA		109	25-150
d-EtFOSA		72	10-150
d5-EtFOSAA		100	25-150
d9-EtFOSE		78	10-150
d-MeFOSA		83	10-150
d3-MeFOSAA		99	25-150
d7-MeFOSE		84	10-150

---

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

---

Pace Analytical Services, LLC *(formerly Shealy Environmental Services, Inc.)*  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WD02064-006**

Description: **MW-5**

Matrix: **Aqueous**

Date Sampled: **03/29/2021 1335**

Project Name: **25218175.00 MG-E BURKE**

Date Received: **04/02/2021**

Project Number: **40224246**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/07/2021 1523	JJG	04/05/2021 1105	87951

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND	Q	6.9	1.7	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	3.4	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
<b>Perfluoro-1-butanefluoronic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>1.0</b>	<b>J</b>	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-1-octanesulfonamide (PFOA)	754-91-6	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>1.5</b>	<b>J</b>	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>6.5</b>		<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>1.2</b>	<b>J</b>	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>1.3</b>	<b>J</b>	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>1.4</b>	<b>J</b>	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-undecanoic acid (PFUDA)	2058-94-8	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>1.3</b>	<b>J</b>	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS	N	223	25-150
13C2_6:2FTS		134	25-150
13C2_8:2FTS		134	25-150
13C2_PFDa		99	25-150
13C2_PFTeDA		93	25-150
13C3_PFBS		88	25-150
13C3_PFHxS		105	25-150
13C3-HFPO-DA		92	25-150
13C4_PFBA		89	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 ND = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 H = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-006</b>
Description: <b>MW-5</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/29/2021 1335</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C4_PFHpA		118	25-150
13C5_PFHxA		112	25-150
13C5_PFPeA		96	25-150
13C6_PFDA		105	25-150
13C7_PFUdA		96	25-150
13C8_PFOA		106	25-150
13C8_PFOS		118	25-150
13C8_PFOSA		97	10-150
13C9_PFNA		112	25-150
d-EtFOSA		70	10-150
d5-EtFOSAA		110	25-150
d9-EtFOSE		89	10-150
d-MeFOSA		80	10-150
d3-MeFOSAA		109	25-150
d7-MeFOSE		87	10-150

---

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

---

Pace Analytical Services, LLC *(formerly Shealy Environmental Services, Inc.)*  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com



# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WD02064-007**

Description: **PZ-103**

Matrix: **Aqueous**

Date Sampled: **03/29/2021 1435**

Project Name: **25218175.00 MG-E BURKE**

Date Received: **04/02/2021**

Project Number: **40224246**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/07/2021 1544	JJG	04/05/2021 1105	87951

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND	Q	6.8	1.7	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	3.4	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>1.5</b>	<b>J</b>	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>1.4</b>	<b>J</b>	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>1.4</b>	<b>J</b>	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>1.2</b>	<b>J</b>	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-undecanoic acid (PFUDA)	2058-94-8	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>4.9</b>		<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS	N	181	25-150
13C2_6:2FTS		105	25-150
13C2_8:2FTS		101	25-150
13C2_PFDaA		88	25-150
13C2_PFTeDA		94	25-150
13C3_PFBS		83	25-150
13C3_PFHxS		101	25-150
13C3-HFPO-DA		94	25-150
13C4_PFBA		86	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 ND = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 H = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-007</b>
Description: <b>PZ-103</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/29/2021 1435</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C4_PFHpA		109	25-150
13C5_PFHxA		103	25-150
13C5_PFPeA		94	25-150
13C6_PFDA		102	25-150
13C7_PFUdA		88	25-150
13C8_PFOA		99	25-150
13C8_PFOS		102	25-150
13C8_PFOSA		95	10-150
13C9_PFNA		99	25-150
d-EtFOSA		77	10-150
d5-EtFOSAA		83	25-150
d9-EtFOSE		82	10-150
d-MeFOSA		82	10-150
d3-MeFOSAA		95	25-150
d7-MeFOSE		80	10-150

---

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

---

Pace Analytical Services, LLC *(formerly Shealy Environmental Services, Inc.)*  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-008</b>
Description: <b>MW-103</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/29/2021 1455</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/07/2021 1555	JJG	04/05/2021 1105	87951

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND	Q	6.9	1.7	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	3.4	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
<b>Perfluoro-1-butanefluoronic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>1.0</b>	<b>J</b>	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>0.94</b>	<b>J</b>	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>7.4</b>		<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>0.90</b>	<b>J</b>	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-undecanoic acid (PFUDA)	2058-94-8	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>1.5</b>	<b>J</b>	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS	N	168	25-150
13C2_6:2FTS		107	25-150
13C2_8:2FTS		105	25-150
13C2_PFDa		94	25-150
13C2_PFTeDA		92	25-150
13C3_PFBS		81	25-150
13C3_PFHxS		99	25-150
13C3-HFPO-DA		96	25-150
13C4_PFBA		94	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 ND = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 H = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-008</b>
Description: <b>MW-103</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/29/2021 1455</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C4_PFHpA		113	25-150
13C5_PFHxA		107	25-150
13C5_PFPeA		101	25-150
13C6_PFDA		103	25-150
13C7_PFUdA		89	25-150
13C8_PFOA		97	25-150
13C8_PFOS		106	25-150
13C8_PFOSA		96	10-150
13C9_PFNA		106	25-150
d-EtFOSA		78	10-150
d5-EtFOSAA		97	25-150
d9-EtFOSE		73	10-150
d-MeFOSA		77	10-150
d3-MeFOSAA		101	25-150
d7-MeFOSE		81	10-150

---

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

---

Pace Analytical Services, LLC *(formerly Shealy Environmental Services, Inc.)*  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-009</b>
Description: <b>STR-018</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/29/2021 1540</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/07/2021 1605	JJG	04/05/2021 1105	87951

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND	Q	6.9	1.7	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	3.5	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
<b>Perfluoro-1-butanefluoronic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>1.2</b>	<b>J</b>	<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>3.3</b>	<b>J</b>	<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>15</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpA)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>0.92</b>	<b>J</b>	<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>2.0</b>	<b>J</b>	<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>4.0</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>2.1</b>	<b>J</b>	<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-undecanoic acid (PFUDA)	2058-94-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>4.8</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS	N	245	25-150
13C2_6:2FTS		120	25-150
13C2_8:2FTS		119	25-150
13C2_PFDa		95	25-150
13C2_PFTeDA		93	25-150
13C3_PFBS		78	25-150
13C3_PFHxS		97	25-150
13C3-HFPO-DA		84	25-150
13C4_PFBA		74	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 ND = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 H = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-009</b>
Description: <b>STR-018</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/29/2021 1540</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C4_PFHpA		109	25-150
13C5_PFHxA		102	25-150
13C5_PFPeA		84	25-150
13C6_PFDA		100	25-150
13C7_PFUdA		90	25-150
13C8_PFOA		97	25-150
13C8_PFOS		104	25-150
13C8_PFOSA		93	10-150
13C9_PFNA		101	25-150
d-EtFOSA		81	10-150
d5-EtFOSAA		93	25-150
d9-EtFOSE		82	10-150
d-MeFOSA		82	10-150
d3-MeFOSAA		95	25-150
d7-MeFOSE		80	10-150

---

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

---

Pace Analytical Services, LLC *(formerly Shealy Environmental Services, Inc.)*  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-010</b>
Description: <b>STR-019</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/29/2021 1600</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/07/2021 1637	JJG	04/05/2021 1105	87951

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND	Q	6.9	1.7	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	3.5	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
<b>Perfluoro-1-butanefluoronic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>2.8</b>	<b>J</b>	<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-octanesulfonamide (PFOA)	754-91-6	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>17</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>13</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpA)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>1.6</b>	<b>J</b>	<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>3.9</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>8.9</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>3.1</b>	<b>J</b>	<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-undecanoic acid (PFUDA)	2058-94-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>22</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS	N	220	25-150
13C2_6:2FTS		122	25-150
13C2_8:2FTS		116	25-150
13C2_PFDa		88	25-150
13C2_PFTeDA		85	25-150
13C3_PFBS		75	25-150
13C3_PFHxS		94	25-150
13C3-HFPO-DA		86	25-150
13C4_PFBA		77	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 ND = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 H = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com



# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-010</b>
Description: <b>STR-019</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/29/2021 1600</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C4_PFHpA		106	25-150
13C5_PFHxA		107	25-150
13C5_PFPeA		88	25-150
13C6_PFDA		94	25-150
13C7_PFUdA		86	25-150
13C8_PFOA		99	25-150
13C8_PFOS		94	25-150
13C8_PFOSA		92	10-150
13C9_PFNA		103	25-150
d-EtFOSA		74	10-150
d5-EtFOSAA		97	25-150
d9-EtFOSE		72	10-150
d-MeFOSA		77	10-150
d3-MeFOSAA		92	25-150
d7-MeFOSE		81	10-150

---

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

---

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-011</b>
Description: <b>STR-020</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/29/2021 1620</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/07/2021 1648	JJG	04/05/2021 1105	87951

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
<b>1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)</b>	<b>27619-97-2</b>	<b>PFAS by ID SOP</b>	<b>6.3</b>	<b>JQ</b>	<b>6.8</b>	<b>1.7</b>	<b>ng/L</b>	<b>1</b>
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND	Q	6.8	1.7	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	3.4	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
<b>Perfluoro-1-butanefluoronic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>44</b>		<b>3.4</b>	<b>0.85</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
<b>Perfluoro-1-heptanesulfonic acid (PFHpS)</b>	<b>375-92-8</b>	<b>PFAS by ID SOP</b>	<b>1.2</b>	<b>J</b>	<b>3.4</b>	<b>0.85</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
<b>Perfluoro-1-pentanesulfonic acid (PFPeS)</b>	<b>2706-91-4</b>	<b>PFAS by ID SOP</b>	<b>29</b>		<b>3.4</b>	<b>0.85</b>	<b>ng/L</b>	<b>1</b>
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>120</b>		<b>3.4</b>	<b>0.85</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>33</b>		<b>3.4</b>	<b>0.85</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>12</b>		<b>3.4</b>	<b>0.85</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>43</b>		<b>3.4</b>	<b>0.85</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>46</b>		<b>3.4</b>	<b>0.85</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>29</b>		<b>3.4</b>	<b>0.85</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
Perfluoro-n-undecanoic acid (PFUDA)	2058-94-8	PFAS by ID SOP	ND		3.4	0.85	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>23</b>		<b>3.4</b>	<b>0.85</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS	N	298	25-150
13C2_6:2FTS	N	179	25-150
13C2_8:2FTS		129	25-150
13C2_PFDaA		93	25-150
13C2_PFTeDA		89	25-150
13C3_PFBS		75	25-150
13C3_PFHxS		90	25-150
13C3-HFPO-DA		76	25-150
13C4_PFBA		62	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 ND = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 H = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-011</b>
Description: <b>STR-020</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/29/2021 1620</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C4_PFHpA		108	25-150
13C5_PFHxA		93	25-150
13C5_PFPeA		77	25-150
13C6_PFDA		104	25-150
13C7_PFUdA		89	25-150
13C8_PFOA		100	25-150
13C8_PFOS		104	25-150
13C8_PFOSA		93	10-150
13C9_PFNA		103	25-150
d-EtFOSA		72	10-150
d5-EtFOSAA		103	25-150
d9-EtFOSE		80	10-150
d-MeFOSA		71	10-150
d3-MeFOSAA		104	25-150
d7-MeFOSE		81	10-150

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

Pace Analytical Services, LLC *(formerly Shealy Environmental Services, Inc.)*  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-012</b>
Description: <b>STR-021</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/29/2021 1645</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/07/2021 1658	JJG	04/05/2021 1105	87951

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND	Q	7.0	1.7	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	3.5	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
<b>Perfluoro-1-butanesulfonic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>3.1</b>	<b>J</b>	<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
<b>Perfluoro-1-pentanesulfonic acid (PFPeS)</b>	<b>2706-91-4</b>	<b>PFAS by ID SOP</b>	<b>2.0</b>	<b>J</b>	<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		7.0	1.7	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>16</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>14</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>1.7</b>	<b>J</b>	<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>4.4</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>9.1</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-undecanoic acid (PFUDA)	2058-94-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>11</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS	N	213	25-150
13C2_6:2FTS		118	25-150
13C2_8:2FTS		102	25-150
13C2_PFDa		68	25-150
13C2_PFTeDA		60	25-150
13C3_PFBS		74	25-150
13C3_PFHxS		75	25-150
13C3-HFPO-DA		81	25-150
13C4_PFBA		77	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 ND = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 H = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-012</b>
Description: <b>STR-021</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/29/2021 1645</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C4_PFHpA		103	25-150
13C5_PFHxA		98	25-150
13C5_PFPeA		86	25-150
13C6_PFDA		92	25-150
13C7_PFUdA		74	25-150
13C8_PFOA		95	25-150
13C8_PFOS		71	25-150
13C8_PFOSA		90	10-150
13C9_PFNA		93	25-150
d-EtFOSA		68	10-150
d5-EtFOSAA		78	25-150
d9-EtFOSE		67	10-150
d-MeFOSA		56	10-150
d3-MeFOSAA		78	25-150
d7-MeFOSE		76	10-150

---

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

---

Pace Analytical Services, LLC *(formerly Shealy Environmental Services, Inc.)*  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WD02064-013**

Description: **TW-2**

Matrix: **Aqueous**

Date Sampled: **03/29/2021 1745**

Project Name: **25218175.00 MG-E BURKE**

Date Received: **04/02/2021**

Project Number: **40224246**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/07/2021 1709	JJG	04/05/2021 1105	87951

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND	Q	6.7	1.7	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		13	3.3	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>40</b>		<b>3.3</b>	<b>0.83</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>0.98</b>	<b>J</b>	<b>3.3</b>	<b>0.83</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>2.7</b>	<b>J</b>	<b>3.3</b>	<b>0.83</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-n-undecanoic acid (PFUDA)	2058-94-8	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>4.0</b>		<b>3.3</b>	<b>0.83</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS	N	262	25-150
13C2_6:2FTS		134	25-150
13C2_8:2FTS		116	25-150
13C2_PFDaA		89	25-150
13C2_PFTeDA		88	25-150
13C3_PFBS		73	25-150
13C3_PFHxS		91	25-150
13C3-HFPO-DA		82	25-150
13C4_PFBA		53	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 ND = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 H = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-013</b>
Description: <b>TW-2</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/29/2021 1745</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C4_PFHpA		112	25-150
13C5_PFHxA		95	25-150
13C5_PFPeA		76	25-150
13C6_PFDA		102	25-150
13C7_PFUdA		90	25-150
13C8_PFOA		104	25-150
13C8_PFOS		103	25-150
13C8_PFOSA		99	10-150
13C9_PFNA		108	25-150
d-EtFOSA		84	10-150
d5-EtFOSAA		96	25-150
d9-EtFOSE		86	10-150
d-MeFOSA		97	10-150
d3-MeFOSAA		97	25-150
d7-MeFOSE		81	10-150

---

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

---

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com



# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WD02064-014**

Description: **TW-3**

Matrix: **Aqueous**

Date Sampled: **03/29/2021 1845**

Project Name: **25218175.00 MG-E BURKE**

Date Received: **04/02/2021**

Project Number: **40224246**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/07/2021 1719	JJG	04/05/2021 1105	87951

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND	Q	6.9	1.7	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND	Q	6.9	1.7	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	3.5	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
<b>Perfluoro-1-butanesulfonic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>2.4</b>	<b>J</b>	<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-octanesulfonamide (PFOA)	754-91-6	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>6.3</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>27</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>0.92</b>	<b>J</b>	<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>2.6</b>	<b>J</b>	<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>3.9</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>2.2</b>	<b>J</b>	<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-undecanoic acid (PFUDA)	2058-94-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>1.8</b>	<b>J</b>	<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS	N	249	25-150
13C2_6:2FTS	N	201	25-150
13C2_8:2FTS		141	25-150
13C2_PFDa		89	25-150
13C2_PFTeDA		88	25-150
13C3_PFBS		75	25-150
13C3_PFHxS		92	25-150
13C3-HFPO-DA		79	25-150
13C4_PFBA		70	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 ND = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 H = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-014</b>
Description: <b>TW-3</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/29/2021 1845</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C4_PFHpA		113	25-150
13C5_PFHxA		98	25-150
13C5_PFPeA		82	25-150
13C6_PFDA		109	25-150
13C7_PFUdA		89	25-150
13C8_PFOA		104	25-150
13C8_PFOS		102	25-150
13C8_PFOSA		95	10-150
13C9_PFNA		111	25-150
d-EtFOSA		76	10-150
d5-EtFOSAA		102	25-150
d9-EtFOSE		76	10-150
d-MeFOSA		78	10-150
d3-MeFOSAA		107	25-150
d7-MeFOSE		82	10-150

---

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 ND = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 H = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

---

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WD02064-015**

Description: **TW-4**

Matrix: **Aqueous**

Date Sampled: **03/30/2021 1020**

Project Name: **25218175.00 MG-E BURKE**

Date Received: **04/02/2021**

Project Number: **40224246**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/07/2021 1730	JJG	04/05/2021 1105	87951

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND	Q	6.8	1.7	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	3.4	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
<b>Perfluoro-1-butanesulfonic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>4.8</b>		<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
<b>Perfluoro-1-pentanesulfonic acid (PFPeS)</b>	<b>2706-91-4</b>	<b>PFAS by ID SOP</b>	<b>1.5</b>	J	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>5.9</b>		<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>32</b>		<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpA)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>2.1</b>	J	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>2.0</b>	J	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-nonanoic acid (PFNA)</b>	<b>375-95-1</b>	<b>PFAS by ID SOP</b>	<b>1.3</b>	J	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>17</b>		<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-undecanoic acid (PFUDA)	2058-94-8	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>12</b>		<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS	N	222	25-150
13C2_6:2FTS		130	25-150
13C2_8:2FTS		109	25-150
13C2_PFDaA		98	25-150
13C2_PFTeDA		95	25-150
13C3_PFBS		78	25-150
13C3_PFHxS		103	25-150
13C3-HFPO-DA		88	25-150
13C4_PFBA		80	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 ND = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 H = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-015</b>
Description: <b>TW-4</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/30/2021 1020</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C4_PFHpA		115	25-150
13C5_PFHxA		103	25-150
13C5_PFPeA		90	25-150
13C6_PFDA		110	25-150
13C7_PFUdA		93	25-150
13C8_PFOA		102	25-150
13C8_PFOS		104	25-150
13C8_PFOSA		90	10-150
13C9_PFNA		110	25-150
d-EtFOSA		78	10-150
d5-EtFOSAA		99	25-150
d9-EtFOSE		91	10-150
d-MeFOSA		83	10-150
d3-MeFOSAA		104	25-150
d7-MeFOSE		85	10-150

---

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

---

Pace Analytical Services, LLC *(formerly Shealy Environmental Services, Inc.)*  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-016</b>
Description: <b>MW-10</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/30/2021 1145</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/07/2021 1741	JJG	04/05/2021 1105	87951

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND	Q	6.9	1.7	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	3.5	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
<b>Perfluoro-1-butanesulfonic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>6.4</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
<b>Perfluoro-1-pentanesulfonic acid (PFPeS)</b>	<b>2706-91-4</b>	<b>PFAS by ID SOP</b>	<b>5.2</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>5.4</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>23</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>4.6</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>21</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>12</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>9.6</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
Perfluoro-n-undecanoic acid (PFUDA)	2058-94-8	PFAS by ID SOP	ND		3.5	0.87	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>8.6</b>		<b>3.5</b>	<b>0.87</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS	N	259	25-150
13C2_6:2FTS		139	25-150
13C2_8:2FTS		104	25-150
13C2_PFDa		82	25-150
13C2_PFTeDA		75	25-150
13C3_PFBS		71	25-150
13C3_PFHxS		90	25-150
13C3-HFPO-DA		78	25-150
13C4_PFBA		65	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 ND = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 H = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-016</b>
Description: <b>MW-10</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/30/2021 1145</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C4_PFHpA		107	25-150
13C5_PFHxA		93	25-150
13C5_PFPeA		79	25-150
13C6_PFDA		95	25-150
13C7_PFUdA		75	25-150
13C8_PFOA		91	25-150
13C8_PFOS		78	25-150
13C8_PFOSA		94	10-150
13C9_PFNA		98	25-150
d-EtFOSA		66	10-150
d5-EtFOSAA		85	25-150
d9-EtFOSE		78	10-150
d-MeFOSA		70	10-150
d3-MeFOSAA		83	25-150
d7-MeFOSE		81	10-150

---

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

---

Pace Analytical Services, LLC *(formerly Shealy Environmental Services, Inc.)*  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: **Pace Analytical Services, LLC**

Laboratory ID: **WD02064-017**

Description: **TW-1**

Matrix: **Aqueous**

Date Sampled: **03/30/2021 1235**

Project Name: **25218175.00 MG-E BURKE**

Date Received: **04/02/2021**

Project Number: **40224246**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/07/2021 1751	JJG	04/05/2021 1105	87951

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3...)	763051-92-9	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND	Q	6.9	1.7	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	3.4	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
<b>Perfluoro-1-butanefluoronic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>1.8</b>	<b>J</b>	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
<b>Perfluoro-1-pentanesulfonic acid (PFPeS)</b>	<b>2706-91-4</b>	<b>PFAS by ID SOP</b>	<b>1.7</b>	<b>J</b>	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		6.9	1.7	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>41</b>		<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>4.6</b>		<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpa)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>1.0</b>	<b>J</b>	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>2.0</b>	<b>J</b>	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>18</b>		<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>1.0</b>	<b>J</b>	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-undecanoic acid (PFUDA)	2058-94-8	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>10</b>		<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS	N	228	25-150
13C2_6:2FTS		141	25-150
13C2_8:2FTS		139	25-150
13C2_PFDa		89	25-150
13C2_PFTeDA		83	25-150
13C3_PFBS		75	25-150
13C3_PFHxS		96	25-150
13C3-HFPO-DA		83	25-150
13C4_PFBA		89	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 ND = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 H = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com



# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-017</b>
Description: <b>TW-1</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/30/2021 1235</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C4_PFHpA		108	25-150
13C5_PFHxA		103	25-150
13C5_PFPeA		92	25-150
13C6_PFDA		100	25-150
13C7_PFUdA		92	25-150
13C8_PFOA		98	25-150
13C8_PFOS		95	25-150
13C8_PFOSA		92	10-150
13C9_PFNA		106	25-150
d-EtFOSA		69	10-150
d5-EtFOSAA		105	25-150
d9-EtFOSE		54	10-150
d-MeFOSA		75	10-150
d3-MeFOSAA		105	25-150
d7-MeFOSE		66	10-150

---

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 ND = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 H = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

---

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-018</b>
Description: <b>STARKWEATHER CREEK</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/30/2021 1327</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/07/2021 1802	JJG	04/05/2021 1105	87951

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND	Q	6.8	1.7	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		14	3.4	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
<b>Perfluoro-1-butanesulfonic acid (PFBS)</b>	<b>375-73-5</b>	<b>PFAS by ID SOP</b>	<b>2.9</b>	<b>J</b>	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
<b>Perfluoro-1-octanesulfonamide (PFOSA)</b>	<b>754-91-6</b>	<b>PFAS by ID SOP</b>	<b>1.3</b>	<b>J</b>	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		6.8	1.7	ng/L	1
<b>Perfluorohexanesulfonic acid (PFHxS)</b>	<b>355-46-4</b>	<b>PFAS by ID SOP</b>	<b>5.9</b>		<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-butanoic acid (PFBA)</b>	<b>375-22-4</b>	<b>PFAS by ID SOP</b>	<b>11</b>		<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
<b>Perfluoro-n-heptanoic acid (PFHpA)</b>	<b>375-85-9</b>	<b>PFAS by ID SOP</b>	<b>2.0</b>	<b>J</b>	<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-hexanoic acid (PFHxA)</b>	<b>307-24-4</b>	<b>PFAS by ID SOP</b>	<b>5.5</b>		<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
<b>Perfluoro-n-octanoic acid (PFOA)</b>	<b>335-67-1</b>	<b>PFAS by ID SOP</b>	<b>4.5</b>		<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
<b>Perfluoro-n-pentanoic acid (PFPeA)</b>	<b>2706-90-3</b>	<b>PFAS by ID SOP</b>	<b>4.4</b>		<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
Perfluoro-n-undecanoic acid (PFUDA)	2058-94-8	PFAS by ID SOP	ND		3.4	0.86	ng/L	1
<b>Perfluorooctanesulfonic acid (PFOS)</b>	<b>1763-23-1</b>	<b>PFAS by ID SOP</b>	<b>5.8</b>		<b>3.4</b>	<b>0.86</b>	<b>ng/L</b>	<b>1</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C2_4:2FTS	N	241	25-150
13C2_6:2FTS		128	25-150
13C2_8:2FTS		97	25-150
13C2_PFDa		73	25-150
13C2_PFTeDA		42	25-150
13C3_PFBS		73	25-150
13C3_PFHxS		91	25-150
13C3-HFPO-DA		82	25-150
13C4_PFBA		61	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 ND = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 H = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-018</b>
Description: <b>STARKWEATHER CREEK</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/30/2021 1327</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C4_PFHpA		103	25-150
13C5_PFHxA		97	25-150
13C5_PFPeA		82	25-150
13C6_PFDA		93	25-150
13C7_PFUdA		77	25-150
13C8_PFOA		96	25-150
13C8_PFOS		86	25-150
13C8_PFOSA		94	10-150
13C9_PFNA		96	25-150
d-EtFOSA		76	10-150
d5-EtFOSAA		87	25-150
d9-EtFOSE		57	10-150
d-MeFOSA		75	10-150
d3-MeFOSAA		89	25-150
d7-MeFOSE		66	10-150

---

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

---

Pace Analytical Services, LLC *(formerly Shealy Environmental Services, Inc.)*  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-019</b>
Description: <b>RINSATE BLANK</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/30/2021 1340</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	SOP SPE	PFAS by ID SOP	1	04/07/2021 1408	JJG	04/05/2021 1105	87951

Parameter	CAS Number	Analytical Method	Result	Q	LOQ	DL	Units	Run
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9CI-PF3ONS)	756426-58-1	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11CI-PF3...)	763051-92-9	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
2-N-ethylperfluoro-1-octanesulfonamido-ethanol (EtFOSE)	1691-99-2	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
N-methylperfluoro-1-octanesulfonamide (MeFOSA)	31506-32-8	PFAS by ID SOP	ND		13	3.3	ng/L	1
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
2-N-methylperfluoro-1-octanesulfonamido-ethanol (MeFOSE)	24448-09-7	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
Perfluoro-1-butanefluoronic acid (PFBS)	375-73-5	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluorododecanesulfonic acid (PFDOS)	79780-39-5	PFAS by ID SOP	ND		6.7	1.7	ng/L	1
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-n-butanoic acid (PFBA)	375-22-4	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-n-decanoic acid (PFDA)	335-76-2	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-n-nonanoic acid (PFNA)	375-95-1	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-n-octanoic acid (PFOA)	335-67-1	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluoro-n-undecanoic acid (PFUDA)	2058-94-8	PFAS by ID SOP	ND		3.3	0.83	ng/L	1
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	PFAS by ID SOP	ND		3.3	0.83	ng/L	1

Surrogate	Run 1 Q	% Recovery	Acceptance Limits
13C2_4:2FTS		104	25-150
13C2_6:2FTS		102	25-150
13C2_8:2FTS		98	25-150
13C2_PFDa		99	25-150
13C2_PFTeDA		96	25-150
13C3_PFBS		86	25-150
13C3_PFHxS		96	25-150
13C3-HFPO-DA		95	25-150
13C4_PFBA		100	25-150

LOQ = Limit of Quantitation      B = Detected in the method blank      E = Quantitation of compound exceeded the calibration range      DL = Detection Limit      Q = Surrogate failure  
 ND = Not detected at or above the DL      N = Recovery is out of criteria      P = The RPD between two GC columns exceeds 40%      J = Estimated result < LOQ and ≥ DL      L = LCS/LCSD failure  
 H = Out of holding time      W = Reported on wet weight basis      S = MS/MSD failure

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

# PFAS by LC/MS/MS

Client: <b>Pace Analytical Services, LLC</b>	Laboratory ID: <b>WD02064-019</b>
Description: <b>RINSATE BLANK</b>	Matrix: <b>Aqueous</b>
Date Sampled: <b>03/30/2021 1340</b>	Project Name: <b>25218175.00 MG-E BURKE</b>
Date Received: <b>04/02/2021</b>	Project Number: <b>40224246</b>

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
13C4_PFHpA		105	25-150
13C5_PFHxA		103	25-150
13C5_PFPeA		99	25-150
13C6_PFDA		108	25-150
13C7_PFUdA		89	25-150
13C8_PFOA		106	25-150
13C8_PFOS		97	25-150
13C8_PFOSA		94	10-150
13C9_PFNA		101	25-150
d-EtFOSA		66	10-150
d5-EtFOSAA		99	25-150
d9-EtFOSE		82	10-150
d-MeFOSA		66	10-150
d3-MeFOSAA		98	25-150
d7-MeFOSE		84	10-150

---

LOQ = Limit of Quantitation	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range	DL = Detection Limit	Q = Surrogate failure
ND = Not detected at or above the DL	N = Recovery is out of criteria	P = The RPD between two GC columns exceeds 40%	J = Estimated result < LOQ and ≥ DL	L = LCS/LCSD failure
H = Out of holding time	W = Reported on wet weight basis			S = MS/MSD failure

---

Pace Analytical Services, LLC (formerly Shealy Environmental Services, Inc.)  
 106 Vantage Point Drive West Columbia, SC 29172 (803) 791-9700 Fax (803) 791-9111 www.pacelabs.com

## QC Summary

# PFAS by LC/MS/MS - MB

Sample ID: WQ87951-001

Matrix: Aqueous

Batch: 87951

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 04/05/2021 1105

Parameter	Result	Q	Dil	LOQ	DL	Units	Analysis Date
9CI-PF3ONS	ND		1	8.0	2.0	ng/L	04/06/2021 1508
11CI-PF3OUdS	ND		1	8.0	2.0	ng/L	04/06/2021 1508
8:2 FTS	ND		1	8.0	2.0	ng/L	04/06/2021 1508
6:2 FTS	ND		1	8.0	2.0	ng/L	04/06/2021 1508
4:2 FTS	ND		1	8.0	2.0	ng/L	04/06/2021 1508
GenX	ND		1	8.0	2.0	ng/L	04/06/2021 1508
ADONA	ND		1	8.0	2.0	ng/L	04/06/2021 1508
EtFOSA	ND		1	8.0	2.0	ng/L	04/06/2021 1508
EtFOSAA	ND		1	8.0	2.0	ng/L	04/06/2021 1508
EtFOSE	ND		1	8.0	2.0	ng/L	04/06/2021 1508
MeFOSA	ND		1	16	4.0	ng/L	04/06/2021 1508
MeFOSAA	ND		1	8.0	2.0	ng/L	04/06/2021 1508
MeFOSE	ND		1	8.0	2.0	ng/L	04/06/2021 1508
PFBS	ND		1	4.0	1.0	ng/L	04/06/2021 1508
PFDS	ND		1	4.0	1.0	ng/L	04/06/2021 1508
PFHpS	ND		1	4.0	1.0	ng/L	04/06/2021 1508
PFNS	ND		1	4.0	1.0	ng/L	04/06/2021 1508
PFOSA	ND		1	4.0	1.0	ng/L	04/06/2021 1508
PFPeS	ND		1	4.0	1.0	ng/L	04/06/2021 1508
PFDOS	ND		1	8.0	2.0	ng/L	04/06/2021 1508
PFHxS	ND		1	4.0	1.0	ng/L	04/06/2021 1508
PFBA	ND		1	4.0	1.0	ng/L	04/06/2021 1508
PFDA	ND		1	4.0	1.0	ng/L	04/06/2021 1508
PFDaA	ND		1	4.0	1.0	ng/L	04/06/2021 1508
PFHpA	ND		1	4.0	1.0	ng/L	04/06/2021 1508
PFHxA	ND		1	4.0	1.0	ng/L	04/06/2021 1508
PFNA	ND		1	4.0	1.0	ng/L	04/06/2021 1508
PFOA	ND		1	4.0	1.0	ng/L	04/06/2021 1508
PFPeA	ND		1	4.0	1.0	ng/L	04/06/2021 1508
PFTeDA	ND		1	4.0	1.0	ng/L	04/06/2021 1508
PFTTrDA	ND		1	4.0	1.0	ng/L	04/06/2021 1508
PFUdA	ND		1	4.0	1.0	ng/L	04/06/2021 1508
PFOS	ND		1	4.0	1.0	ng/L	04/06/2021 1508

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS		88	25-150
13C2_6:2FTS		90	25-150
13C2_8:2FTS		94	25-150
13C2_PFDaA		87	25-150
13C2_PFTeDA		89	25-150
13C3_PFBS		85	25-150
13C3_PFHxS		87	25-150
13C3-HFPO-DA		91	25-150

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

## PFAS by LC/MS/MS - MB

Sample ID: WQ87951-001

Matrix: Aqueous

Batch: 87951

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 04/05/2021 1105

Surrogate	Q	% Rec	Acceptance Limit
13C4_PFBAs		91	25-150
13C4_PFHpA		101	25-150
13C5_PFHxA		97	25-150
13C5_PFPeA		93	25-150
13C6_PFDA		97	25-150
13C7_PFUdA		92	25-150
13C8_PFOA		93	25-150
13C8_PFOS		91	25-150
13C8_PFOSA		90	10-150
13C9_PFNA		94	25-150
d-EtFOSA		76	10-150
d5-EtFOSAA		80	25-150
d9-EtFOSE		86	10-150
d-MeFOSA		80	10-150
d3-MeFOSAA		87	25-150
d7-MeFOSE		88	10-150

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**



# PFAS by LC/MS/MS - LCS

Sample ID: WQ87951-002

Matrix: Aqueous

Batch: 87951

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 04/05/2021 1105

Parameter	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
9CI-PF3ONS	15	13		1	89	50-150	04/06/2021 1518
11CI-PF3OUdS	15	13		1	86	50-150	04/06/2021 1518
8:2 FTS	15	13		1	88	50-150	04/06/2021 1518
6:2 FTS	15	15		1	99	50-150	04/06/2021 1518
4:2 FTS	15	13		1	87	50-150	04/06/2021 1518
GenX	32	31		1	97	50-150	04/06/2021 1518
ADONA	15	13		1	87	50-150	04/06/2021 1518
EtFOSA	16	12		1	72	50-150	04/06/2021 1518
EtFOSAA	16	16		1	102	50-150	04/06/2021 1518
EtFOSE	16	16		1	101	50-150	04/06/2021 1518
MeFOSA	16	16		1	97	50-150	04/06/2021 1518
MeFOSAA	16	16		1	97	50-150	04/06/2021 1518
MeFOSE	16	18		1	112	50-150	04/06/2021 1518
PFBS	14	14		1	102	50-150	04/06/2021 1518
PFDS	15	15		1	96	50-150	04/06/2021 1518
PFHpS	15	14		1	89	50-150	04/06/2021 1518
PFNS	15	14		1	92	50-150	04/06/2021 1518
PFOSA	16	15		1	91	50-150	04/06/2021 1518
PFPeS	15	18		1	118	50-150	04/06/2021 1518
PFDOS	15	15		1	98	50-150	04/06/2021 1518
PFHxS	15	13		1	89	50-150	04/06/2021 1518
PFBA	16	15		1	94	50-150	04/06/2021 1518
PFDA	16	14		1	89	50-150	04/06/2021 1518
PFDaA	16	16		1	103	50-150	04/06/2021 1518
PFHpA	16	14		1	87	50-150	04/06/2021 1518
PFHxA	16	15		1	92	50-150	04/06/2021 1518
PFNA	16	15		1	91	50-150	04/06/2021 1518
PFOA	16	16		1	99	50-150	04/06/2021 1518
PFPeA	16	14		1	87	50-150	04/06/2021 1518
PFTeDA	16	15		1	94	50-150	04/06/2021 1518
PFTTrDA	16	16		1	98	50-150	04/06/2021 1518
PFUdA	16	16		1	97	50-150	04/06/2021 1518
PFOS	15	12		1	79	50-150	04/06/2021 1518
Surrogate	Q	% Rec	Acceptance Limit				
13C2_4:2FTS		87	25-150				
13C2_6:2FTS		85	25-150				
13C2_8:2FTS		93	25-150				
13C2_PFDaA		88	25-150				
13C2_PFTeDA		93	25-150				
13C3_PFBS		77	25-150				
13C3_PFHxS		92	25-150				
13C3-HFPO-DA		87	25-150				

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

## PFAS by LC/MS/MS - LCS

Sample ID: WQ87951-002

Matrix: Aqueous

Batch: 87951

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 04/05/2021 1105

Surrogate	Q	% Rec	Acceptance Limit
13C4_PFBA		88	25-150
13C4_PFHpA		97	25-150
13C5_PFHxA		92	25-150
13C5_PFPeA		90	25-150
13C6_PFDA		89	25-150
13C7_PFUdA		89	25-150
13C8_PFOA		93	25-150
13C8_PFOS		95	25-150
13C8_PFOSA		86	10-150
13C9_PFNA		92	25-150
d-EtFOSA		76	10-150
d5-EtFOSAA		86	25-150
d9-EtFOSE		82	10-150
d-MeFOSA		70	10-150
d3-MeFOSAA		88	25-150
d7-MeFOSE		84	10-150

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - Duplicate

Sample ID: WD02064-003DU

Matrix: Aqueous

Batch: 87951

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 04/05/2021 1105

Parameter	Sample Amount (ng/L)	Result (ng/L)	Q	Dil	% RPD	%RPD Limit	Analysis Date
9CI-PF3ONS	ND	ND		1	0.00	20	04/07/2021 1451
11CI-PF3OUdS	ND	ND		1	0.00	20	04/07/2021 1451
8:2 FTS	ND	ND		1	0.00	20	04/07/2021 1451
6:2 FTS	ND	ND		1	0.00	20	04/07/2021 1451
4:2 FTS	ND	ND		1	0.00	20	04/07/2021 1451
GenX	ND	ND		1	0.00	20	04/07/2021 1451
ADONA	ND	ND		1	0.00	20	04/07/2021 1451
EtFOSA	ND	ND		1	0.00	20	04/07/2021 1451
EtFOSAA	ND	ND		1	0.00	20	04/07/2021 1451
EtFOSE	ND	ND		1	0.00	20	04/07/2021 1451
MeFOSA	ND	ND		1	0.00	20	04/07/2021 1451
MeFOSAA	ND	ND		1	0.00	20	04/07/2021 1451
MeFOSE	ND	ND		1	0.00	20	04/07/2021 1451
PFBS	ND	ND		1	0.00	20	04/07/2021 1451
PFDS	ND	ND		1	0.00	20	04/07/2021 1451
PFHpS	ND	ND		1	0.00	20	04/07/2021 1451
PFNS	ND	ND		1	0.00	20	04/07/2021 1451
PFOSA	ND	ND		1	0.00	20	04/07/2021 1451
PFPeS	1.1	0.98	J	1	10	20	04/07/2021 1451
PFDOS	ND	ND		1	0.00	20	04/07/2021 1451
PFHxS	4.0	3.8		1	5.9	20	04/07/2021 1451
PFBA	6.0	5.9		1	1.2	20	04/07/2021 1451
PFDA	ND	ND		1	0.00	20	04/07/2021 1451
PFDoA	ND	ND		1	0.00	20	04/07/2021 1451
PFHpA	ND	ND		1	0.00	20	04/07/2021 1451
PFHxA	ND	ND		1	0.00	20	04/07/2021 1451
PFNA	ND	ND		1	0.00	20	04/07/2021 1451
PFOA	3.4	3.3		1	3.1	20	04/07/2021 1451
PFPeA	ND	ND		1	0.00	20	04/07/2021 1451
PFTeDA	ND	ND		1	0.00	20	04/07/2021 1451
PFTTrDA	ND	ND		1	0.00	20	04/07/2021 1451
PFUdA	ND	ND		1	0.00	20	04/07/2021 1451
PFOS	3.0	3.3		1	11	20	04/07/2021 1451

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS	N	177	25-150
13C2_6:2FTS		101	25-150
13C2_8:2FTS		101	25-150
13C2_PFDoA		93	25-150
13C2_PFTeDA		95	25-150
13C3_PFBS		86	25-150
13C3_PFHxS		100	25-150
13C3-HFPO-DA		94	25-150

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

## PFAS by LC/MS/MS - Duplicate

Sample ID: WD02064-003DU

Matrix: Aqueous

Batch: 87951

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 04/05/2021 1105

Surrogate	Q	% Rec	Acceptance Limit
13C4_PFBAs		98	25-150
13C4_PFHpA		113	25-150
13C5_PFHxA		104	25-150
13C5_PFPeA		101	25-150
13C6_PFDA		105	25-150
13C7_PFUdA		87	25-150
13C8_PFOA		100	25-150
13C8_PFOS		100	25-150
13C8_PFOSA		97	10-150
13C9_PFNA		103	25-150
d-EtFOSA		80	10-150
d5-EtFOSAA		99	25-150
d9-EtFOSE		85	10-150
d-MeFOSA		79	10-150
d3-MeFOSAA		93	25-150
d7-MeFOSE		84	10-150

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - MS

Sample ID: WD02064-006MS

Matrix: Aqueous

Batch: 87951

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 04/05/2021 1105

Parameter	Sample Amount (ng/L)	Spike Amount (ng/L)	Result (ng/L)	Q	Dil	% Rec	%Rec Limit	Analysis Date
9CI-PF3ONS	ND	13	10		1	83	50-150	04/07/2021 1533
11CI-PF3OUdS	ND	13	8.9		1	70	50-150	04/07/2021 1533
8:2 FTS	ND	13	14		1	106	50-150	04/07/2021 1533
6:2 FTS	ND	13	10		1	81	50-150	04/07/2021 1533
4:2 FTS	ND	13	11		1	89	50-150	04/07/2021 1533
GenX	ND	27	23		1	84	50-150	04/07/2021 1533
ADONA	ND	13	9.2		1	72	50-150	04/07/2021 1533
EtFOSA	ND	13	12		1	87	50-150	04/07/2021 1533
EtFOSAA	ND	13	10		1	75	50-150	04/07/2021 1533
EtFOSE	ND	13	10		1	78	50-150	04/07/2021 1533
MeFOSA	ND	13	11		1	80	50-150	04/07/2021 1533
MeFOSAA	ND	13	12		1	88	50-150	04/07/2021 1533
MeFOSE	ND	13	9.4		1	70	50-150	04/07/2021 1533
PFBS	1.0	12	12		1	92	50-150	04/07/2021 1533
PFDS	ND	13	11		1	84	50-150	04/07/2021 1533
PFHpS	ND	13	10		1	82	50-150	04/07/2021 1533
PFNS	ND	13	12		1	89	50-150	04/07/2021 1533
PFOSA	ND	13	11		1	79	50-150	04/07/2021 1533
PFPeS	ND	13	13		1	104	50-150	04/07/2021 1533
PFDOS	ND	13	9.6		1	74	50-150	04/07/2021 1533
PFHxS	1.5	12	12		1	88	50-150	04/07/2021 1533
PFBA	6.5	13	17		1	78	50-150	04/07/2021 1533
PFDA	ND	13	11		1	82	50-150	04/07/2021 1533
PFDaA	ND	13	12		1	87	50-150	04/07/2021 1533
PFHpA	ND	13	12		1	89	50-150	04/07/2021 1533
PFHxA	1.2	13	12		1	78	50-150	04/07/2021 1533
PFNA	ND	13	11		1	79	50-150	04/07/2021 1533
PFOA	1.3	13	13		1	84	50-150	04/07/2021 1533
PFPeA	1.4	13	12		1	82	50-150	04/07/2021 1533
PFTeDA	ND	13	11		1	81	50-150	04/07/2021 1533
PFTrDA	ND	13	11		1	81	50-150	04/07/2021 1533
PFUdA	ND	13	13		1	93	50-150	04/07/2021 1533
PFOS	1.3	12	11		1	82	50-150	04/07/2021 1533

Surrogate	Q	% Rec	Acceptance Limit
13C2_4:2FTS	N	221	25-150
13C2_6:2FTS		135	25-150
13C2_8:2FTS		122	25-150
13C2_PFDaA		96	25-150
13C2_PFTeDA		92	25-150
13C3_PFBs		83	25-150
13C3_PFHxS		97	25-150
13C3-HFPO-DA		88	25-150

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

# PFAS by LC/MS/MS - MS

Sample ID: WD02064-006MS

Matrix: Aqueous

Batch: 87951

Prep Method: SOP SPE

Analytical Method: PFAS by ID SOP

Prep Date: 04/05/2021 1105

Surrogate	Q	% Rec	Acceptance Limit
13C4_PFBa		85	25-150
13C4_PFHpA		112	25-150
13C5_PFHxA		109	25-150
13C5_PFPeA		93	25-150
13C6_PFDA		100	25-150
13C7_PFUdA		87	25-150
13C8_PFOA		99	25-150
13C8_PFOS		109	25-150
13C8_PFOSA		98	10-150
13C9_PFNA		107	25-150
d-EtFOSA		77	10-150
d5-EtFOSAA		108	25-150
d9-EtFOSE		84	10-150
d-MeFOSA		80	10-150
d3-MeFOSAA		107	25-150
d7-MeFOSE		93	10-150

LOQ = Limit of Quantitation

ND = Not detected at or above the DL

N = Recovery is out of criteria

DL = Detection Limit

J = Estimated result < LOQ and ≥ DL

P = The RPD between two GC columns exceeds 40%

\* = RSD is out of criteria

+ = RPD is out of criteria

**Note: Calculations are performed before rounding to avoid round-off errors in calculated results**

**Chain of Custody  
and  
Miscellaneous Documents**





Transfers		Released By	Date/Time	Received By	Date/Time	Received on Ice	Y or N	Y or N	Comments
1		<i>[Signature]</i>	3/31/11 11:00						
2		<i>[Signature]</i>							
3		<i>[Signature]</i>	4/21/11 09:58	<i>[Signature]</i>	4/21/11 09:58				

Cooler Temperature on Receipt 4-16 °C

Received on Ice Y or N

Custody Seal Y or N

Samples Intact Y or N

\*In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.  
This chain of custody is considered complete as is since this information is available in the owner laboratory.

# PACE ANALYTICAL SERVICES, LLC



Samples Receipt Checklist (SRC) (ME0018C-15)

Revised: 9/29/2020

Issuing Authority: Pace ENV - WCOL

Page 1 of 1

## Sample Receipt Checklist (SRC)

Client: PACE

Cooler Inspected by/date: MEH / 4/2/2021

Lot #: W1002064

4/15/21

Means of receipt: <input checked="" type="checkbox"/> Pace <input type="checkbox"/> Client <input checked="" type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Other: _____	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	1. Were custody seals present on the cooler?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	2. If custody seals were present, were they intact and unbroken?
pH Strip ID: NA Chlorine Strip ID: NA Tested by: NA	
Original temperature upon receipt / Derived (Corrected) temperature upon receipt %Solid Snap-Cup ID: NA	
4.6 / 4.6 °C NA / NA °C NA / NA °C NA / NA °C	
Method: <input checked="" type="checkbox"/> Temperature Blank <input type="checkbox"/> Against Bottles IR Gun ID: 5 IR Gun Correction Factor: 0 °C	
Method of coolant: <input checked="" type="checkbox"/> Wet Ice <input type="checkbox"/> Ice Packs <input type="checkbox"/> Dry Ice <input type="checkbox"/> None	
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	3. If temperature of any cooler exceeded 6.0°C, was Project Manager Notified? PM was Notified by: phone / email / face-to-face (circle one).
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	4. Is the commercial courier's packing slip attached to this form?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5. Were proper custody procedures (relinquished/received) followed?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6. Were sample IDs listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	7. Were sample IDs listed on all sample containers?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8. Was collection date & time listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9. Was collection date & time listed on all sample containers?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10. Did all container label information (ID, date, time) agree with the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11. Were tests to be performed listed on the COC?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12. Did all samples arrive in the proper containers for each test and/or in good condition (unbroken, lids on, etc.)?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	13. Was adequate sample volume available?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	14. Were all samples received within 1/2 the holding time or 48 hours, whichever comes first?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	15. Were any samples containers missing/excess (circle one) samples Not listed on COC?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	16. For VOA and RSK-175 samples, were bubbles present >"pea-size" (1/4" or 6mm in diameter) in any of the VOA vials?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	17. Were all DRQ/metals/nutrient samples received at a pH of < 2?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	18. Were all cyanide samples received at a pH > 12 and sulfide samples received at a pH > 9?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	19. Were all applicable NH <sub>4</sub> /TKN/cyanide/phenol/625.1/608.3 (< 0.5mg/L) samples free of residual chlorine?
<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> NA	20. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS?
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	21. Was the quote number listed on the container label? If yes, Quote #
<b>Sample Preservation</b> (Must be completed for any sample(s) incorrectly preserved or with headspace.)	
Sample(s) NA were received incorrectly preserved and were adjusted accordingly in sample receiving with NA mL of circle one: H2SO4, HNO3, HCl, NaOH using SR # NA	
Time of preservation NA. If more than one preservative is needed, please note in the comments below.	
Sample(s) NA were received with bubbles >6 mm in diameter.	
Samples(s) NA were received with TRC > 0.5 mg/l. (If 419 is <i>no</i> ) and were adjusted accordingly in sample receiving with sodium thiosulfate (Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> ) with Shealy ID: NA	
SR barcode labels applied by: MEH Date: 4/2/2021	

Comments:

---



---



---



---



---