AECOM
1555 N. River Center Drive, Ste 214
Milwaukee, WI 53212

414.944.6080 tel
414.944.6081 fax

Technical Memorandum

To	Nate Willis, WDNR Mike Schmoller, WDNR Rick Wenta, City of Madison	Page 1 of 7
CC	Erika Biemann, ATC Dave Johnson, NSEC	
Subject	Operation and Monitoring Summary Fire Suppression Water Treatment System ATC Blount Transmission Substation, Madison Wisconsin	
From	Tim Wood, AECOM Leo Linnemanstons, AECOM	
Date	December 9, 2019	

This technical memorandum presents a summary of the fire suppression water treatment and discharge activities at the American Transmission Company (ATC) Blount Transmission (BLT) Substation. The substation is located at 722 East Main Street, City of Madison, Dane County, Wisconsin. Madison Gas & Electric (MG&E) owns the substation property, and both MG&E and ATC own equipment within the substation. The substation property also has soil and groundwater contamination associated with the following two WDNR BRRTS cases:

- Closed site (BRRTS# 02-13-001567): MG&E Manufactured Gas Plant (MGP) site.
- Open site (BRRTS# 02-13-584085): MG&E Substation ATC Transformer Fire

Because of residual contamination at the substation, water generated during the immediate response action and subsequent cleanup is also considered contaminated and is required to be treated prior to discharge or disposal.

Background Information

As a result of a 138 kV transformer explosion on the morning of July 19, 2019, ATC had a release of approximately 17,000 gallons of mineral oil. The explosion also ignited the mineral oil causing a large fire. The fire was suppressed by the following two fire departments (FD), which both used used an aqueous film forming foam (AFFF) fire suppressant agents:

- Madison FD: Fire Service Plus, Inc., FireAde brand, 3% AFFF Liquid Foam Concentrate, and
- Truax FD: Perimeter Solutions Inc., Phos-Chek brand, 3% AFFF Military Specification (MS) Liquid Foam Concentrate.

Based on information from the manufacturers, these AFFF products contained at least one of the Per- and Polyfluoroalkyl Substances (PFAS).

An estimated 180,000 gallons (see discussion below regarding actual volume) of fire suppression water was collected during response actions and was stored in twelve (12) FRAC tanks at the 201 South Blount Street property (aka, MG&E Coal Yard), located approximately one city block south of the substation.

A portion of the collected water also contained mineral oil from the transformer release, which separated into a free phase while stored in the FRAC tanks. Free phase mineral oil was removed by skimming using a vacuum truck and consolidated for proper disposal. At the conclusion of oil recovery and consolidation, approximately 9,000 gallons of mineral oil was transported to OSI in Milwaukee for disposal by fuel burning. In addition, oily water was containerized pending disposal approval.

For the disposal of the collected fire suppression water, ATC proposed to provide an industrial wastewater treatment system at the MG&E Coal Yard property to treat the petroleum and PFAS contaminated water prior to discharge to a storm water inlet discharging to the City of Madison storm sewer system. A sketch of the FRAC tank and treatment system locations along with location of the storm sewer inlet on the property is included with this document for your reference (see Figure 2).

Industrial Water Treatment System

The treatment system was constructed and operated in accordance with the following (approval letters are included in Attachment A):

- A Plans and Specifications approval, Project Number S-2019-0662, from the Wisconsin Department of Natural Resources (WDNR), Bureau of Water Quality, Wastewater Section for the treatment system design.
- Authorization under the WDNR's General Permit to Discharge Under the Wisconsin Pollutant Discharge Elimination System (WPDES) for Petroleum Contaminated Water (WPDES Permit No. WI-0046531-06-1).
- Non-Storm Water Discharge Permit from the City of Madison (License No. LICNSW-2019-00628).
- *Operation & Maintenance Plan and Manual* for Blount Substation Fire Suppression Water Treatment Discharge, AECOM, October 2019.

The system consisted of four treatment stages as described below:

Stage 1: Oil/Water Separation – The oil water separator consisted of a baffled tank to remove free oil product. A filter media was present within the baffle section to assist in removing emulsified oils within the water.

Stage 2: Filtration – The filtration stage consisted of two bag filter units; 10-micron filter followed by a 5-micron unit.

Stage 3: HS 200 Organoclay Vessel (aka, Zeolite) – Following the filtration stage, the water flowed through a media vessel with 1,500 pounds of HS 200 Organoclay to remove additional free phase and emulsified oil and grease.

Stage 4: Granulated Activated Carbon (GAC) – The final treatment stage consisted of three vessels in series with 1,000 pounds of GAC each (a total of 3,000 lbs of GAC) to remove organic compounds from the wastewater stream. As described below, fourth GAC vessel was added to the system after one week of operation.

Sampling ports and pressure valves were installed between each of the units/vessels to monitor performance of the system. Prior to discharge to the storm sewer, the water passed through a flow meter to monitor and record the discharge flow rate. Schematics of the treatment system along with water sampling locations for the initial system layout and with the additional GAC vessel are provided in Figures 3 and 4. Photographs of the treatment system are provided in Attachment B.

Treatment System Start-up

As described in the Start-up Sampling Results Technical Memorandum, dated October 21, 2019, ATC conducted start-up operations of the treatment system on October 8, 2019. North Shore Environmental Construction, Inc. (NSEC) provided the system operation, and AECOM Technical Services, Inc. (AECOM) provided monitoring services.

The start-up operation was a limited one-day batch event where 7,363 gallons of fire suppression water was treated and re-containerized in a frac tank. There were no discharges from the treatment system other than to the FRAC tank for storage. After the batch treatment, AECOM conducted a system wide water sampling event. At the completion of the monitoring event, the system was shut down until receipt of the sampling laboratory analytical results confirmed system operational efficiencies.

The start-up sampling event included monitoring of system operational pressures and water sampling. Sampling laboratory analysis parameters included WPDES permit parameters (i.e. oil & grease, pH, Total BOD5, BETX, and PAHs) along with operational parameters (i.e. PFAS and WI DRO). WPDES parameter and DRO samples were sent to Eurofins/TestAmerica Laboratory in Chicago, Illinois for analysis. PFAS samples were sent to Vista Analytical Laboratory in El Dorado Hills, California for analysis. PFAS analyses were performed by isotope dilution for the WDNR list of 36 compounds. Laboratory analytical results are summarized on Table 1 and copies of the laboratory reports are included in Attachment C.

The Eurofins/TestAmerica Laboratory results indicate that the discharge met the WPDES permit parameters for oil & grease, pH, Total BOD5, BETX, and PAHs. The discharge also met the WI DRO operational requirements.

The Vista Analytical Laboratory results for PFAS indicate the discharge also met the operation requirements. Of the seven PFAS compounds identified by the WDNR for operational monitoring, there was a lab method blank detection for perfluorooctane sulfonate (PFOS). The PFOS artifact, at a concentration of <1.0 ng/l, seemed to carry over into the data set showing up after GAC-1, GAC-2, GAC-3 (i.e. the discharge sample) and the field blank. AECOM confirmed with the laboratory that PFOS was a lab artifact.

On Friday, October 18, 2019, AECOM provided the analytical results to the WDNR for review. The WDNR concurred verbally and via email that the PFAS method blank detection appeared to be a lab artifact and that the WDNR did not object to operation of the treatment system and discharge under the coverage granted for the WPDES General Permit for Petroleum Contaminated Water.

Based on these results, ATC prepared to begin full-time operation of the fire suppression water treatment system.

On Monday, October 21, 2019, the 7,363 gallons of treated water from the system start-up was discharged to the private onsite storm water inlet which flowed to the City of Madison storm sewer system located under Blount Street.

Treatment System Operation

Full time operation of the treatment system began on Monday, October 21, 2019. The system operated on a continuous cycle (24 hours per day) from October 21, 2019 to October 26, 2019 and October 28 to October 30, 2019. The system was not operated on Sunday, October 27, 2019.

Collected water was pumped from the individual FRAC tanks into through the treatment train at a nominal flow rate of 20 gallons per minute (gpm). Water at the outlet of the treatment system was discharged to a private onsite storm water inlet as shown in Figure 2. Discharge water flowed from the onsite inlet to the City of Madison storm sewer system located under Blount Street to the west with ultimate discharge to Lake Monona, approximately 0.2 miles to the south.

Based on site observations and measurements recorded at the Dane County Regional Airport, weather conditions were seasonal with daytime temperatures in the 40s and 50s F, and nighttime temperatures in the 30s and 40s F. Three precipitation events occurred during operations, were less than 0.5 inches for daily total, and did not affect operations.

Pressure readings were observed throughout the operation and recorded daily at a minimum. Pressure readings were used to evaluate the flow through the treatment train and adjust the operational parameters as needed. During operations, pressure readings were observed to be approximately 10 psi or less between units. Although excessive pressure readings (>20 psi) were not observed, bag filters were routinely changed after approximately 12 hour intervals of operation. Copies of the field notes collected during the operation are included in Attachment D.

Discharge and performance monitoring were conducted in accordance with the Plan and Specifications approval and the WPDES General Permit authorization. Water samples were collected daily from seven locations in the treatment train as indicated on Figure 3 (OWS, Inlet, Bag #2, ZEO, GAC #1, GAC #2 and Discharge). Daily DRO samples were submitted to the Eurofins/TestAmerica Laboratory in Chicago, Illinois for DRO analysis with a 24-hour turnaround time. Because of shipping time and weekend, DRO results were generally received two days (but as long as four days) after sample collection. Therefore, operational changes noted in the table comments, including the addition of a new GAC unit and the ceasing of discharge, were made using professional judgement and the available data at the time. The DRO results and daily discharge volumes are summarized on Table 2, and the laboratory reports are included in Attachment C.

In compliance with the WPDES discharge permit, a water sample was collected at the discharge sampling location on October 25, 2019, following the first week of discharges. The water sample was submitted to a Wisconsin licensed laboratory for analysis of the following compounds (as outlined in the WPDES permit):

- Oil & Grease
- pH
- Biochemical Oxygen Demand (BOD)
- Polynuclear Aromatic Hydrocarbons (PAH)
- Benzo(a)pyrene
- Naphthalene
- Perfluorooctanoic Acid (PFOA)
- Perfluorooctane Sulfonate (PFOS)
- Perfluorohexanoic Acid (PFHxA)
- Perfluoropentanoic Acid (PFPeA)
- 6:2 Fluorotelomer Sulfonate (6:2 FTS)
- 8:2 Fluorotelomer Sulfonate (8:2 FTS)
- 10:2 Fluorotelomer Sulfonate (10:2 FTS)

WPDES parameter and DRO samples were sent to the Eurofins/TestAmerica Laboratory in Chicago, Illinois for analysis, and PFAS samples were sent to Vista Analytical Laboratory in El Dorado Hills, California for analysis. PFAS analyses were performed by isotope dilution for the WDNR list of 36 compounds. The analytical results from the October 25, 2019, sampling event are summarized in Table 1, and the laboratory reports are included in Attachment C.

The October 25th sampling results indicate that the discharge met the WPDES permit parameters for oil & grease, pH, Total BOD5, BETX, and PAHs. The discharge also meets the WI DRO operational requirements. The PFAS results indicate that the treatment system was efficient at reducing total PFAS from an initial concentration (BAG 2) of 4,185.5 ng/L to the discharge concentration of 5.35 ng/L (99.9% reduction). However, the discharge did include PFAS detections for 6:2 FTS (1.95 ng/L), PFOS (2.38 ng/L), and PFOA (1.02 ng/L), which had laboratory qualifiers because the ion transition ratios were outside of the acceptance criteria. In addition, the 6:2 FTS and PFOA concentrations were also flagged for being below the laboratory reporting limit (2.24 ng/L). Nonetheless, the PFAS results for discharge did not meet the operation requirements of no detections for the seven PFAS compounds identified by the WDNR. At the time these results were received on November 22, 2019, discharge from the treatment system had been discontinued (on October 29th as described below) and the water treatment system operation had been dismantled.

The following review of the DRO results is made with the benefit of the entire data set, which was not available in real time during the operation of the treatment system as noted on Table 2.

10/22 to 10/24	DRO concentrations remain relatively modest in the influent through the duration of the system operation, and the system operated without observed loses to efficiency.
10/25	The ZEO unit begins to have a decrease in efficiency, which appeared to also start effecting the efficiencies of the GAC units that appear to have slightly elevated concentrations compared to the previous day's values. The weekly WPDES discharge monitoring samples are collected from the treatment system.
10/26	Because approximately half of the total volume of water had been treated and as a precaution against potential breakthrough over the weekend while awaiting DRO sample results, an additional new carbon unit (GAC-4) was placed in-line at the end of the treatment train. Later DRO results indicate that the addition of GAC-4 was effective in reducing the DRO in the system discharge.
10/27	The treatment system was not operated on 10/27 (Sunday).
10/28	DRO results indicate that the ZEO unit was losing effectiveness and that the successive GAC units were only achieving the same DRO reduction.
10/29	Given the ZEO units decreasing efficiency for reducing the DRO concentrations and the likely effect on the GAC units, the discharge from the treatment system was discontinued shortly after a final set of DRO samples were collected at the end of the day.
10/30 to 11/3	Remaining oily water and FRAC tank washout water is processed through the treatment system and is containerized. No further WPDES discharge monitoring is conducted.

Based on the these DRO results, the treatment system appears to have operated without a significant decrease in efficiency from October 22nd to October 24th and discharged approximately 75,000 gallons. After October 25th, DRO results indicated a possible decreasing of efficiency in the Zeolite vessel; however, a fourth GAC vessel was installed on October 26th in series after GAC-3 and before the treatment system outlet. Daily water sampling locations were adjusted to reflect the change in the system as noted in Figure 4.

The decision to discontinue discharging under the WPDES permit was based on the review of October 24th DRO results (received on October 28th, after the weekend), which indicated that the ZEO unit may be losing efficiency. Although the fourth GAC unit was added, the concern was that the additional DRO load to the GAC units may reduce their efficiency more quickly. Therefore, discharge from the treatment system was discontinued at the end of October 29th shortly after final DRO samples were collected. The October 29th DRO sample results (received on October 31st) confirms the decision to cease discharging on that day because of the decreased effectiveness of the treatment system. In total, 147,818 gallons of fire suppression water was treated and discharged to the storm sewer inlet with ultimate discharge to Lake Monona.

Although discharge under the WPDES permit ceased, operation of the treatment system continued from October 30th to November 2nd. After the remaining stored water was pumped through the treatment system, the FRAC tanks and OWS were flushed and the wash water pumped through the treatment system. The treatment system outlet water was containerized and initially transported for planned disposal at OSI; however, OSI opted not to receive the treated water once the Milwaukee Metropolitan Sewerage District (MMSD) informed OSI that it would not receive water that had been treated for PFAS. Therefore, the treated water was temporarily stored at NSEC's facility in Germantown, Wisconsin in a heated building to prevent freezing. After approximately two weeks, the treated water was transported on December 4, 2019 to the Port Washington Wastewater Treatment Plant (WWTP) for disposal. Disposal manifests for the 9,000 gallons of treated oily and wash water are presented in Attachment E.

Spent media (GAC and Zeolite) along with bag filter solids were solidified and transported to US Ecology in Belleville, Michigan for disposal as nonhazardous waste (Manifest 04576). Disposal manifest for the 20 cubic yards of solidified nonhazardous waste are presented in Attachment E.

Conclusions

After the initial start-up batch treatment on October 8, 2019, the treatment system was operated and discharged under the WPDES permit for a total of seven days from October 22 to 26, 2019 and from October 28 to 29, 2019. From October 30 to November 2, 2019, the treatment system processed residual oily water that was containerized for offsite disposal. The following volumes of water treated are accounted as follows:

- 147,818 gallons was discharged under the WPDES permit; and
- 9,000 gallons was containerized and transported to the Port Washington WWTP for disposal;
- 156,818 gallons in total was processed through the treatment system.

DRO laboratory analysis of the water during the operation indicates that the treatment system was effective during operation. Based on DRO results indicating decreased efficiency in the treatment system, discharge was discontinued. Subsequent PFAS results from the weekly WPDES compliance sampling indicated that the treatment system was efficient at reducing total PFAS from an initial concentration (BAG 2) of 4,185.5 ng/L to the discharge concentration of 5.35 ng/L (99.9% reduction). However, PFAS was still detected in the discharge and confirmed the decision to discontinue discharge and treatment.

The water treatment system was cleaned and demobilized. The spent filter media and containerized treated water were properly disposed offsite.

No further treatment or discharge will be performed under the existing approvals. A notice of Termination for the WDPES permit will be completed and submitted to the WDNR.

_____

Attachments:

Table 1 – Summary of WPDES Discharge Monitoring Analytical Results
Table 2 – Summary of Daily DRO Results and Discharge Volume
Figure 1 – Site Location
Figure 2 – Site Features
Figure 3 – Sample Locations (Initial Treatment Setup)
Figure 4 – Sample Locations (Treatment Setup with Additional GAC Unit)
Attachment A – Regulatory Approval Letters
Attachment B – Photolog of Water Treatment System
Attachment C – Laboratory Reports
Attachment D – Daily Treatment System Field Forms
Attachment E – Disposal Documentation

AECOM
1555 N. River Center Drive, Ste 214
Milwaukee, WI 53212
414.944.6080 tel
414.944.6081 fax

TABLES

Table 1
Summary of Analytical Results for WPDES Permit
Fire Suppression Water Treatment System Discharge
ATC Blount Substation - Madison, Wisconsin
Project No. 60611431

				Startup Monitoirng Results								
Analyte	Effluent Limitations[1]		Sample ID: Sample Date:	OWS 10/8/2019	INLET 10/8/2019	BAG 2 10/8/2019	ZEO 10/8/2019	GAC 1 10/8/2019	GAC 2 10/8/2019	DISCHARGE 10/8/2019	FIELD BLANK 10/8/2019	TRIP BLANK 10/8/2019
BETX, Total ug/l:												
Benzene	NL		ug/l	--	--	--	--	--	--	< 0.15	--	< 0.15
Ethylbenzene	NL		ug/l	--	--	--	--	--	--	< 0.18	--	< 0.18
Toluene	NL		ug/l	--	--	--	--	--	--	< 0.15	--	< 0.15
Xylene (Total)	NL		ug/l	--	--	--	--	--	--	< 0.22	--	< 0.22
Total BETX	750	Monthly Avg.	ug/l							<750		<750
Polyaromatic Hydrocarbons (PAHs) ug/l:												
Benzo(a)anthracene, TEF 0.1	NL		ug/l	--	--	--	--	--	--	< 0.043	--	--
Benzo(a)pyrene	0.1	Monthly Avg	ug/l	--	--	--	--	--	--	< 0.074	--	--
Benzo(b)fluoranthene, TEF 0.1	NL		ug/l	--	--	--	--	--	--	< 0.061	--	--
Benzo(g,h,i)perylene, TEF 0.01	NL		ug/l	--	--	--	--	--	--	< 0.28	--	--
Benzo(k)fluoranthene, TEF 0.01	NL		ug/l	--	--	--	--	--	--	< 0.048	--	--
Chrysene, TEF 0.001	NL		ug/l	--	--	--	--	--	--	< 0.051	--	--
Dibenzo(a,h)anthracene, TEF 1.0	NL		ug/l	--	--	--	--	--	--	< 0.038	--	--
Fluoranthene, TEF 0.001	NL		ug/l	--	--	--	--	--	--	< 0.34	--	--
Indeno(1,2,3-cd)pyrene, TEF 0.1	NL		ug/l	--	--	--	--	--	--	< 0.056	--	--
Naphthalene	70	Monthly Avg	ug/l	--	--	--	--	--	--	< 0.23	--	--
Phenathrene, TEF 0.001	NL		ug/l	--	--	--	--	--	--	< 0.23	--	--
Pyrene, TEF 0.001	NL		ug/l	--	--	--	--	--	--	< 0.32	--	--
PAH Group of Ten, Calc. TEF Sum	0.1	Monthly Avg	ug/l							< 0.1		
Per- and polyfluoroalkyl substances (PFAS) ng/l**												
10:2 FTS	NL		ng/L	--	< 1.62	< 1.62	< 1.65	< 1.66	< 1.64	< 1.64	< 1.59	--
6:2 FTS	NL		ng/L	--	1050 D	750	86.3	2.62 Q	< 1.05	< 1.05	< 1.02	--
8:2 FTS	NL		ng/L	--	17.2	17.5	< 1.09	< 1.09	< 1.08	< 1.08	< 1.05	--
PFHxA	NL		ng/L	--	91.9	95.1	29.7	< 1.16	< 1.14	< 1.14	< 1.11	--
PFOS	NL		ng/L	--	6.15 B, Q	4.94 B	8.34 B	0.632 J, B, Q	0.520 J, B	0.553 J, B	0.412 J, B	--
PFOA	NL		ng/L	--	37.8	36.2	9.16	< 0.346	< 0.342	< 0.342	< 0.331	--
PFPeA	NL		ng/L	--	37.2	32.3	15.3	< 0.680	< 0.672	< 0.672	< 0.650	--
Diesel Range Organics (DRO) mg/l												
DRO*, C10-C28	NL		mg/L	37	6.3	5.6	1.8	0.12	0.048 J	< 0.031	--	--
Wet Chemistry:												
BOD_5 Total, mg/l	20	Monthly	mg/L	--	--	--	--	--	--	< 2.0H	--	--
Oil and Grease (Hexane) mg/l	15	Monthly	mg/L	--	--	--	--	--	--	< 1.4	--	--
pH, standard units	6.0 to 9.0	Monthly	pH units	--	--	--	--	--	--	7.8 HF	--	--

Notes:

(1) Effluent limitations from WPDES Permit No. WI-0046531-06-1

* DRO is not a WPDES Permit limit compound

PAH sum of 10 individual compounds with calculated Toxicity Equivalent Factors (TEFs)

** PFAS; there are no PFAS WPDES Permit regulated limits, compounds should be below MDLs without laboratory qualifiers.

-- Not analyzed

NL No permit limit for this compound

B This compound was also detected in the method blank

D Dilution

J The amount detected is below the Reporting Limit/LOQ

HF Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Q The ion transition ratio is outside of the acceptance criteria.

Table 1
Summary of Analytical Results for WPDES Permit
Fire Suppression Water Treatment System Discharge
ATC Blount Substation - Madison, Wisconsin
Project No. 60611431

				Weekly Monitoring Results								
Analyte	Effluent Limitations[1]		Sample ID: Sample Date:	OWS 10/25/2019	INLET 10/25/2019	BAG 2 10/25/2019	ZEO 10/25/2019	GAC 1 10/25/2019	GAC 2 10/25/2019	DISCHARGE 10/25/2019	FIELD BLANK 10/25/2019	TRIP BLANK 10/25/2019
BETX, Total ug/l:												
Benzene	NL		ug/l	--	--	--	--	--	--	< 0.15	--	< 0.15
Ethylbenzene	NL		ug/l	--	--	--	--	--	--	< 0.18	--	< 0.18
Toluene	NL		ug/l	--	--	--	--	--	--	< 0.15	--	< 0.15
Xylene (Total)	NL		ug/l	--	--	--	--	--	--	< 0.22	--	< 0.22
Total BETX	750	Monthly Avg.	ug/l							<750		<750
Polyaromatic Hydrocarbons (PAHs) ug/l:												
Benzo(a)anthracene, TEF 0.1	NL		ug/l	--	--	--	--	--	--	< 0.045	--	--
Benzo(a)pyrene	0.1	Monthly Avg	ug/l	--	--	--	--	--	--	< 0.079	--	--
Benzo(b)fluoranthene, TEF 0.1	NL		ug/l	--	--	--	--	--	--	< 0.065	--	--
Benzo(g,h,i)perylene, TEF 0.01	NL		ug/l	--	--	--	--	--	--	< 0.30	--	--
Benzo(k)fluoranthene, TEF 0.01	NL		ug/l	--	--	--	--	--	--	< 0.051	--	--
Chrysene, TEF 0.001	NL		ug/l	--	--	--	--	--	--	< 0.055	--	--
Dibenzo(a,h)anthracene, TEF 1.0	NL		ug/l	--	--	--	--	--	--	< 0.041	--	--
Fluoranthene, TEF 0.001	NL		ug/l	--	--	--	--	--	--	< 0.36	--	--
Indeno(1,2,3-cd)pyrene, TEF 0.1	NL		ug/l	--	--	--	--	--	--	< 0.060	--	--
Naphthalene	70	Monthly Avg	ug/l	--	--	--	--	--	--	< 0.25	--	--
Phenathrene, TEF 0.001	NL		ug/l	--	--	--	--	--	--	< 0.24	--	--
Pyrene, TEF 0.001	NL		ug/l	--	--	--	--	--	--	< 0.34	--	--
PAH Group of Ten, Calc. TEF Sum	0.1	Monthly Avg	ug/l							< 0.1		
Per- and polyfluoroalkyl substances (PFAS) ng/l**												
10:2 FTS	NL		ng/L	--	< 1.63	< 1.63	< 1.74	< 1.72	< 1.72	< 1.75	< 1.61	--
6:2 FTS	NL		ng/L	--	<1.04	3800 D	1320	2.09 J, Q	1.66 J	1.95 J, Q	< 1.03	--
8:2 FTS	NL		ng/L	--	35.2 Q	28.2	8.62 Q	< 1.13	1.13	<1.15	1.37 J	--
PFHxA	NL		ng/L	--	183 Q	173 Q	114	< 1.20	< 1.20	< 1.14	< 1.12	--
PFOS	NL		ng/L	--	11.8	12.4	5.64	0.817 J, Q	1.03 J, B	2.38 Q	0.652 J, Q	--
PFOA	NL		ng/L	--	18.4	16.9	9.89	1.58 J, Q	0.543 J, Q	1.02 J, Q	< 0.335	--
PFPeA	NL		ng/L	--	158	155	164	0.702	< 0.702	< 0.717	< 0.659	--
Diesel Range Organics (DRO) mg/l												
DRO*, C10-C28	NL		mg/L	300	14	11	9.6	0.15	0.20	0.057J	--	--
Wet Chemistry:												
BOD_5 Total, mg/l	20	Monthly	mg/L	--	--	--	--	--	--	< 2.0	--	--
Oil and Grease (Hexane) mg/l	15	Monthly	mg/L	--	--	--	--	--	--	1.8 J	--	--
pH, standard units	6.0 to 9.0	Monthly	pH units	--	--	--	--	--	--	7.5 HF	--	--

Notes:

(1) Effluent limitations from WPDES Permit No. WI-0046531-06-1

* DRO is not a WPDES Permit limit compound

PAH sum of 10 individual compounds with calculated Toxicity Equivalent Factors (TEFs)

** PFAS; there are no PFAS WPDES Permit regulated limits, compounds should be below MDLs without laboratory qualifiers.

-- Not analyzed

NL No permit limit for this compound

B This compound was also detected in the method blank

D Dilution

J The amount detected is below the Reporting Limit/LOQ

HF Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Q The ion transition ratio is outside of the acceptance criteria.

Table 2
Summary of Daily DRO Results and Discharge Volume
Fire Suppression Water Treatment System Discharge
ATC Blount Substation - Madison, Wisconsin
Project No. 60611431

Date Sampled	Results Received	OWS (ug/L)	Inlet (ug/L)	Bag (ug/L)	ZEO (ug/L)	GAC-1 (ug/L)	GAC-2 (ug/L)	GAC-3 (ug/L)	GAC-4* (ug/L)	Daily Volume (gallons)	Cumulative Volume (gallons)	Comments
10/8/2019	10/18/2019	37	6.3	5.6	1.8	0.12	0.048 J	<0.031	Unit added after 10/25	7,363	7,363	Initial Batch Sample Results
10/22/2019	10/24/2019	660	300	12	1.3	0.16	0.093 J	0.062 J		10,587	17,950	1st Daily Sample – system started late on 10/21
10/23/2019	10/25/2019	490	98	15	1.5	<0.031	<0.032	<0.032		28,025	45,975	2nd Daily Sample – system operation normal
10/24/2019	10/28/2019	1,600	10	4.3	2.8	0.083 J	0.050 J	0.035 J		29,820	75,795	3rd Daily Sample – system operation normal
10/25/2019	10/29/2019	230	30	27	9.6	0.23	0.18	0.14		24,005	99,800	4th Daily Sample – weekly PFAS sample collected
10/26/2019	10/30/2019	300	14	11	9.6	Not sampled	0.15	0.2	0.057 J	11,460	111,260	5th Daily Sample – added new GAC-4, discontinued monitoring GAC-1
10/27/2019	---	Not sampled	No system operation (Sunday)								---	No daily sample, system operation stopped late 10/26
10/28/2019	10/30/2019		80	83	49		0.68	0.61	0.6	8,498	119,758	6th Daily Sample – system restarted early on 10/28
10/29/2019	10/31/2019		94	89	150		4.7	4.7	2.2	28,060	147,818	7th Daily Sample – system discharge ceased on 10/29 shortly after sample collection
10/30/2019 to 11/3/2019	---		Discharge under the WPDES permit is discontinued. Remaining oily water and FRAC tank washout water is processed through the treatment system and is containerized for offsite disposal.							9,000	156,818	Receive results from 10/28 samples confirms decision to discontinue discharge

Notes:

* GAC-4 was added to the treatment train after GAC-3 at the beginning of 10/26. After the addition of GAC-3, water samples from the GAC vessels excluded GAC-1 but on the chains-of-custodies (COC) maintained the naming convention as follows.

Dates	Before 10/26/2019			10/26/2019 and after			
Table ID	GAC-1	GAC-2	GAC-3	GAC-1	GAC-2	GAC-3	GAC-4
COC ID	GAC-1	GAC-2	Discharge	--	GAC-1	GAC-2	Discharge

Sample IDs:

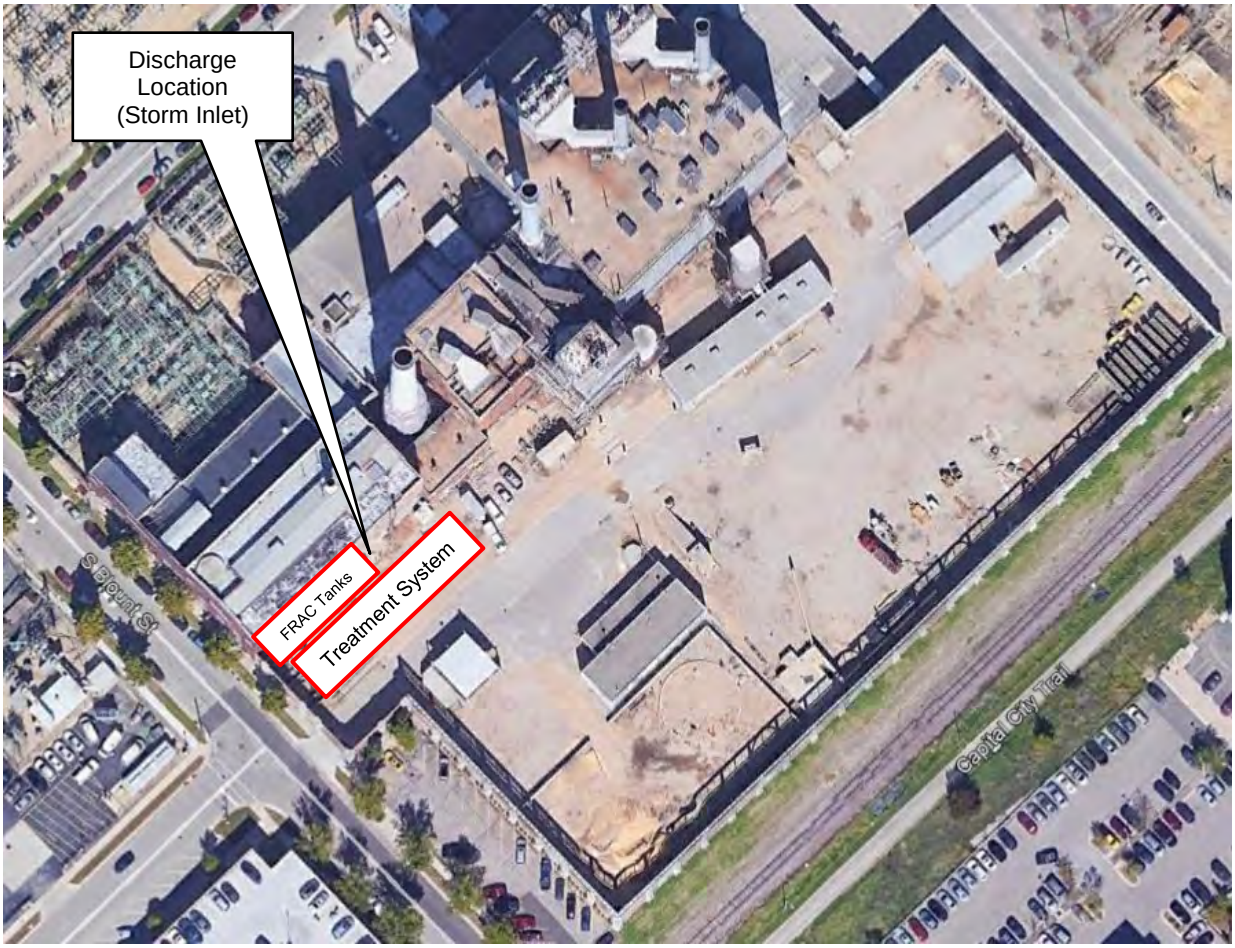
OWS	Oil/Water Separator
Bag	Bag Filtration Unit
ZEO	Zeolite media
GAC	Granular Activiated Carbon

FIGURES

Figure 1

AECOM	**ATC Blount SS Water Discharge** **201 South Blount Street** **Madison, WI**	Site Location

Figure 2



AECOM	**ATC Blount SS Water Discharge** **201 South Blount Street** **Madison, WI**	Treatment System Discharge Location

Figure 3
Treatment System Schematic

Notes:

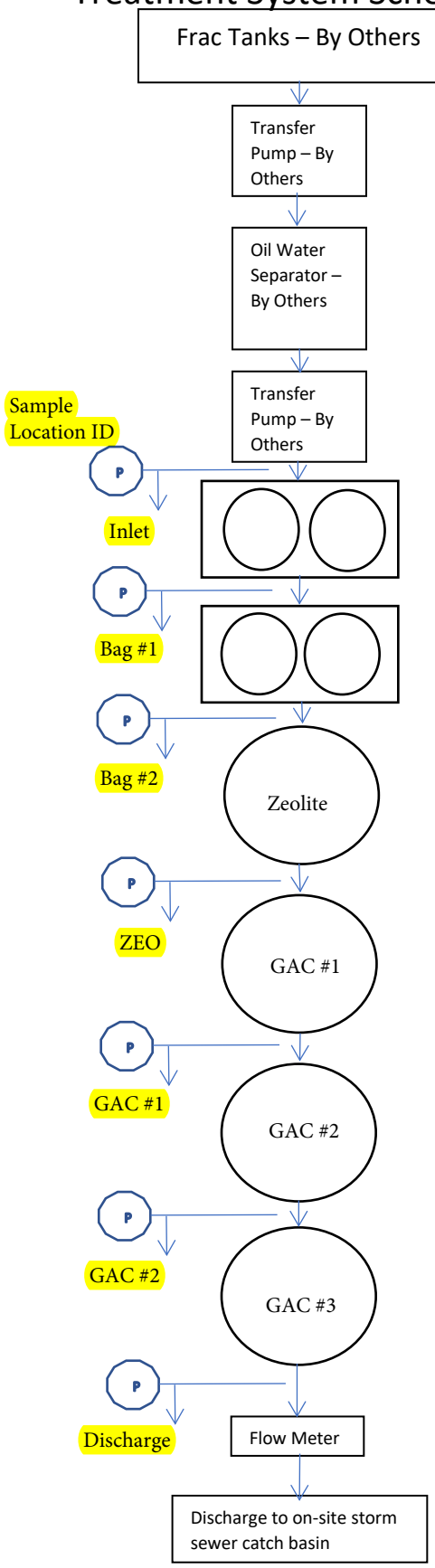
Flow diagram is not to scale. Please see cut sheets for complete sizing of equipment

All pieces (of ProAct system) will be connected by 2" OSD Hose

Discharge hose will be in place after flow meter and is 2" Lay Flat Hose

Drawing does not incorporate additional vessel(s)

Pressure gauge and sample port



Transfer Pump
Multiquip ST2037

Bag Filter #1 -10 mic

Bag Filter #2 -.5 mic

3' Media Vessel – 1,500 lbs of HS 200
Manufacturer's Vessel No: 3484

3' Media Vessel – 1,000 lbs of UC 12x40 AW Carbon

3' Media Vessel – 1,000 lbs of UC 12x40 AW Carbon

3' Media Vessel – 1,000 lbs of UC 12x40 AW Carbon

Figure 4
Treatment System Schematic – With Additional GAC Vessel

Notes:

Flow diagram is not to scale. Please see cut sheets for complete sizing of equipment

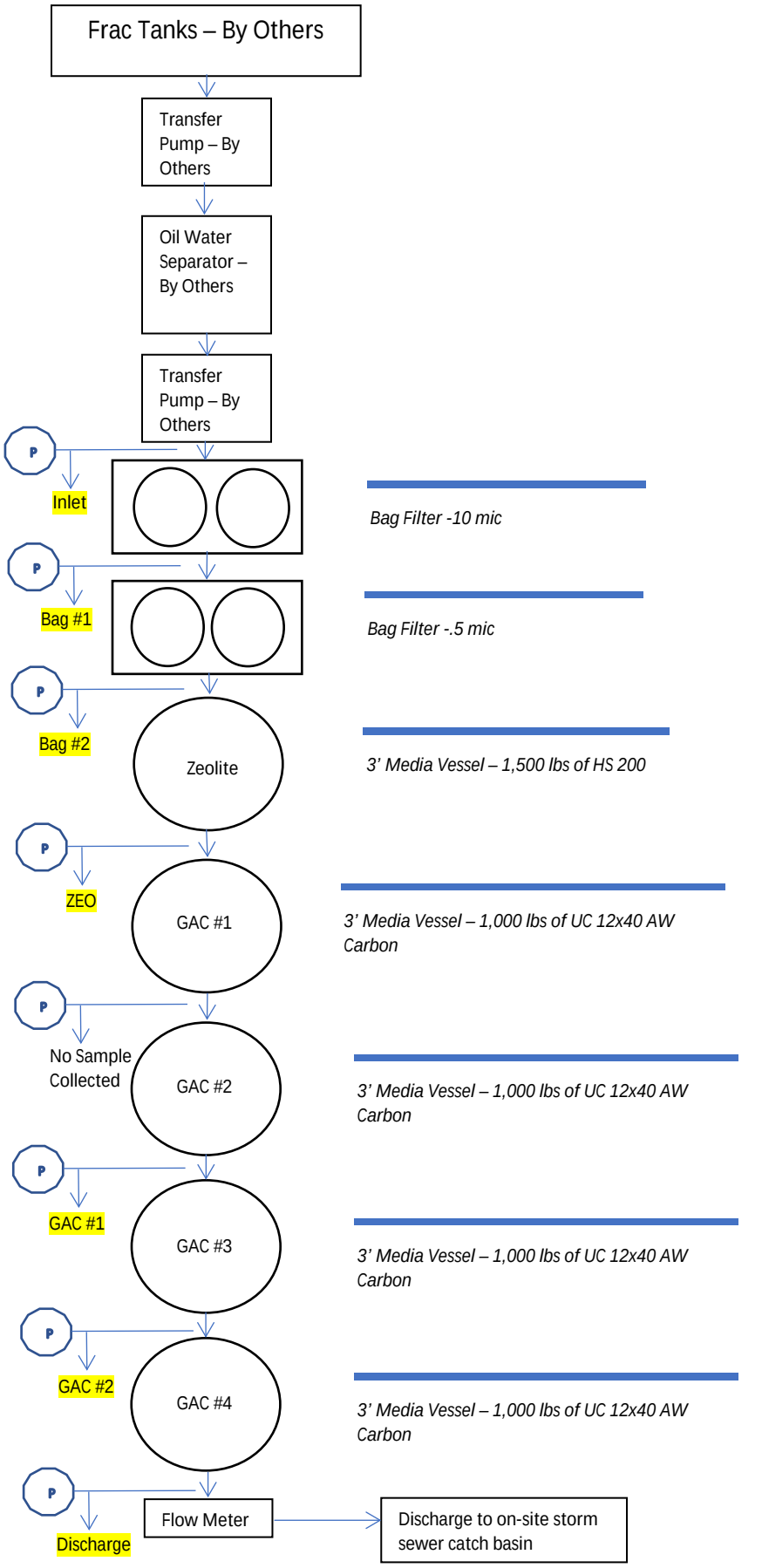
All pieces (of ProAct system) will be connected by 2" OSD Hose

Discharge hose will be in place after flow meter and is 2" Lay Flat Hose

Drawing does not incorporate additional vessel(s)

Pressure gauge and sample port

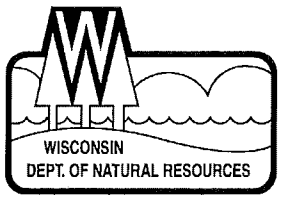
Sample ID Inlet



Attachment A
Regulatory Approval Letters

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
101 S. Webster Street
P.O. Box 7921
Madison, WI 53707-7921

Tony Evers, Governor
Preston D. Cole, Secretary
Telephone: (608) 266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711



September 11, 2019

Project Number: S-2019-0662

Erika Biemann, Environmental Project Manager
American Transmission Company, LLC
W234 N2000 Ridgeview Pkwy Ct.
Waukesha, WI 53188-1022

Subject: American Transmission Company, LLC, WPDES General Permit no. WI-0046531-6-1 (pending coverage). Plans and Specifications for Treatment System of Fire Suppression Water

Dear Ms. Biemann:

The Department of Natural Resources (hereafter department) is conditionally approving the plans and specifications for the construction of a treatment system to treat fire suppression water currently being stored in frac tanks at 201 S. Blount St., Madison, WI 53703, submitted under the seal of Tim Wood, Professional Engineer, AECOM, 1555 North River Center Dr., Suite 214, Milwaukee, WI 53212, and received for approval on September 5, 2019.

The proposed system consists of one oil/water separator, one 2-stage 10-micron bag filter, one 2-stage 5-micron bag filter, one 1500-lb zeolite clay vessel, and three 1,000-lb granular activated carbon units to treat approximately 180,000 gallons of fire suppression water containing transformer mineral oil and diluted firefighting foam. The oil/water separator, bag filters, and clay vessel are intended for treatment of the mineral oil. The granular activated carbon units are intended for treatment of per- and polyfluoroalkyl substances (PFAS).

The plans and specifications and correspondence with Tim Wood were used by the department as the basis for conditional approval.

The plans and specifications are hereby approved in accordance with s. 281.41, Wis. Stats., Approval Number S-2019-0662, subject to the following conditions:

1. That a preconstruction conference be held to familiarize the construction contractor(s) and resident inspector(s) with the erosion control and dewatering requirements and all other provisions and conditions of the approved plans and specifications.

2. That a competent resident inspector be provided during the course of construction.

3. That erosion control methods be used to prevent siltation to lands and waterways adjoining the construction area. These methods shall include but not be limited to the following:

    a. Siltation fences
    b. Trench stabilization
    c. Immediate mulching and seeding

4. That this department is notified when the approved facilities are placed in operation. Please notify both Mike Schmoller at (608) 275-3303 or michael.schmoller@wisconsin.gov and Susan Eichelkraut, Wastewater Specialist in the department's Milwaukee Service Center, at (414) 263-8682, or susan.eichelkraut@wisconsin.gov.

5. That an acceptable operation and maintenance manual, or a manual revision or addendum, be prepared for the approved facilities and submitted to the department.

6. That all solids and sludges resulting from the treatment of industrial wastewaters be disposed of in accordance with ch. NR 214, Wis. Adm. Code (Land Application of Industrial Wastes) and by the conditions set forth in WPDES permit WI-0046531-6-1 for the facility or any applicable Solid and Hazardous Waste Regulations (in chs. NR 500 to 590 and 600 to 690, Wis. Adm. Codes).

7. That a certified operator be retained to operate the treatment facilities when they are placed in operation.

8. That the improvements be installed in accordance with the plans and specifications, and the above conditions, or subsequent essential and approved modifications.

The plans and specifications have been reviewed in accordance with s. 281.41, Wis. Stats. Where necessary, plans and specifications should be submitted to the Department of Safety and Professional Services (Safety and Building Division) or other state or local agencies to insure conformance with applicable codes or regulations of such agencies. This letter should not be construed as an approval for activities requiring approval under other Statutes or by other federal, state or local agencies.

The department reserves the right to modify this approval and order changes or additions should conditions arise making this necessary.

This conditional approval is not to be construed as a department opinion as to the ability of the proposed system to comply with permit conditions in WPDES permit No. WI-0046531-6-1.

The department has the authority under s. 281.19(1), Wis. Stats., to adopt rules for the construction, installation, use, and operation of systems for preventing and abating pollution of the waters of the state. Chapter NR 108, Wis. Adm. Code, has been adopted by the department pursuant to this statutory authority. The department has the authority to approve, conditionally approve, or deny plans under s. 281.41, Wis. Stats.

Tangible personal property, which becomes a part of a waste treatment or pollution abatement plant or equipment, may be exempt from property and sales tax under ss. 70.11(21) and 77.54(26), Wis. Stats. A prerequisite to exemption under this subsection is the filing of a statement on forms prescribed by the Department of Revenue. The forms and instructions may be obtained from the Department of Revenue, Manufacturing and Telco Assessment Bureau, P.O. Box 8933, Madison, Wisconsin 53708-8933.

If you believe that you have a right to challenge this decision, you should know that the Wisconsin statutes and administrative rules establish time periods within which requests to review department decisions must be filed. For judicial review of a decision pursuant to ss. 227.52 and 227.53, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the department, to file your petition with the appropriate circuit court and serve the petition on the department. Such a petition for judicial review must name the Department of Natural Resources as the respondent.

To request a contested case hearing pursuant to s. 227.42, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the department, to serve a petition for hearing on the Secretary of the Department of Natural Resources. All requests for contested case hearings must be made in accordance with s. NR 2.05(5), Wis. Adm. Code, and served on the Secretary in accordance with s. NR 2.03, Wis. Adm. Code.

The filing of a request for a contested case hearing does not extend the 30-day period for filing a petition for judicial review.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
For the Secretary

Jason Knutson, P.E.
Wastewater Section Chief
Bureau of Water Quality

Nate Willis
Wastewater Engineer
Bureau of Water Quality

e-cc:
Tim Wood, *AECOM*
Susan Eichelkraut, *DNR*
Christine Haag, *DNR*
Trevor Moen, *DNR*
Tim Ryan, *DNR*
Mike Schmoller, *DNR*

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
101 S. Webster Street
Box 7921
Madison WI 53707-7921

Tony Evers, Governor
Preston D. Cole, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 71

September 13, 2019

ERIKA BIEMANN
AMERICAN TRANSMISSION COMPANY
PO BOX 47
WAUKESHA WI 53187
(SENT VIA EMAIL)

SUBJECT: Coverage under WPDES Permit No. WI-0046531-06-1
Permittee Name: American Transmission Company
Site Name: ATC Blount SS Water Discharge
Site Address: 201 S Blount St, Madison, WI
Site ID (FIN): 68377

Dear Ms. Biemann:

The Wisconsin Department of Natural Resources (hereafter Department) has determined that your proposed discharge from the ATC Blount SS Water Discharge project located at 201 S Blount St, Madison, Wisconsin, is eligible for coverage under the *Petroleum Contaminated Water* Wisconsin Pollutant Discharge Elimination System (WPDES) General Permit No. WI-0046531-06-1. This determination was based on review of a complete General Permit Notice of Intent (NOI) form (Form 3400-234) submitted by Tim Wood, AECOM, and received on September 6, 2019. Please download the permit and fact sheet from the Department website at: http://dnr.wi.gov/topic/wastewater/GeneralPermits.html.

The proposed discharge is eligible for coverage and hereby authorized under the *Petroleum Contaminated Water* WPDES General Permit No. WI-0046531-06-1 in accordance with s. NR 205.08, Wis. Adm. Code, subject to the following conditions:

1. Term of Coverage: Coverage at your facility will become effective under this permit on **September 13, 2019** until permit coverage termination.
2. Sampling: The permittee shall sample the discharge for all parameters listed below and in Section 3.2.1 of general permit. Sampling is only required during each month in which there is a discharge to Lake Monona.

Outfall 001 – Blount SS Water Discharge

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
Flow Rate		gpd	Daily	Estimated	See Section 3.4
Oil & Grease (Hexane)	Daily Max	15 mg/L	Monthly	Grab	See Section 3.3
pH	Daily Min	6.0 su	Monthly	Grab	See Section 3.3
pH	Daily Max	9.0 su	Monthly	Grab	See Section 3.3

Monitoring Requirements and Effluent Limitations					
Parameter	**Limit Type**	**Limit and Units**	**Sample Frequency**	**Sample Type**	**Notes**
BOD_5, Total	Monthly Avg	20 mg/L	Monthly	Grab	See Section 3.3
BETX, Total	Monthly Avg	750 µg/L	Monthly	Grab	See Section 3.3
PAHs	Monthly Avg	0.1 µg/L	Monthly	Grab	See Sections 3.3 and 3.6
Benzo(a)pyrene	Monthly Avg	0.1 µg/L	Monthly	Grab	See Sections 3.3 and 3.7
Naphthalene	Monthly Avg	70 µg/L	Monthly	Grab	See Sections 3.3 and 3.8
PFOA*	-	ng/L	Weekly	Grab	
PFOS*	-	ng/L	Weekly	Grab	
PFHxA*	-	ng/L	Weekly	Grab	Report in Comments Section of eDMR
PFPeA*	-	ng/L	Weekly	Grab	Report in Comments Section of eDMR
6:2 FTS*	-	ng/L	Weekly	Grab	Report in Comments Section of eDMR
8:2 FTS*	-	ng/L	Weekly	Grab	Report in Comments Section of eDMR
10:2 FTS*	-	ng/L	Weekly	Grab	Report in Comments Section of eDMR
Diesel Range Organics (DRO)*	-	ng/L	Daily	Grab	Report in Comments Section of eDMR

*Sampling for perfluorooctanoic acid (PFOA), perfluorooctane sulfonate (PFOS), perfluorohexanoic acid (PFHxA), perfluoropentanoic acid (PFPeA), 6:2 fluorotelomer sulfonate (6:2 FTS), 8:2 fluorotelomer sulfonate (8:2 FTS), and 10:2 fluorotelomer sulfonate (10:2 FTS) on a weekly basis is included due to known presence of these pollutants at the site. Pursuant to Section 3.11 d) of the general permit, "substances in concentrations or in combinations which are toxic or harmful to humans shall not be present in amounts found to be of public health significance, nor shall substances be present in amounts which are acutely harmful to animal, plant or aquatic life." Based on the application materials and conversations with the applicant, the Department understands that PFOA, PFOS, PFHxA, PFPeA, 6:2 FTS, 8:2 FTS, and 10:2 FTS will be at non-detection levels (below the lowest method detection limit) upon discharge due to the use of granular activated carbon (GAC) treatment. This understanding and expectation are the bases for allowing coverage under this general permit. Non-detectable levels for PFAS compounds are not an enforceable effluent limitation or secondary value limit and will not be enforceable as permit limitations. However, should any these PFAS compounds be detected in the final effluent, the department will evaluate whether or not it is appropriate to revoke coverage under this general permit or work with ATC to refine its treatment of wastewater or obtain coverage under an individual permit.

Based on the application materials and associated plan review, the Department understands that the permittee will perform operational sampling for the PFAS compounds after each GAC unit to ensure that breakthrough is not occurring. The department also understands that, prior to commencing discharge, the permittee will cycle some amount of contaminated water through the treatment system, sample the treatment system effluent for PFAS, and hold the treated effluent prior to discharge until

analytical results confirm that the water has been treated to ND for the above PFAS compounds. Also, Diesel Range Organics (DRO) sampling will be performed to assess the effectiveness of the treatment system on a daily basis. Should any of these actions to ensure non-detection levels of PFAS not occur, the department may evaluate whether or not it is appropriate to revoke coverage under this general permit.

3. Reporting: The permit requires all monitoring data be submitted on an electronic discharge monitoring report (eDMR). The eDMR shall be submit to the department whether or not there is a discharge during any month. The first report for the month of September is due by October 21, 2019. In order to access the eDMR forms, you must have or create a Wisconsin Web Access Management System (WAMS) ID and request access for each facility for which you intend to submit data. If you already have a WAMS ID, then you do not need to recreate one to access the eDMR. Instructions on registering for a WAMS ID and getting access to the reports are attached to this letter along with instructions on how to complete the eDMRs.

4. Discharge Status: If the project has been completed and/or the discharge activities have ceased, please complete a Notice of Termination (Form 3400-221) available at http://dnr.wi.gov/topic/wastewater/GeneralPermits.html. Please email this form to me at Trevor.Moen@Wisconsin.gov. The Department will then send a letter back to you confirming termination of coverage under this general permit. Your facility will then be removed from our list of facilities currently covered under this general permit.

5. New Ownership: If your facility changes ownership in the future, please complete and submit a Transfer of Coverage (Form 3400-222) available at http://dnr.wi.gov/topic/wastewater/GeneralPermits.html

6. Change of Authorized Representative: If you plan on changing the authorized representative contact for the project or you want to assign a new person to be a duly authorized representative to submit specific permit documents on your behalf, please fill out a Delegation of Signature Authority (Form 3400-220) available at http://dnr.wi.gov/topic/wastewater/GeneralPermits.html. Please email this form to me at Trevor.Moen@Wisconsin.gov.

7. Facility Changes: If there have been or will be any changes in your facility operations that result in new or different wastewater discharges to the waters of the state, please contact the Department and reapply for permit coverage. If reapplication is necessary, please complete a notice of intent (NOI) form for the applicable general permit(s) to verify that your discharge is eligible for that general permit. NOI forms are available at http://dnr.wi.gov/topic/wastewater/GeneralPermits.html. This document must be mailed to the Department contact in the region of the proposed discharge. This information is also available at the general permit webpage.

8. Compliance: You are responsible for compliance with the requirements and conditions contained in the general permit. To assure you remain in compliance and avoid any enforcement action, please read the general permit over carefully.

Additional information regarding the Department's legal authority in this matter and your rights of appeal are shown below. Please contact me by phone: (920) 424-7883 or by email: Trevor.Moen@Wisconsin.gov if you have any questions.

Regards,

Trevor Moen
Wastewater Engineer
Bureau of Water Quality

Jason Knutson, P.E.
Wastewater Section Chief
Bureau of Water Quality

cc: Tim Wood – AECOM (via email)
Dave Johnson – NSEC (via email)
Nate Willis – DNR Central Office Madison (via email)
Jason Knutson – DNR Central Office Madison (via email)
Susan Eichelkraut – DNR Milwaukee Service Center (via email)
Permit File(s)

LEGAL AUTHORITIES AND APPEAL RIGHTS

Section 283.35(1), Wis. Stats., authorizes the Department to issue a general permit applicable to a designated area of the state authorizing discharges from specified categories or classes of point sources located within that area. Upon the request of the owner or operator of a point source, the Department shall withdraw the point source from the coverage of a general permit and issue an individual Wisconsin Pollutant Discharge Elimination System (WPDES) permit for that source in accordance with s. 283.35(2), Wis. Stats. Additionally, the Department may withdraw a point source from the coverage of a general permit and issue an individual WPDES permit if that source meets any of the factors listed in s. 283.35(3), Wis. Stats. Issuance of such an individual permit will provide for a public comment period, and potentially a public informational hearing and/or an adjudicatory hearing. In lieu of general permit withdrawal, the Department may refer any violation of a general permit to the Department of Justice for enforcement under s. 283.91, Wis. Stats., pursuant to s. 283.89, Wis. Stats. In order to remain in compliance and avoid any enforcement action, **please read your permit carefully**.

To challenge the reasonableness of or necessity for any term or condition of an issued, reissued, or modified general permit, s. 283.63, Wis. Stats., and ch. NR 203, Wis. Adm. Code, require that you file a verified petition for review with the Secretary of the Department of Natural Resources within 60 days after notice of the permit decision was issued by the Department. For other permit-related decisions, such as the decision to confer general permit coverage to your facility, that are not reviewable pursuant to s. 283.63, Wis. Stats., it may be possible for permittees or other persons to obtain an administrative review pursuant to s. 227.42, Wis. Stats., and s. NR 2.05(5), Wis. Adm. Code, or a judicial review pursuant to s. 227.52, Wis. Stats. If you choose to pursue one of these options, you should know that Wisconsin Statutes and Administrative Code establish time periods within which requests to review Department decisions must be filed.

Permit to Discharge Non-Storm Water

We, the undersigned, hereby give approval to American Transmission Company to discharge non-storm water in accordance with Madison General Ordinance Section 7.47, located at 201 South Blount Street. Said approval is granted on the specific conditions contained within the application and any additional requirements as specified; that the data submitted by the applicant conforms to the situation at the site at both the time of application and in the future; and that the discharge of wastewater is made in accordance with all applicable codes and regulations.

Plan Attached	Yes ■	No ☐
Application Fee Submitted	Yes ■	No ☐
Plumbing Permit Required	Yes ☐	No ■

The permit is approved provided that the limits and testing required for the WPDES permit are met. Submit copies of all WPDES required analyses to Public Health Madison-Dane County on the same schedule as those submitted to the Wisconsin Department of Natural Resources.

City Engineer — Date 10/17/19

Director of Public Health — Date 10/1/19

Public Health
MADISON & DANE COUNTY
Healthy people and places

Public Health
Madison and Dane County
Discharge of Non Storm Water
License No. LICNSW-2019-00628

June 30, 2020

Expiration Date 06/30/2020
Date Issued 10/21/2019

AMERICAN TRANSMISSION COMPANY

201 S BLOUNT ST
MADISON, WI 53703

Director Public Health Madison and Dane County

City Clerk

PURSUANT TO SECTION 7.47 OF THE MADISON GENERAL ORDINANCES.

Expiration Date 06/30/2020

Not Transferable. Post entire license in a conspicuous place.

AMERICAN TRANSMISSION COMPANY
PO BOX 47
WAUKESHA WI 53718

Attachment B
Photolog of Water Treatment System

AECOM

PHOTOGRAPHIC LOG

Client Name:	Project Name:	Project No.
American Transmission Company	Blount SS – Water Treatment System	60611431

Photo No.	Date:
1	October 22, 2019

Photo Location and View: Northwest corner of the MGE Coal Yard.

Description:

The photo shows the area in the MGE Coal Yard where the FRAC tanks where staged, and the water treatment system setup alongside the FRAC tanks.

Photo No.	Date:
2	October 22, 2019

Photo Location and View: Northwest corner of the MGE Coal Yard.

Description:

The photo shows the initial water treatment system components, consisting of the oil/water separator, bag filters, zeolite vessel, and three granular activated carbon (GAC) vessels in series.

AECOM

PHOTOGRAPHIC LOG

Client Name:	Project Name:	Project No.
American Transmission Company	Blount SS – Water Treatment System	60611431

Photo No.	Date:
3	October 22, 2019

Photo Location and View: Northwest corner of the MGE Coal Yard.

Description:

The photo shows the discharge point in the MGE Coal Yard for the water treatment system. Discharged water flowed from this point to the City of Madison storm sewer system located under Blount Street.

Photo No.	Date:
4	October 28, 2019

Photo Location and View: Northwest corner of the MGE Coal Yard.

Description:

The photo shows the modified water treatment system components, consisting of the oil/water separator, bag filters, zeolite vessel, and four granular activated carbon (GAC) vessels in series.

The fourth GAC vessel was added on the morning of October 26, 2019.

AECOM

PHOTOGRAPHIC LOG

Client Name:	Project Name:	Project No.
American Transmission Company	Blount SS – Water Treatment System	60611431

Photo No.	Date:
5	October 30, 2019

Photo Location and View: Northwest corner of the MGE Coal Yard.

Description:
The photo shows an emptied FRAC tank being washed out.

Residual oily water was processed through the water treatment system and containerized for proper offsite disposal.

Photo No.	Date:
6	November 2, 2019

Photo Location and View: South central area of the MGE Coal Yard, viewing south.

Description:

The photo shows the rollooff box used for the solidification and containment of the spent zeolite and granular activated carbon (GAC).

The solidified residuals were transported for approved landfill disposal.

Attachment C
Laboratory Reports

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-171404-1
Client Project/Site: ATC - Madison 60611431

For:
AECOM
1555 N Rivercenter Drive
Suite 214
Milwaukee, Wisconsin 53212

Attn: David Henderson

Authorized for release by:
10/18/2019 11:59:46 AM

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 4
Method Summary 5
Sample Summary 6
Client Sample Results 7
Definitions 15
QC Association 16
Surrogate Summary 18
QC Sample Results 19
Chronicle 23
Certification Summary 25
Chain of Custody 26
Receipt Checklists 27

Job ID: 500-171404-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-171404-1

Comments
No additional comments.

Receipt
The samples were received on 10/9/2019 8:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.0º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
Method WI-DRO: The surrogate n-Nonane was below the QC limit for the following QC samples: (LCS 500-509431/2-A), (LCSD 500-509431/3-A) and (MB 500-509431/1-A), however, the samples had surrogate present & within control limits. The spike standard recoveries for LCS/LCSD were within control limits; therefore, the data have been reported and qualified.

Method WI-DRO: The following sample required a dilution due to the nature of the sample matrix: OWS (500-171404-1). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method WI-DRO: Surrogate recovery for the following samples was outside control limits: Inlet (500-171404-2) and Bag 2 (500-171404-3). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed. The samples were originally analyzed undiluted and had accpetable surrogate recoveries. The target compound was above the calibration range; therefore, that data could not be reported.

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

General Chemistry
Method SM 5210B: BOD set up outside of hold due to analyst error.

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

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

Detection Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-171404-1

Client Sample ID: OWS — Lab Sample ID: 500-171404-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	37		9.2	3.0	mg/L	100		WI-DRO	Total/NA

Client Sample ID: Inlet — Lab Sample ID: 500-171404-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	6.3		0.58	0.19	mg/L	5		WI-DRO	Total/NA

Client Sample ID: Bag 2 — Lab Sample ID: 500-171404-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	5.6		0.47	0.15	mg/L	5		WI-DRO	Total/NA

Client Sample ID: ZEO — Lab Sample ID: 500-171404-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	1.8		0.10	0.033	mg/L	1		WI-DRO	Total/NA

Client Sample ID: GAC 1 — Lab Sample ID: 500-171404-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	0.12		0.097	0.032	mg/L	1		WI-DRO	Total/NA

Client Sample ID: GAC 2 — Lab Sample ID: 500-171404-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	0.048	J	0.096	0.031	mg/L	1		WI-DRO	Total/NA

Client Sample ID: Discharge — Lab Sample ID: 500-171404-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.8	HF	0.2	0.2	SU	1		SM 4500 H+ B	Total/NA

Client Sample ID: Trip Blank — Lab Sample ID: 500-171404-8

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-171404-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CHI
WI-DRO	Wisconsin - Diesel Range Organics (GC)	WI-DRO	TAL CHI
1664B	HEM and SGT-HEM	1664B	TAL CHI
SM 4500 H+ B	pH	SM	TAL CHI
SM 5210B	BOD, 5-Day	SM	TAL CHI
1664B	HEM and SGT-HEM (SPE)	1664B	TAL CHI
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL CHI
5030B	Purge and Trap	SW846	TAL CHI

Protocol References:

1664B = EPA-821-98-002

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

WI-DRO = "Modified DRO: Method For Determining Diesel Range Organics", Wisconsin DNR, Publ-SW-141, September, 1995.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-171404-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-171404-1	OWS	Water	10/08/19 00:00	10/09/19 08:40	
500-171404-2	Inlet	Water	10/08/19 00:00	10/09/19 08:40	
500-171404-3	Bag 2	Water	10/08/19 00:00	10/09/19 08:40	
500-171404-4	ZEO	Water	10/08/19 00:00	10/09/19 08:40	
500-171404-5	GAC 1	Water	10/08/19 00:00	10/09/19 08:40	
500-171404-6	GAC 2	Water	10/08/19 00:00	10/09/19 08:40	
500-171404-7	Discharge	Water	10/08/19 00:00	10/09/19 08:40	
500-171404-8	Trip Blank	Water	10/08/19 00:00	10/09/19 08:40	

Client Sample Results

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-171404-1

Client Sample ID: OWS
Date Collected: 10/08/19 00:00
Date Received: 10/09/19 08:40

Lab Sample ID: 500-171404-1
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	37		9.2	3.0	mg/L		10/10/19 13:38	10/11/19 07:43	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*0*	*D*	*42 - 111*	*10/10/19 13:38*	*10/11/19 07:43*	*100*

Client Sample Results

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-171404-1

Client Sample ID: Inlet

Date Collected: 10/08/19 00:00
Date Received: 10/09/19 08:40

Lab Sample ID: 500-171404-2

Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	6.3		0.58	0.19	mg/L		10/10/19 13:38	10/11/19 08:18	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*22*	*X*	*42 - 111*	*10/10/19 13:38*	*10/11/19 08:18*	*5*

Client Sample Results

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-171404-1

Client Sample ID: Bag 2
Date Collected: 10/08/19 00:00
Date Received: 10/09/19 08:40

Lab Sample ID: 500-171404-3
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	5.6		0.47	0.15	mg/L		10/10/19 13:38	10/11/19 08:54	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*29*	*X*	*42 - 111*	*10/10/19 13:38*	*10/11/19 08:54*	*5*

Client Sample Results

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-171404-1

Client Sample ID: ZEO

Date Collected: 10/08/19 00:00
Date Received: 10/09/19 08:40

Lab Sample ID: 500-171404-4

Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	1.8		0.10	0.033	mg/L		10/10/19 13:38	10/10/19 19:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*65*		*42 - 111*	*10/10/19 13:38*	*10/10/19 19:43*	*1*

Client Sample Results

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-171404-1

Client Sample ID: GAC 1

Date Collected: 10/08/19 00:00
Date Received: 10/09/19 08:40

Lab Sample ID: 500-171404-5

Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	0.12		0.097	0.032	mg/L		10/10/19 13:38	10/10/19 20:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*56*		*42 - 111*	*10/10/19 13:38*	*10/10/19 20:19*	*1*

Client Sample Results

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-171404-1

Client Sample ID: GAC 2
Date Collected: 10/08/19 00:00
Date Received: 10/09/19 08:40

Lab Sample ID: 500-171404-6
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	0.048	J	0.096	0.031	mg/L		10/10/19 13:38	10/10/19 20:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*59*		*42 - 111*	*10/10/19 13:38*	*10/10/19 20:55*	*1*

Client Sample ID: Discharge

Date Collected: 10/08/19 00:00
Date Received: 10/09/19 08:40

Lab Sample ID: 500-171404-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			10/17/19 05:10	1
Toluene	<0.15		0.50	0.15	ug/L			10/17/19 05:10	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			10/17/19 05:10	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			10/17/19 05:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 126*		*10/17/19 05:10*	*1*
Toluene-d8 (Surr)	*100*		*75 - 120*		*10/17/19 05:10*	*1*
4-Bromofluorobenzene (Surr)	*97*		*72 - 124*		*10/17/19 05:10*	*1*
Dibromofluoromethane (Surr)	*102*		*75 - 120*		*10/17/19 05:10*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.23		0.75	0.23	ug/L		10/10/19 08:28	10/11/19 10:22	1
Acenaphthylene	<0.20		0.75	0.20	ug/L		10/10/19 08:28	10/11/19 10:22	1
Anthracene	<0.25		0.75	0.25	ug/L		10/10/19 08:28	10/11/19 10:22	1
Benzo[a]anthracene	<0.043		0.15	0.043	ug/L		10/10/19 08:28	10/11/19 10:22	1
Benzo[a]pyrene	<0.074		0.15	0.074	ug/L		10/10/19 08:28	10/11/19 10:22	1
Benzo[b]fluoranthene	<0.061		0.15	0.061	ug/L		10/10/19 08:28	10/11/19 10:22	1
Benzo[g,h,i]perylene	<0.28		0.75	0.28	ug/L		10/10/19 08:28	10/11/19 10:22	1
Benzo[k]fluoranthene	<0.048		0.15	0.048	ug/L		10/10/19 08:28	10/11/19 10:22	1
Chrysene	<0.051		0.15	0.051	ug/L		10/10/19 08:28	10/11/19 10:22	1
Dibenz(a,h)anthracene	<0.038		0.23	0.038	ug/L		10/10/19 08:28	10/11/19 10:22	1
Fluoranthene	<0.34		0.75	0.34	ug/L		10/10/19 08:28	10/11/19 10:22	1
Fluorene	<0.18		0.75	0.18	ug/L		10/10/19 08:28	10/11/19 10:22	1
Indeno[1,2,3-cd]pyrene	<0.056		0.15	0.056	ug/L		10/10/19 08:28	10/11/19 10:22	1
1-Methylnaphthalene	<0.23		1.5	0.23	ug/L		10/10/19 08:28	10/11/19 10:22	1
2-Methylnaphthalene	<0.049		1.5	0.049	ug/L		10/10/19 08:28	10/11/19 10:22	1
Naphthalene	<0.23		0.75	0.23	ug/L		10/10/19 08:28	10/11/19 10:22	1
Phenanthrene	<0.23		0.75	0.23	ug/L		10/10/19 08:28	10/11/19 10:22	1
Pyrene	<0.32		0.75	0.32	ug/L		10/10/19 08:28	10/11/19 10:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*62*		*34 - 110*	*10/10/19 08:28*	*10/11/19 10:22*	*1*
Nitrobenzene-d5 (Surr)	*52*		*36 - 120*	*10/10/19 08:28*	*10/11/19 10:22*	*1*
Terphenyl-d14 (Surr)	*102*		*40 - 145*	*10/10/19 08:28*	*10/11/19 10:22*	*1*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	<0.031		0.095	0.031	mg/L		10/10/19 13:38	10/10/19 21:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*49*		*42 - 111*	*10/10/19 13:38*	*10/10/19 21:30*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	<1.4		5.2	1.4	mg/L		10/17/19 10:59	10/17/19 11:04	1
pH	**7.8**	**HF**	0.2	0.2	SU			10/16/19 14:09	1
Biochemical Oxygen Demand	<2.0	H	2.0	2.0	mg/L			10/11/19 15:51	1

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-171404-1

Client Sample ID: Trip Blank

Date Collected: 10/08/19 00:00
Date Received: 10/09/19 08:40

Lab Sample ID: 500-171404-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			10/17/19 05:36	1
Toluene	<0.15		0.50	0.15	ug/L			10/17/19 05:36	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			10/17/19 05:36	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			10/17/19 05:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 126*		*10/17/19 05:36*	*1*
Toluene-d8 (Surr)	*99*		*75 - 120*		*10/17/19 05:36*	*1*
4-Bromofluorobenzene (Surr)	*99*		*72 - 124*		*10/17/19 05:36*	*1*
Dibromofluoromethane (Surr)	*102*		*75 - 120*		*10/17/19 05:36*	*1*

Definitions/Glossary

Client: AECOM
Job ID: 500-171404-1
Project/Site: ATC - Madison 60611431

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

General Chemistry

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

QC Association Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-171404-1

GC/MS VOA

Analysis Batch: 510359

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-171404-7	Discharge	Total/NA	Water	8260B	
500-171404-8	Trip Blank	Total/NA	Water	8260B	
MB 500-510359/6	Method Blank	Total/NA	Water	8260B	
LCS 500-510359/4	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 509338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-171404-7	Discharge	Total/NA	Water	3510C	
MB 500-509338/1-A	Method Blank	Total/NA	Water	3510C	
LCS 500-509338/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 500-509338/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 509351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-509338/1-A	Method Blank	Total/NA	Water	8270D	509338
LCS 500-509338/2-A	Lab Control Sample	Total/NA	Water	8270D	509338
LCSD 500-509338/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	509338

Analysis Batch: 509599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-171404-7	Discharge	Total/NA	Water	8270D	509338

GC Semi VOA

Prep Batch: 509431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-171404-1	OWS	Total/NA	Water	3510C	
500-171404-2	Inlet	Total/NA	Water	3510C	
500-171404-3	Bag 2	Total/NA	Water	3510C	
500-171404-4	ZEO	Total/NA	Water	3510C	
500-171404-5	GAC 1	Total/NA	Water	3510C	
500-171404-6	GAC 2	Total/NA	Water	3510C	
500-171404-7	Discharge	Total/NA	Water	3510C	
MB 500-509431/1-A	Method Blank	Total/NA	Water	3510C	
LCS 500-509431/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 500-509431/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 509442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-171404-1	OWS	Total/NA	Water	WI-DRO	509431
500-171404-2	Inlet	Total/NA	Water	WI-DRO	509431
500-171404-3	Bag 2	Total/NA	Water	WI-DRO	509431
500-171404-4	ZEO	Total/NA	Water	WI-DRO	509431
500-171404-5	GAC 1	Total/NA	Water	WI-DRO	509431
500-171404-6	GAC 2	Total/NA	Water	WI-DRO	509431
500-171404-7	Discharge	Total/NA	Water	WI-DRO	509431
MB 500-509431/1-A	Method Blank	Total/NA	Water	WI-DRO	509431
LCS 500-509431/2-A	Lab Control Sample	Total/NA	Water	WI-DRO	509431
LCSD 500-509431/3-A	Lab Control Sample Dup	Total/NA	Water	WI-DRO	509431

QC Association Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-171404-1

General Chemistry

Analysis Batch: 509722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-171404-7	Discharge	Total/NA	Water	SM 5210B	
USB 500-509722/1	Method Blank	Total/NA	Water	SM 5210B	
LCS 500-509722/2	Lab Control Sample	Total/NA	Water	SM 5210B	
LCSD 500-509722/3	Lab Control Sample Dup	Total/NA	Water	SM 5210B	

Analysis Batch: 510271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-171404-7	Discharge	Total/NA	Water	SM 4500 H+ B	
LCS 500-510271/5	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSD 500-510271/6	Lab Control Sample Dup	Total/NA	Water	SM 4500 H+ B	

Prep Batch: 510522

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-171404-7	Discharge	Total/NA	Water	1664B	
MB 500-510522/21-A	Method Blank	Total/NA	Water	1664B	
LCS 500-510522/2-A	Lab Control Sample	Total/NA	Water	1664B	

Analysis Batch: 510523

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-171404-7	Discharge	Total/NA	Water	1664B	510522
MB 500-510522/21-A	Method Blank	Total/NA	Water	1664B	510522
LCS 500-510522/2-A	Lab Control Sample	Total/NA	Water	1664B	510522

Surrogate Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-171404-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	DCA (75-126)	TOL (75-120)	BFB (72-124)	DBFM (75-120)
500-171404-7	Discharge	100	100	97	102
500-171404-8	Trip Blank	99	99	99	102
LCS 500-510359/4	Lab Control Sample	98	99	100	102
MB 500-510359/6	Method Blank	100	100	102	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	FBP (34-110)	NBZ (36-120)	TPHL (40-145)
500-171404-7	Discharge	62	52	102
LCS 500-509338/2-A	Lab Control Sample	75	69	104
LCSD 500-509338/3-A	Lab Control Sample Dup	69	62	91
MB 500-509338/1-A	Method Blank	78	72	101

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
NBZ = Nitrobenzene-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	C9 (42-111)
500-171404-1	OWS	0 D
500-171404-2	Inlet	22 X
500-171404-3	Bag 2	29 X
500-171404-4	ZEO	65
500-171404-5	GAC 1	56
500-171404-6	GAC 2	59
500-171404-7	Discharge	49
LCS 500-509431/2-A	Lab Control Sample	14 X
LCSD 500-509431/3-A	Lab Control Sample Dup	12 X
MB 500-509431/1-A	Method Blank	10 X

Surrogate Legend

C9 = n-Nonane

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-510359/6
Matrix: Water
Analysis Batch: 510359

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			10/16/19 23:12	1
Toluene	<0.15		0.50	0.15	ug/L			10/16/19 23:12	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			10/16/19 23:12	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			10/16/19 23:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 126*		*10/16/19 23:12*	*1*
Toluene-d8 (Surr)	*100*		*75 - 120*		*10/16/19 23:12*	*1*
4-Bromofluorobenzene (Surr)	*102*		*72 - 124*		*10/16/19 23:12*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 120*		*10/16/19 23:12*	*1*

Lab Sample ID: LCS 500-510359/4
Matrix: Water
Analysis Batch: 510359

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	50.4		ug/L		101	70 - 120
Toluene	50.0	50.3		ug/L		101	70 - 125
Ethylbenzene	50.0	51.0		ug/L		102	70 - 123
Xylenes, Total	100	99.7		ug/L		100	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*75 - 126*
Toluene-d8 (Surr)	*99*		*75 - 120*
4-Bromofluorobenzene (Surr)	*100*		*72 - 124*
Dibromofluoromethane (Surr)	*102*		*75 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-509338/1-A
Matrix: Water
Analysis Batch: 509351

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 509338

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.25		0.80	0.25	ug/L		10/10/19 08:28	10/10/19 14:08	1
Acenaphthylene	<0.21		0.80	0.21	ug/L		10/10/19 08:28	10/10/19 14:08	1
Anthracene	<0.27		0.80	0.27	ug/L		10/10/19 08:28	10/10/19 14:08	1
Benzo[a]anthracene	<0.045		0.16	0.045	ug/L		10/10/19 08:28	10/10/19 14:08	1
Benzo[a]pyrene	<0.079		0.16	0.079	ug/L		10/10/19 08:28	10/10/19 14:08	1
Benzo[b]fluoranthene	<0.065		0.16	0.065	ug/L		10/10/19 08:28	10/10/19 14:08	1
Benzo[g,h,i]perylene	<0.30		0.80	0.30	ug/L		10/10/19 08:28	10/10/19 14:08	1
Benzo[k]fluoranthene	<0.051		0.16	0.051	ug/L		10/10/19 08:28	10/10/19 14:08	1
Chrysene	<0.055		0.16	0.055	ug/L		10/10/19 08:28	10/10/19 14:08	1
Dibenz(a,h)anthracene	<0.041		0.24	0.041	ug/L		10/10/19 08:28	10/10/19 14:08	1
Fluoranthene	<0.36		0.80	0.36	ug/L		10/10/19 08:28	10/10/19 14:08	1
Fluorene	<0.20		0.80	0.20	ug/L		10/10/19 08:28	10/10/19 14:08	1
Indeno[1,2,3-cd]pyrene	<0.060		0.16	0.060	ug/L		10/10/19 08:28	10/10/19 14:08	1
1-Methylnaphthalene	<0.24		1.6	0.24	ug/L		10/10/19 08:28	10/10/19 14:08	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-509338/1-A
Matrix: Water
Analysis Batch: 509351

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 509338

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	<0.052		1.6	0.052	ug/L		10/10/19 08:28	10/10/19 14:08	1
Naphthalene	<0.25		0.80	0.25	ug/L		10/10/19 08:28	10/10/19 14:08	1
Phenanthrene	<0.24		0.80	0.24	ug/L		10/10/19 08:28	10/10/19 14:08	1
Pyrene	<0.34		0.80	0.34	ug/L		10/10/19 08:28	10/10/19 14:08	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*78*		*34 - 110*	*10/10/19 08:28*	*10/10/19 14:08*	*1*
Nitrobenzene-d5 (Surr)	*72*		*36 - 120*	*10/10/19 08:28*	*10/10/19 14:08*	*1*
Terphenyl-d14 (Surr)	*101*		*40 - 145*	*10/10/19 08:28*	*10/10/19 14:08*	*1*

Lab Sample ID: LCS 500-509338/2-A
Matrix: Water
Analysis Batch: 509351

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 509338

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	32.0	22.6		ug/L		71	46 - 110
Acenaphthylene	32.0	23.9		ug/L		75	47 - 113
Anthracene	32.0	28.5		ug/L		89	67 - 118
Benzo[a]anthracene	32.0	28.8		ug/L		90	70 - 126
Benzo[a]pyrene	32.0	29.3		ug/L		91	70 - 135
Benzo[b]fluoranthene	32.0	30.4		ug/L		95	69 - 136
Benzo[g,h,i]perylene	32.0	29.6		ug/L		93	70 - 135
Benzo[k]fluoranthene	32.0	31.9		ug/L		100	70 - 133
Chrysene	32.0	28.2		ug/L		88	68 - 129
Dibenz(a,h)anthracene	32.0	32.0		ug/L		100	70 - 134
Fluoranthene	32.0	30.1		ug/L		94	68 - 126
Fluorene	32.0	25.5		ug/L		80	53 - 120
Indeno[1,2,3-cd]pyrene	32.0	31.6		ug/L		99	65 - 133
1-Methylnaphthalene	32.0	20.5		ug/L		64	38 - 110
2-Methylnaphthalene	32.0	20.7		ug/L		65	34 - 110
Naphthalene	32.0	19.3		ug/L		60	36 - 110
Phenanthrene	32.0	27.6		ug/L		86	65 - 120
Pyrene	32.0	27.5		ug/L		86	70 - 126

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*75*		*34 - 110*
Nitrobenzene-d5 (Surr)	*69*		*36 - 120*
Terphenyl-d14 (Surr)	*104*		*40 - 145*

Lab Sample ID: LCSD 500-509338/3-A
Matrix: Water
Analysis Batch: 509351

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 509338

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	32.0	21.7		ug/L		68	46 - 110	4	20
Acenaphthylene	32.0	22.8		ug/L		71	47 - 113	5	20
Anthracene	32.0	27.7		ug/L		87	67 - 118	3	20
Benzo[a]anthracene	32.0	28.5		ug/L		89	70 - 126	1	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 500-509338/3-A
Matrix: Water
Analysis Batch: 509351

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 509338

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[a]pyrene			32.0	29.8		ug/L		93	70 - 135	2	20
Benzo[b]fluoranthene			32.0	30.4		ug/L		95	69 - 136	0	20
Benzo[g,h,i]perylene			32.0	29.0		ug/L		91	70 - 135	2	20
Benzo[k]fluoranthene			32.0	30.8		ug/L		96	70 - 133	4	20
Chrysene			32.0	27.7		ug/L		87	68 - 129	2	20
Dibenz(a,h)anthracene			32.0	31.8		ug/L		99	70 - 134	1	20
Fluoranthene			32.0	30.4		ug/L		95	68 - 126	1	20
Fluorene			32.0	24.7		ug/L		77	53 - 120	3	20
Indeno[1,2,3-cd]pyrene			32.0	31.5		ug/L		98	65 - 133	0	20
1-Methylnaphthalene			32.0	19.6		ug/L		61	38 - 110	5	20
2-Methylnaphthalene			32.0	19.5		ug/L		61	34 - 110	6	20
Naphthalene			32.0	18.3		ug/L		57	36 - 110	5	20
Phenanthrene			32.0	26.8		ug/L		84	65 - 120	3	20
Pyrene			32.0	27.8		ug/L		87	70 - 126	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*69*		*34 - 110*
Nitrobenzene-d5 (Surr)	*62*		*36 - 120*
Terphenyl-d14 (Surr)	*91*		*40 - 145*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Lab Sample ID: MB 500-509431/1-A
Matrix: Water
Analysis Batch: 509442

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 509431

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	<0.033		0.10	0.033	mg/L		10/10/19 13:38	10/10/19 16:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*10*	*X*	*42 - 111*	*10/10/19 13:38*	*10/10/19 16:10*	*1*

Lab Sample ID: LCS 500-509431/2-A
Matrix: Water
Analysis Batch: 509442

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 509431

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
WI Diesel Range Organics (C10-C28)			0.200	0.157		mg/L		78	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Nonane	*14*	*X*	*42 - 111*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC) (Continued)

Lab Sample ID: LCSD 500-509431/3-A
Matrix: Water
Analysis Batch: 509442

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 509431

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
WI Diesel Range Organics (C10-C28)			0.200	0.175		mg/L		87	75 - 125	11	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Nonane	*12*	*X*	*42 - 111*

Method: 1664B - HEM and SGT-HEM

Lab Sample ID: MB 500-510522/21-A
Matrix: Water
Analysis Batch: 510523

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 510522

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	<1.3		5.0	1.3	mg/L		10/17/19 10:59	10/17/19 11:04	1

Lab Sample ID: LCS 500-510522/2-A
Matrix: Water
Analysis Batch: 510523

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 510522

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
HEM (Oil & Grease)			40.0	37.70		mg/L		94	78 - 114		

Method: SM 5210B - BOD, 5-Day

Lab Sample ID: USB 500-509722/1
Matrix: Water
Analysis Batch: 509722

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	<2.0		2.0	2.0	mg/L			10/11/19 15:30	1

Lab Sample ID: LCS 500-509722/2
Matrix: Water
Analysis Batch: 509722

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Biochemical Oxygen Demand			198	190		mg/L		96	85 - 115		

Lab Sample ID: LCSD 500-509722/3
Matrix: Water
Analysis Batch: 509722

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Biochemical Oxygen Demand			198	193		mg/L		98	85 - 115	2	20

Lab Chronicle

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-171404-1

Client Sample ID: OWS
Lab Sample ID: 500-171404-1
Date Collected: 10/08/19 00:00
Matrix: Water
Date Received: 10/09/19 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			509431	10/10/19 13:38	BSO	TAL CHI
Total/NA	Analysis	WI-DRO		100	509442	10/11/19 07:43	SS	TAL CHI

Client Sample ID: Inlet
Lab Sample ID: 500-171404-2
Date Collected: 10/08/19 00:00
Matrix: Water
Date Received: 10/09/19 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			509431	10/10/19 13:38	BSO	TAL CHI
Total/NA	Analysis	WI-DRO		5	509442	10/11/19 08:18	SS	TAL CHI

Client Sample ID: Bag 2
Lab Sample ID: 500-171404-3
Date Collected: 10/08/19 00:00
Matrix: Water
Date Received: 10/09/19 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			509431	10/10/19 13:38	BSO	TAL CHI
Total/NA	Analysis	WI-DRO		5	509442	10/11/19 08:54	SS	TAL CHI

Client Sample ID: ZEO
Lab Sample ID: 500-171404-4
Date Collected: 10/08/19 00:00
Matrix: Water
Date Received: 10/09/19 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			509431	10/10/19 13:38	BSO	TAL CHI
Total/NA	Analysis	WI-DRO		1	509442	10/10/19 19:43	SS	TAL CHI

Client Sample ID: GAC 1
Lab Sample ID: 500-171404-5
Date Collected: 10/08/19 00:00
Matrix: Water
Date Received: 10/09/19 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			509431	10/10/19 13:38	BSO	TAL CHI
Total/NA	Analysis	WI-DRO		1	509442	10/10/19 20:19	SS	TAL CHI

Client Sample ID: GAC 2
Lab Sample ID: 500-171404-6
Date Collected: 10/08/19 00:00
Matrix: Water
Date Received: 10/09/19 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			509431	10/10/19 13:38	BSO	TAL CHI
Total/NA	Analysis	WI-DRO		1	509442	10/10/19 20:55	SS	TAL CHI

Lab Chronicle

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-171404-1

Client Sample ID: Discharge

Lab Sample ID: 500-171404-7

Date Collected: 10/08/19 00:00
Matrix: Water
Date Received: 10/09/19 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	510359	10/17/19 05:10	PMF	TAL CHI
Total/NA	Prep	3510C			509338	10/10/19 08:28	BSO	TAL CHI
Total/NA	Analysis	8270D		1	509599	10/11/19 10:22	NRJ	TAL CHI
Total/NA	Prep	3510C			509431	10/10/19 13:38	BSO	TAL CHI
Total/NA	Analysis	WI-DRO		1	509442	10/10/19 21:30	SS	TAL CHI
Total/NA	Prep	1664B			510522	10/17/19 10:59	RES	TAL CHI
Total/NA	Analysis	1664B		1	510523	10/17/19 11:04	RES	TAL CHI
Total/NA	Analysis	SM 4500 H+ B		1	510271		TMS	TAL CHI
					(Start)	10/16/19 14:09		
					(End)	10/16/19 17:30		
Total/NA	Analysis	SM 5210B		1	509722	10/11/19 15:51	JGM	TAL CHI

Client Sample ID: Trip Blank

Lab Sample ID: 500-171404-8

Date Collected: 10/08/19 00:00
Matrix: Water
Date Received: 10/09/19 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	510359	10/17/19 05:36	PMF	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: AECOM
Job ID: 500-171404-1
Project/Site: ATC - Madison 60611431

Laboratory: Eurofins TestAmerica, Chicago

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State Program	999580010	08-31-20

Chain of Custody Record

388522

eurofins | Environment Testing TestAmerica

Address: ______________________

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TAL-8210

Client Contact		Site Contact:	Date: 10/8/19	COC No:
Company Name: AECOM	Project Manager: Dave Henderson	Lab Contact:	Carrier:	___ of ___ COCs
Address: 1555 N Rivercenter Dr	Analysis Turnaround Time			Sampler:
City/State/Zip: Milwaukee WI 53	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 414 429 8304	Tel/Email: 414 429 8304			Walk-in Client:
Fax:	TAT if different from Below ______			Lab Sampling:
Project Name: ATC – Madison	☐ 2 weeks			
Site:	☒ 1 week			Job / SDG No.: 500-171404
P O #	☐ 2 days			
	☐ 1 day		500-171404 COC	

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	PAH	O&G, HEM	BTEX	5210B SM 4500 pH (BOD5)	WI DRO	Sample Specific Notes:
1 OWS	10/8/19		G	H_2O								X	
2 Inlet												X	
3 Bag 2												X	
4 ZEO												X	
5 GAC 1												X	
6 GAC 2												X	
7 Discharge								X	X	X	X	X	
8 Trip Blank										X			

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☒ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: 5.0 Corr'd: ______ Therm ID No.: ______

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
D.S. Henderson	AECOM	10/8/19 3:50	[signature]	TA	10-8-19 3:50
Relinquished by: [signature]	Company: TA	Date/Time: 10-8-19 1700	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: Sheri Scott	Company: TA-CHI	Date/Time: 10/9/19 0840

Login Sample Receipt Checklist

Client: AECOM

Job Number: 500-171404-1

Login Number: 171404
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

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.	True	
Sample custody seals, if present, are intact.	True	
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	5.0
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.	True	
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	

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-172184-1
Client Project/Site: ATC - Madison 60611431

For:
AECOM
1350 Deming Way Suite 100
Middleton, Wisconsin 53562

Attn: Mr. Leo B Linnemanstons, P.G.

Therese Hargraves

Authorized for release by:
10/24/2019 10:00:01 AM
Therese Hargraves, Project Manager I
(708)793-3461
therese.hargraves@testamericainc.com

Designee for

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 4
Method Summary 5
Sample Summary 6
Client Sample Results 7
Definitions 14
QC Association 15
Surrogate Summary 16
QC Sample Results 17
Chronicle 18
Certification Summary 20
Chain of Custody 21
Receipt Checklists 22

Case Narrative

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172184-1

Job ID: 500-172184-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-172184-1

Comments
No additional comments.

Receipt
The samples were received on 10/23/2019 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.9º C.

GC Semi VOA
Method WI-DRO: The following samples required a dilution due to the nature of the sample matrix: OWS (500-172184-1) and Inlet (500-172184-2). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

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

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

Detection Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172184-1

Client Sample ID: OWS — Lab Sample ID: 500-172184-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	660		49	16	mg/L	500		WI-DRO	Total/NA

Client Sample ID: Inlet — Lab Sample ID: 500-172184-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	300		21	7.0	mg/L	200		WI-DRO	Total/NA

Client Sample ID: Bag 2 — Lab Sample ID: 500-172184-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	12		0.95	0.31	mg/L	10		WI-DRO	Total/NA

Client Sample ID: ZEO — Lab Sample ID: 500-172184-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	1.3		0.47	0.15	mg/L	5		WI-DRO	Total/NA

Client Sample ID: GAC1 — Lab Sample ID: 500-172184-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	0.16		0.096	0.031	mg/L	1		WI-DRO	Total/NA

Client Sample ID: GAC2 — Lab Sample ID: 500-172184-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	0.093	J	0.098	0.032	mg/L	1		WI-DRO	Total/NA

Client Sample ID: Discharge — Lab Sample ID: 500-172184-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	0.062	J	0.097	0.032	mg/L	1		WI-DRO	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172184-1

Method	Method Description	Protocol	Laboratory
WI-DRO	Wisconsin - Diesel Range Organics (GC)	WI-DRO	TAL CHI
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL CHI

Protocol References:

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

WI-DRO = "Modified DRO: Method For Determining Diesel Range Organics", Wisconsin DNR, Publ-SW-141, September, 1995.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172184-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-172184-1	OWS	Water	10/22/19 11:35	10/23/19 08:30	
500-172184-2	Inlet	Water	10/22/19 11:25	10/23/19 08:30	
500-172184-3	Bag 2	Water	10/22/19 11:20	10/23/19 08:30	
500-172184-4	ZEO	Water	10/22/19 11:15	10/23/19 08:30	
500-172184-5	GAC1	Water	10/22/19 11:10	10/23/19 08:30	
500-172184-6	GAC2	Water	10/22/19 11:05	10/23/19 08:30	
500-172184-7	Discharge	Water	10/22/19 11:00	10/23/19 08:30	

Client Sample Results

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172184-1

Client Sample ID: OWS
Date Collected: 10/22/19 11:35
Date Received: 10/23/19 08:30

Lab Sample ID: 500-172184-1
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	660		49	16	mg/L		10/23/19 09:50	10/24/19 06:55	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*0*	*D*	*42 - 111*	*10/23/19 09:50*	*10/24/19 06:55*	*500*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172184-1

Client Sample ID: Inlet
Date Collected: 10/22/19 11:25
Date Received: 10/23/19 08:30

Lab Sample ID: 500-172184-2
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	300		21	7.0	mg/L		10/23/19 09:50	10/24/19 07:30	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*0*	*D*	*42 - 111*	*10/23/19 09:50*	*10/24/19 07:30*	*200*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172184-1

Client Sample ID: Bag 2
Date Collected: 10/22/19 11:20
Date Received: 10/23/19 08:30

Lab Sample ID: 500-172184-3
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	12		0.95	0.31	mg/L		10/23/19 09:50	10/24/19 08:05	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*99*		*42 - 111*	*10/23/19 09:50*	*10/24/19 08:05*	*10*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172184-1

Client Sample ID: ZEO
Date Collected: 10/22/19 11:15
Date Received: 10/23/19 08:30

Lab Sample ID: 500-172184-4
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	1.3		0.47	0.15	mg/L		10/23/19 09:50	10/23/19 20:36	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*60*		*42 - 111*	*10/23/19 09:50*	*10/23/19 20:36*	*5*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172184-1

Client Sample ID: GAC1
Date Collected: 10/22/19 11:10
Date Received: 10/23/19 08:30

Lab Sample ID: 500-172184-5
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	0.16		0.096	0.031	mg/L		10/23/19 09:50	10/23/19 21:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*75*		*42 - 111*	*10/23/19 09:50*	*10/23/19 21:11*	*1*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172184-1

Client Sample ID: GAC2
Date Collected: 10/22/19 11:05
Date Received: 10/23/19 08:30

Lab Sample ID: 500-172184-6
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	0.093	J	0.098	0.032	mg/L		10/23/19 09:50	10/23/19 21:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*81*		*42 - 111*	*10/23/19 09:50*	*10/23/19 21:47*	*1*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172184-1

Client Sample ID: Discharge

Date Collected: 10/22/19 11:00
Date Received: 10/23/19 08:30

Lab Sample ID: 500-172184-7

Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	0.062	J	0.097	0.032	mg/L		10/23/19 09:50	10/23/19 22:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*69*		*42 - 111*	*10/23/19 09:50*	*10/23/19 22:22*	*1*

Definitions/Glossary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172184-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
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.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

QC Association Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172184-1

GC Semi VOA

Prep Batch: 511500

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-172184-1	OWS	Total/NA	Water	3510C	
500-172184-2	Inlet	Total/NA	Water	3510C	
500-172184-3	Bag 2	Total/NA	Water	3510C	
500-172184-4	ZEO	Total/NA	Water	3510C	
500-172184-5	GAC1	Total/NA	Water	3510C	
500-172184-6	GAC2	Total/NA	Water	3510C	
500-172184-7	Discharge	Total/NA	Water	3510C	
MB 500-511500/1-A	Method Blank	Total/NA	Water	3510C	
LCS 500-511500/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 500-511500/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 511568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-172184-1	OWS	Total/NA	Water	WI-DRO	511500
500-172184-2	Inlet	Total/NA	Water	WI-DRO	511500
500-172184-3	Bag 2	Total/NA	Water	WI-DRO	511500
500-172184-5	GAC1	Total/NA	Water	WI-DRO	511500
500-172184-6	GAC2	Total/NA	Water	WI-DRO	511500
500-172184-7	Discharge	Total/NA	Water	WI-DRO	511500
MB 500-511500/1-A	Method Blank	Total/NA	Water	WI-DRO	511500
LCS 500-511500/2-A	Lab Control Sample	Total/NA	Water	WI-DRO	511500
LCSD 500-511500/3-A	Lab Control Sample Dup	Total/NA	Water	WI-DRO	511500

Analysis Batch: 511569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-172184-4	ZEO	Total/NA	Water	WI-DRO	511500

Surrogate Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172184-1

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	**Client Sample ID**	**C9 (42-111)**
500-172184-1	OWS	0 D
500-172184-2	Inlet	0 D
500-172184-3	Bag 2	99
500-172184-4	ZEO	60
500-172184-5	GAC1	75
500-172184-6	GAC2	81
500-172184-7	Discharge	69
LCS 500-511500/2-A	Lab Control Sample	63
LCSD 500-511500/3-A	Lab Control Sample Dup	53
MB 500-511500/1-A	Method Blank	83

Surrogate Legend

C9 = n-Nonane

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Lab Sample ID: MB 500-511500/1-A
Matrix: Water
Analysis Batch: 511568

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 511500

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	<0.033		0.10	0.033	mg/L		10/23/19 09:50	10/23/19 17:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*83*		*42 - 111*	*10/23/19 09:50*	*10/23/19 17:38*	*1*

Lab Sample ID: LCS 500-511500/2-A
Matrix: Water
Analysis Batch: 511568

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 511500

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
WI Diesel Range Organics (C10-C28)			0.400	0.329		mg/L		82	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Nonane	*63*		*42 - 111*

Lab Sample ID: LCSD 500-511500/3-A
Matrix: Water
Analysis Batch: 511568

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 511500

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
WI Diesel Range Organics (C10-C28)			0.400	0.354		mg/L		88	75 - 125	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Nonane	*53*		*42 - 111*

Lab Chronicle

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172184-1

Client Sample ID: OWS
Date Collected: 10/22/19 11:35
Date Received: 10/23/19 08:30

Lab Sample ID: 500-172184-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			511500	10/23/19 09:50	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		500	511568	10/24/19 06:55	SS	TAL CHI

Client Sample ID: Inlet
Date Collected: 10/22/19 11:25
Date Received: 10/23/19 08:30

Lab Sample ID: 500-172184-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			511500	10/23/19 09:50	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		200	511568	10/24/19 07:30	SS	TAL CHI

Client Sample ID: Bag 2
Date Collected: 10/22/19 11:20
Date Received: 10/23/19 08:30

Lab Sample ID: 500-172184-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			511500	10/23/19 09:50	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		10	511568	10/24/19 08:05	SS	TAL CHI

Client Sample ID: ZEO
Date Collected: 10/22/19 11:15
Date Received: 10/23/19 08:30

Lab Sample ID: 500-172184-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			511500	10/23/19 09:50	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		5	511569	10/23/19 20:36	SS	TAL CHI

Client Sample ID: GAC1
Date Collected: 10/22/19 11:10
Date Received: 10/23/19 08:30

Lab Sample ID: 500-172184-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			511500	10/23/19 09:50	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		1	511568	10/23/19 21:11	SS	TAL CHI

Client Sample ID: GAC2
Date Collected: 10/22/19 11:05
Date Received: 10/23/19 08:30

Lab Sample ID: 500-172184-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			511500	10/23/19 09:50	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		1	511568	10/23/19 21:47	SS	TAL CHI

Lab Chronicle

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172184-1

Client Sample ID: Discharge
Date Collected: 10/22/19 11:00
Date Received: 10/23/19 08:30

Lab Sample ID: 500-172184-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			511500	10/23/19 09:50	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		1	511568	10/23/19 22:22	SS	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: AECOM
Job ID: 500-172184-1
Project/Site: ATC - Madison 60611431

Laboratory: Eurofins TestAmerica, Chicago

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State Program	999580010	08-31-20

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information	Sampler: Leo Linnemanstons	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: ~~500-76084-35274.2~~
Client Contact: Mr. Leo Linnemanstons, P.G.	Phone: 608-828-3208	E-Mail: sandie.fredrick@testamericainc.com		Page: ~~Page 2 of 2~~ 1 of 1
Company: AECOM				Job #: 500-172184

Address: 1350 Deming Way Suite 100	Due Date Requested: 10/24/2019
City: Middleton	TAT Requested (days): 1 day
State, Zip: WI, 53562	
Phone: 608-836-9800(Tel)	PO #: 60611431
Email: leo.linnemanstons@aecom.com	WO #:
Project Name: ATC - Madison	Project #: 50016386
Site:	SSOW#:

500-172184 COC

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

RUSH

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8270D - PAH	1664B - Oil and Grease HEM	8260B - BTEX	5210B, SM4500_H+	PFC_IDA - PFAS (36)	WI_DRO - WI DRO	Total Number of containers	Special Instructions/Note:
				Preservation Code:		X	X	N	S	A	N	N	A	X	
1	OWS	10/22/19	11:35	G	Water								X		Oil/Wtr Seperator
2	Inlet		11:25		Water										
3	Bag 2		11:20		Water										
4	ZEO		11:15		Water										
5	GAC 1		11:10		Water										
6	GAC 2		11:05		Water										
7	Discharge		11:00		Water										
					Water										
					Water										
					Water										
					Water										

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Leo Linnemanstons	10/22/19 @ 17:00	AECOM	[signature]	10/23/19 0830	TA-CHI
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: △ Yes △ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 4.9

Login Sample Receipt Checklist

Client: AECOM

Job Number: 500-172184-1

Login Number: 172184
List Number: 1
Creator: Fredrick, Sandie

List Source: Eurofins TestAmerica, Chicago

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.	True	
Sample custody seals, if present, are intact.	True	
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	4.9
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.	True	
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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-172262-1
Client Project/Site: ATC - Madison 60611431

For:
AECOM
1350 Deming Way Suite 100
Middleton, Wisconsin 53562

Attn: Mr. Leo B Linnemanstons, P.G.

Therese Hargraves

Authorized for release by:
10/25/2019 10:55:56 AM
Therese Hargraves, Project Manager I
(708)793-3461
therese.hargraves@testamericainc.com

Designee for

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 4
Method Summary 5
Sample Summary 6
Client Sample Results 7
Definitions 14
QC Association 15
Surrogate Summary 16
QC Sample Results 17
Chronicle 18
Certification Summary 20
Chain of Custody 21
Receipt Checklists 23

Case Narrative

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172262-1

Job ID: 500-172262-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-172262-1

Comments
No additional comments.

Receipt
The samples were received on 10/24/2019 9:05 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.3º C.

GC Semi VOA
Method WI-DRO: The following samples required a dilution due to the nature of the sample matrix: OWS (500-172262-1) and Inlet (500-172262-2). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

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

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

Detection Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172262-1

Client Sample ID: OWS — Lab Sample ID: 500-172262-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	490		46	15	mg/L	500		WI-DRO	Total/NA

Client Sample ID: Inlet — Lab Sample ID: 500-172262-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	98		21	6.8	mg/L	200		WI-DRO	Total/NA

Client Sample ID: Bag 2 — Lab Sample ID: 500-172262-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	15		1.0	0.34	mg/L	10		WI-DRO	Total/NA

Client Sample ID: ZEO — Lab Sample ID: 500-172262-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	1.5		0.49	0.16	mg/L	5		WI-DRO	Total/NA

Client Sample ID: GAC1 — Lab Sample ID: 500-172262-5

No Detections.

Client Sample ID: GAC2 — Lab Sample ID: 500-172262-6

No Detections.

Client Sample ID: Discharge — Lab Sample ID: 500-172262-7

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172262-1

Method	Method Description	Protocol	Laboratory
WI-DRO	Wisconsin - Diesel Range Organics (GC)	WI-DRO	TAL CHI
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL CHI

Protocol References:

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

WI-DRO = "Modified DRO: Method For Determining Diesel Range Organics", Wisconsin DNR, Publ-SW-141, September, 1995.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172262-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-172262-1	OWS	Water	10/23/19 13:45	10/24/19 09:05	
500-172262-2	Inlet	Water	10/23/19 13:35	10/24/19 09:05	
500-172262-3	Bag 2	Water	10/23/19 13:30	10/24/19 09:05	
500-172262-4	ZEO	Water	10/23/19 13:25	10/24/19 09:05	
500-172262-5	GAC1	Water	10/23/19 13:20	10/24/19 09:05	
500-172262-6	GAC2	Water	10/23/19 13:15	10/24/19 09:05	
500-172262-7	Discharge	Water	10/23/19 13:10	10/24/19 09:05	

Client Sample Results

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172262-1

Client Sample ID: OWS
Date Collected: 10/23/19 13:45
Date Received: 10/24/19 09:05

Lab Sample ID: 500-172262-1
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	490		46	15	mg/L		10/24/19 14:58	10/25/19 03:58	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*0*	*D*	*42 - 111*	*10/24/19 14:58*	*10/25/19 03:58*	*500*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172262-1

Client Sample ID: Inlet
Date Collected: 10/23/19 13:35
Date Received: 10/24/19 09:05

Lab Sample ID: 500-172262-2
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	98		21	6.8	mg/L		10/24/19 14:58	10/25/19 04:34	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*0*	*D*	*42 - 111*	*10/24/19 14:58*	*10/25/19 04:34*	*200*

Client Sample Results

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172262-1

Client Sample ID: Bag 2
Date Collected: 10/23/19 13:30
Date Received: 10/24/19 09:05

Lab Sample ID: 500-172262-3
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	15		1.0	0.34	mg/L		10/24/19 14:58	10/25/19 05:09	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*58*		*42 - 111*	*10/24/19 14:58*	*10/25/19 05:09*	*10*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172262-1

Client Sample ID: ZEO

Date Collected: 10/23/19 13:25
Date Received: 10/24/19 09:05

Lab Sample ID: 500-172262-4

Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	1.5		0.49	0.16	mg/L		10/24/19 14:58	10/25/19 05:44	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*91*		*42 - 111*	*10/24/19 14:58*	*10/25/19 05:44*	*5*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172262-1

Client Sample ID: GAC1
Date Collected: 10/23/19 13:20
Date Received: 10/24/19 09:05

Lab Sample ID: 500-172262-5
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	<0.031		0.095	0.031	mg/L		10/24/19 14:58	10/25/19 06:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*73*		*42 - 111*	*10/24/19 14:58*	*10/25/19 06:20*	*1*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172262-1

Client Sample ID: GAC2
Date Collected: 10/23/19 13:15
Date Received: 10/24/19 09:05

Lab Sample ID: 500-172262-6
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	<0.032		0.10	0.032	mg/L		10/24/19 14:58	10/25/19 06:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*80*		*42 - 111*	*10/24/19 14:58*	*10/25/19 06:55*	*1*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172262-1

Client Sample ID: Discharge

Date Collected: 10/23/19 13:10
Date Received: 10/24/19 09:05

Lab Sample ID: 500-172262-7

Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	<0.032		0.099	0.032	mg/L		10/24/19 14:58	10/25/19 07:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*78*		*42 - 111*	*10/24/19 14:58*	*10/25/19 07:30*	*1*

Definitions/Glossary

Client: AECOM
Job ID: 500-172262-1
Project/Site: ATC - Madison 60611431

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

QC Association Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172262-1

GC Semi VOA

Analysis Batch: 511768

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-172262-1	OWS	Total/NA	Water	WI-DRO	511787
500-172262-2	Inlet	Total/NA	Water	WI-DRO	511787
500-172262-3	Bag 2	Total/NA	Water	WI-DRO	511787
500-172262-4	ZEO	Total/NA	Water	WI-DRO	511787
500-172262-5	GAC1	Total/NA	Water	WI-DRO	511787
500-172262-6	GAC2	Total/NA	Water	WI-DRO	511787
500-172262-7	Discharge	Total/NA	Water	WI-DRO	511787
MB 500-511787/1-A	Method Blank	Total/NA	Water	WI-DRO	511787
LCS 500-511787/2-A	Lab Control Sample	Total/NA	Water	WI-DRO	511787
LCSD 500-511787/3-A	Lab Control Sample Dup	Total/NA	Water	WI-DRO	511787

Prep Batch: 511787

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-172262-1	OWS	Total/NA	Water	3510C	
500-172262-2	Inlet	Total/NA	Water	3510C	
500-172262-3	Bag 2	Total/NA	Water	3510C	
500-172262-4	ZEO	Total/NA	Water	3510C	
500-172262-5	GAC1	Total/NA	Water	3510C	
500-172262-6	GAC2	Total/NA	Water	3510C	
500-172262-7	Discharge	Total/NA	Water	3510C	
MB 500-511787/1-A	Method Blank	Total/NA	Water	3510C	
LCS 500-511787/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 500-511787/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Surrogate Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172262-1

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	**Client Sample ID**	**C9 (42-111)**
500-172262-1	OWS	0 D
500-172262-2	Inlet	0 D
500-172262-3	Bag 2	58
500-172262-4	ZEO	91
500-172262-5	GAC1	73
500-172262-6	GAC2	80
500-172262-7	Discharge	78
LCS 500-511787/2-A	Lab Control Sample	79
LCSD 500-511787/3-A	Lab Control Sample Dup	89
MB 500-511787/1-A	Method Blank	78

Surrogate Legend

C9 = n-Nonane

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Lab Sample ID: MB 500-511787/1-A
Matrix: Water
Analysis Batch: 511768

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 511787

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	<0.033		0.10	0.033	mg/L		10/24/19 14:58	10/25/19 02:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*78*		*42 - 111*	*10/24/19 14:58*	*10/25/19 02:47*	*1*

Lab Sample ID: LCS 500-511787/2-A
Matrix: Water
Analysis Batch: 511768

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 511787

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
WI Diesel Range Organics (C10-C28)			0.400	0.380		mg/L		95	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Nonane	*79*		*42 - 111*

Lab Sample ID: LCSD 500-511787/3-A
Matrix: Water
Analysis Batch: 511768

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 511787

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
WI Diesel Range Organics (C10-C28)			0.400	0.461		mg/L		115	75 - 125	19	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Nonane	*89*		*42 - 111*

Lab Chronicle

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172262-1

Client Sample ID: OWS
Lab Sample ID: 500-172262-1
Date Collected: 10/23/19 13:45
Matrix: Water
Date Received: 10/24/19 09:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			511787	10/24/19 14:58	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		500	511768	10/25/19 03:58	JBJ	TAL CHI

Client Sample ID: Inlet
Lab Sample ID: 500-172262-2
Date Collected: 10/23/19 13:35
Matrix: Water
Date Received: 10/24/19 09:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			511787	10/24/19 14:58	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		200	511768	10/25/19 04:34	JBJ	TAL CHI

Client Sample ID: Bag 2
Lab Sample ID: 500-172262-3
Date Collected: 10/23/19 13:30
Matrix: Water
Date Received: 10/24/19 09:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			511787	10/24/19 14:58	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		10	511768	10/25/19 05:09	JBJ	TAL CHI

Client Sample ID: ZEO
Lab Sample ID: 500-172262-4
Date Collected: 10/23/19 13:25
Matrix: Water
Date Received: 10/24/19 09:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			511787	10/24/19 14:58	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		5	511768	10/25/19 05:44	JBJ	TAL CHI

Client Sample ID: GAC1
Lab Sample ID: 500-172262-5
Date Collected: 10/23/19 13:20
Matrix: Water
Date Received: 10/24/19 09:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			511787	10/24/19 14:58	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		1	511768	10/25/19 06:20	JBJ	TAL CHI

Client Sample ID: GAC2
Lab Sample ID: 500-172262-6
Date Collected: 10/23/19 13:15
Matrix: Water
Date Received: 10/24/19 09:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			511787	10/24/19 14:58	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		1	511768	10/25/19 06:55	JBJ	TAL CHI

Lab Chronicle

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172262-1

Client Sample ID: Discharge
Date Collected: 10/23/19 13:10
Date Received: 10/24/19 09:05

Lab Sample ID: 500-172262-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			511787	10/24/19 14:58	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		1	511768	10/25/19 07:30	JBJ	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: AECOM
Job ID: 500-172262-1
Project/Site: ATC - Madison 60611431

Laboratory: Eurofins TestAmerica, Chicago

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State Program	999580010	08-31-20

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: Leo Linnemanstons	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: ~~500-75881-35274.3~~
Client Contact: Mr. Leo Linnemanstons, P.G.	Phone: 608-828-8208	E-Mail: sandie.fredrick@testamericainc.com		Page: ~~Page 3 of 7~~ 1 of 1
Company: AECOM				Job #: 500-172262

Address: 1350 Deming Way Suite 100	Due Date Requested: 10/25/2019
City: Middleton	TAT Requested (days): 1 day
State, Zip: WI, 53562	
Phone: 608-836-9800(Tel) 500-172262 COC	PO #: 60611431
Email: leo.linnemanstons@aecom.com	WO #:
Project Name: ATC - Madison	Project #: 50016386
Site:	SSOW#:

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8270D - PAH	1664B - Oil and Grease HEM	8260B - BTEX	5210B; SM4500_H+	PFC_IDA - PFAS (36)	WI_DRO - WI DRO	Total Number of containers	Special Instructions/Note:
Preservation Code:					X	X	N	S	A	N	N	A	X	* Rush *
1 OWS	10/23/19	13:45	G	Water								X		Oil/Wtr Separator
2 Inlet		13:35		Water										
3 Bag 2		13:30		Water										
4 ZEO		13:25		Water										
5 GAC-1		13:20		Water										
6 GAC-2		13:15		Water										
7 Discharge		13:10		Water										
				Water										
				Water										
				Water										
				Water										

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Leo Linnemanstons	10/23/19 @17:00	AECOM	[signature]	10/24/19 0905	TT-ERT
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 5.3

Login Sample Receipt Checklist

Client: AECOM

Job Number: 500-172262-1

Login Number: 172262
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

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.	True	
Sample custody seals, if present, are intact.	True	
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	5.3
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.	True	
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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-172348-1
Client Project/Site: ATC - Madison 60611431

For:
AECOM
1350 Deming Way Suite 100
Middleton, Wisconsin 53562

Attn: Mr. Leo B Linnemanstons, P.G.

Sandie Fredrick

Authorized for release by:
10/28/2019 4:39:00 PM

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 4
Method Summary 5
Sample Summary 6
Client Sample Results 7
Definitions 14
QC Association 15
Surrogate Summary 16
QC Sample Results 17
Chronicle 18
Certification Summary 20
Chain of Custody 21
Receipt Checklists 22

Job ID: 500-172348-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-172348-1

Comments
No additional comments.

Receipt
The samples were received on 10/25/2019 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.5º C.

GC Semi VOA
Method WI-DRO: The following sample required a dilution due to the nature of the sample matrix: OWS (500-172348-1). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method WI-DRO: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 500-512035 and analytical batch 500-512155 recovered outside control limits for the following analytes: WI Diesel Range Organics (C10-C28).

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

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

Detection Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172348-1

Client Sample ID: OWS — Lab Sample ID: 500-172348-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	1600	*	110	35	mg/L	1000		WI-DRO	Total/NA

Client Sample ID: Inlet — Lab Sample ID: 500-172348-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	10	*	1.1	0.34	mg/L	10		WI-DRO	Total/NA

Client Sample ID: Bag 2 — Lab Sample ID: 500-172348-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	4.3	*	1.0	0.32	mg/L	10		WI-DRO	Total/NA

Client Sample ID: ZEO — Lab Sample ID: 500-172348-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	2.8	*	0.51	0.17	mg/L	5		WI-DRO	Total/NA

Client Sample ID: GAC-1 — Lab Sample ID: 500-172348-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	0.083	J *	0.099	0.032	mg/L	1		WI-DRO	Total/NA

Client Sample ID: GAC-2 — Lab Sample ID: 500-172348-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	0.050	J *	0.097	0.031	mg/L	1		WI-DRO	Total/NA

Client Sample ID: Discharge — Lab Sample ID: 500-172348-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	0.035	J *	0.10	0.033	mg/L	1		WI-DRO	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172348-1

Method	Method Description	Protocol	Laboratory
WI-DRO	Wisconsin - Diesel Range Organics (GC)	WI-DRO	TAL CHI
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL CHI

Protocol References:

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

WI-DRO = "Modified DRO: Method For Determining Diesel Range Organics", Wisconsin DNR, Publ-SW-141, September, 1995.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172348-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-172348-1	OWS	Water	10/24/19 16:20	10/25/19 09:00	
500-172348-2	Inlet	Water	10/24/19 16:10	10/25/19 09:00	
500-172348-3	Bag 2	Water	10/24/19 16:05	10/25/19 09:00	
500-172348-4	ZEO	Water	10/24/19 15:55	10/25/19 09:00	
500-172348-5	GAC-1	Water	10/24/19 15:50	10/25/19 09:00	
500-172348-6	GAC-2	Water	10/24/19 15:45	10/25/19 09:00	
500-172348-7	Discharge	Water	10/24/19 15:40	10/25/19 09:00	

Client Sample Results

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172348-1

Client Sample ID: OWS
Date Collected: 10/24/19 16:20
Date Received: 10/25/19 09:00

Lab Sample ID: 500-172348-1
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	1600	*	110	35	mg/L		10/25/19 16:20	10/28/19 10:44	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*0*	*D*	*42 - 111*	*10/25/19 16:20*	*10/28/19 10:44*	*1000*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172348-1

Client Sample ID: Inlet
Date Collected: 10/24/19 16:10
Date Received: 10/25/19 09:00

Lab Sample ID: 500-172348-2
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	10	*	1.1	0.34	mg/L		10/25/19 16:20	10/28/19 11:20	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*78*		*42 - 111*	*10/25/19 16:20*	*10/28/19 11:20*	*10*

Client Sample Results

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172348-1

Client Sample ID: Bag 2
Date Collected: 10/24/19 16:05
Date Received: 10/25/19 09:00

Lab Sample ID: 500-172348-3
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	4.3	*	1.0	0.32	mg/L		10/25/19 16:20	10/28/19 11:55	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*62*		*42 - 111*	*10/25/19 16:20*	*10/28/19 11:55*	*10*

Client Sample Results

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172348-1

Client Sample ID: ZEO

Date Collected: 10/24/19 15:55
Date Received: 10/25/19 09:00

Lab Sample ID: 500-172348-4

Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	2.8	*	0.51	0.17	mg/L		10/25/19 16:20	10/28/19 12:39	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*61*		*42 - 111*	*10/25/19 16:20*	*10/28/19 12:39*	*5*

Client Sample Results

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172348-1

Client Sample ID: GAC-1

Date Collected: 10/24/19 15:50
Date Received: 10/25/19 09:00

Lab Sample ID: 500-172348-5

Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	0.083	J *	0.099	0.032	mg/L		10/25/19 16:20	10/28/19 13:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*75*		*42 - 111*	*10/25/19 16:20*	*10/28/19 13:15*	*1*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172348-1

Client Sample ID: GAC-2
Date Collected: 10/24/19 15:45
Date Received: 10/25/19 09:00

Lab Sample ID: 500-172348-6
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	0.050	J *	0.097	0.031	mg/L		10/25/19 16:20	10/28/19 13:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*60*		*42 - 111*	*10/25/19 16:20*	*10/28/19 13:50*	*1*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172348-1

Client Sample ID: Discharge

Date Collected: 10/24/19 15:40
Date Received: 10/25/19 09:00

Lab Sample ID: 500-172348-7

Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	0.035	J *	0.10	0.033	mg/L		10/25/19 16:20	10/28/19 14:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*48*		*42 - 111*	*10/25/19 16:20*	*10/28/19 14:26*	*1*

Definitions/Glossary

Client: AECOM
Job ID: 500-172348-1
Project/Site: ATC - Madison 60611431

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
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.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

QC Association Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172348-1

GC Semi VOA

Prep Batch: 512035

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-172348-1	OWS	Total/NA	Water	3510C	
500-172348-2	Inlet	Total/NA	Water	3510C	
500-172348-3	Bag 2	Total/NA	Water	3510C	
500-172348-4	ZEO	Total/NA	Water	3510C	
500-172348-5	GAC-1	Total/NA	Water	3510C	
500-172348-6	GAC-2	Total/NA	Water	3510C	
500-172348-7	Discharge	Total/NA	Water	3510C	
MB 500-512035/1-A	Method Blank	Total/NA	Water	3510C	
LCS 500-512035/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 500-512035/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 512155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-172348-1	OWS	Total/NA	Water	WI-DRO	512035
500-172348-2	Inlet	Total/NA	Water	WI-DRO	512035
500-172348-3	Bag 2	Total/NA	Water	WI-DRO	512035
500-172348-4	ZEO	Total/NA	Water	WI-DRO	512035
500-172348-5	GAC-1	Total/NA	Water	WI-DRO	512035
500-172348-6	GAC-2	Total/NA	Water	WI-DRO	512035
500-172348-7	Discharge	Total/NA	Water	WI-DRO	512035
MB 500-512035/1-A	Method Blank	Total/NA	Water	WI-DRO	512035
LCS 500-512035/2-A	Lab Control Sample	Total/NA	Water	WI-DRO	512035
LCSD 500-512035/3-A	Lab Control Sample Dup	Total/NA	Water	WI-DRO	512035

Surrogate Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172348-1

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	C9 (42-111)									
500-172348-1	OWS	0 D									
500-172348-2	Inlet	78									
500-172348-3	Bag 2	62									
500-172348-4	ZEO	61									
500-172348-5	GAC-1	75									
500-172348-6	GAC-2	60									
500-172348-7	Discharge	48									
LCS 500-512035/2-A	Lab Control Sample	63									
LCSD 500-512035/3-A	Lab Control Sample Dup	86									
MB 500-512035/1-A	Method Blank	82									

Surrogate Legend

C9 = n-Nonane

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Lab Sample ID: MB 500-512035/1-A
Matrix: Water
Analysis Batch: 512155

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 512035

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	<0.033		0.10	0.033	mg/L		10/25/19 16:20	10/28/19 09:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*82*		*42 - 111*	*10/25/19 16:20*	*10/28/19 09:33*	*1*

Lab Sample ID: LCS 500-512035/2-A
Matrix: Water
Analysis Batch: 512155

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 512035

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
WI Diesel Range Organics (C10-C28)			0.400	0.333		mg/L		83	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Nonane	*63*		*42 - 111*

Lab Sample ID: LCSD 500-512035/3-A
Matrix: Water
Analysis Batch: 512155

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 512035

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
WI Diesel Range Organics (C10-C28)			0.400	0.498	*	mg/L		124	75 - 125	40	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Nonane	*86*		*42 - 111*

Lab Chronicle

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172348-1

Client Sample ID: OWS
Lab Sample ID: 500-172348-1
Date Collected: 10/24/19 16:20
Matrix: Water
Date Received: 10/25/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512035	10/25/19 16:20	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		1000	512155	10/28/19 10:44	JBJ	TAL CHI

Client Sample ID: Inlet
Lab Sample ID: 500-172348-2
Date Collected: 10/24/19 16:10
Matrix: Water
Date Received: 10/25/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512035	10/25/19 16:20	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		10	512155	10/28/19 11:20	JBJ	TAL CHI

Client Sample ID: Bag 2
Lab Sample ID: 500-172348-3
Date Collected: 10/24/19 16:05
Matrix: Water
Date Received: 10/25/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512035	10/25/19 16:20	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		10	512155	10/28/19 11:55	JBJ	TAL CHI

Client Sample ID: ZEO
Lab Sample ID: 500-172348-4
Date Collected: 10/24/19 15:55
Matrix: Water
Date Received: 10/25/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512035	10/25/19 16:20	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		5	512155	10/28/19 12:39	JBJ	TAL CHI

Client Sample ID: GAC-1
Lab Sample ID: 500-172348-5
Date Collected: 10/24/19 15:50
Matrix: Water
Date Received: 10/25/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512035	10/25/19 16:20	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		1	512155	10/28/19 13:15	JBJ	TAL CHI

Client Sample ID: GAC-2
Lab Sample ID: 500-172348-6
Date Collected: 10/24/19 15:45
Matrix: Water
Date Received: 10/25/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512035	10/25/19 16:20	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		1	512155	10/28/19 13:50	JBJ	TAL CHI

Lab Chronicle

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172348-1

Client Sample ID: Discharge
Date Collected: 10/24/19 15:40
Date Received: 10/25/19 09:00

Lab Sample ID: 500-172348-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512035	10/25/19 16:20	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		1	512155	10/28/19 14:26	JBJ	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: AECOM
Job ID: 500-172348-1
Project/Site: ATC - Madison 60611431

Laboratory: Eurofins TestAmerica, Chicago

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State Program	999580010	08-31-20

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information	Sampler: Leo Linnemanstons	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: ~~500-[illegible]~~
Client Contact: Mr. Leo Linnemanstons, P.G.	Phone: 608-828-8208	E-Mail: sandie.fredrick@testamericainc.com		Page: ~~Page 3 of 7~~ 1 of 1
Company: AECOM				Job #: 500-172348
Address: 1350 Deming Way Suite 100	Due Date Requested: 10/26/2019			
City: Middleton	TAT Requested (days): 1 day			
State, Zip: WI, 53562				
Phone: 608-836-9800(Tel)	PO #: 60611431			
Email: leo.linnemanstons@aecom.com	WO #:			
Project Name: ATC - Madison	Project #: 50016386			
Site:	SSOW#:			

500-172348 COC

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Rush

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8270D - PAH	1664B - Oil and Grease HEM	8260B - BTEX	5210B, SM4500_H+	PFC_IDA - PFAS (36)	WI_DRO - WI DRO	Total Number of containers	Special Instructions/Note:
				Preservation Code:				N	S	A	N	N	A		
1	OWS	10/24/19	16:20	G	Water								X		Oil/Wtr Separator
2	Inlet		16:10		Water										
3	Bag 2		16:05		Water										
4	ZEO		15:55		Water										
5	GAC-1		15:50		Water										
6	GAC-2		15:45		Water										
7	Discharge		15:40		Water										
					Water										
					Water										
					Water										
					Water										

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ______ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Leo Linnemanstons	10/24/2019 @ 17:00	AECOM	[signature]	10/25/19 0900	TA CHI

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.5

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: AECOM

Job Number: 500-172348-1

Login Number: 172348
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

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.	True	
Sample custody seals, if present, are intact.	True	
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	3.5
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.	True	
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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-172422-1
Client Project/Site: ATC - Madison 60611431

For:
AECOM
1350 Deming Way Suite 100
Middleton, Wisconsin 53562

Attn: Mr. Leo B Linnemanstons, P.G.

Sandie Fredrick

Authorized for release by:
10/29/2019 10:13:57 AM

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 4
Method Summary 5
Sample Summary 6
Client Sample Results 7
Definitions 14
QC Association 15
Surrogate Summary 16
QC Sample Results 17
Chronicle 18
Certification Summary 20
Chain of Custody 21
Receipt Checklists 22

Case Narrative

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172422-1

Job ID: 500-172422-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-172422-1

Comments
No additional comments.

Receipt
The samples were received on 10/26/2019 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.5º C.

GC Semi VOA
Method WI-DRO: The following samples required a dilution due to the nature of the sample matrix: OWS (500-172422-1), Inlet (500-172422-2) and Bag 2 (500-172422-3). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

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

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

Detection Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172422-1

Client Sample ID: OWS — Lab Sample ID: 500-172422-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	230		95	31	mg/L	1000		WI-DRO	Total/NA

Client Sample ID: Inlet — Lab Sample ID: 500-172422-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	30		2.1	0.69	mg/L	20		WI-DRO	Total/NA

Client Sample ID: Bag 2 — Lab Sample ID: 500-172422-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	27		2.0	0.66	mg/L	20		WI-DRO	Total/NA

Client Sample ID: ZEO — Lab Sample ID: 500-172422-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	9.6		0.50	0.16	mg/L	5		WI-DRO	Total/NA

Client Sample ID: GAC-1 — Lab Sample ID: 500-172422-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	0.23		0.097	0.031	mg/L	1		WI-DRO	Total/NA

Client Sample ID: GAC-2 — Lab Sample ID: 500-172422-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	0.18		0.096	0.031	mg/L	1		WI-DRO	Total/NA

Client Sample ID: Discharge — Lab Sample ID: 500-172422-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	0.14		0.099	0.032	mg/L	1		WI-DRO	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172422-1

Method	Method Description	Protocol	Laboratory
WI-DRO	Wisconsin - Diesel Range Organics (GC)	WI-DRO	TAL CHI
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL CHI

Protocol References:

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

WI-DRO = "Modified DRO: Method For Determining Diesel Range Organics", Wisconsin DNR, Publ-SW-141, September, 1995.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172422-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-172422-1	OWS	Water	10/25/19 14:35	10/26/19 09:20	
500-172422-2	Inlet	Water	10/25/19 14:25	10/26/19 09:20	
500-172422-3	Bag 2	Water	10/25/19 14:20	10/26/19 09:20	
500-172422-4	ZEO	Water	10/25/19 14:15	10/26/19 09:20	
500-172422-5	GAC-1	Water	10/25/19 14:10	10/26/19 09:20	
500-172422-6	GAC-2	Water	10/25/19 14:05	10/26/19 09:20	
500-172422-7	Discharge	Water	10/25/19 14:00	10/26/19 09:20	

Client Sample Results

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172422-1

Client Sample ID: OWS
Date Collected: 10/25/19 14:35
Date Received: 10/26/19 09:20

Lab Sample ID: 500-172422-1
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	230		95	31	mg/L		10/28/19 09:48	10/28/19 17:23	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*0*	*D*	*42 - 111*	*10/28/19 09:48*	*10/28/19 17:23*	*1000*

Client Sample Results

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172422-1

Client Sample ID: Inlet

Date Collected: 10/25/19 14:25
Date Received: 10/26/19 09:20

Lab Sample ID: 500-172422-2

Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	30		2.1	0.69	mg/L		10/28/19 09:48	10/29/19 06:52	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*0*	*D*	*42 - 111*	*10/28/19 09:48*	*10/29/19 06:52*	*20*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172422-1

Client Sample ID: Bag 2
Date Collected: 10/25/19 14:20
Date Received: 10/26/19 09:20

Lab Sample ID: 500-172422-3
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	27		2.0	0.66	mg/L		10/28/19 09:48	10/29/19 07:27	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*0*	*D*	*42 - 111*	*10/28/19 09:48*	*10/29/19 07:27*	*20*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172422-1

Client Sample ID: ZEO

Date Collected: 10/25/19 14:15
Date Received: 10/26/19 09:20

Lab Sample ID: 500-172422-4

Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	9.6		0.50	0.16	mg/L		10/28/19 09:48	10/28/19 19:09	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*43*		*42 - 111*	*10/28/19 09:48*	*10/28/19 19:09*	*5*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172422-1

Client Sample ID: GAC-1
Date Collected: 10/25/19 14:10
Date Received: 10/26/19 09:20

Lab Sample ID: 500-172422-5
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	0.23		0.097	0.031	mg/L		10/28/19 09:48	10/28/19 19:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*62*		*42 - 111*	*10/28/19 09:48*	*10/28/19 19:45*	*1*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172422-1

Client Sample ID: GAC-2
Date Collected: 10/25/19 14:05
Date Received: 10/26/19 09:20

Lab Sample ID: 500-172422-6
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	0.18		0.096	0.031	mg/L		10/28/19 09:48	10/28/19 20:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*80*		*42 - 111*	*10/28/19 09:48*	*10/28/19 20:20*	*1*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172422-1

Client Sample ID: Discharge

Date Collected: 10/25/19 14:00
Date Received: 10/26/19 09:20

Lab Sample ID: 500-172422-7

Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	0.14		0.099	0.032	mg/L		10/28/19 09:48	10/28/19 20:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*67*		*42 - 111*	*10/28/19 09:48*	*10/28/19 20:55*	*1*

Definitions/Glossary

Client: AECOM
Job ID: 500-172422-1
Project/Site: ATC - Madison 60611431

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

QC Association Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172422-1

GC Semi VOA

Analysis Batch: 512155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-172422-1	OWS	Total/NA	Water	WI-DRO	512220
500-172422-2	Inlet	Total/NA	Water	WI-DRO	512220
500-172422-3	Bag 2	Total/NA	Water	WI-DRO	512220
500-172422-4	ZEO	Total/NA	Water	WI-DRO	512220
500-172422-5	GAC-1	Total/NA	Water	WI-DRO	512220
500-172422-6	GAC-2	Total/NA	Water	WI-DRO	512220
500-172422-7	Discharge	Total/NA	Water	WI-DRO	512220
MB 500-512220/1-A	Method Blank	Total/NA	Water	WI-DRO	512220
LCS 500-512220/2-A	Lab Control Sample	Total/NA	Water	WI-DRO	512220
LCSD 500-512220/3-A	Lab Control Sample Dup	Total/NA	Water	WI-DRO	512220

Prep Batch: 512220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-172422-1	OWS	Total/NA	Water	3510C	
500-172422-2	Inlet	Total/NA	Water	3510C	
500-172422-3	Bag 2	Total/NA	Water	3510C	
500-172422-4	ZEO	Total/NA	Water	3510C	
500-172422-5	GAC-1	Total/NA	Water	3510C	
500-172422-6	GAC-2	Total/NA	Water	3510C	
500-172422-7	Discharge	Total/NA	Water	3510C	
MB 500-512220/1-A	Method Blank	Total/NA	Water	3510C	
LCS 500-512220/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 500-512220/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Surrogate Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172422-1

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	C9 (42-111)									
500-172422-1	OWS	0 D									
500-172422-2	Inlet	0 D									
500-172422-3	Bag 2	0 D									
500-172422-4	ZEO	43									
500-172422-5	GAC-1	62									
500-172422-6	GAC-2	80									
500-172422-7	Discharge	67									
LCS 500-512220/2-A	Lab Control Sample	80									
LCSD 500-512220/3-A	Lab Control Sample Dup	71									
MB 500-512220/1-A	Method Blank	67									

Surrogate Legend

C9 = n-Nonane

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Lab Sample ID: MB 500-512220/1-A
Matrix: Water
Analysis Batch: 512155

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 512220

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	<0.033		0.10	0.033	mg/L		10/28/19 09:48	10/28/19 16:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*67*		*42 - 111*	*10/28/19 09:48*	*10/28/19 16:12*	*1*

Lab Sample ID: LCS 500-512220/2-A
Matrix: Water
Analysis Batch: 512155

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 512220

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
WI Diesel Range Organics (C10-C28)			0.400	0.364		mg/L		91	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Nonane	*80*		*42 - 111*

Lab Sample ID: LCSD 500-512220/3-A
Matrix: Water
Analysis Batch: 512155

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 512220

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
WI Diesel Range Organics (C10-C28)			0.400	0.324		mg/L		81	75 - 125	12	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Nonane	*71*		*42 - 111*

Lab Chronicle

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172422-1

Client Sample ID: OWS
Date Collected: 10/25/19 14:35
Date Received: 10/26/19 09:20

Lab Sample ID: 500-172422-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512220	10/28/19 09:48	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		1000	512155	10/28/19 17:23	JBJ	TAL CHI

Client Sample ID: Inlet
Date Collected: 10/25/19 14:25
Date Received: 10/26/19 09:20

Lab Sample ID: 500-172422-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512220	10/28/19 09:48	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		20	512155	10/29/19 06:52	JBJ	TAL CHI

Client Sample ID: Bag 2
Date Collected: 10/25/19 14:20
Date Received: 10/26/19 09:20

Lab Sample ID: 500-172422-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512220	10/28/19 09:48	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		20	512155	10/29/19 07:27	JBJ	TAL CHI

Client Sample ID: ZEO
Date Collected: 10/25/19 14:15
Date Received: 10/26/19 09:20

Lab Sample ID: 500-172422-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512220	10/28/19 09:48	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		5	512155	10/28/19 19:09	JBJ	TAL CHI

Client Sample ID: GAC-1
Date Collected: 10/25/19 14:10
Date Received: 10/26/19 09:20

Lab Sample ID: 500-172422-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512220	10/28/19 09:48	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		1	512155	10/28/19 19:45	JBJ	TAL CHI

Client Sample ID: GAC-2
Date Collected: 10/25/19 14:05
Date Received: 10/26/19 09:20

Lab Sample ID: 500-172422-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512220	10/28/19 09:48	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		1	512155	10/28/19 20:20	JBJ	TAL CHI

Lab Chronicle

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172422-1

Client Sample ID: Discharge

Date Collected: 10/25/19 14:00
Date Received: 10/26/19 09:20

Lab Sample ID: 500-172422-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512220	10/28/19 09:48	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		1	512155	10/28/19 20:55	JBJ	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: AECOM
Job ID: 500-172422-1
Project/Site: ATC - Madison 60611431

Laboratory: Eurofins TestAmerica, Chicago

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State Program	999580010	08-31-20

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information	Sampler: Leo Linnemanstons	Lab PM: Fredrick, Sandie	Carrier Tracking No(s).	COC No: ~~500-75881-35274.8~~
Client Contact: Mr. Leo Linnemanstons, P.G.	Phone: 608-828-8208	E-Mail: sandie.fredrick@testamericainc.com		Page: ~~Page 3 of 7~~ 1 of 1
Company: AECOM		Analysis Requested		Job #: 500-172422

- Address: 1350 Deming Way Suite 100
- City: Middleton
- State, Zip: WI, 53562
- Phone: 608-836-9800(Tel)
- Email: leo.linnemanstons@aecom.com
- Project Name: ATC - Madison
- Site:
- 500-172422 COC
- Due Date Requested: 10/29/2019
- TAT Requested (days): 1 day
- PO #: 60611431
- WO #:
- Project #: 50016386
- SSOW#:

Analyses: Field Filtered Sample (Yes or No); Perform MS/MSD (Yes or No); 8270D - PAH (N); 1664B - Oil and Grease HEM (S); 8260B - BTEX (A); 5210B, SM4500_H+ (N); PFC_IDA - PFAS (36) (N); WI_DRO - WI DRO (A); Total Number of containers

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Rush

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	WI_DRO - WI DRO	Special Instructions/Note
	OWS	10/25/19	14:35	Grab	Water	X	Oil/Wtr Separator
2	Inlet	↓	14:25	↓	Water	↓	
3	Bag 2	↓	14:20	↓	Water	↓	
4	ZEO	↓	14:15	↓	Water	↓	
5	GAC-1	↓	14:10	↓	Water	↓	
6	GAC-2	↓	14:05	↓	Water	↓	
7	Discharge	↓	14:00	↓	Water	↓	
					Water		
					Water		
					Water		
					Water		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify)
Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Leo Linnemanstons	10/25/19 @ 17:00	AECOM	[signature]	10/26/19 0920	TA-CHI

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 2.5

Ver. 01/16/2019

Login Sample Receipt Checklist

Client: AECOM

Job Number: 500-172422-1

Login Number: 172422
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

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.	True	
Sample custody seals, if present, are intact.	True	
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	2.5
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.	True	
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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-172500-1
Client Project/Site: ATC - Madison 60611431

For:
AECOM
1350 Deming Way Suite 100
Middleton, Wisconsin 53562

Attn: Mr. Leo B Linnemanstons, P.G.

Authorized for release by:
10/30/2019 9:43:51 AM

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 4
Method Summary 5
Sample Summary 6
Client Sample Results 7
Definitions 14
QC Association 15
Surrogate Summary 16
QC Sample Results 17
Chronicle 18
Certification Summary 20
Chain of Custody 21
Receipt Checklists 22

Case Narrative

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172500-1

Job ID: 500-172500-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-172500-1

Comments
No additional comments.

Receipt
The samples were received on 10/29/2019 8:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.3º C.

GC Semi VOA
Method WI-DRO: The following samples required a dilution due to the nature of the sample matrix: OWS (500-172500-1), Inlet (500-172500-2) and Bag 2 (500-172500-3). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method WI-DRO: Surrogate recovery for the following sample was outside control limits: ZEO (500-172500-4). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

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

Detection Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172500-1

Client Sample ID: OWS — Lab Sample ID: 500-172500-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	300		100	33	mg/L	1000		WI-DRO	Total/NA

Client Sample ID: Inlet — Lab Sample ID: 500-172500-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	14		2.1	0.68	mg/L	20		WI-DRO	Total/NA

Client Sample ID: Bag 2 — Lab Sample ID: 500-172500-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	11		2.1	0.67	mg/L	20		WI-DRO	Total/NA

Client Sample ID: ZEO — Lab Sample ID: 500-172500-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	9.6		0.50	0.16	mg/L	5		WI-DRO	Total/NA

Client Sample ID: GAC-1 — Lab Sample ID: 500-172500-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	0.15		0.099	0.032	mg/L	1		WI-DRO	Total/NA

Client Sample ID: GAC-2 — Lab Sample ID: 500-172500-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	0.20		0.099	0.032	mg/L	1		WI-DRO	Total/NA

Client Sample ID: Discharge — Lab Sample ID: 500-172500-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	0.057	J	0.098	0.032	mg/L	1		WI-DRO	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172500-1

Method	Method Description	Protocol	Laboratory
WI-DRO	Wisconsin - Diesel Range Organics (GC)	WI-DRO	TAL CHI
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL CHI

Protocol References:

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

WI-DRO = "Modified DRO: Method For Determining Diesel Range Organics", Wisconsin DNR, Publ-SW-141, September, 1995.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172500-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-172500-1	OWS	Water	10/26/19 16:05	10/29/19 08:40	
500-172500-2	Inlet	Water	10/26/19 15:55	10/29/19 08:40	
500-172500-3	Bag 2	Water	10/26/19 15:50	10/29/19 08:40	
500-172500-4	ZEO	Water	10/26/19 15:45	10/29/19 08:40	
500-172500-5	GAC-1	Water	10/26/19 15:40	10/29/19 08:40	
500-172500-6	GAC-2	Water	10/26/19 15:35	10/29/19 08:40	
500-172500-7	Discharge	Water	10/26/19 15:30	10/29/19 08:40	

Client Sample Results

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172500-1

Client Sample ID: OWS
Date Collected: 10/26/19 16:05
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172500-1
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	300		100	33	mg/L		10/29/19 10:11	10/29/19 17:52	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*0*	*D*	*42 - 111*	*10/29/19 10:11*	*10/29/19 17:52*	*1000*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172500-1

Client Sample ID: Inlet
Date Collected: 10/26/19 15:55
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172500-2
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	14		2.1	0.68	mg/L		10/29/19 10:11	10/29/19 18:28	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*0*	*D*	*42 - 111*	*10/29/19 10:11*	*10/29/19 18:28*	*20*

Client Sample Results

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172500-1

Client Sample ID: Bag 2
Date Collected: 10/26/19 15:50
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172500-3
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	11		2.1	0.67	mg/L		10/29/19 10:11	10/29/19 19:03	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*0*	*D*	*42 - 111*	*10/29/19 10:11*	*10/29/19 19:03*	*20*

Client Sample Results

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172500-1

Client Sample ID: ZEO

Date Collected: 10/26/19 15:45
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172500-4

Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	9.6		0.50	0.16	mg/L		10/29/19 10:11	10/29/19 19:38	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*365*	*X*	*42 - 111*	*10/29/19 10:11*	*10/29/19 19:38*	*5*

Client Sample Results

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172500-1

Client Sample ID: GAC-1

Date Collected: 10/26/19 15:40
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172500-5

Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	0.15		0.099	0.032	mg/L		10/29/19 10:11	10/29/19 20:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*79*		*42 - 111*	*10/29/19 10:11*	*10/29/19 20:14*	*1*

Client Sample Results

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172500-1

Client Sample ID: GAC-2

Date Collected: 10/26/19 15:35
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172500-6

Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	0.20		0.099	0.032	mg/L		10/29/19 10:11	10/29/19 20:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*66*		*42 - 111*	*10/29/19 10:11*	*10/29/19 20:49*	*1*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172500-1

Client Sample ID: Discharge
Date Collected: 10/26/19 15:30
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172500-7
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	0.057	J	0.098	0.032	mg/L		10/29/19 10:11	10/29/19 21:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*67*		*42 - 111*	*10/29/19 10:11*	*10/29/19 21:24*	*1*

Definitions/Glossary

Client: AECOM
Job ID: 500-172500-1
Project/Site: ATC - Madison 60611431

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

QC Association Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172500-1

GC Semi VOA

Prep Batch: 512447

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-172500-1	OWS	Total/NA	Water	3510C	
500-172500-2	Inlet	Total/NA	Water	3510C	
500-172500-3	Bag 2	Total/NA	Water	3510C	
500-172500-4	ZEO	Total/NA	Water	3510C	
500-172500-5	GAC-1	Total/NA	Water	3510C	
500-172500-6	GAC-2	Total/NA	Water	3510C	
500-172500-7	Discharge	Total/NA	Water	3510C	
MB 500-512447/1-A	Method Blank	Total/NA	Water	3510C	
LCS 500-512447/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 500-512447/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 512467

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-172500-1	OWS	Total/NA	Water	WI-DRO	512447
500-172500-2	Inlet	Total/NA	Water	WI-DRO	512447
500-172500-3	Bag 2	Total/NA	Water	WI-DRO	512447
500-172500-4	ZEO	Total/NA	Water	WI-DRO	512447
500-172500-5	GAC-1	Total/NA	Water	WI-DRO	512447
500-172500-6	GAC-2	Total/NA	Water	WI-DRO	512447
500-172500-7	Discharge	Total/NA	Water	WI-DRO	512447
MB 500-512447/1-A	Method Blank	Total/NA	Water	WI-DRO	512447
LCS 500-512447/2-A	Lab Control Sample	Total/NA	Water	WI-DRO	512447
LCSD 500-512447/3-A	Lab Control Sample Dup	Total/NA	Water	WI-DRO	512447

Surrogate Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172500-1

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)									
Lab Sample ID	Client Sample ID	C9 (42-111)									
500-172500-1	OWS	0 D									
500-172500-2	Inlet	0 D									
500-172500-3	Bag 2	0 D									
500-172500-4	ZEO	365 X									
500-172500-5	GAC-1	79									
500-172500-6	GAC-2	66									
500-172500-7	Discharge	67									
LCS 500-512447/2-A	Lab Control Sample	58									
LCSD 500-512447/3-A	Lab Control Sample Dup	69									
MB 500-512447/1-A	Method Blank	55									

Surrogate Legend

C9 = n-Nonane

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Lab Sample ID: MB 500-512447/1-A
Matrix: Water
Analysis Batch: 512467

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 512447

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	<0.033		0.10	0.033	mg/L		10/29/19 10:11	10/29/19 16:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*55*		*42 - 111*	*10/29/19 10:11*	*10/29/19 16:42*	*1*

Lab Sample ID: LCS 500-512447/2-A
Matrix: Water
Analysis Batch: 512467

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 512447

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
WI Diesel Range Organics (C10-C28)			0.400	0.321		mg/L		80	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Nonane	*58*		*42 - 111*

Lab Sample ID: LCSD 500-512447/3-A
Matrix: Water
Analysis Batch: 512467

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 512447

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
WI Diesel Range Organics (C10-C28)			0.400	0.378		mg/L		94	75 - 125	16	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Nonane	*69*		*42 - 111*

Lab Chronicle

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172500-1

Client Sample ID: OWS
Date Collected: 10/26/19 16:05
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172500-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512447	10/29/19 10:11	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		1000	512467	10/29/19 17:52	SS	TAL CHI

Client Sample ID: Inlet
Date Collected: 10/26/19 15:55
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172500-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512447	10/29/19 10:11	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		20	512467	10/29/19 18:28	SS	TAL CHI

Client Sample ID: Bag 2
Date Collected: 10/26/19 15:50
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172500-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512447	10/29/19 10:11	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		20	512467	10/29/19 19:03	SS	TAL CHI

Client Sample ID: ZEO
Date Collected: 10/26/19 15:45
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172500-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512447	10/29/19 10:11	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		5	512467	10/29/19 19:38	SS	TAL CHI

Client Sample ID: GAC-1
Date Collected: 10/26/19 15:40
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172500-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512447	10/29/19 10:11	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		1	512467	10/29/19 20:14	SS	TAL CHI

Client Sample ID: GAC-2
Date Collected: 10/26/19 15:35
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172500-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512447	10/29/19 10:11	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		1	512467	10/29/19 20:49	SS	TAL CHI

Lab Chronicle

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172500-1

Client Sample ID: Discharge

Date Collected: 10/26/19 15:30
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172500-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512447	10/29/19 10:11	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		1	512467	10/29/19 21:24	SS	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: AECOM
Job ID: 500-172500-1
Project/Site: ATC - Madison 60611431

Laboratory: Eurofins TestAmerica, Chicago

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State Program	999580010	08-31-20

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information	Sampler: Leo Linnemanstons	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: ~~500-75881-65274.3~~
Client Contact: Mr. Leo Linnemanstons, P.G.	Phone: 608-828-8208	E-Mail: sandie.fredrick@testamericainc.com		Page: ~~Page 3 of 7~~ 1 of 1
Company: AECOM				Job #: 500-172500
Address: 1350 Deming Way Suite 100	Due Date Requested:			
City: Middleton	TAT Requested (days): 1 day			
State, Zip: WI, 53562				
Phone: 608-836-9800(Tel)	PO #: 60611431			
Email: leo.linnemanstons@aecom.com	WO #:			
Project Name: ATC - Madison	Project #: 50016386			
Site:	SSOW#:			

500-172500 COC

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

RUSH

Special Instructions/Note:

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8270D - PAH	1664B - Oil and Grease HEM	8260B - BTEX	5210B, SM4500_H+	PFC_IDA - PFAS (3s)	WI_DRO - WI DRO	Total Number of containers	Special Instructions/Note:
				Preservation Code:		X	X	N	S	A	N	N	A	X	
1	OWS	10/26/2018	16:05	Grab	Water								X		0:1/Wtr Separator
2	Inlet		15:55		Water										
3	Bag 2		15:50		Water										
4	ZEO		15:45		Water										
5	GAC-1		15:40		Water										
6	GAC-2		15:35		Water										
7	Discharge		15:30		Water										
					Water										
					Water										
					Water										
					Water										

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Leo Linnemanstons	10/28/19 @ 18:00	AECOM	Allen Scott	10/29/19 0840	TA-CHI
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No:	Cooler Temperature(s) °C and Other Remarks: 5.3

Ver 01/16/2019

Login Sample Receipt Checklist

Client: AECOM

Job Number: 500-172500-1

Login Number: 172500
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

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.	True	
Sample custody seals, if present, are intact.	True	
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	5.3
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.	True	
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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-172501-1
Client Project/Site: ATC - Madison 60611431

For:
AECOM
1350 Deming Way Suite 100
Middleton, Wisconsin 53562

Attn: Mr. Leo B Linnemanstons, P.G.

Sandie Fredrick

Authorized for release by:
10/30/2019 9:44:50 AM

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 4
Method Summary 5
Sample Summary 6
Client Sample Results 7
Definitions 13
QC Association 14
Surrogate Summary 15
QC Sample Results 16
Chronicle 17
Certification Summary 18
Chain of Custody 19
Receipt Checklists 20

Case Narrative

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172501-1

Job ID: 500-172501-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-172501-1

Comments
No additional comments.

Receipt
The samples were received on 10/29/2019 8:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.3º C.

GC Semi VOA
Method WI-DRO: The following samples required a dilution due to the nature of the sample matrix: Inlet (500-172501-1), Bag 2 (500-172501-2) and ZEO (500-172501-3). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

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

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

Detection Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172501-1

Client Sample ID: Inlet — Lab Sample ID: 500-172501-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	80		11	3.5	mg/L	100		WI-DRO	Total/NA

Client Sample ID: Bag 2 — Lab Sample ID: 500-172501-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	83		10	3.4	mg/L	100		WI-DRO	Total/NA

Client Sample ID: ZEO — Lab Sample ID: 500-172501-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	49		5.0	1.6	mg/L	50		WI-DRO	Total/NA

Client Sample ID: GAC-1 — Lab Sample ID: 500-172501-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	0.68		0.097	0.032	mg/L	1		WI-DRO	Total/NA

Client Sample ID: GAC-2 — Lab Sample ID: 500-172501-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	0.61		0.098	0.032	mg/L	1		WI-DRO	Total/NA

Client Sample ID: Discharge — Lab Sample ID: 500-172501-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	0.60		0.10	0.033	mg/L	1		WI-DRO	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172501-1

Method	Method Description	Protocol	Laboratory
WI-DRO	Wisconsin - Diesel Range Organics (GC)	WI-DRO	TAL CHI
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL CHI

Protocol References:

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

WI-DRO = "Modified DRO: Method For Determining Diesel Range Organics", Wisconsin DNR, Publ-SW-141, September, 1995.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172501-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-172501-1	Inlet	Water	10/28/19 16:55	10/29/19 08:40	
500-172501-2	Bag 2	Water	10/28/19 16:50	10/29/19 08:40	
500-172501-3	ZEO	Water	10/28/19 16:45	10/29/19 08:40	
500-172501-4	GAC-1	Water	10/28/19 16:40	10/29/19 08:40	
500-172501-5	GAC-2	Water	10/28/19 16:35	10/29/19 08:40	
500-172501-6	Discharge	Water	10/28/19 16:30	10/29/19 08:40	

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172501-1

Client Sample ID: Inlet
Date Collected: 10/28/19 16:55
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172501-1
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	80		11	3.5	mg/L		10/29/19 10:11	10/30/19 07:02	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*0*	*D*	*42 - 111*	*10/29/19 10:11*	*10/30/19 07:02*	*100*

Client Sample Results

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172501-1

Client Sample ID: Bag 2

Date Collected: 10/28/19 16:50
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172501-2

Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	83		10	3.4	mg/L		10/29/19 10:11	10/30/19 07:37	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*0*	*D*	*42 - 111*	*10/29/19 10:11*	*10/30/19 07:37*	*100*

Client Sample Results

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172501-1

Client Sample ID: ZEO

Date Collected: 10/28/19 16:45
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172501-3

Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	49		5.0	1.6	mg/L		10/29/19 10:11	10/30/19 08:13	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*0*	*D*	*42 - 111*	*10/29/19 10:11*	*10/30/19 08:13*	*50*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172501-1

Client Sample ID: GAC-1
Date Collected: 10/28/19 16:40
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172501-4
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	0.68		0.097	0.032	mg/L		10/29/19 10:11	10/29/19 19:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*86*		*42 - 111*	*10/29/19 10:11*	*10/29/19 19:38*	*1*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172501-1

Client Sample ID: GAC-2
Date Collected: 10/28/19 16:35
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172501-5
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	0.61		0.098	0.032	mg/L		10/29/19 10:11	10/29/19 20:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*56*		*42 - 111*	*10/29/19 10:11*	*10/29/19 20:14*	*1*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172501-1

Client Sample ID: Discharge
Date Collected: 10/28/19 16:30
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172501-6
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	0.60		0.10	0.033	mg/L		10/29/19 10:11	10/29/19 20:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*70*		*42 - 111*	*10/29/19 10:11*	*10/29/19 20:49*	*1*

Definitions/Glossary

Client: AECOM
Job ID: 500-172501-1
Project/Site: ATC - Madison 60611431

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

QC Association Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172501-1

GC Semi VOA

Prep Batch: 512447

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-172501-1	Inlet	Total/NA	Water	3510C	
500-172501-2	Bag 2	Total/NA	Water	3510C	
500-172501-3	ZEO	Total/NA	Water	3510C	
500-172501-4	GAC-1	Total/NA	Water	3510C	
500-172501-5	GAC-2	Total/NA	Water	3510C	
500-172501-6	Discharge	Total/NA	Water	3510C	
MB 500-512447/1-A	Method Blank	Total/NA	Water	3510C	
LCS 500-512447/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 500-512447/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 512471

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-172501-1	Inlet	Total/NA	Water	WI-DRO	512447
500-172501-2	Bag 2	Total/NA	Water	WI-DRO	512447
500-172501-3	ZEO	Total/NA	Water	WI-DRO	512447
500-172501-4	GAC-1	Total/NA	Water	WI-DRO	512447
500-172501-5	GAC-2	Total/NA	Water	WI-DRO	512447
500-172501-6	Discharge	Total/NA	Water	WI-DRO	512447
MB 500-512447/1-A	Method Blank	Total/NA	Water	WI-DRO	512447
LCS 500-512447/2-A	Lab Control Sample	Total/NA	Water	WI-DRO	512447
LCSD 500-512447/3-A	Lab Control Sample Dup	Total/NA	Water	WI-DRO	512447

Surrogate Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172501-1

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	C9 (42-111)								
500-172501-1	Inlet	0 D								
500-172501-2	Bag 2	0 D								
500-172501-3	ZEO	0 D								
500-172501-4	GAC-1	86								
500-172501-5	GAC-2	56								
500-172501-6	Discharge	70								
LCS 500-512447/2-A	Lab Control Sample	62								
LCSD 500-512447/3-A	Lab Control Sample Dup	71								
MB 500-512447/1-A	Method Blank	58								

Surrogate Legend

C9 = n-Nonane

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Lab Sample ID: MB 500-512447/1-A
Matrix: Water
Analysis Batch: 512471

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 512447

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	<0.033		0.10	0.033	mg/L		10/29/19 10:11	10/29/19 16:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*58*		*42 - 111*	*10/29/19 10:11*	*10/29/19 16:42*	*1*

Lab Sample ID: LCS 500-512447/2-A
Matrix: Water
Analysis Batch: 512471

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 512447

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
WI Diesel Range Organics (C10-C28)			0.400	0.309		mg/L		77	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Nonane	*62*		*42 - 111*

Lab Sample ID: LCSD 500-512447/3-A
Matrix: Water
Analysis Batch: 512471

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 512447

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
WI Diesel Range Organics (C10-C28)			0.400	0.362		mg/L		90	75 - 125	16	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Nonane	*71*		*42 - 111*

Lab Chronicle

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172501-1

Client Sample ID: Inlet
Date Collected: 10/28/19 16:55
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172501-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512447	10/29/19 10:11	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		100	512471	10/30/19 07:02	SS	TAL CHI

Client Sample ID: Bag 2
Date Collected: 10/28/19 16:50
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172501-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512447	10/29/19 10:11	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		100	512471	10/30/19 07:37	SS	TAL CHI

Client Sample ID: ZEO
Date Collected: 10/28/19 16:45
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172501-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512447	10/29/19 10:11	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		50	512471	10/30/19 08:13	SS	TAL CHI

Client Sample ID: GAC-1
Date Collected: 10/28/19 16:40
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172501-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512447	10/29/19 10:11	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		1	512471	10/29/19 19:38	SS	TAL CHI

Client Sample ID: GAC-2
Date Collected: 10/28/19 16:35
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172501-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512447	10/29/19 10:11	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		1	512471	10/29/19 20:14	SS	TAL CHI

Client Sample ID: Discharge
Date Collected: 10/28/19 16:30
Date Received: 10/29/19 08:40

Lab Sample ID: 500-172501-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512447	10/29/19 10:11	DAK	TAL CHI
Total/NA	Analysis	WI-DRO		1	512471	10/29/19 20:49	SS	TAL CHI

Laboratory References:
TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: AECOM
Job ID: 500-172501-1
Project/Site: ATC - Madison 60611431

Laboratory: Eurofins TestAmerica, Chicago

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State Program	999580010	08-31-20

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information	Sampler: Leo Linnemanstons	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: ~~500-75881-35274-3~~
Client Contact: Mr. Leo Linnemanstons, P.G.	Phone: 608-828-8208	E-Mail: sandie.fredrick@testamericainc.com		Page: ~~Page 3 of 7~~ 1 of 1
Company: AECOM				Job #: 500-172501

Address: 1350 Deming Way Suite 100	Due Date Requested:	Analysis Requested	Preservation Codes:
City: Middleton	TAT Requested (days): 1 day		A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: WI, 53562			
Phone: 608-836-9800(Tel) 500-172501 COC	PO #: 60611431		Other:
Email: leo.linnemanstons@aecom.com	WO #:		
Project Name: ATC - Madison	Project #: 50016386		
Site:	SSOW#:		

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8270D - PAH	1664B - Oil and Grease HEM	8260B - BTEX	6210B, EM4500_H+	PFC_IDA - PFAS (36)	WI_DRO - WI DRO	Total Number of containers	Special Instructions/Note:
			Preservation Codes:		X	X	N	S	A	N	N	A	X	RUSH
1 Inlet	10/28/19	16:55	Grab	Water								X		
2 Bag 2		16:50		Water										
3 ZEO		16:45		Water										
4 GAC-1		16:40		Water										
5 GAC-2		16:35		Water										
6 Discharge		16:30		Water										
				Water										
				Water										
				Water										
				Water										
				Water										

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by: Leo Linnemanstons	Date/Time: 10/28/19 @18:00	Company: AECOM	Received by: Rhiannon Scott	Date/Time: 10/29/19 0840	Company: TA CHI
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 5.3

Ver 01 16/2019

Login Sample Receipt Checklist

Client: AECOM

Job Number: 500-172501-1

Login Number: 172501
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

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.	True	
Sample custody seals, if present, are intact.	True	
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	5.3
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.	True	
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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-172559-1
Client Project/Site: ATC - Madison 60611431

For:
AECOM
1350 Deming Way Suite 100
Middleton, Wisconsin 53562

Attn: Mr. Leo B Linnemanstons, P.G.

Sandie Fredrick

Authorized for release by:
10/31/2019 4:21:43 PM

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 4
Method Summary 5
Sample Summary 6
Client Sample Results 7
Definitions 13
QC Association 14
Surrogate Summary 15
QC Sample Results 16
Chronicle 17
Certification Summary 18
Chain of Custody 19
Receipt Checklists 20

Case Narrative

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172559-1

Job ID: 500-172559-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-172559-1

Comments
No additional comments.

Receipt
The samples were received on 10/30/2019 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.8º C.

GC Semi VOA
Method WI-DRO: The following samples required a dilution due to the nature of the sample matrix: Inlet (500-172559-1), Bag 2 (500-172559-2) and ZEO (500-172559-3). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method WI-DRO: Surrogate recovery for the following samples was outside control limits: GAC-1 (500-172559-4) and Discharge (500-172559-6). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

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

Detection Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172559-1

Client Sample ID: Inlet — Lab Sample ID: 500-172559-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	94		13	4.1	mg/L	100		WI-DRO	Total/NA

Client Sample ID: Bag 2 — Lab Sample ID: 500-172559-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	89		12	4.0	mg/L	100		WI-DRO	Total/NA

Client Sample ID: ZEO — Lab Sample ID: 500-172559-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	150		11	3.6	mg/L	100		WI-DRO	Total/NA

Client Sample ID: GAC-1 — Lab Sample ID: 500-172559-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	4.7		0.52	0.17	mg/L	5		WI-DRO	Total/NA

Client Sample ID: GAC-2 — Lab Sample ID: 500-172559-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	4.7		0.57	0.19	mg/L	5		WI-DRO	Total/NA

Client Sample ID: Discharge — Lab Sample ID: 500-172559-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	2.2		0.48	0.16	mg/L	5		WI-DRO	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172559-1

Method	Method Description	Protocol	Laboratory
WI-DRO	Wisconsin - Diesel Range Organics (GC)	WI-DRO	TAL CHI
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL CHI

Protocol References:

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

WI-DRO = "Modified DRO: Method For Determining Diesel Range Organics", Wisconsin DNR, Publ-SW-141, September, 1995.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172559-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-172559-1	Inlet	Water	10/29/19 17:25	10/30/19 09:30	
500-172559-2	Bag 2	Water	10/29/19 17:20	10/30/19 09:30	
500-172559-3	ZEO	Water	10/29/19 17:15	10/30/19 09:30	
500-172559-4	GAC-1	Water	10/29/19 17:10	10/30/19 09:30	
500-172559-5	GAC-2	Water	10/29/19 17:05	10/30/19 09:30	
500-172559-6	Discharge	Water	10/29/19 17:00	10/30/19 09:30	

Client Sample Results

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172559-1

Client Sample ID: Inlet

Date Collected: 10/29/19 17:25
Date Received: 10/30/19 09:30

Lab Sample ID: 500-172559-1

Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	94		13	4.1	mg/L		10/30/19 15:41	10/31/19 10:12	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*0*	*D*	*42 - 111*	*10/30/19 15:41*	*10/31/19 10:12*	*100*

Client Sample Results

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172559-1

Client Sample ID: Bag 2
Date Collected: 10/29/19 17:20
Date Received: 10/30/19 09:30

Lab Sample ID: 500-172559-2
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	89		12	4.0	mg/L		10/30/19 15:41	10/31/19 10:47	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*0*	*D*	*42 - 111*	*10/30/19 15:41*	*10/31/19 10:47*	*100*

Client Sample Results

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172559-1

Client Sample ID: ZEO

Date Collected: 10/29/19 17:15
Date Received: 10/30/19 09:30

Lab Sample ID: 500-172559-3

Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	150		11	3.6	mg/L		10/30/19 15:41	10/31/19 12:33	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*0*	*D*	*42 - 111*	*10/30/19 15:41*	*10/31/19 12:33*	*100*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172559-1

Client Sample ID: GAC-1
Date Collected: 10/29/19 17:10
Date Received: 10/30/19 09:30

Lab Sample ID: 500-172559-4
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	4.7		0.52	0.17	mg/L		10/30/19 15:41	10/31/19 10:12	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*37*	*X*	*42 - 111*	*10/30/19 15:41*	*10/31/19 10:12*	*5*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172559-1

Client Sample ID: GAC-2
Date Collected: 10/29/19 17:05
Date Received: 10/30/19 09:30

Lab Sample ID: 500-172559-5
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	4.7		0.57	0.19	mg/L		10/30/19 15:41	10/31/19 10:47	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*43*		*42 - 111*	*10/30/19 15:41*	*10/31/19 10:47*	*5*

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172559-1

Client Sample ID: Discharge
Date Collected: 10/29/19 17:00
Date Received: 10/30/19 09:30

Lab Sample ID: 500-172559-6
Matrix: Water

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	2.2		0.48	0.16	mg/L		10/30/19 15:41	10/31/19 11:23	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*37*	*X*	*42 - 111*	*10/30/19 15:41*	*10/31/19 11:23*	*5*

Definitions/Glossary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172559-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

QC Association Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172559-1

GC Semi VOA

Prep Batch: 512752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-172559-1	Inlet	Total/NA	Water	3510C	
500-172559-2	Bag 2	Total/NA	Water	3510C	
500-172559-3	ZEO	Total/NA	Water	3510C	
500-172559-4	GAC-1	Total/NA	Water	3510C	
500-172559-5	GAC-2	Total/NA	Water	3510C	
500-172559-6	Discharge	Total/NA	Water	3510C	
MB 500-512752/1-A	Method Blank	Total/NA	Water	3510C	
LCS 500-512752/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 500-512752/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 512809

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-172559-1	Inlet	Total/NA	Water	WI-DRO	512752
500-172559-2	Bag 2	Total/NA	Water	WI-DRO	512752
500-172559-3	ZEO	Total/NA	Water	WI-DRO	512752
MB 500-512752/1-A	Method Blank	Total/NA	Water	WI-DRO	512752
LCS 500-512752/2-A	Lab Control Sample	Total/NA	Water	WI-DRO	512752
LCSD 500-512752/3-A	Lab Control Sample Dup	Total/NA	Water	WI-DRO	512752

Analysis Batch: 512810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-172559-4	GAC-1	Total/NA	Water	WI-DRO	512752
500-172559-5	GAC-2	Total/NA	Water	WI-DRO	512752
500-172559-6	Discharge	Total/NA	Water	WI-DRO	512752
MB 500-512752/1-A	Method Blank	Total/NA	Water	WI-DRO	512752
LCS 500-512752/2-A	Lab Control Sample	Total/NA	Water	WI-DRO	512752
LCSD 500-512752/3-A	Lab Control Sample Dup	Total/NA	Water	WI-DRO	512752

Surrogate Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172559-1

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)										
Lab Sample ID	Client Sample ID	C9 (42-111)										
500-172559-1	Inlet	0 D										
500-172559-2	Bag 2	0 D										
500-172559-3	ZEO	0 D										
500-172559-4	GAC-1	37 X										
500-172559-5	GAC-2	43										
500-172559-6	Discharge	37 X										
LCS 500-512752/2-A	Lab Control Sample	59										
LCS 500-512752/2-A	Lab Control Sample	81										
LCSD 500-512752/3-A	Lab Control Sample Dup	79										
LCSD 500-512752/3-A	Lab Control Sample Dup	80										
MB 500-512752/1-A	Method Blank	52										
MB 500-512752/1-A	Method Blank	79										

Surrogate Legend

C9 = n-Nonane

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Lab Sample ID: MB 500-512752/1-A
Matrix: Water
Analysis Batch: 512809

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 512752

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	<0.033		0.10	0.033	mg/L		10/30/19 15:41	10/31/19 09:01	1
WI Diesel Range Organics (C10-C28)	<0.033		0.10	0.033	mg/L		10/30/19 15:41	10/31/19 09:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*52*		*42 - 111*	*10/30/19 15:41*	*10/31/19 09:01*	*1*
n-Nonane	*79*		*42 - 111*	*10/30/19 15:41*	*10/31/19 09:01*	*1*

Lab Sample ID: LCS 500-512752/2-A
Matrix: Water
Analysis Batch: 512809

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 512752

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
WI Diesel Range Organics (C10-C28)			0.400	0.410		mg/L		103	75 - 125		
WI Diesel Range Organics (C10-C28)			0.400	0.398		mg/L		100	75 - 125		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Nonane	*59*		*42 - 111*
n-Nonane	*81*		*42 - 111*

Lab Sample ID: LCSD 500-512752/3-A
Matrix: Water
Analysis Batch: 512809

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 512752

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
WI Diesel Range Organics (C10-C28)			0.400	0.384		mg/L		96	75 - 125	7	20
WI Diesel Range Organics (C10-C28)			0.400	0.369		mg/L		92	75 - 125	8	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Nonane	*79*		*42 - 111*
n-Nonane	*80*		*42 - 111*

Lab Chronicle

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172559-1

Client Sample ID: Inlet
Date Collected: 10/29/19 17:25
Date Received: 10/30/19 09:30

Lab Sample ID: 500-172559-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512752	10/30/19 15:41	DX	TAL CHI
Total/NA	Analysis	WI-DRO		100	512809	10/31/19 10:12	JBJ	TAL CHI

Client Sample ID: Bag 2
Date Collected: 10/29/19 17:20
Date Received: 10/30/19 09:30

Lab Sample ID: 500-172559-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512752	10/30/19 15:41	DX	TAL CHI
Total/NA	Analysis	WI-DRO		100	512809	10/31/19 10:47	JBJ	TAL CHI

Client Sample ID: ZEO
Date Collected: 10/29/19 17:15
Date Received: 10/30/19 09:30

Lab Sample ID: 500-172559-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512752	10/30/19 15:41	DX	TAL CHI
Total/NA	Analysis	WI-DRO		100	512809	10/31/19 12:33	JBJ	TAL CHI

Client Sample ID: GAC-1
Date Collected: 10/29/19 17:10
Date Received: 10/30/19 09:30

Lab Sample ID: 500-172559-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512752	10/30/19 15:41	DX	TAL CHI
Total/NA	Analysis	WI-DRO		5	512810	10/31/19 10:12	JBJ	TAL CHI

Client Sample ID: GAC-2
Date Collected: 10/29/19 17:05
Date Received: 10/30/19 09:30

Lab Sample ID: 500-172559-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512752	10/30/19 15:41	DX	TAL CHI
Total/NA	Analysis	WI-DRO		5	512810	10/31/19 10:47	JBJ	TAL CHI

Client Sample ID: Discharge
Date Collected: 10/29/19 17:00
Date Received: 10/30/19 09:30

Lab Sample ID: 500-172559-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			512752	10/30/19 15:41	DX	TAL CHI
Total/NA	Analysis	WI-DRO		5	512810	10/31/19 11:23	JBJ	TAL CHI

Laboratory References:
TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: AECOM
Job ID: 500-172559-1
Project/Site: ATC - Madison 60611431

Laboratory: Eurofins TestAmerica, Chicago

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State Program	999580010	08-31-20

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information	Sampler: Leo Linnemanstons	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: ~~500-75801-35274.3~~
Client Contact: Mr. Leo Linnemanstons, P.G.	Phone: 608-828-8208	E-Mail: sandie.fredrick@testamericainc.com		Page: ~~Page 3 of 7~~ 1 of 1
Company: AECOM				Job #: 500-172559
Address: 1350 Deming Way Suite 100	Due Date Requested:			
City: Middleton	TAT Requested (days): 1 day			
State, Zip: WI, 53562				
Phone: 608-836-9800(Tel)	PO #: 60611431			
Email: leo.linnemanstons@aecom.com	WO #			
Project Name: ATC - Madison	Project #: 50016386			
Site:	SSOW#:			

500-172559 COC

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

RUSH

Special Instructions/Note:

	Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8270D - PAH	1664B - Oil and Grease HEM	8260B - BTEX	5210B, SM4500_H+	PFC_IDA - PFAS (35)	WI_DRO - WI DRO	Total Number of containers	Special Instructions/Note:
				Preservation Code:		X	X	N	S	A	N	N	A	X	
1	Inlet	10/29/19	17:25	Grab	Water								X		Add HCl upon arrival
2	Bag 2		17:20		Water										
3	ZEO		17:15		Water										
4	GAC-1		17:10		Water										
5	GAC-2		17:05		Water										
6	Discharge		17:00		Water										
					Water										
					Water										
					Water										
					Water										
					Water										

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by: Leo Linnemanstons	Date/Time: 10/29/19 @ 18:00	Company: AECOM	Received by: [signature]	Date/Time: 10/30/19 0930	Company: TALCHI
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: △ Yes △ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 4.8

Ver 01/16/2019

Login Sample Receipt Checklist

Client: AECOM

Job Number: 500-172559-1

Login Number: 172559
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

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.	True	
Sample custody seals, if present, are intact.	True	
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	4.8
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.	True	
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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-172423-1
Client Project/Site: ATC - Madison 60611431

For:
AECOM
1350 Deming Way Suite 100
Middleton, Wisconsin 53562

Attn: Mr. Leo B Linnemanstons, P.G.

Sandie Fredrick

Authorized for release by:
11/7/2019 12:26:54 PM

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

Table of Contents

Cover Page 1
Table of Contents 2
Case Narrative 3
Detection Summary 4
Method Summary 5
Sample Summary 6
Client Sample Results 7
Definitions 8
QC Association 9
Surrogate Summary 10
QC Sample Results 11
Chronicle 14
Certification Summary 15
Chain of Custody 16
Receipt Checklists 17

Case Narrative

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172423-1

Job ID: 500-172423-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-172423-1

Comments
No additional comments.

Receipt
The sample was received on 10/26/2019 9:20 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.5º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC/MS Semi VOA
Method 8270D: The following samples contained one base surrogate outside acceptance limits: The laboratory's SOP allows one base surrogate to be outside acceptance limits; therefore, re-extraction was not performed. These results have been reported and qualified. Discharge (500-172423-1)

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

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

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

Detection Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172423-1

Client Sample ID: Discharge

Lab Sample ID: 500-172423-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
HEM (Oil & Grease)	1.8	J	5.6	1.5	mg/L	1		1664B	Total/NA
pH	7.5	HF	0.2	0.2	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172423-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CHI
1664B	HEM and SGT-HEM	1664B	TAL CHI
SM 4500 H+ B	pH	SM	TAL CHI
SM 5210B	BOD, 5-Day	SM	TAL CHI
1664B	HEM and SGT-HEM (SPE)	1664B	TAL CHI
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL CHI
5030B	Purge and Trap	SW846	TAL CHI

Protocol References:

1664B = EPA-821-98-002

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172423-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-172423-1	Discharge	Water	10/25/19 14:00	10/26/19 09:20	

Client Sample ID: Discharge

Date Collected: 10/25/19 14:00
Date Received: 10/26/19 09:20

Lab Sample ID: 500-172423-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			11/01/19 20:30	1
Toluene	<0.15		0.50	0.15	ug/L			11/01/19 20:30	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/01/19 20:30	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/01/19 20:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*75 - 126*		*11/01/19 20:30*	*1*
Toluene-d8 (Surr)	*113*		*75 - 120*		*11/01/19 20:30*	*1*
4-Bromofluorobenzene (Surr)	*77*		*72 - 124*		*11/01/19 20:30*	*1*
Dibromofluoromethane (Surr)	*105*		*75 - 120*		*11/01/19 20:30*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.25		0.80	0.25	ug/L		10/31/19 07:43	10/31/19 17:47	1
Acenaphthylene	<0.21		0.80	0.21	ug/L		10/31/19 07:43	10/31/19 17:47	1
Anthracene	<0.27		0.80	0.27	ug/L		10/31/19 07:43	10/31/19 17:47	1
Benzo[a]anthracene	<0.045		0.16	0.045	ug/L		10/31/19 07:43	10/31/19 17:47	1
Benzo[a]pyrene	<0.079		0.16	0.079	ug/L		10/31/19 07:43	10/31/19 17:47	1
Benzo[b]fluoranthene	<0.065		0.16	0.065	ug/L		10/31/19 07:43	10/31/19 17:47	1
Benzo[g,h,i]perylene	<0.30		0.80	0.30	ug/L		10/31/19 07:43	10/31/19 17:47	1
Benzo[k]fluoranthene	<0.051		0.16	0.051	ug/L		10/31/19 07:43	10/31/19 17:47	1
Chrysene	<0.055		0.16	0.055	ug/L		10/31/19 07:43	10/31/19 17:47	1
Dibenz(a,h)anthracene	<0.041		0.24	0.041	ug/L		10/31/19 07:43	10/31/19 17:47	1
Fluoranthene	<0.36		0.80	0.36	ug/L		10/31/19 07:43	10/31/19 17:47	1
Fluorene	<0.20		0.80	0.20	ug/L		10/31/19 07:43	10/31/19 17:47	1
Indeno[1,2,3-cd]pyrene	<0.060		0.16	0.060	ug/L		10/31/19 07:43	10/31/19 17:47	1
1-Methylnaphthalene	<0.24		1.6	0.24	ug/L		10/31/19 07:43	10/31/19 17:47	1
2-Methylnaphthalene	<0.052		1.6	0.052	ug/L		10/31/19 07:43	10/31/19 17:47	1
Naphthalene	<0.25		0.80	0.25	ug/L		10/31/19 07:43	10/31/19 17:47	1
Phenanthrene	<0.24		0.80	0.24	ug/L		10/31/19 07:43	10/31/19 17:47	1
Pyrene	<0.34		0.80	0.34	ug/L		10/31/19 07:43	10/31/19 17:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*52*		*34 - 110*	*10/31/19 07:43*	*10/31/19 17:47*	*1*
Nitrobenzene-d5 (Surr)	*28*	*X*	*36 - 120*	*10/31/19 07:43*	*10/31/19 17:47*	*1*
Terphenyl-d14 (Surr)	*97*		*40 - 145*	*10/31/19 07:43*	*10/31/19 17:47*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	**1.8**	**J**	5.6	1.5	mg/L		11/02/19 13:50	11/02/19 13:56	1
pH	**7.5**	**HF**	0.2	0.2	SU			10/31/19 14:31	1
Biochemical Oxygen Demand	<2.0		2.0	2.0	mg/L			10/26/19 14:52	1

Definitions/Glossary

Client: AECOM
Job ID: 500-172423-1
Project/Site: ATC - Madison 60611431

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
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.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

QC Association Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172423-1

GC/MS VOA

Analysis Batch: 513039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-172423-1	Discharge	Total/NA	Water	8260B	
MB 500-513039/6	Method Blank	Total/NA	Water	8260B	
LCS 500-513039/4	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 512834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-172423-1	Discharge	Total/NA	Water	3510C	
MB 500-512834/1-A	Method Blank	Total/NA	Water	3510C	
LCS 500-512834/2-A	Lab Control Sample	Total/NA	Water	3510C	

Analysis Batch: 512888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-512834/1-A	Method Blank	Total/NA	Water	8270D	512834
LCS 500-512834/2-A	Lab Control Sample	Total/NA	Water	8270D	512834

Analysis Batch: 512971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-172423-1	Discharge	Total/NA	Water	8270D	512834

General Chemistry

Analysis Batch: 512070

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-172423-1	Discharge	Total/NA	Water	SM 5210B	
USB 500-512070/1	Method Blank	Total/NA	Water	SM 5210B	
LCS 500-512070/2	Lab Control Sample	Total/NA	Water	SM 5210B	
LCSD 500-512070/3	Lab Control Sample Dup	Total/NA	Water	SM 5210B	

Analysis Batch: 512886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-172423-1	Discharge	Total/NA	Water	SM 4500 H+ B	
LCS 500-512886/5	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSD 500-512886/6	Lab Control Sample Dup	Total/NA	Water	SM 4500 H+ B	
500-172423-1 DU	Discharge	Total/NA	Water	SM 4500 H+ B	

Prep Batch: 513236

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-172423-1	Discharge	Total/NA	Water	1664B	
MB 500-513236/12-A	Method Blank	Total/NA	Water	1664B	
LCS 500-513236/2-A	Lab Control Sample	Total/NA	Water	1664B	

Analysis Batch: 513237

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-172423-1	Discharge	Total/NA	Water	1664B	513236
MB 500-513236/12-A	Method Blank	Total/NA	Water	1664B	513236
LCS 500-513236/2-A	Lab Control Sample	Total/NA	Water	1664B	513236

Surrogate Summary

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172423-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(75-126)	(75-120)	(72-124)	(75-120)
500-172423-1	Discharge	97	113	77	105
LCS 500-513039/4	Lab Control Sample	95	100	95	101
MB 500-513039/6	Method Blank	94	98	94	99

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		FBP	NBZ	TPHL
Lab Sample ID	Client Sample ID	(34-110)	(36-120)	(40-145)
500-172423-1	Discharge	52	28 X	97
LCS 500-512834/2-A	Lab Control Sample	54	51	91
MB 500-512834/1-A	Method Blank	47	47	84

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
NBZ = Nitrobenzene-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-513039/6
Matrix: Water
Analysis Batch: 513039

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			11/01/19 12:17	1
Toluene	<0.15		0.50	0.15	ug/L			11/01/19 12:17	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			11/01/19 12:17	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			11/01/19 12:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*75 - 126*		*11/01/19 12:17*	*1*
Toluene-d8 (Surr)	*98*		*75 - 120*		*11/01/19 12:17*	*1*
4-Bromofluorobenzene (Surr)	*94*		*72 - 124*		*11/01/19 12:17*	*1*
Dibromofluoromethane (Surr)	*99*		*75 - 120*		*11/01/19 12:17*	*1*

Lab Sample ID: LCS 500-513039/4
Matrix: Water
Analysis Batch: 513039

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	42.7		ug/L		85	70 - 120
Toluene	50.0	42.7		ug/L		85	70 - 125
Ethylbenzene	50.0	41.8		ug/L		84	70 - 123
Xylenes, Total	100	84.0		ug/L		84	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 126*
Toluene-d8 (Surr)	*100*		*75 - 120*
4-Bromofluorobenzene (Surr)	*95*		*72 - 124*
Dibromofluoromethane (Surr)	*101*		*75 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-512834/1-A
Matrix: Water
Analysis Batch: 512888

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 512834

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.25		0.80	0.25	ug/L		10/31/19 07:43	10/31/19 18:06	1
Acenaphthylene	<0.21		0.80	0.21	ug/L		10/31/19 07:43	10/31/19 18:06	1
Anthracene	<0.27		0.80	0.27	ug/L		10/31/19 07:43	10/31/19 18:06	1
Benzo[a]anthracene	<0.045		0.16	0.045	ug/L		10/31/19 07:43	10/31/19 18:06	1
Benzo[a]pyrene	<0.079		0.16	0.079	ug/L		10/31/19 07:43	10/31/19 18:06	1
Benzo[b]fluoranthene	<0.065		0.16	0.065	ug/L		10/31/19 07:43	10/31/19 18:06	1
Benzo[g,h,i]perylene	<0.30		0.80	0.30	ug/L		10/31/19 07:43	10/31/19 18:06	1
Benzo[k]fluoranthene	<0.051		0.16	0.051	ug/L		10/31/19 07:43	10/31/19 18:06	1
Chrysene	<0.055		0.16	0.055	ug/L		10/31/19 07:43	10/31/19 18:06	1
Dibenz(a,h)anthracene	<0.041		0.24	0.041	ug/L		10/31/19 07:43	10/31/19 18:06	1
Fluoranthene	<0.36		0.80	0.36	ug/L		10/31/19 07:43	10/31/19 18:06	1
Fluorene	<0.20		0.80	0.20	ug/L		10/31/19 07:43	10/31/19 18:06	1
Indeno[1,2,3-cd]pyrene	<0.060		0.16	0.060	ug/L		10/31/19 07:43	10/31/19 18:06	1
1-Methylnaphthalene	<0.24		1.6	0.24	ug/L		10/31/19 07:43	10/31/19 18:06	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-512834/1-A
Matrix: Water
Analysis Batch: 512888

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 512834

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	<0.052		1.6	0.052	ug/L		10/31/19 07:43	10/31/19 18:06	1
Naphthalene	<0.25		0.80	0.25	ug/L		10/31/19 07:43	10/31/19 18:06	1
Phenanthrene	<0.24		0.80	0.24	ug/L		10/31/19 07:43	10/31/19 18:06	1
Pyrene	<0.34		0.80	0.34	ug/L		10/31/19 07:43	10/31/19 18:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl (Surr)	*47*		*34 - 110*	*10/31/19 07:43*	*10/31/19 18:06*	*1*
Nitrobenzene-d5 (Surr)	*47*		*36 - 120*	*10/31/19 07:43*	*10/31/19 18:06*	*1*
Terphenyl-d14 (Surr)	*84*		*40 - 145*	*10/31/19 07:43*	*10/31/19 18:06*	*1*

Lab Sample ID: LCS 500-512834/2-A
Matrix: Water
Analysis Batch: 512888

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 512834

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	32.0	19.2		ug/L		60	46 - 110
Acenaphthylene	32.0	20.1		ug/L		63	47 - 113
Anthracene	32.0	25.4		ug/L		80	67 - 118
Benzo[a]anthracene	32.0	27.8		ug/L		87	70 - 126
Benzo[a]pyrene	32.0	29.2		ug/L		91	70 - 135
Benzo[b]fluoranthene	32.0	27.0		ug/L		84	69 - 136
Benzo[g,h,i]perylene	32.0	31.7		ug/L		99	70 - 135
Benzo[k]fluoranthene	32.0	29.0		ug/L		91	70 - 133
Chrysene	32.0	29.0		ug/L		91	68 - 129
Dibenz(a,h)anthracene	32.0	31.3		ug/L		98	70 - 134
Fluoranthene	32.0	27.4		ug/L		86	68 - 126
Fluorene	32.0	21.8		ug/L		68	53 - 120
Indeno[1,2,3-cd]pyrene	32.0	31.1		ug/L		97	65 - 133
1-Methylnaphthalene	32.0	16.2		ug/L		51	38 - 110
2-Methylnaphthalene	32.0	15.8		ug/L		49	34 - 110
Naphthalene	32.0	15.0		ug/L		47	36 - 110
Phenanthrene	32.0	24.9		ug/L		78	65 - 120
Pyrene	32.0	26.5		ug/L		83	70 - 126

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl (Surr)	*54*		*34 - 110*
Nitrobenzene-d5 (Surr)	*51*		*36 - 120*
Terphenyl-d14 (Surr)	*91*		*40 - 145*

Method: 1664B - HEM and SGT-HEM

Lab Sample ID: MB 500-513236/12-A
Matrix: Water
Analysis Batch: 513237

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 513236

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (Oil & Grease)	<1.3		5.0	1.3	mg/L		11/02/19 13:50	11/02/19 13:56	1

Method: 1664B - HEM and SGT-HEM (Continued)

Lab Sample ID: LCS 500-513236/2-A
Matrix: Water
Analysis Batch: 513237

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 513236

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
HEM (Oil & Grease)			40.0	35.60		mg/L		89	78 - 114		

Method: SM 4500 H+ B - pH

Lab Sample ID: 500-172423-1 DU
Matrix: Water
Analysis Batch: 512886

Client Sample ID: Discharge
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.5	HF		7.6		SU				0.4	

Method: SM 5210B - BOD, 5-Day

Lab Sample ID: USB 500-512070/1
Matrix: Water
Analysis Batch: 512070

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	<2.0		2.0	2.0	mg/L			10/26/19 13:15	1

Lab Sample ID: LCS 500-512070/2
Matrix: Water
Analysis Batch: 512070

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Biochemical Oxygen Demand			198	197		mg/L		99	85 - 115		

Lab Sample ID: LCSD 500-512070/3
Matrix: Water
Analysis Batch: 512070

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

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Biochemical Oxygen Demand			198	204		mg/L		103	85 - 115	4	20

Lab Chronicle

Client: AECOM
Project/Site: ATC - Madison 60611431

Job ID: 500-172423-1

Client Sample ID: Discharge

Date Collected: 10/25/19 14:00
Date Received: 10/26/19 09:20

Lab Sample ID: 500-172423-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	513039	11/01/19 20:30	PMF	TAL CHI
Total/NA	Prep	3510C			512834	10/31/19 07:43	CMC	TAL CHI
Total/NA	Analysis	8270D		1	512971	10/31/19 17:47	NRJ	TAL CHI
Total/NA	Prep	1664B			513236	11/02/19 13:50	RES	TAL CHI
Total/NA	Analysis	1664B		1	513237	11/02/19 13:56	RES	TAL CHI
Total/NA	Analysis	SM 4500 H+ B		1	512886		TMS	TAL CHI
					(Start)	10/31/19 14:31		
					(End)	10/31/19 14:36		
Total/NA	Analysis	SM 5210B		1	512070	10/26/19 14:52	JGM	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: AECOM
Job ID: 500-172423-1
Project/Site: ATC - Madison 60611431

Laboratory: Eurofins TestAmerica, Chicago

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State Program	999580010	08-31-20

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins Environment Testing TestAmerica

Client Information	Sampler: Leo Linnemanstons	Lab PM: Fredrick, Sandie	Carrier Tracking No(s).	COC No: ~~500-75881-55274.3~~
Client Contact: Mr. Leo Linnemanstons, P.G.	Phone: 608-828-8208	E-Mail: sandie.fredrick@testamericainc.com		Page: ~~Page 3 of 7~~ 1 of 1
Company: AECOM		Analysis Requested		Job #: 500-172423

Address: 1350 Deming Way Suite 100	Due Date Requested: 11/5/2019
City: Middleton	TAT Requested (days): 7 days
State, Zip: WI, 53562	
Phone: 608-836-9800(Tel)	PO #: 60611431
Email: leo.linnemanstons@aecom.com	WO #:
Project Name: ATC - Madison	Project #: 50016386
Site:	SSOW#:

500-172423 COC

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8270D - PAH	1664B - Oil and Grease HEM	8260B - BTEX	5210B, SM4500_H+	PFC_IDA - PFAS (36)	WI_DRO - WI DRO	Total Number of containers	Special Instructions/Note:
				Preservation Code:	X	X	N	S	A	N	N	A	X	
Discharge	10/25/19	14:00	Grab	Water			X	X	X	X				
				Water										
				Water										
				Water										
				Water										
				Water										
				Water										
				Water										
				Water										
				Water										
				Water										

Possible Hazard Identification
☐ *Non-Hazard* ☐ *Flammable* ☐ *Skin Irritant* ☐ *Poison B* ☐ *Unknown* ☐ *Radiological*

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☒ *Disposal By Lab* ☐ *Archive For* ____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)
Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Leo Linnemanstons	10/25/2019 @ 17:00	AECOM	[signature]	10/26/19 0920	TA CHI

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.5

Ver 01/16/2019

Login Sample Receipt Checklist

Client: AECOM

Job Number: 500-172423-1

Login Number: 172423
List Number: 1
Creator: Scott, Sherri L

List Source: Eurofins TestAmerica, Chicago

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.	True	
Sample custody seals, if present, are intact.	True	
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	2.5
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.	True	
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	

November 22, 2019

Vista Work Order No. 1903838

Mr. Dave Henderson
AECOM
1555 N. River Center Drive
Milwaukee, WI 53212

Dear Mr. Henderson,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on October 26, 2019 under your Project Name 'ATC Madison'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier
Laboratory Director

Vista Work Order No. 1903838
Case Narrative

Sample Condition on Receipt:

Seven aqueous samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

PFAS Isotope Dilution Method

The samples were extracted and analyzed for a selected list of PFAS using the PFAS Isotope Dilution Method. The results for PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Results for all other analytes include the linear isomers only.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above the Reporting Limit. The OPR recoveries were within the method acceptance criteria.

The internal standard recoveries outside the acceptance criteria are listed in the table below.

QC Anomalies

LabNumber	SampleName	Analysis	Analyte	Flag	%Rec
1903838-03	ZEO	PFAS Isotope Dilution Method	13C2-PFHxDA	H	1.80
1903838-04	GAC-1	PFAS Isotope Dilution Method	d3-MeFOSA	H	1.40
1903838-04	GAC-1	PFAS Isotope Dilution Method	d5-EtFOSA	H	1.60

H = Recovery was outside laboratory acceptance criteria.

TABLE OF CONTENTS

Case Narrative..... 1

Table of Contents..... 3

Sample Inventory..... 4

Analytical Results..... 5

Qualifiers..... 24

Certifications..... 25

Sample Receipt..... 28

Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1903838-01	Inlet	25-Oct-19 14:25	26-Oct-19 09:56	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1903838-02	Bag 2	25-Oct-19 14:20	26-Oct-19 09:56	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1903838-03	ZEO	25-Oct-19 14:15	26-Oct-19 09:56	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1903838-04	GAC-1	25-Oct-19 14:10	26-Oct-19 09:56	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1903838-05	GAC-2	25-Oct-19 14:05	26-Oct-19 09:56	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1903838-06	Discharge	25-Oct-19 14:00	26-Oct-19 09:56	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
1903838-07	Field Blank	25-Oct-19 14:45	26-Oct-19 09:56	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL

ANALYTICAL RESULTS

Sample ID: Method Blank

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: ATC Madison
Matrix: Aqueous

Laboratory Data

Lab Sample: B9J0318-BLK1
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	0.365	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
PFPeA	2706-90-3	ND	0.640	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
PFBS	375-73-5	ND	0.895	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
4:2 FTS	757124-72-4	ND	0.695	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
PFHxA	307-24-4	ND	1.09	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
PFPeS	2706-91-4	ND	1.21	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
HFPO-DA	13252-13-6	ND	2.41	2.50		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
PFHpA	375-85-9	ND	0.296	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
ADONA	919005-14-4	ND	0.361	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
PFHxS	355-46-4	ND	0.474	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
6:2 FTS	27619-97-2	ND	1.00	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
PFOA	335-67-1	ND	0.326	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
PFHpS	375-92-8	ND	0.469	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
PFNA	375-95-1	ND	0.405	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
PFOSA	754-91-6	ND	0.885	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
PFOS	1763-23-1	ND	0.404	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
9Cl-PF3ONS	756426-58-1	ND	0.725	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
PFDA	335-76-2	ND	0.745	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
8:2 FTS	39108-34-4	ND	1.03	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
PFNS	68259-12-1	ND	1.94	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
MeFOSAA	2355-31-9	ND	0.825	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
EtFOSAA	2991-50-6	ND	0.685	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
PFUnA	2058-94-8	ND	0.525	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
PFDS	335-77-3	ND	0.615	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
11Cl-PF3OUdS	763051-92-9	ND	1.21	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
10:2 FTS	120226-60-0	ND	1.57	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
PFDoA	307-55-1	ND	0.396	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
MeFOSA	31506-32-8	ND	1.92	10.0		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
PFTrDA	72629-94-8	ND	0.247	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
PFDoS	79780-39-5	ND	2.09	2.50		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
PFTeDA	376-06-7	ND	0.378	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
EtFOSA	4151-50-2	ND	2.56	10.0		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
PFHxDA	67905-19-5	ND	0.147	2.00		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
PFODA	16517-11-6	ND	3.07	3.50		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
MeFOSE	24448-09-7	ND	3.04	10.0		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
EtFOSE	1691-99-2	ND	4.72	10.0		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	104	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1

Sample ID: Method Blank **PFAS Isotope Dilution Method**

Client Data

Name: AECOM
Project: ATC Madison
Matrix: Aqueous

Laboratory Data

Lab Sample: B9J0318-BLK1
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	106	60 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C3-PFBS	IS	101	60 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C3-HFPO-DA	IS	99.4	60 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C2-PFHxA	IS	107	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C4-PFHpA	IS	102	60 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C3-PFHxS	IS	96.2	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C2-6:2 FTS	IS	112	40 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C5-PFNA	IS	104	50 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C8-PFOSA	IS	49.5	20 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C2-PFOA	IS	94.7	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C8-PFOS	IS	105	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C2-PFDA	IS	101	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C2-8:2 FTS	IS	89.8	40 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
d3-MeFOSAA	IS	81.5	50 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C2-PFUnA	IS	81.1	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
d5-EtFOSAA	IS	78.9	50 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C2-PFDoA	IS	80.8	30 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
d3-MeFOSA	IS	25.7	10 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C2-PFTeDA	IS	76.7	20 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
d5-EtFOSA	IS	23.8	10 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
13C2-PFHxDA	IS	77.6	20 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
d7-MeFOSE	IS	38.0	10 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1
d9-EtFOSE	IS	37.7	10 - 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:16	1

MDL - Method Detection Limit RL - Reporting limit Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: OPR **PFAS Isotope Dilution Method**

Client Data

Name: AECOM
Project: ATC Madison
Matrix: Aqueous

Laboratory Data

Lab Sample: B9J0318-BS1
Column: BEH C18

Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	40.0	40.0	99.9	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFPeA	2706-90-3	42.7	40.0	107	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFBS	375-73-5	37.7	40.0	94.4	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
4:2 FTS	757124-72-4	36.9	40.0	92.2	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFHxA	307-24-4	39.9	40.0	99.9	70 - 130	Q	B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFPeS	2706-91-4	38.3	40.0	95.7	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
HFPO-DA	13252-13-6	41.1	40.0	103	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFHpA	375-85-9	37.9	40.0	94.8	70 - 130	Q	B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
ADONA	919005-14-4	42.9	40.0	107	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFHxS	355-46-4	34.8	40.0	87.1	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
6:2 FTS	27619-97-2	36.5	40.0	91.2	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFOA	335-67-1	39.1	40.0	97.7	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFHpS	375-92-8	45.5	40.0	114	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFNA	375-95-1	40.2	40.0	100	70 - 130	Q	B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFOSA	754-91-6	42.9	40.0	107	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFOS	1763-23-1	41.9	40.1	105	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
9Cl-PF3ONS	756426-58-1	33.1	40.0	82.8	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFDA	335-76-2	42.8	40.0	107	70 - 130	Q	B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
8:2 FTS	39108-34-4	42.9	40.0	107	60 - 130	Q	B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFNS	68259-12-1	35.0	40.0	87.5	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
MeFOSAA	2355-31-9	40.2	40.0	100	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
EtFOSAA	2991-50-6	45.7	40.0	114	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFUnA	2058-94-8	36.5	40.0	91.2	70 - 130	Q	B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFDS	335-77-3	30.9	40.1	77.2	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
11Cl-PF3OUdS	763051-92-9	41.8	40.0	104	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
10:2 FTS	120226-60-0	41.1	40.0	103	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFDoA	307-55-1	39.2	40.0	98.1	70 - 130	Q	B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
MeFOSA	31506-32-8	182	200	91.1	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFTrDA	72629-94-8	41.7	40.0	104	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFDoS	79780-39-5	40.9	40.0	102	60 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFTeDA	376-06-7	39.9	40.0	99.8	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
EtFOSA	4151-50-2	218	200	109	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFHxDA	67905-19-5	40.6	40.0	102	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
PFODA	16517-11-6	36.7	40.0	91.7	40 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1

Sample ID: OPR **PFAS Isotope Dilution Method**

Client Data

Name: AECOM
Project: ATC Madison
Matrix: Aqueous

Laboratory Data

Lab Sample: B9J0318-BS1
Column: BEH C18

Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
MeFOSE	24448-09-7	208	200	104	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
EtFOSE	1691-99-2	191	200	95.7	70 - 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1

Labeled Standards	Type	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	99.4	60- 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C3-PFPeA	IS	107	60- 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C3-PFBS	IS	96.2	60- 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C3-HFPO-DA	IS	108	60- 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C2-PFHxA	IS	106	70- 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C4-PFHpA	IS	105	60- 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C3-PFHxS	IS	93.1	60- 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C2-6:2 FTS	IS	107	40- 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C5-PFNA	IS	101	50- 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C8-PFOSA	IS	62.8	20- 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C2-PFOA	IS	104	60- 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C8-PFOS	IS	106	60- 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C2-PFDA	IS	96.4	60- 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C2-8:2 FTS	IS	87.9	40- 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
d3-MeFOSAA	IS	84.9	50- 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C2-PFUnA	IS	88.5	60- 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
d5-EtFOSAA	IS	80.5	50- 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C2-PFDoA	IS	75.0	30- 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
d3-MeFOSA	IS	33.5	10- 130		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C2-PFTeDA	IS	79.1	20- 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
d5-EtFOSA	IS	29.2	10- 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
13C2-PFHxDA	IS	78.1	20- 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
d7-MeFOSE	IS	43.0	10- 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1
d9-EtFOSE	IS	45.3	10- 150		B9J0318	07-Nov-19	0.250 L	20-Nov-19 22:26	1

Sample ID: Inlet — **PFAS Isotope Dilution Method**

Client Data

Name: AECOM
Project: ATC Madison
Matrix: Aqueous
Date Collected: 25-Oct-19 14:25

Laboratory Data

Lab Sample: 1903838-01
Date Received: 26-Oct-19 09:56
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	58.4	0.379	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
PFPeA	2706-90-3	158	0.666	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
PFBS	375-73-5	6.81	0.931	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
4:2 FTS	757124-72-4	ND	0.723	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
PFHxA	307-24-4	183	1.13	2.08	Q	B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
PFPeS	2706-91-4	ND	1.26	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
HFPO-DA	13252-13-6	11.3	2.51	2.60		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
PFHpA	375-85-9	44.1	0.308	2.08	Q	B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
ADONA	919005-14-4	ND	0.376	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
PFHxS	355-46-4	5.36	0.493	2.08	Q	B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
6:2 FTS	27619-97-2	ND	1.04	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
PFOA	335-67-1	18.4	0.339	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
PFHpS	375-92-8	ND	0.488	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
PFNA	375-95-1	10.0	0.422	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
PFOSA	754-91-6	ND	0.921	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
PFOS	1763-23-1	11.8	0.420	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
9Cl-PF3ONS	756426-58-1	ND	0.755	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
PFDA	335-76-2	5.49	0.775	2.08	Q	B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
8:2 FTS	39108-34-4	35.2	1.07	2.08	Q	B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
PFNS	68259-12-1	ND	2.01	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
MeFOSAA	2355-31-9	ND	0.859	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
EtFOSAA	2991-50-6	ND	0.713	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
PFUnA	2058-94-8	0.672	0.546	2.08	J	B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
PFDS	335-77-3	ND	0.640	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
11Cl-PF3OUdS	763051-92-9	ND	1.25	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
10:2 FTS	120226-60-0	ND	1.63	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
PFDoA	307-55-1	ND	0.412	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
MeFOSA	31506-32-8	ND	1.99	10.4		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
PFTrDA	72629-94-8	ND	0.257	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
PFDoS	79780-39-5	ND	2.17	2.60		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
PFTeDA	376-06-7	ND	0.393	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
EtFOSA	4151-50-2	ND	2.66	10.4		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
PFHxDA	67905-19-5	ND	0.153	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
PFODA	16517-11-6	ND	3.20	3.64		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
MeFOSE	24448-09-7	ND	3.16	10.4		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
EtFOSE	1691-99-2	ND	4.91	10.4		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	69.3	60 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1

Sample ID: Inlet — **PFAS Isotope Dilution Method**

Client Data

Name: AECOM
Project: ATC Madison
Matrix: Aqueous
Date Collected: 25-Oct-19 14:25

Laboratory Data

Lab Sample: 1903838-01
Date Received: 26-Oct-19 09:56
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	109	60 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C3-PFBS	IS	104	60 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C3-HFPO-DA	IS	105	60 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C2-PFHxA	IS	99.8	70 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C4-PFHpA	IS	108	60 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C3-PFHxS	IS	108	60 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C2-6:2 FTS	IS	80.2	40 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C5-PFNA	IS	110	50 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C8-PFOSA	IS	53.3	20 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C2-PFOA	IS	102	60 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C8-PFOS	IS	108	60 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C2-PFDA	IS	102	60 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C2-8:2 FTS	IS	106	40 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
d3-MeFOSAA	IS	97.4	50 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C2-PFUnA	IS	89.6	60 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
d5-EtFOSAA	IS	96.5	50 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C2-PFDoA	IS	91.4	30 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
d3-MeFOSA	IS	16.7	10 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C2-PFTeDA	IS	80.0	20 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
d5-EtFOSA	IS	16.8	10 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
13C2-PFHxDA	IS	68.4	20 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
d7-MeFOSE	IS	54.5	10 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1
d9-EtFOSE	IS	56.6	10 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:37	1

MDL - Method Detection Limit RL - Reporting limit Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: Bag 2

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: ATC Madison
Matrix: Aqueous
Date Collected: 25-Oct-19 14:20

Laboratory Data

Lab Sample: 1903838-02
Date Received: 26-Oct-19 09:56
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	55.9	0.379	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFPeA	2706-90-3	155	0.666	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFBS	375-73-5	7.33	0.931	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
4:2 FTS	757124-72-4	ND	0.723	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFHxA	307-24-4	173	1.13	2.08	Q	B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFPeS	2706-91-4	ND	1.26	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
HFPO-DA	13252-13-6	10.7	2.51	2.60		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFHpA	375-85-9	47.3	0.307	2.08	Q	B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
ADONA	919005-14-4	ND	0.375	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFHxS	355-46-4	3.11	0.492	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
6:2 FTS	27619-97-2	3800	5.20	10.4	D	B9J0318	07-Nov-19	0.240 L	21-Nov-19 20:38	5
PFOA	335-67-1	16.9	0.339	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFHpS	375-92-8	ND	0.487	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFNA	375-95-1	9.03	0.421	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFOSA	754-91-6	ND	0.920	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFOS	1763-23-1	12.4	0.420	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
9Cl-PF3ONS	756426-58-1	ND	0.754	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFDA	335-76-2	5.90	0.775	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
8:2 FTS	39108-34-4	28.2	1.07	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFNS	68259-12-1	ND	2.01	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
MeFOSAA	2355-31-9	ND	0.858	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
EtFOSAA	2991-50-6	ND	0.712	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFUnA	2058-94-8	0.782	0.546	2.08	J	B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFDS	335-77-3	ND	0.640	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
11Cl-PF3OUdS	763051-92-9	ND	1.25	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
10:2 FTS	120226-60-0	ND	1.63	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFDoA	307-55-1	ND	0.412	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
MeFOSA	31506-32-8	ND	1.99	10.4		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFTrDA	72629-94-8	ND	0.257	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFDoS	79780-39-5	ND	2.17	2.60		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFTeDA	376-06-7	ND	0.393	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
EtFOSA	4151-50-2	ND	2.66	10.4		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFHxDA	67905-19-5	ND	0.153	2.08		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
PFODA	16517-11-6	ND	3.19	3.64		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
MeFOSE	24448-09-7	ND	3.16	10.4		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
EtFOSE	1691-99-2	ND	4.91	10.4		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	71.8	60 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1

Sample ID: Bag 2 — **PFAS Isotope Dilution Method**

Client Data

Name: AECOM
Project: ATC Madison
Matrix: Aqueous
Date Collected: 25-Oct-19 14:20

Laboratory Data

Lab Sample: 1903838-02
Date Received: 26-Oct-19 09:56
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	106	60 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C3-PFBS	IS	97.4	60 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C3-HFPO-DA	IS	100	60 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C2-PFHxA	IS	102	70 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C4-PFHpA	IS	102	60 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C3-PFHxS	IS	97.6	60 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C2-6:2 FTS	IS	114	40 - 150	D	B9J0318	07-Nov-19	0.240 L	21-Nov-19 20:38	5
13C5-PFNA	IS	102	50 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C8-PFOSA	IS	58.0	20 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C2-PFOA	IS	102	60 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C8-PFOS	IS	97.6	60 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C2-PFDA	IS	104	60 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C2-8:2 FTS	IS	91.8	40 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
d3-MeFOSAA	IS	112	50 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C2-PFUnA	IS	96.7	60 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
d5-EtFOSAA	IS	102	50 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C2-PFDoA	IS	86.5	30 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
d3-MeFOSA	IS	16.8	10 - 130		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C2-PFTeDA	IS	80.7	20 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
d5-EtFOSA	IS	17.4	10 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
13C2-PFHxDA	IS	74.3	20 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
d7-MeFOSE	IS	55.8	10 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1
d9-EtFOSE	IS	59.7	10 - 150		B9J0318	07-Nov-19	0.240 L	20-Nov-19 22:47	1

MDL - Method Detection Limit RL - Reporting limit Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: ZEO

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: ATC Madison
Matrix: Aqueous
Date Collected: 25-Oct-19 14:15

Laboratory Data

Lab Sample: 1903838-03
Date Received: 26-Oct-19 09:56
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	47.0	0.404	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFPeA	2706-90-3	164	0.710	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFBS	375-73-5	2.87	0.992	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
4:2 FTS	757124-72-4	ND	0.771	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFHxA	307-24-4	114	1.21	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFPeS	2706-91-4	ND	1.34	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
HFPO-DA	13252-13-6	ND	2.67	2.77		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFHpA	375-85-9	17.3	0.328	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
ADONA	919005-14-4	ND	0.400	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFHxS	355-46-4	ND	0.525	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
6:2 FTS	27619-97-2	1320	1.11	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFOA	335-67-1	9.89	0.361	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFHpS	375-92-8	ND	0.519	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFNA	375-95-1	1.55	0.449	2.22	J, Q	B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFOSA	754-91-6	7.54	0.981	2.22	Q	B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFOS	1763-23-1	5.64	0.447	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
9Cl-PF3ONS	756426-58-1	ND	0.804	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFDA	335-76-2	ND	0.826	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
8:2 FTS	39108-34-4	8.62	1.14	2.22	Q	B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFNS	68259-12-1	ND	2.15	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
MeFOSAA	2355-31-9	ND	0.915	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
EtFOSAA	2991-50-6	ND	0.760	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFUnA	2058-94-8	ND	0.582	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFDS	335-77-3	ND	0.682	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
11Cl-PF3OUdS	763051-92-9	ND	1.34	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
10:2 FTS	120226-60-0	ND	1.74	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFDoA	307-55-1	ND	0.439	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
MeFOSA	31506-32-8	ND	2.12	11.1		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFTrDA	72629-94-8	ND	0.274	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFDoS	79780-39-5	ND	2.31	2.77		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFTeDA	376-06-7	ND	0.419	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
EtFOSA	4151-50-2	ND	2.83	11.1		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFHxDA	67905-19-5	ND	0.163	2.22		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
PFODA	16517-11-6	ND	3.40	3.88		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
MeFOSE	24448-09-7	ND	3.37	11.1		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
EtFOSE	1691-99-2	ND	5.23	11.1		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	80.3	60 - 130		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1

Sample ID: ZEO

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: ATC Madison
Matrix: Aqueous
Date Collected: 25-Oct-19 14:15

Laboratory Data

Lab Sample: 1903838-03
Date Received: 26-Oct-19 09:56
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	96.0	60 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C3-PFBS	IS	102	60 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C3-HFPO-DA	IS	98.0	60 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C2-PFHxA	IS	94.6	70 - 130		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C4-PFHpA	IS	99.6	60 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C3-PFHxS	IS	105	60 - 130		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C2-6:2 FTS	IS	80.9	40 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C5-PFNA	IS	98.1	50 - 130		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C8-PFOSA	IS	57.2	20 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C2-PFOA	IS	98.3	60 - 130		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C8-PFOS	IS	94.7	60 - 130		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C2-PFDA	IS	89.5	60 - 130		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C2-8:2 FTS	IS	73.4	40 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
d3-MeFOSAA	IS	82.3	50 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C2-PFUnA	IS	81.4	60 - 130		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
d5-EtFOSAA	IS	73.4	50 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C2-PFDoA	IS	80.0	30 - 130		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
d3-MeFOSA	IS	13.5	10 - 130		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C2-PFTeDA	IS	42.8	20 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
d5-EtFOSA	IS	11.5	10 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
13C2-PFHxDA	IS	1.80	20 - 150	H	B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
d7-MeFOSE	IS	55.2	10 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1
d9-EtFOSE	IS	54.5	10 - 150		B9J0318	07-Nov-19	0.225 L	21-Nov-19 20:49	1

MDL - Method Detection Limit RL - Reporting limit Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: GAC-1

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: ATC Madison
Matrix: Aqueous
Date Collected: 25-Oct-19 14:10

Laboratory Data

Lab Sample: 1903838-04
Date Received: 26-Oct-19 09:56
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	0.400	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFPeA	2706-90-3	ND	0.702	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFBS	375-73-5	ND	0.981	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
4:2 FTS	757124-72-4	ND	0.762	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFHxA	307-24-4	ND	1.20	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFPeS	2706-91-4	ND	1.33	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
HFPO-DA	13252-13-6	ND	2.64	2.74		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFHpA	375-85-9	ND	0.324	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
ADONA	919005-14-4	ND	0.396	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFHxS	355-46-4	ND	0.519	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
6:2 FTS	27619-97-2	2.09	1.10	2.19	J, Q	B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFOA	335-67-1	1.58	0.357	2.19	J, Q	B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFHpS	375-92-8	ND	0.514	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFNA	375-95-1	ND	0.444	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFOSA	754-91-6	48.1	0.970	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFOS	1763-23-1	0.817	0.442	2.19	J, Q	B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
9Cl-PF3ONS	756426-58-1	ND	0.795	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFDA	335-76-2	ND	0.817	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
8:2 FTS	39108-34-4	ND	1.13	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFNS	68259-12-1	ND	2.12	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
MeFOSAA	2355-31-9	ND	0.904	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
EtFOSAA	2991-50-6	ND	0.751	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFUnA	2058-94-8	ND	0.576	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFDS	335-77-3	ND	0.674	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
11Cl-PF3OUdS	763051-92-9	ND	1.32	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
10:2 FTS	120226-60-0	ND	1.72	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFDoA	307-55-1	ND	0.434	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
MeFOSA	31506-32-8	ND	2.10	11.0		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFTrDA	72629-94-8	ND	0.271	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFDoS	79780-39-5	ND	2.29	2.74		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFTeDA	376-06-7	ND	0.414	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
EtFOSA	4151-50-2	ND	2.80	11.0		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFHxDA	67905-19-5	ND	0.161	2.19		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
PFODA	16517-11-6	ND	3.37	3.84		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
MeFOSE	24448-09-7	ND	3.33	11.0		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
EtFOSE	1691-99-2	ND	5.17	11.0		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	97.4	60 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1

Sample ID: GAC-1

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: ATC Madison
Matrix: Aqueous
Date Collected: 25-Oct-19 14:10

Laboratory Data

Lab Sample: 1903838-04
Date Received: 26-Oct-19 09:56
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	105	60 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C3-PFBS	IS	98.9	60 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C3-HFPO-DA	IS	99.9	60 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C2-PFHxA	IS	102	70 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C4-PFHpA	IS	94.5	60 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C3-PFHxS	IS	83.3	60 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C2-6:2 FTS	IS	94.1	40 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C5-PFNA	IS	101	50 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C8-PFOSA	IS	41.2	20 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C2-PFOA	IS	93.9	60 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C8-PFOS	IS	104	60 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C2-PFDA	IS	93.9	60 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C2-8:2 FTS	IS	96.4	40 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
d3-MeFOSAA	IS	96.7	50 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C2-PFUnA	IS	89.0	60 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
d5-EtFOSAA	IS	90.6	50 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C2-PFDoA	IS	84.7	30 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
d3-MeFOSA	IS	1.40	10 - 130	H	B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C2-PFTeDA	IS	81.7	20 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
d5-EtFOSA	IS	1.60	10 - 150	H	B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
13C2-PFHxDA	IS	69.4	20 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
d7-MeFOSE	IS	36.3	10 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1
d9-EtFOSE	IS	40.4	10 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:08	1

MDL - Method Detection Limit RL - Reporting limit Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: GAC-2

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: ATC Madison
Matrix: Aqueous
Date Collected: 25-Oct-19 14:05

Laboratory Data

Lab Sample: 1903838-05
Date Received: 26-Oct-19 09:56
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	0.400	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFPeA	2706-90-3	ND	0.702	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFBS	375-73-5	ND	0.982	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
4:2 FTS	757124-72-4	ND	0.763	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFHxA	307-24-4	ND	1.20	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFPeS	2706-91-4	ND	1.33	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
HFPO-DA	13252-13-6	ND	2.65	2.74		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFHpA	375-85-9	ND	0.324	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
ADONA	919005-14-4	ND	0.396	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFHxS	355-46-4	ND	0.520	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
6:2 FTS	27619-97-2	1.66	1.10	2.20	J	B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFOA	335-67-1	0.543	0.357	2.20	J, Q	B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFHpS	375-92-8	ND	0.514	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFNA	375-95-1	ND	0.445	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFOSA	754-91-6	9.14	0.971	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFOS	1763-23-1	1.03	0.443	2.20	J, Q	B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
9Cl-PF3ONS	756426-58-1	ND	0.796	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFDA	335-76-2	ND	0.818	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
8:2 FTS	39108-34-4	ND	1.13	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFNS	68259-12-1	ND	2.12	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
MeFOSAA	2355-31-9	ND	0.906	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
EtFOSAA	2991-50-6	ND	0.752	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFUnA	2058-94-8	ND	0.576	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFDS	335-77-3	ND	0.675	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
11Cl-PF3OUdS	763051-92-9	ND	1.32	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
10:2 FTS	120226-60-0	ND	1.72	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFDoA	307-55-1	ND	0.435	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
MeFOSA	31506-32-8	ND	2.10	11.0		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFTrDA	72629-94-8	ND	0.271	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFDoS	79780-39-5	ND	2.29	2.74		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFTeDA	376-06-7	ND	0.414	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
EtFOSA	4151-50-2	ND	2.80	11.0		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFHxDA	67905-19-5	ND	0.161	2.20		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
PFODA	16517-11-6	ND	3.37	3.84		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
MeFOSE	24448-09-7	ND	3.33	11.0		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
EtFOSE	1691-99-2	ND	5.18	11.0		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	102	60 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1

Sample ID: GAC-2

PFAS Isotope Dilution Method

Client Data

Name: AECOM
Project: ATC Madison
Matrix: Aqueous
Date Collected: 25-Oct-19 14:05

Laboratory Data

Lab Sample: 1903838-05
Date Received: 26-Oct-19 09:56
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	102	60 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C3-PFBS	IS	122	60 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C3-HFPO-DA	IS	100	60 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C2-PFHxA	IS	103	70 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C4-PFHpA	IS	103	60 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C3-PFHxS	IS	121	60 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C2-6:2 FTS	IS	90.0	40 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C5-PFNA	IS	106	50 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C8-PFOSA	IS	87.6	20 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C2-PFOA	IS	95.5	60 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C8-PFOS	IS	98.5	60 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C2-PFDA	IS	92.3	60 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C2-8:2 FTS	IS	80.1	40 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
d3-MeFOSAA	IS	112	50 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C2-PFUnA	IS	100	60 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
d5-EtFOSAA	IS	99.5	50 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C2-PFDoA	IS	95.9	30 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
d3-MeFOSA	IS	30.5	10 - 130		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C2-PFTeDA	IS	88.2	20 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
d5-EtFOSA	IS	25.1	10 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
13C2-PFHxDA	IS	76.1	20 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
d7-MeFOSE	IS	72.8	10 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1
d9-EtFOSE	IS	77.0	10 - 150		B9J0318	07-Nov-19	0.228 L	20-Nov-19 23:19	1

MDL - Method Detection Limit RL - Reporting limit Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: Discharge **PFAS Isotope Dilution Method**

Client Data

Name: AECOM
Project: ATC Madison
Matrix: Aqueous
Date Collected: 25-Oct-19 14:00

Laboratory Data

Lab Sample: 1903838-06
Date Received: 26-Oct-19 09:56
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	0.408	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
PFPeA	2706-90-3	ND	0.717	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
PFBS	375-73-5	ND	1.00	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
4:2 FTS	757124-72-4	ND	0.778	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
PFHxA	307-24-4	ND	1.22	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
PFPeS	2706-91-4	ND	1.35	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
HFPO-DA	13252-13-6	ND	2.70	2.80		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
PFHpA	375-85-9	ND	0.331	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
ADONA	919005-14-4	ND	0.404	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
PFHxS	355-46-4	ND	0.530	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
6:2 FTS	27619-97-2	1.95	1.12	2.24	J, Q	B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
PFOA	335-67-1	1.02	0.364	2.24	J, Q	B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
PFHpS	375-92-8	ND	0.525	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
PFNA	375-95-1	ND	0.453	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
PFOSA	754-91-6	14.5	0.991	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
PFOS	1763-23-1	2.38	0.452	2.24	Q	B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
9Cl-PF3ONS	756426-58-1	ND	0.812	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
PFDA	335-76-2	ND	0.834	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
8:2 FTS	39108-34-4	ND	1.15	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
PFNS	68259-12-1	ND	2.17	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
MeFOSAA	2355-31-9	ND	0.924	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
EtFOSAA	2991-50-6	ND	0.767	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
PFUnA	2058-94-8	ND	0.588	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
PFDS	335-77-3	ND	0.689	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
11Cl-PF3OUdS	763051-92-9	ND	1.35	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
10:2 FTS	120226-60-0	ND	1.75	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
PFDoA	307-55-1	ND	0.443	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
MeFOSA	31506-32-8	ND	2.14	11.2		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
PFTrDA	72629-94-8	ND	0.277	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
PFDoS	79780-39-5	ND	2.33	2.80		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
PFTeDA	376-06-7	ND	0.423	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
EtFOSA	4151-50-2	ND	2.86	11.2		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
PFHxDA	67905-19-5	ND	0.165	2.24		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
PFODA	16517-11-6	ND	3.44	3.92		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
MeFOSE	24448-09-7	ND	3.40	11.2		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
EtFOSE	1691-99-2	ND	5.29	11.2		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	106	60 - 130		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1

Sample ID: Discharge **PFAS Isotope Dilution Method**

Client Data

Name: AECOM
Project: ATC Madison
Matrix: Aqueous
Date Collected: 25-Oct-19 14:00

Laboratory Data

Lab Sample: 1903838-06
Date Received: 26-Oct-19 09:56
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	111	60 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C3-PFBS	IS	98.5	60 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C3-HFPO-DA	IS	108	60 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C2-PFHxA	IS	109	70 - 130		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C4-PFHpA	IS	107	60 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C3-PFHxS	IS	108	60 - 130		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C2-6:2 FTS	IS	107	40 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C5-PFNA	IS	101	50 - 130		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C8-PFOSA	IS	93.6	20 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C2-PFOA	IS	104	60 - 130		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C8-PFOS	IS	113	60 - 130		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C2-PFDA	IS	104	60 - 130		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C2-8:2 FTS	IS	102	40 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
d3-MeFOSAA	IS	105	50 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C2-PFUnA	IS	92.8	60 - 130		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
d5-EtFOSAA	IS	99.5	50 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C2-PFDoA	IS	87.5	30 - 130		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
d3-MeFOSA	IS	22.9	10 - 130		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C2-PFTeDA	IS	85.7	20 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
d5-EtFOSA	IS	20.4	10 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
13C2-PFHxDA	IS	62.4	20 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
d7-MeFOSE	IS	66.9	10 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1
d9-EtFOSE	IS	65.9	10 - 150		B9J0318	07-Nov-19	0.223 L	20-Nov-19 23:30	1

MDL - Method Detection Limit RL - Reporting limit Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: Field Blank — **PFAS Isotope Dilution Method**

Client Data

Name: AECOM
Project: ATC Madison
Matrix: Aqueous
Date Collected: 25-Oct-19 14:45

Laboratory Data

Lab Sample: 1903838-07
Date Received: 26-Oct-19 09:56
Column: BEH C18

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	ND	0.375	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFPeA	2706-90-3	ND	0.659	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFBS	375-73-5	ND	0.922	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
4:2 FTS	757124-72-4	ND	0.716	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFHxA	307-24-4	ND	1.12	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFPeS	2706-91-4	ND	1.25	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
HFPO-DA	13252-13-6	ND	2.48	2.57		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFHpA	375-85-9	ND	0.304	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
ADONA	919005-14-4	ND	0.372	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFHxS	355-46-4	ND	0.488	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
6:2 FTS	27619-97-2	ND	1.03	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFOA	335-67-1	ND	0.335	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFHpS	375-92-8	ND	0.483	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFNA	375-95-1	ND	0.417	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFOSA	754-91-6	ND	0.912	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFOS	1763-23-1	0.652	0.416	2.06	J, Q	B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
9Cl-PF3ONS	756426-58-1	ND	0.747	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFDA	335-76-2	ND	0.767	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
8:2 FTS	39108-34-4	1.37	1.06	2.06	J	B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFNS	68259-12-1	ND	1.99	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
MeFOSAA	2355-31-9	ND	0.850	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
EtFOSAA	2991-50-6	ND	0.706	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFUnA	2058-94-8	ND	0.541	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFDS	335-77-3	ND	0.633	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
11Cl-PF3OUdS	763051-92-9	ND	1.24	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
10:2 FTS	120226-60-0	ND	1.61	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFDoA	307-55-1	ND	0.408	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
MeFOSA	31506-32-8	ND	1.97	10.3		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFTrDA	72629-94-8	ND	0.254	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFDoS	79780-39-5	ND	2.15	2.57		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFTeDA	376-06-7	ND	0.389	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
EtFOSA	4151-50-2	ND	2.63	10.3		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFHxDA	67905-19-5	ND	0.151	2.06		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
PFODA	16517-11-6	ND	3.16	3.60		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
MeFOSE	24448-09-7	ND	3.13	10.3		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
EtFOSE	1691-99-2	ND	4.86	10.3		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	104	60 - 130		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1

Sample ID: Field Blank — **PFAS Isotope Dilution Method**

Client Data

Name: AECOM
Project: ATC Madison
Matrix: Aqueous
Date Collected: 25-Oct-19 14:45

Laboratory Data

Lab Sample: 1903838-07
Date Received: 26-Oct-19 09:56
Column: BEH C18

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	103	60 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C3-PFBS	IS	101	60 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C3-HFPO-DA	IS	98.9	60 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C2-PFHxA	IS	109	70 - 130		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C4-PFHpA	IS	99.5	60 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C3-PFHxS	IS	101	60 - 130		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C2-6:2 FTS	IS	92.7	40 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C5-PFNA	IS	108	50 - 130		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C8-PFOSA	IS	63.0	20 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C2-PFOA	IS	100	60 - 130		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C8-PFOS	IS	98.3	60 - 130		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C2-PFDA	IS	97.7	60 - 130		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C2-8:2 FTS	IS	93.6	40 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
d3-MeFOSAA	IS	87.4	50 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C2-PFUnA	IS	90.9	60 - 130		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
d5-EtFOSAA	IS	89.9	50 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C2-PFDoA	IS	90.9	30 - 130		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
d3-MeFOSA	IS	20.9	10 - 130		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C2-PFTeDA	IS	73.5	20 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
d5-EtFOSA	IS	18.9	10 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
13C2-PFHxDA	IS	67.1	20 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
d7-MeFOSE	IS	35.2	10 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1
d9-EtFOSE	IS	36.6	10 - 150		B9J0318	07-Nov-19	0.243 L	20-Nov-19 23:40	1

MDL - Method Detection Limit RL - Reporting limit Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank
Conc.	Concentration
CRS	Cleanup Recovery Standard
D	Dilution
DL	Detection limit
E	The associated compound concentration exceeded the calibration range of the instrument
H	Recovery and/or RPD was outside laboratory acceptance limits
I	Chemical Interference
IS	Internal Standard
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limit of Detection
LOQ	Limit of Quantitation
M	Estimated Maximum Possible Concentration (CA Region 2 projects only)
NA	Not applicable
ND	Not Detected
OPR	Ongoing Precision and Recovery sample
P	The reported concentration may include contribution from chlorinated diphenyl ether(s).
Q	The ion transition ratio is outside of the acceptance criteria.
RL	Reporting Limit
TEQ	Toxic Equivalency
U	Not Detected (specific projects only)
*	See Cover Letter

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

Vista Analytical Laboratory Certifications

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	19-013-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-23
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2018017
Massachusetts Department of Environmental Protection	N/A
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	1521520
New Hampshire Environmental Accreditation Program	207718-B
New Jersey Department of Environmental Protection	190001
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-010
Pennsylvania Department of Environmental Protection	016
Texas Commission on Environmental Quality	T104704189-19-10
Vermont Department of Health	VT-4042
Virginia Department of General Services	10272
Washington Department of Ecology	C584-19
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	**Method**
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA 23
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA TO-9A

MATRIX: Biological Tissue	
Description of Test	**Method**
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Drinking Water	
Description of Test	**Method**
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613/1613B
1,4-Dioxane (1,4-Diethyleneoxide) analysis by GC/HRMS	EPA 522
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	ISO 25101 2009

MATRIX: Non-Potable Water	
Description of Test	**Method**
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Solids	
Description of Test	**Method**
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

Vista Analytical Laboratory

CHAIN OF CUSTODY

For Laboratory Use Only
Work Order #: 1903838 Temp: 1.2 °C
Storage ID: R-13, WR-2 Storage Secured: Yes ☑ No ☐

Project ID: ATC Madison PO#: 60611431 Sampler: Lee Linnemanstons (name)

TAT (check one): Standard: ☒ 21 days Rush (surcharge may apply) ☐ 14 days ☐ 7 days Specify:

Lee Linnemanstons Lee Linnemanstons 10/25/2019 @17:00 Kim Eure 10/26/19 0956
Relinquished by (printed name and signature) Date Time Received by (printed name and signature) Date Time

Relinquished by (printed name and signature) Date Time Received by (printed name and signature) Date Time

SHIP TO: Vista Analytical Laboratory
1104 Windfield Way
El Dorado Hills, CA 95762
(916) 673-1520 * Fax (916) 673-0106

ATTN: _____

Method of Shipment: _____

Tracking No.: _____

Add Analysis(es) Requested

Sample ID	Date	Time	Location/ Sample Description	Container(s) Quantity	Type	Matrix	PFAS by Isotope Dilution: PFOA/ PFOS	UCMR3 PFAS List:6	537.1 List: 14 or 18 (Circle One)	EPA Draft List of 24	OTHER: Please attach analyte list	EPA Method 537 (DW only): PFOA/ PFOS	UCMR3 PFAS List:6	537.1 List of 14	537.1 List of 18	Comments
Inlet	10/25/19	14:25		2	P	AQ					WI List of 36					WI List of 36
Bag 2		14:20														
ZEO		14:15														
GAC-1		14:10														
GAC-2		14:05														
Discharge		14:00														
Field Blank		14:45														

Special Instructions/Comments:

SEND DOCUMENTATION AND RESULTS TO:

Name: Lee Linnemanstons
Company: AECOM
Address: 1350 Deming Way, Suite 100
City: Middleton WI 53562
Phone: 608-828-8208
Email: lee.linnemanstons@aecom.com

Container Types: P= HDPE, PJ= HDPE Jar, PY= Polypropylene, O = Other: _____

Bottle Preservation Type: TZ = Trizma: _____

Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other: _____

Vista Analytical Laboratory

Sample Log-In Checklist

Page # 1 of 1

Vista Work Order #: 1903838 TAT Std

Samples Arrival:	**Date/Time** 10/26/19 0956		**Initials:** KE		**Location:** WR-2 **Shelf/Rack:** N/A		
Delivered By:	(FedEx)	UPS	On Trac	GSO	DHL	Hand Delivered	Other
Preservation:	(Ice)		Blue Ice		Dry Ice		None
Temp °C: 1.2 (uncorrected) **Temp °C:** 1.2 (corrected)			**Probe used:** Y / (N)		**Thermometer ID:** IR-4		

	YES	NO	NA
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Airbill — Trk # 7768 1889 4389	✓		
Shipping Documentation Present?	✓		
Shipping Container: (Vista) Client (Retain) Return Dispose			
Chain of Custody / Sample Documentation Present?	✓		
Chain of Custody / Sample Documentation Complete?	✓		
Holding Time Acceptable?	✓		

Logged In:	**Date/Time** 10/28/19	**Initials:** KE	**Location:** R-13 / WR-2 **Shelf/Rack:** A3 / E6	
COC Anomaly/Sample Acceptance Form completed?			✓	✓

Comments:

CoC/Label Reconciliation Report WO# 1903838

LabNumber	CoC Sample ID	Label ID matches COCID	Label ID doesn't match COCID	SampleAlias	Sampled	Label Sampled matches	Sampled doesn't match	Container	Container Correct	BaseMatrix	Sample Comments
1903838-01	A Inlet	☑			25-Oct-19 14:25	☐	no times	HDPE Bottle, 250 mL	☑	Aqueous	
1903838-01	B Inlet	☑			25-Oct-19 14:25	☐		HDPE Bottle, 250 mL	☑	Aqueous	
1903838-02	A Bag 2	☑			25-Oct-19 14:20	☐		HDPE Bottle, 250 mL	☑	Aqueous	
1903838-02	B Bag 2	☑			25-Oct-19 14:20	☐		HDPE Bottle, 250 mL	☑	Aqueous	
1903838-03	A ZEO	☑			25-Oct-19 14:15	☐		HDPE Bottle, 250 mL	☑	Aqueous	
1903838-03	B ZEO	☑			25-Oct-19 14:15	☐		HDPE Bottle, 250 mL	☑	Aqueous	
1903838-04	A GAC-1	☑			25-Oct-19 14:10	☐		HDPE Bottle, 250 mL	☑	Aqueous	
1903838-04	B GAC-1	☑			25-Oct-19 14:10	☐		HDPE Bottle, 250 mL	☑	Aqueous	
1903838-05	A GAC-2	☑			25-Oct-19 14:05	☐		HDPE Bottle, 250 mL	☑	Aqueous	
1903838-05	B GAC-2	☑			25-Oct-19 14:05	☐		HDPE Bottle, 250 mL	☑	Aqueous	
1903838-06	A Discharge	☑			25-Oct-19 14:00	☐		HDPE Bottle, 250 mL	☑	Aqueous	
1903838-06	B Discharge	☑			25-Oct-19 14:00	☐		HDPE Bottle, 250 mL	☑	Aqueous	
1903838-07	A Field Blank	☑			25-Oct-19 14:45	☐		HDPE Bottle, 250 mL	☑	Aqueous	
1903838-07	B Field Blank	☑			25-Oct-19 14:45	☐		HDPE Bottle, 250 mL	☑	Aqueous	

	Yes	No	NA
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Adequate Sample Volume?	✓		
Preservation Documented: Na2S2O3 Trizma None Other			✓
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

Comments:

Verifed by/Date: KL 10/28/19

Attachment D
Daily Treatment System Field Forms

AECOM

Field Form
Treatment System Monitoring
Fire Suppression Water Treatment O&M Plan
ATC Blount Substation, Madison Wisconsin

Field Technician JV

Day/Date 10/8/19

Weather Sunny 45°

Time 7:27 (am)/pm (circle one)

Totalizer/Flow Meter Reading 20.76 gpm / 580 g Total

Pressure Readings (record pressure reading multiple times a day)

Sample Location	Gauge Readings Inlet (psi)	Gauge Readings Outlet (psi)	Calculated Change-in-Pressure Delta P (psi)	Calculated Change-in-Pressure calculation notes
Inlet	—	—	—	No calculation
Bag #1	10	10		Bag #1 inlet minus outlet
Bag #2	10	10		Bag #2 inlet minus outlet
ZEO	10	10		Bag #2 outlet minus ZEO
GAC #1	17	10		ZEO minus GAC #1
GAC #2	9	0		GAC #1 minus GAC #2
Discharge (i.e. GAC #3)	4	5		GAC #2 minus Discharge

0830 20.52 gpm / 1950 g total

In	Out	In	Out	IN	Out
10	10	10	10	10	10
10	10	10	10	10	10
10	10	10	10	10	10
16	10	15	10	10	10
9	ø	7	ø	13	9
4	4	5	5	8	3

0930
19.68 gpm
3025 g total

10:30
20.88 gpm
3973

Notes:
Delta P Readings: < 20 psi, normal operating pressures
> 20 psi, consider operational changes (i.e. change bag filters, change GAC)

Sampling (note time and location of samples and what parameter was sampled)

Sample Location	Sample Parameter: Oil & Grease	pH	Total BOD5	BETX	PAHs	PFAS	DRO
Inlet							
Bag #1							
Bag #2							
ZEO							
GAC #1							
GAC #2							
Discharge (i.e. GAC #3)							

1130

In	Out
10	10
10	10
10	10
12	8
7	ø
3	3

GPM 19.92
5,775 g total

Operation Notes:

AECOM

Field Form
Treatment System Monitoring
Fire Suppression Water Treatment O&M Plan
ATC Blount Substation, Madison Wisconsin

Field Technician JP

Day/Date 10/21/19

Weather Cloudy

Time 1335 am/pm (circle one)

Totalizer/Flow Meter Reading 20.28 8,759 total

Pressure Readings (record pressure reading multiple times a day)

Sample Location	Gauge Readings Inlet (psi)	Gauge Readings Outlet (psi)	Calculated Change-in-Pressure Delta P (psi)	Calculated Change-in-Pressure calculation notes
Inlet	—	—	—	No calculation
Bag #1	8	9		Bag #1 inlet minus outlet
Bag #2	9	9		Bag #2 inlet minus outlet
ZEO	8	8		Bag #2 outlet minus ZEO
GAC #1	10	6		ZEO minus GAC #1
GAC #2	0	0		GAC #1 minus GAC #2
Discharge (i.e. GAC #3)	2	3		GAC #2 minus Discharge

1845

In	Out
~~14~~	14
14	14
14	14
Ø	2
9	3
Ø	Ø
Ø	Ø

GPM 0*

KAPA

IN	out
-	-
14	14
14	14
1	1
8	2
1	0
0	1

Notes:
Delta P Readings: < 20 psi, normal operating pressures
> 20 psi, consider operational changes (i.e. change bag filters, change GAC)

Sampling (note time and location of samples and what parameter was sampled)

Sample Location	Sample Parameter Oil & Grease	pH	Total BOD5	BETX	PAHs	PFAS	DRO
Inlet							
Bag #1							
Bag #2							
ZEO							
GAC #1							
GAC #2							
Discharge (i.e. GAC #3)							

Operation Notes:

AECOM

Field Form
Treatment System Monitoring
Fire Suppression Water Treatment O&M Plan
ATC Blount Substation, Madison Wisconsin

Field Technician George McNeal Day/Date 10/22/19

Weather Cloudy/Rainy Time 7:00 (am)/pm (circle one)

Totalizer/Flow Meter Reading 20.40

Pressure Readings (record pressure reading multiple times a day)

Sample Location	Gauge Readings Inlet (psi)	Gauge Readings Outlet (psi)	Calculated Change-in-Pressure Delta P (psi)	Calculated Change-in-Pressure calculation notes
Inlet	—	—	—	No calculation
Bag #1	14	14		Bag #1 inlet minus outlet
Bag #2	15	15		Bag #2 inlet minus outlet
ZEO	0	0		Bag #2 outlet minus ZEO
GAC #1	9	2		ZEO minus GAC #1
GAC #2	0	0		GAC #1 minus GAC #2
Discharge (i.e. GAC #3)	0	0		GAC #2 minus Discharge

Notes: changed out filter bags at 0700 after taking readings

Delta P Readings: < 20 psi, normal operating pressures
> 20 psi, consider operational changes (i.e. change bag filters, change GAC)

Sample Location	1300 In	1300 Out	1900 In	1900 Out	0100 In	0100 Out
Inlet	—	—	—	—	—	—
Bag #1	9	10	9	9	10	10
Bag #2	9	10	9	7	16	7
ZEO	6	5	7	7	6	6
GAC #1	12	6	12	6	12	6
GAC #2	~~0~~	~~0~~	0	0	~~0~~	~~0~~
Discharge (i.e. GAC #3)	2	3	1	4	1	3

GPM: 19.08 Total: 20,495 gal

GPM: 19.8 Total: 27,056

GPM: 15.9 Total: 33,390

* changed out filter bags

Sampling (note time and location of samples and what parameter was sampled)

Sample Location	Sample Parameter: Oil & Grease	pH	Total BOD5	BETX	PAHs	PFAS	DRO
Inlet							
Bag #1							
Bag #2							
ZEO							
GAC #1							
GAC #2							
Discharge (i.e. GAC #3)							

Operation Notes:

AECOM

Field Form
Treatment System Monitoring
Fire Suppression Water Treatment O&M Plan
ATC Blount Substation, Madison Wisconsin

Field Technician: Josh Patzer
Day/Date: 10/23/19
Weather: Cloudy/Windy 39°F
Time: 0700 am/pm (circle one)

Totalizer/Flow Meter Reading: 19.68 gpm / 39,270 total gallons

Pressure Readings (record pressure reading multiple times a day)

Sample Location	Gauge Readings Inlet (psi)	Gauge Readings Outlet (psi)	Calculated Change-in-Pressure Delta P (psi)	calculation notes	1300 In	1300 Out	1900 In	1900 Out	0100 In	0100 Out
Inlet	—	—	—	No calculation	—	—				
Bag #1	14	15		Bag #1 inlet minus outlet	10	11	8	9	9	9
Bag #2	13	14		Bag #2 inlet minus outlet	~~6~~ 10	~~6~~ 10	8	7	8	8
ZEO	8	8		Bag #2 outlet minus ZEO	6	6	7	6	7	5
GAC #1	14	7		ZEO minus GAC #1	10	5	12	5	12	5
GAC #2	Ø	Ø		GAC #1 minus GAC #2	Ø	Ø	Ø	Ø	Ø	Ø
Discharge (i.e. GAC #3)	4	4		GAC #2 minus Discharge	1	2	0	2	1	3
					GPM: 20.28		GPM: 17.89		GPM: 16.44	
					Total: 45,950		Total: 52764		Total: 58,523	

Notes:
Delta P Readings: < 20 psi, normal operating pressures
> 20 psi, consider operational changes (i.e. change bag filters, change GAC)

Sampling (note time and location of samples and what parameter was sampled)

Sample Location	Sample Parameter: Oil & Grease	pH	Total BOD5	BETX	PAHs	PFAS	DRO
Inlet							
Bag #1							
Bag #2							
ZEO							
GAC #1							
GAC #2							
Discharge (i.e. GAC #3)							

Operation Notes:

AECOM

Field Form
Treatment System Monitoring
Fire Suppression Water Treatment O&M Plan
ATC Blount Substation, Madison Wisconsin

Field Technician Josh Patten Day/Date 10/24/19

Weather Clear 35° F Time 0700 am/pm (circle one)

Totalizer/Flow Meter Reading 20.48 GPM ~~40846~~ 65,453 total

Pressure Readings (record pressure reading multiple times a day)

Sample Location	Gauge Readings Inlet (psi)	Gauge Readings Outlet (psi)	Calculated Change-in-Pressure Delta P (psi)	Calculated Change-in-Pressure calculation notes	1300 In	1300 Out	1900 In	1900 Out	0100 In	0100 Out
Inlet	–	–	–	No calculation	–	–	–	–	–	–
Bag #1	10	10		Bag #1 inlet minus outlet	10	11	10	10	11	10
Bag #2	10	10		Bag #2 inlet minus outlet	9	10	9	8	9	7
ZEO	9	8		Bag #2 outlet minus ZEO	9	8	9	8	8	7
GAC #1	15	8		ZEO minus GAC #1	14	7	14	7	14	7
GAC #2	0	0		GAC #1 minus GAC #2	0	0	0	0	0	0
Discharge (i.e. GAC #3)	3	5		GAC #2 minus Discharge	1	2	1	2	1	3
					GPM: 20.88 Total: 72343		GPM: 20.88 Total: 79,672		GPM: 18.75 Total: 87,310	

Notes:
Delta P Readings: < 20 psi, normal operating pressures
> 20 psi, consider operational changes (i.e. change bag filters, change GAC)

Changed Bag #1 out at 3AM

Sampling (note time and location of samples and what parameter was sampled)

Sample Location	Sample Parameter: Oil & Grease	pH	Total BOD5	BETX	PAHs	PFAS	DRO
Inlet							
Bag #1							
Bag #2							
ZEO							
GAC #1							
GAC #2							
Discharge (i.e. GAC #3)							

Operation Notes:

AECOM

Field Form
Treatment System Monitoring
Fire Suppression Water Treatment O&M Plan
ATC Blount Substation, Madison Wisconsin

Field Technician Josh Patten Day/Date 10/25/19

Weather Clear 28° F Time 0700 am/pm (circle one)

Totalizer/Flow Meter Reading 20.04 GPM / 93,650 g total

Pressure Readings (record pressure reading multiple times a day)

Sample Location	Gauge Readings Inlet (psi)	Gauge Readings Outlet (psi)	Calculated Change-in-Pressure Delta P (psi)	Calculated Change-in-Pressure calculation notes	1300 In	1300 Out	1900 In	1900 Out	0100 In	0100 Out	In/a
Inlet	—	—	—	No calculation	—	—	—	—	—	—	
Bag #1	9	10		Bag #1 inlet minus outlet	10	11					
Bag #2	9	9		Bag #2 inlet minus outlet	9	9					
ZEO	9	9		Bag #2 *outlet minus* ZEO	9	7					
GAC #1	15	8		ZEO minus GAC #1	11	5					
GAC #2	0	0		GAC #1 minus GAC #2	0	0					
Discharge (i.e. GAC #3)	3	5		GAC #2 minus Discharge	2	4					
					GPM: 20.04 Total: 100406		GPM: Total:		GPM: Total:		

Notes:
Delta P Readings: < 20 psi, normal operating pressures
> 20 psi, consider operational changes (i.e. change bag filters, change GAC)

Sampling (note time and location of samples and what parameter was sampled)

Sample Location	Sample Parameter: Oil & Grease	pH	Total BOD5	BETX	PAHs	PFAS	DRO
Inlet							
Bag #1							
Bag #2							
ZEO							
GAC #1							
GAC #2							
Discharge (i.e. GAC #3)							

Operation Notes:

AECOM

Field Form
Treatment System Monitoring
Fire Suppression Water Treatment O&M Plan
ATC Blount Substation, Madison Wisconsin

Field Technician Josh Patzer Day/Date 10/26/19

Weather Overcast 32°F Time 0700 am/pm (circle one)

Totalizer/Flow Meter Reading 26.08 GPM

Pressure Readings (record pressure reading multiple times a day)

1300 104,775 g total

Sample Location	Gauge Readings Inlet (psi)	Gauge Readings Outlet (psi)	Calculated Change-in-Pressure Delta P (psi)	Calculated Change-in-Pressure calculation notes	In	Out
New Inlet	–	–	–	No calculation	0	4
Bag #1	10	11		Bag #1 inlet minus outlet	10	10
Bag #2	10	10		Bag #2 inlet minus outlet	10	10
ZEO	10	9		Bag #2 outlet minus ZEO	10	9
GAC #1	15	8		ZEO minus GAC #1	13	8
GAC #2	0	0		GAC #1 minus GAC #2	0	0
Discharge (i.e. GAC #3)	3	5		GAC #2 minus Discharge	3	3

26.16 gpm
109729 total g

Notes: 10 micron bags changed at 1045
Delta P Readings: < 20 psi, normal operating pressures
> 20 psi, consider operational changes (i.e. change bag filters, change GAC)

Sampling (note time and location of samples and what parameter was sampled)

Sample Location	Sample Parameter: Oil & Grease	pH	Total BOD5	BETX	PAHs	PFAS	DRO
Inlet							
Bag #1							
Bag #2							
ZEO							
GAC #1							
GAC #2							
Discharge (i.e. GAC #3)							

Operation Notes:

AECOM

Field Form
Treatment System Monitoring
Fire Suppression Water Treatment O&M Plan
ATC Blount Substation, Madison Wisconsin

Field Technician Adam Hotchkiss Day/Date 10-28-19 MGN

Weather 41° Cloudy Time 7:00 am/pm (circle one)

Totalizer/Flow Meter Reading 20.16

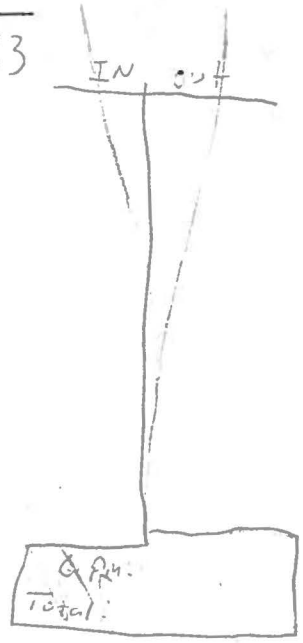
Total 6 123 813

0100

Pressure Readings (record pressure reading multiple times a day)

Sample Location	Gauge Readings Inlet (psi)	Gauge Readings Outlet (psi)	Calculated Change-in-Pressure Delta P (psi)	Calculated Change-in-Pressure calculation notes
Inlet	—	—	—	No calculation
Bag #1	11	12		Bag #1 inlet minus outlet
Bag #2	11	10		Bag #2 inlet minus outlet
ZEO	10	10		Bag #2 outlet minus ZEO
GAC #1	15	8		ZEO minus GAC #1
GAC #2	0	0		GAC #1 minus GAC #2
Discharge (i.e. GAC #3)	2	4		GAC #2 minus Discharge

11 | 12
12 | 10
10 | 10
10 | 8
8 | 0
0 | 4



Notes:
Delta P Readings: < 20 psi, normal operating pressures
> 20 psi, consider operational changes (i.e. change bag filters, change GAC)

GPM: 1920
Total: 129930

Sampling (note time and location of samples and what parameter was sampled)

Sample Location	Sample Parameter: Oil & Grease	pH	Total BOD5	BETX	PAHs	PFAS	DRO
Inlet							
Bag #1							
Bag #2							
ZEO							
GAC #1							
GAC #2							
Discharge (i.e. GAC #3)							

Operation Notes:

AECOM

Field Form
Treatment System Monitoring
Fire Suppression Water Treatment O&M Plan
ATC Blount Substation, Madison Wisconsin

Field Technician Josh Patzer

Day/Date 10/29/19

Weather Cloudy 31°F

Time 0700 am/pm (circle one)

Totalizer/Flow Meter Reading 20.16 GPM, 132,518 total g

Pressure Readings (record pressure reading multiple times a day)

Sample Location	Gauge Readings Inlet (psi)	Gauge Readings Outlet (psi)	Calculated Change-in-Pressure Delta P (psi)	Calculated Change-in-Pressure calculation notes	In	Out
Inlet	—	—	—	No calculation		
Bag #1	11	11		Bag #1 inlet minus outlet	11	11
Bag #2	10	10		Bag #2 inlet minus outlet	10	10
ZEO	10	9		Bag #2 outlet minus ZEO	10	10
GAC #1	15	9		ZEO minus GAC #1	15	9
GAC #2	8	8		GAC #1 minus GAC #2	8	8
Discharge (i.e. GAC #3)	3	4		GAC #2 minus Discharge	3	4
					8	9

Notes: Discharge 8 9

Delta P Readings: < 20 psi, normal operating pressures
> 20 psi, consider operational changes (i.e. change bag filters, change GAC)

19.92 GPM
140,725 total g

Sampling (note time and location of samples and what parameter was sampled)

Sample Location	Sample Parameter: Oil & Grease	pH	Total BOD5	BETX	PAHs	PFAS	DRO
Inlet							
Bag #1							
Bag #2							
ZEO							
GAC #1							
GAC #2							
Discharge (i.e. GAC #3)							

Operation Notes: Final Discharge Numbers: Lifetime: 411,704 g
Job: 147,818 g

AECOM

Field Form
Treatment System Monitoring
Fire Suppression Water Treatment O&M Plan
ATC Blount Substation, Madison Wisconsin

Field Technician Josh Petrea

Day/Date 10/30/15

Weather Cloudy 33°F

Time 0700 am/pm (circle one)

Totalizer/Flow Meter Reading 20.08 GPM / 147,283 total g

Pressure Readings (record pressure reading multiple times a day)

Sample Location	Gauge Readings		Calculated Change-in-Pressure	
	Inlet (psi)	Outlet (psi)	Delta P (psi)	calculation notes
Inlet	—	—	—	No calculation
Bag #1	12	12		Bag #1 inlet minus outlet
Bag #2	10	11		Bag #2 inlet minus outlet
ZEO	10	10		Bag #2 outlet minus ZEO
GAC #1	15	9		ZEO minus GAC #1
GAC #2	0	0		GAC #1 minus GAC #2
Discharge (i.e. GAC #3)	3	3		GAC #2 minus Discharge

Notes: Discharge 7 8

Delta P Readings: < 20 psi, normal operating pressures
> 20 psi, consider operational changes (i.e. change bag filters, change GAC)

Sampling (note time and location of samples and what parameter was sampled)

Sample Location	Sample Parameter						
	Oil & Grease	pH	Total BOD5	BETX	PAHs	PFAS	DRO
Inlet							
Bag #1							
Bag #2							
ZEO							
GAC #1							
GAC #2							
Discharge (i.e. GAC #3)							

Operation Notes:

Attachment E
Disposal Documentation

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
C E S Q G	1	262-255-4468	9A3 04576

GENERATOR

5. Generator's Name and Mailing Address
American Transmission Company
PO Box 47
Waukesha WI 53187
Generator's Phone: 888 899-3204

Generator's Site Address (if different than mailing address)
ATC - Blount
201 S Blount St
Madison WI 53703

6. Transporter 1 Company Name: US Bulk Transport, Inc — U.S. EPA ID Number: PAD987347515

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address
Wayne Disposal, Inc Site #2 Landfill
49350 N I-94 Service Drive
Belleville MI 48111
Facility's Phone: 800 592-6489

U.S. EPA ID Number

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. Non regulated soils	001	DT	20	cu yds	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information
1) PFAS Contaminated Soils, Profile # I190044WDI
Job # 9A334

14. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Mary Ellen Mortensen on behalf of ATC — Signature: Mary Ellen Mortensen — Month / Day / Year

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Jack Orndorff — Signature — Month: 11 — Day: 25 — Year: 19

Transporter 2 Printed/Typed Name — Signature — Month / Day / Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month / Day / Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name — Signature — Month / Day / Year

6-NHM-C-C-11

6-GENERATOR'S INITIAL COPY

City of Port Washington
Septage Receiving Station

WASTEWATER DISPOSAL

Date: 12-4-19 Time: 10:35

CONTRACTOR:

Name: North Shore Environmental Construction

Signature:

Profile # Email from Dave dated 12-3-19

HAULED FROM:

Name: ATC - Blount Street SS 9A334

Address: 201 S. Blount St. MADISON, WI

Name:

Address:

NO. OF GALLONS: 5,000

TYPE OF WASTE:

☐ Domestic	☐ Septic Tank
☐ Commercial	☐ Holding Tank
☑ Industrial	☐ Portable Toilet
	☐ Landfill Leachate
	☒ Other Treated Water from catch Basin Flushing

City of Port Washington
Septage Receiving Station

WASTEWATER DISPOSAL

Date: 12-4-19 Time: 1438

CONTRACTOR:

Name: North Shore Environmental Construction

Signature: Steve [signature]

Profile # Email from Dan B Dated 12-3-19

HAULED FROM:

Name: ATC - Blount Street SS 9A236

Address: 201 S. Blount St. MADISON, WI

Name: ____________________

Address: ____________________

NO. OF GALLONS: 4,000

TYPE OF WASTE:

☐ Domestic	☐ Septic Tank
☐ Commercial	☐ Holding Tank
☒ Industrial	☐ Portable Toilet
	☐ Landfill Leachate
	☒ Other Treated water from Catch Basins/Footing