414.944.6080 414.944.6081 tel fax

Letter of Transmittal

Mr. Tauren Beggs

Hydrogeologist, WDNR

2984 Shawano Ave

Attention: Green Bay, WI 54313

Date: 10/16/23

Former Newton Pit

Project reference: BRRTS No. 02-36-000268

Project number: 60135471

We are sending you the following:

Number of originals: Number of copies: Description:

One Zero Construction Documentation, Proposed

Engineered Treatment System - Extraction Well

Installation

Mr. Beggs,

Attached is the Construction Documentation, Proposed Engineered Treatment System - Extraction Well Installation technical memo for the Former Town of Newton Gravel Pit, Manitowoc Wisconsin.

Please let me know if you have any questions.

Thank you.

David Henderson, P.E. Senior Project Manager D 414.944.6190 C 414.429.8304 dave.henderson@aecom.com

Cc: Eric Nycz, Assistant City Attorney, City of Manitowoc Karen Dorow, Business Manager, City of Manitowoc Dan Koski, Director of Public Infrastructure, City of Manitowoc



To:

Mr. Tauren Beggs Hydrogeologist Wisconsin Department of Natural Resources 2984 Shawano Avenue Green Bay, WI 53413-6727

Cc:

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AECOM 1555 N. RiverCenter Drive Suite 214 Milwaukee, WI 53212

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Project Name:

Former Town of Newton Gravel Pit

AECOM Project Number:

60135471

From:

Robert Weseljak, P.G., AECOM Dave Henderson, P.E., AECOM

Date:

October 16, 2023

Technical Memo

Subject: Construction Documentation

Proposed Engineered Treatment System – Extraction Well Installation

Former Town of Newton Gravel Pit

3130 Hecker Road, Manitowoc, Wisconsin

WDNR BRRTS No. 02-36-000268

WDNR FID No. 436104020

AECOM Technical Services, Inc. (AECOM), on behalf of the City of Manitowoc (City), has been conducting remedial activities in a phased approach at the Former Town of Newton Gravel Pit (Newton Pit) 3130 Hecker Road, Manitowoc Wisconsin.

The first phase of these activities was conducted in 2017 with construction of an engineered cap over the Western Source Area and a groundwater treatment system (engineered treatment pond) just downgradient/east from the Western Source Area. The second phase of the remedial activities was initiated this summer with the installation of extraction wells associated with the proposed engineered treatment system for the Western Source Area.

On April 25, 2023, AECOM requested approval from the Wisconsin Department of Natural Resources (WDNR/Department) to modify/penetrate the Western Source Area engineered cap for the purposes of installing the extraction wells. The Department provided notice to proceed with the cap modification/penetration on May 8, 2023.

AECOM has prepared this construction documentation memo specifically for the installation of the extraction wells in general accordance with the requirements of Wisconsin Administrative Code (WAC) Chapter NR 724.15 *Documentation of Construction and Completion*.

Presented below is a summary of drilling and extraction well installation, investigation derived waste (IDW) management, survey data, along with the initial light non-aqueous phase liquid (LNAPL) and groundwater elevation monitoring.

Procedures

Drilling and well installation were completed on May 30 and 31, 2023, and June 1, 2, 5, 6, 7, 8, and 9, 2023. A total of eight borings were drilled with an extraction well installed in each borehole (EX-1 through EX-8). Initial monitoring for LNAPL and groundwater elevations was conducted on May 31, 2023, and June 1, 2, 5, 6, 7, 8, 12, and 15, 2023.

AECOM personnel were present during field activities to log and collect soils, monitor well installation, survey, measure LNAPL/groundwater elevations, and to complete the field documentation.

Drilling and Soil Classification

Borings were drilled and continuously sampled at eight locations designated EX-1 through EX-8. See Figure 1. The extraction well locations were surveyed-in using site investigation data and checked using historical aerial photographs. Two wells were installed within the former source area and the remaining six wells were located hydraulically downgradient of the source area.

Drilling was completed by Cascade Drilling LP, Schofield, Wisconsin using rotary sonic (rotosonic) drilling. The use of rotosonic drilling limited the volume of IDW generated. Rotosonic drilling included continuous coring using a 4.5-inch core barrel and 6-inch outer diameter ("OD") casing. Soil cores were vibrated into a plastic core sleeve and then placed on the ground for observation and screening. The plastic sleeves were cut open and the soils were screened using a Photo lonization Detector (PID) as measured in instrument units (IUs). After PID screening was completed, the soils were described for color, soil type (USCS soil classification), moisture, plasticity, cohesiveness, and noted features (odor, grain size, rootlets, etc.). No soil sampling for laboratory analysis was conducted. See Attachment A, photos No. 1 and 2 for typical drilling and soil core setup.

No drilling water was used for the continuous soil sampling. After the initial continuous soil sampling was completed, the boring was reamed out using 8-inch outer diameter casing to facilitate extraction well installation. Reaming operations used potable water obtained from a City of Manitowoc hydrant located at the intersection of Viebahn Street and Hecker Road, north of the Site.

WDNR Soil Boring Log Information forms (4400-122) were prepared for each boring and are included in Attachment B.

Well installation

Four inch diameter extraction wells were installed in each boring. Extraction wells were installed partially into the saturated sand formation. Well construction included 25- or 30-foot stainless steel, continuous wrap, v-wire, No. 20 slot (0.020-inch) screens. The screens were attached to stainless-steel riser casings. The last/upper piece of riser casing was 4-inch Schedule 80 PVC casings connected at least 5-feet below ground surface and extended several feet above ground surface. The PVC casings were installed so that, in the future, they could be cut down for attachment to the wellheads and connection to the extraction system piping.

The well pack materials consisted of a coarse sand filter pack (Red Flint Sand and Gravel brand No. 20WS sand) that was placed from the bottom of the boring to approximately two feet above the top of the screen. Approximately two feet of fine sand was then placed on top of the coarse sand filter pack. The annular space seal consisted of 3/8-inch medium bentonite chips gravity poured around the outside of the well casing and hydrated with potable water. There was no protective casing installed since the wells will be cut down for the future extraction system installation. See Attachment A, photo No. 3 for typical well installation setup.

WDNR Monitoring Well Construction Report forms (4400-113A) were prepared for each extraction well and are included in Attachment C.

Investigation Derived Waste (IDW)

Handling of IDW included sampling for waste characterization and management of the waste for disposal.

For each boring, soil from the interval with the highest PID reading was collected in a gallon Ziplock brand plastic bag and then composited into a waste characterization sample. The waste characterization sample was split into two portions, placed in coolers with ice, and shipped under chain of custody control to the analytical laboratories. This soil was analyzed for:

- polychlorinated biphenyls (PCBs),
- toxicity characteristic leaching procedure (TCLP) for metals, volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs),
- several general wet chemistry parameters (specific gravity, reactive sulfide, free liquid, reactive cyanide, total percent solids, pH, chlorides, and flash point), and

• per- and polyfluoroalkyl substances (PFAS).

The PFAS sample was sent to Enthalpy Analytical, El Dorado Hills, California, (Wisconsin certification No. 998036160) for analysis of 33 PFAS using EPA modified Method 537.1 isotope dilution. Analysis for all other parameters was sent to Synergy Environmental Lab, Inc. in Appleton, Wisconsin (Wisconsin certification No. 445037560). Laboratory data is included in Attachment D.

Soil cuttings with PID reading of 10 IUs (approximately 10 parts per million (ppm) of volatile organic compounds (VOCs)) or less were considered uncontaminated and were managed by placement in the fill area north of the Western Source Area. Soil cuttings with visual, olfactory, or PID readings greater than 10 IUs were placed into labeled drums for future offsite disposal. Before leaving the site, the drilling rig was decontaminated adjacent to and upgradient of the groundwater treatment pond. Solid waste was taken to the Manitowoc Public Works garage located at 2655 South 35th Street, Manitowoc, Wisconsin 54220 for disposal.

Quality Control Sampling

Quality control sampling conducted during drilling was limited to the driller's water source, which was used downhole and for decontamination activities. The source water sample was obtained from the driller's poly tank/tote. The source water sample was sent to Enthalpy Analytical for analysis of 33 PFAS using EPA modified Method 537.1 isotope dilution.

No field blanks were obtained since field blank results from multiple past sampling events indicated no detects. No equipment blanks were obtained from the drilling equipment since no site investigation soil sampling was conducted and soil samples were collected in plastic bag tubes. Since no site investigation soil samples were obtained, no duplicate soil sampling was conducted.

Well Development

The extraction wells were not developed as the wells are not planned for groundwater production tasks.

Survey

Well locations were surveyed in using the 1983 Manitowoc County Coordinate System (feet) for the horizontal control. Well top-of-casing elevations were surveyed using a SPECTRA brand precision laser level, model HL450, using WT-02A elevation data as the control. See Attachment A, photo No. 4 for the post-installation field conditions.

Boring locations are shown in Figure 1. Extraction well coordinates and elevations are provided on Table 1.

LNAPL and **Groundwater Elevation Monitoring**

LNAPL and groundwater elevations were monitored after well installation. The first well was installed on May 31, 2023. As a result, monitoring occurred on June 1, 2, 5, 6, 7, 8, 9, 12 and 15, 2023. A Solinst brand interface meter, model 1222, was used to monitor both the LNAPL and groundwater elevations. The elevation data are documented in Attachment E.

Results

Well Construction Details

Design for the extraction wells installation considered their remedial use (i.e., LNAPL recovery and SVE), 20 plus years of groundwater elevation data, and the sloped ground surface. These parameters were used to optimize screen and casing lengths. A summary of the well construction details is provided in Table 1.

IDW Waste Characterization

The waste characterization laboratory analytical results are summarized in Table 2. The results will be provided to waste disposal companies to facilitate proper disposal of the IDW.

Quality Control Results

The quality control source water analytical results indicate PFAS were present in the water; PFBA at 1.51J nano grams per liter (ng/L), PFOA at 2.10 ng/L, PFOSA at 3.55 ng/l, and PFOS at 3.55 ng/l. The source of the PFAS is unknown as it could be associated with the poly tank, water previously contained in the tank, or the current source of water. Due to the drilling sequence, it was not possible for PFAS in the source water to cross contaminate the waste characterization soil samples. Since the source water was used downhole during the reaming operations for the extraction well installation, if future groundwater sampling is conducted from the extraction wells, care should be taken to consider these quality control results when interpreting future groundwater sampling results. Quality control laboratory data is included in Attachment D.

LNAPL and Groundwater Elevation Monitoring

LNAPL and groundwater elevations were measured after well installation. Measured data from June 2023 indicated only an LNAPL sheen was encountered on occasion. The LNAPL and groundwater levels are provided in Attachment E.

Future Activities

At this time AECOM is continuing to monitor LNAPL and groundwater elevations within the extraction wells. This information will be used to determine which extraction wells will be used for LNAPL recovery efforts. Additionally, AECOM is working on the proposed engineered treatment system design for possible bidding and construction late in 2023 or early 2024.

Attachments:

Table 1 – Extraction Wells Construction Summary

Table 2 – Waste Characterization Results (Protocol B)

Figure 1 – Extraction Well Locations

Attachment A – Photographic Log

Attachment B – Soil Boring Logs

Attachment C - Well Construction Forms

Attachment D - Laboratory Data

Attachment E – LNAPL & Groundwater Elevation Data



Tables:

Table 1 – Extraction Wells Construction Summary Table 2 – Waste Characterization Results (Protocol B)



TABLE 1
EXTRACTION WELL CONSTRUCTION SUMMARY
FORMER NEWTON GRAVEL PIT, MANITOWOC, WISCONSIN

Well Name	Northing (Y)	Easting (X)	Temporary Top of Casing Elevation	Ground Surface Elevation	Depth to Water from TOC	Static Water Level	Top of	Screen	Bottom (of Screen
			(ft MSL)	(ft MSL)	(ft)	(ft MSL)	(ft BGS)	(ft MSL)	(ft BGS)	(ft MSL)
EX1	289339.762	216948.232	734.90	731.66	47.12	687.78	29.2	702.5	59.2	672.5
EX2	289338.944	217005.268	732.08	730.50	44.74	687.34	28.0	702.5	58.0	672.5
EX3	289342.471	217063.27	733.10	731.62	46.20	686.90	36.0	695.6	61.0	670.6
EX4	289293.366	216974.315	733.56	733.14	46.32	687.24	30.4	702.7	60.4	672.7
EX5	289296.263	217026.043	733.75	732.56	47.01	686.74	30.8	701.8	60.8	671.8
EX6	289303.702	217065.527	734.96	733.62	48.46	686.50	30.5	703.1	60.5	673.1
EX7	289252.994	217010.894	737.36	734.52	50.44	686.92	34.5	700.0	59.5	675.0
EX8	289264.622	217060.826	736.28	734.26	49.94	686.34	30.0	704.3	60.0	674.3

NOTES:

Location are in reported in 1983 Manitowoc County Co-ordinates system (feet MSL)

ft = feet

MSL = Mean Sea Level

TOC = Top of Casing

BGS = Below Ground Surface

Water levels were measured on June 15, 2023



TABLE 2

LABORATORY SUMMARY - COMPOSITE SOIL SAMPLE (PROTOCOL B)

FORMER NEWTON GRAVEL PIT, MANITOWOC, WISCONSIN

Parameters	Results	Units	LOD	LOQ	Dilution	Method
Metals						
TCLP Arsenic	< 0.1	mg/l	0.033	0.1	1	6010B
TCLP Barium	0.137	mg/l	0.033	0.1	1	6010B
TCLP Cadmium	< 0.1	mg/l	0.033	0.1	1	6010B
TCLP Chromium	< 0.1	mg/l	0.033	0.1	1	6010B
TCLP Copper	0.191	mg/l	0.033	0.1	1	6010B
TCLP Lead	< 0.1	mg/l	0.033	0.1	1	6010B
TCLP Mercury	< 0.01	mg/l	0.0033	0.01	1	7470A
TCLP Nickel	< 0.1	mg/l	0.033	0.1	1	6010B
TCLP Selenium	< 0.1	mg/l	0.033	0.1	1	6010B
TCLP Silver	< 0.1	mg/l	0.033	0.1	1	6010B
TCLP Zinc	< 0.5	mg/l	0.165	0.5	1	6010B
PCBs						
PCB-1016	< 0.0072	mg/kg	0.0072	0.024	2	EPA 8082A
PCB-1221	< 0.008	mg/kg	0.008	0.026	2	EPA 8082A
PCB-1232	< 0.0064	mg/kg	0.0064	0.022	2	EPA 8082A
PCB-1242	< 0.0064	mg/kg	0.0064	0.022	2	EPA 8082A
PCB-1248	2.60	mg/kg	0.036	0.12	10	EPA 8082A
PCB-1254	1.42	mg/kg	0.0082	0.028	2	EPA 8082A
PCB-1260	< 0.014	mg/kg	0.014	0.046	2	EPA 8082A
TCLP SVOC's						
TCLP o-Cresol	< 0.111	mg/l	0.033	0.111	1	625
TCLP m & p-Cresol	< 0.111	mg/l	0.033	0.111	1	625
TCLP 1,4-Dichlorobenzene	< 0.111	mg/l	0.033	0.111	1	625
TCLP 2,4-Dinitrotoluene	< 0.111	mg/l	0.033	0.111	1	625
TCLP Hexachlorobenzene	< 0.111	mg/l	0.033	0.111	1	625
TCLP Hexachlorobutadiene	< 0.111	mg/l	0.033	0.111	1	625
TCLP Hexachloroethane	< 0.111	mg/l	0.033	0.111	1	625
TCLP Nitrobenzene	< 0.111	mg/l	0.033	0.111	1	625
TCLP Pentachlorophenol	< 0.111	mg/l	0.033	0.111	1	625
TCLP Phenol	< 0.111	mg/l	0.033	0.111	1	625
TCLP Pyridine	< 0.111	mg/l	0.033	0.111	1	625
TCLP 2,4,6-Trichlorophenol	< 0.111	mg/l	0.033	0.111	1	625
TCLP 2,4,5-Trichlorophenol	< 0.111	mg/l	0.033	0.111	1	625



TABLE 2
LABORATORY SUMMARY - COMPOSITE SOIL SAMPLE (PROTOCOL B)
FORMER NEWTON GRAVEL PIT, MANITOWOC, WISCONSIN

Parameters	Results	Units	LOD	LOQ	Dilution	Method
TCLP VOC's						
TCLP Benzene	< 0.05	mg/l	0.015	0.05	1	8260B
TCLP Carbon Tetrachloride	< 0.05	mg/l	0.015	0.05	1	8260B
TCLP Chlorobenzene	< 0.05	mg/l	0.015	0.05	1	8260B
TCLP Chloroform	< 0.25	mg/l	0.075	0.25	1	8260B
TCLP 1,2-Dichloroethane	< 0.05	mg/l	0.015	0.05	1	8260B
TCLP 1,1-Dichloroethene	< 0.05	mg/l	0.015	0.05	1	8260B
TCLP Methyl Ethyl Ketone	< 0.5	mg/l	0.5	0.15	1	8260B
TCLP Tetrachloroethene	0.119	mg/l	0.015	0.05	1	8260B
TCLP Trichloroethene	1.51	mg/l	0.015	0.05	1	8260B
TCLP Vinyl Chloride	< 0.05	mg/l	0.015	0.05	1	8260B
Wet Chemistry						
Specific Gravity	1.80	g/cm3			1	2710F
Reactive Sulfide	< 100	mg/kg	30	100	1	EPA 9034
Free Liquid	none				1	9095A
Reactive Cyanide	< 0.13	mg/kg	0.13		1	9012B
Solids, Total %	89.2	%			1	2540B
рН	6.71	su			1	EPA 9045D
Chlorides, Unfiltered	< 92	mg/kg	92	307	10	9056
Flash Point	> 170	F			1	D93
PFAS						
No Detections Above Individual Compou	nd LODs	ng/g			1	537.1 M ID

NOTES:

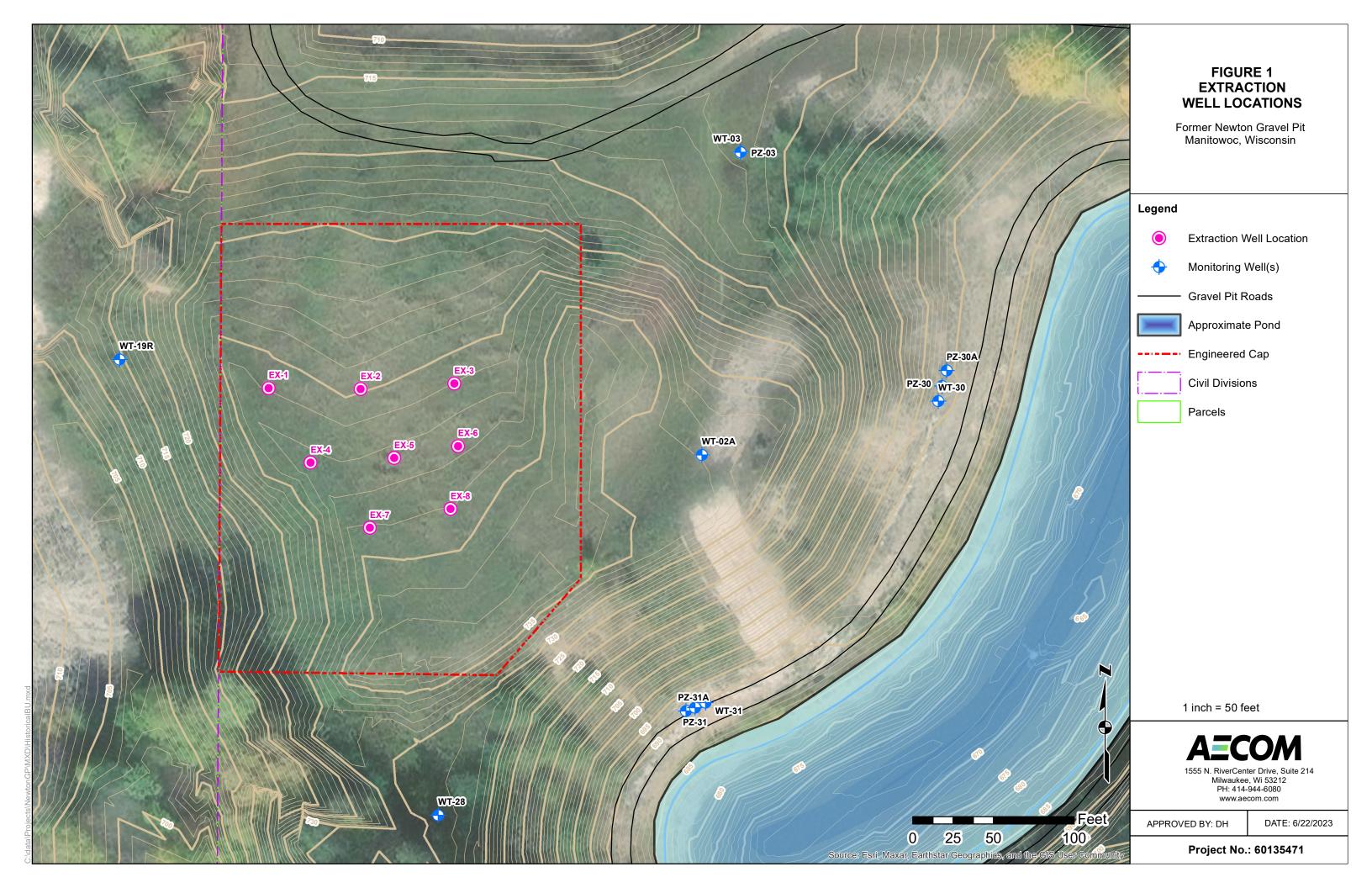
Synergy Analytical Laboratory & Enthalpy Analytical Laboratory Composite Sample (EX-1 through EX-8) collected on 6/8/23

LOD = Limit of Detection

LOQ = Limit of Quantitation

Figures:

Figure 1- Extraction Well Locations





Attachment A:

Photographic Log



PHOTOGRAPHIC LOG

Facility Name:

Former Town of Newton Gravel Pit

Site Location:

3130 Hecker Road, Manitowoc, Wisconsin

Project No. 60135471

Photo No.

Date: 5/31/2023

Direction Photo Taken:

West

Description:

Rotosonic drilling of EX-8



Photo No.

Date:

6/6/2023

Direction Photo Taken:

Not Applicable

Description:

Rotosonic core of EX-5





PHOTOGRAPHIC LOG

Facility Name:

Former Town of Newton Gravel Pit

Site Location:

3130 Hecker Road, Manitowoc, Wisconsin

Project No. 60135471

Photo No.

Date: 5/31/2023

Direction Photo Taken:

Not Applicable

Description:

Setting up for installation of EX-8



Photo No.

4

Date: 6/9/23

Direction Photo Taken:

Southwest

Description:

Temporary 4-inch Schedule 80 PVC stick ups after well installation of EX-1 through EX-8



Attachment B:

Soil Boring Logs

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

			Ro	oute To				stewater Redevelopmen		Waste Other	_	ement								
																	Pag	e 1	of	2
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Sample							Soil	Prope	erties		
Number and Type Length Att. & Recovered (in) Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	26 28	Yellowish brown (10YR 5/4) WELL GRADED SAND, dry, non-plastic, non-cohesive, few fine to coarse subrounded gravel (continued) Black gel from 27 to 27.2 feet Dark yellowish brown (10YR 3/6) from 28 to 29 feet	SW		800						
4 120 120	-30 -32	Black (10YR 2/1) SILTY SAND, moist, non-plastic, cohesive	SM		600						
	34	Dark gray (10YR 4/1) POORLY GRADED SAND with SILT, dry, non-plastic, non-cohesive			200						
	-36 -38	Color change to yellowish brown (10YR 5/4) at 35 feet			150						
5 120	40	Color change to gray (10YR 5/1) at 38 feet			100						
120	42	Color change to black (10YR 2/1) at 40 feet Color change to dark gray (10YR 4/1) at 42 feet			600						
	44	Color change to yellowish brown (10YR 5/4) at 44 feet	GD GL		200						
	-46 -48		SP-SM		100						
6 108	50	Color change to dark gray (10YR 4/1) and wet at 49 feet			60						
108	52				150						
	54				30						
	58	Color change to yellowish brown (10YR 5/4) at 56 feet			3.0						
		End of boring at 59.2 feet bgs		5- 1- 1-F-12							
			1								

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

			Ro		d/Wastewater ion/Redevelopment	Waste 1	_	ement								
													Pag	e 1	of	2
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Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet		Each Major Unit		SC	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	200	RQD/ Comments
<u>z n</u>	120	BI	Ď	_ Very dark gray (10Y	ZP 3/1) TOPSOII		□ Topsoi		Ď.	I-I-I	ပို့ အ	<u>∑</u> ∪	Ë Ë	Pla In	Ъ	<u>% 0</u>
1	120		-	Yellowish brown (1	0YR 5/4) SILTY SAND		L OPSOI									
			_2	non-plastic, non-con subrounded gravel	esive, trace to few fine t	to coarse										
			_	Geomembrane at 2.5	8 feet					0.0						
			- 4													
			-													
			- 6				SM									
			<u>-</u> 8													
2	120		-10													
_	120		-													
			12		rown (10YR 3/2) SILTY c, cohesive, trace gravel	SAND, dry	SM			0.8						
			- 14	Yellowish brown (1	0YR 5/4) WELL GRAD	ED SAND										
			- 11	with GRAVEL, dry, coarse gravel	non-plastic, non-cohesi	ve, fine to	SW									
			16	Yellowish brown (1 dry, non-plastic, nor	OYR 5/4) WELL GRAD a-cohesive, trace fine to	ED SAND, medium										
			_	gravel			CW									
			-18				SW									
			- 20													
3	120 120		-20	Yellowish brown (1) with GRAVEL, dry.	OYR 5/4) WELL GRAD non-plastic, non-cohesi	ED SAND ve. fine to	SW			9.4						
	120			coarse gravel						2.4						
			<u> </u>	to moist, non-plastic	rown (10YR 3/2) SILTY , cohesive, trace gravel		SM		1							
			24	Yellowish brown (1 dry, non-plastic, nor	OYR 5/4) WELL GRAD	ED SAND,	SW									
			-	gravel	,		SP									
	•	•			is true and correct to the	e best of my ki	nowledg	ge.								
Signat	ure	(x	alert	Wesefal	Firm	AECOM										Tel:
		VU	00	Maria I II.												Fax:

Boring Number	EX	-2 Use only as an attachment to Form 4400-1	22.					Pag	ge 2	of	2
Sample							Soil	Prope	erties		
s (iii) s	ट	Soil/Rock Description				ပ					
ber Ype th Att. & vered (in	л Fe	And Geologic Origin For				SSiv	မ		>		nts
Typ gth,	th In	Each Major Unit	CS	ohic I	/FIL	ngth	stur	it it	ticit	0)/
Number and Type Length Att. & Recovered (in) Blow Counts	Depth In Feet		S O	Graphic Log Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
	+-	Yellowish brown (10YR 5/4) POORLY GRADED	SP			0 01					
	-26	SAND, dry, non-plastic, non-cohesive (continued) Yellowish brown (10YR 5/4) WELL GRADED SAND	SW	****	3.6						
	Ė	with GRAVEL, dry, non-plastic, non-cohesive, fine to	5 .,	****	8.8						
	-28	coarse gravel Yellowish brown (10YR 5/4) POORLY GRADED	SP								
	-	SAND, dry, non-plastic, non-cohesive Color change to black (10YR 2/1) at 29 feet	51		68						
4 120	30	Color change to black (10YR 2/1) at 29 feet Yellowish brown (10YR 5/4) SILTY SAND, dry,									
120	-	non-plastic, non-cohesive, trace to few fine to coarse			2.5						
	-32	subrounded gravel			2.3						
	E				2.5						
	-34				2.5						
	Ė		SM								
		Color change to dark gray (10YR 4/1) at 35 feet									
	-				22						
	30										
	-40	Color change to black (10YR 2/1) at 38.8 feet Very dark gray (10YR 3/1) POORLY GRADED SAND,	SP		60.8						
5 120	- 40	\dry, non-plastic, non-cohesive									
120	F 42	Dark grayish brown (10YR 4/2) SILTY SAND, dry, non-plastic, non-cohesive, trace gravel			68						
	-42										
	<u> </u>	Color change to dark gray (10YR 4/1) at 43 feet									
	-44										
	E		SM								
	-46										
	E	Color change to gray (10YR 5/1) at 47 feet			168						
	-48										
	F	Color change to dark gray (10YR 4/1) at 49 feet									
6 96	50	Black (10YR 2/1) SILTY SAND, wet, non-plastic,	SM								
96	F	non-cohesive to cohesive	SIVI								
	52	Dark gray (10YR 4/1) SILTY SAND, wet, non-plastic, non-cohesive to cohesive	SM		22.0						
	F	Yellowish brown (10YR 5/4) SILTY SAND, wet,			22.0						
	54	non-plastic, non-cohesive to cohesive									
	F		CM		0.4						
	56		SM		0.4						
	-										
Ц	-58	End of boring at 58 feet bgs									
		End of porting at 30 feet pgs									

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

			Ro		d/Wastewater ion/Redevelopment		Manage	ement								
													Pag	e 1	of	2
	y/Projec ner N			vel Pit		License	/Permit/	Monito	ring N	lumber		Boring I		er		
_		1 By: 1	Name o	f crew chief (first, las	st) and Firm	Date Drilling	g Started	Date 1	Drillin	g Compl	leted	Drillin	g Metho	od		
Cas	Jehn cade I				~	6/1/2023			/2023			rotoso	nic			D:
WI Ur	ique W	ell No		DNR Well ID No.	Common Well Nam EX-3		tatic Wa 5.90 Fe			Surface 7		ition Feet N	ASI.	Во		Diameter 3.00
Local	Grid Or	rigin	(es	stimated:) or	Boring Location]	0.7010					Grid Loc				
State :		of N	W 1	/4 of Section 2,	T 18 N, R 2	Lat Long	_					Feet	□ N □ S]	☐ E Feet ☐ W
Facilit				County Manitow		County C	ode	Civil T New1		City/ or V	/illage					
San				1VIGINEO VV		130		11011				Soil	Prope	erties		
		70	1	So	oil/Rock Description											
. o	Att. e ed (i	annc	л Ее		d Geologic Origin For	:				,	SSIVE	မ		8		nts
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet		Each Major Unit		USCS	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1	120	I	-		(R 3/1) CLAY TOPSO		Topsoi			+ -	0 01			I	<u> </u>	<u> </u>
2	120 120 120			GRAVEL, dry, non subrounded gravel	0YR 5/4) SILTY SAND	fine to coarse	SM			0 0						
3	120 120		-18 -20 -22 -22 -24	yellowish brown (1 GRAVEL, dry, non Black (5YR 2.5/1) scohesive, organics, Yellowish brown (1	YR 5/1) SILTY SAND nesive, organics, mulch OYR 5/4) SILTY SAN plastic, non-cohesive, SILTY CLAY, dry, lov fine to coarse subround OYR 5/4) SILTY SAN nesive, fine to coarse su o 27 feet	ID with fine gravel v plastic, ded gravel	SM SM CL/MI			0						
hereb	y certif	y that	the info	rmation on this form	is true and correct to	the best of my l	knowled	ge.								
Signat	ure		Robert	+ Wasefal	Firm	AECOM										Tel: Fax:

Borin	g Numb	er	EX-	-3 Use only as an attachment to Form 4400-1	22.							Pag	ge 2	of	2
San	nple										Soil	Prope	erties		
	(in)	S	et	Soil/Rock Description						و					
. e	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	And Geologic Origin For				ا	0	SSiv	بو		25		nts
nber Typ	gth	× C	th L	Each Major Unit	CS	Graphic		I gran	/FII	npre ngtl	stur	nid it	ticit	00)/ Jme
Number and Type	Len	Blo	Dep		S O	Gra	Log	well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			26	Yellowish brown (10YR 5/4) SILTY SAND, dry, non-plastic, non-cohesive, fine to coarse subrounded gravel (continued)	SM				1.1 1.1						
				Yellowish brown (10YR 5/4) SILTY SAND with GRAVEL, dry, non-plastic, non-cohesive, fine to coarse subrounded gravel	SM										
4	120 84		-30 -32	Yellowish brown (10YR 5/4) WELL GRADED SAND, dry, non-plastic, non-cohesive	SW				0						
			34	Pale brown (10YR 6/3) WELL GRADED SAND, dry, non-plastic, non-cohesive											
			-36 -38		SP										
5	120		40	Pale brown (10YR 6/3) POORLY GRADED SAND, dry,					0						
	120		-42 -42	non-plastic, non-cohesive	SP										
			- 44 	Moist at 43.5 feet Yellowish brown (10YR 5/4) SILTY SAND, moist,					55						
			46 	non-plastic, on-cohesive Trace clay from 47 to 47.2 feet	SM				270						
			- 48	Black (5YR 2.5/1) mottled with yellowish brown (10YR 5/4) SILTY SAND, moist, non-plastic, non-cohesive Gray (5YR 6/1) SILTY CLAY, moist, low plasticity,	SM CL/MI				270						
6	120 36		50	Cohesive Gray (5YR 6/1) SILTY SAND, moist, non-plastic, non-cohesive	SM										
			52 	Gray (5YR 6/1) and black (5YR 2.5/1) SILTY CLAY, wet, low plasticity, cohesive					4.4						
			54 		CL/MI										
			-56 - -58												
	_		60	End of boring at 60 feet bgs											
				Little of Jorning at the Total Ogo											

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

			Ro		d/Wastewater ion/Redevelopment		Waste I Other	_	ement								
														Pag	e 1	of	2
	y/Projec mer N			vel Pit			License/l	Permit/	Monito	ring N	umber		Boring		er		
_	•	d By: 1	Name o	f crew chief (first, las	st) and Firm	I	Date Drilling	Started	Date I	Orilling	g Comp	leted	Drillin	g Metho	od		
Cas	Jehn cade I						6/7/2023	** ***		2023			rotoso	nic			
WI Ur	ique W	ell No.		DNR Well ID No.	Common Well Nar EX-4	me	Final Sta		er Leve et MS		Surface 7		_{ition} Feet N	/SI	Во		Diameter 3.00
Local	Grid Oı	rigin	(es		Boring Location		1	0	1	,			Grid Lo				5.00
State SW		of N	W 1	/4 of Section 2,	f, E s/c/n t 18 n, r 2		Lat Long	_					Feet	□ N □ S]	☐ E Feet ☐ W
Facility 436	y ID 10402	20		County Manitow	oc		County Co	de	Civil To Newt		ity/ or V	/illage					
San	nple			,									Soil	Prope	erties		
	% (in)	S	et	So	oil/Rock Description	1						و					
r pe	Att.	uno	In Fe	And	d Geologic Origin Fo	or		S	S	9		essiv h	re		ity		ents
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet		Each Major Unit			USC	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1	120	ш	-	Very dark gray (10								0 01		1 1	I		<u> </u>
	120		2		0YR 5/4) SILTY SA nesive, trace to few fi												
			- - 	Geomembrane at 3	feet						0.0						
			- 4														
			-6					SM									
			8														
2	120		- -10														
2	120		_ 								0.5						
			- 12	Dark yellowish brownon-plastic, non-col	wn (10YR 4/4) SILTY nesive, trace gravel	Y SAN	ND, dry,	SM									
			14 	\cohesive, roots, bur		•		CL									
			16	Brown (7.5YR 4/4) cohesive	LEAN CLAY, dry, l	low pla	asticity,	CL									
			18	non-cohesive, trace	SILTY SAND, dry, to few fine to coarse	non-p	lastic, ounded	SM	<i>/////</i>		14.5						
3	120				lowish brown (10YR 0YR 5/4) SILTY SA			DIVI									
	120		_ 	non-plastic, non-col	nesive, trace gravel	шъ, с	шу,										
			<u>-</u> -	Black buried topsoi	l with rootlets from 2	23 to 2.	3.1 feet	SM			1.2						
			<u>-24</u>								0.8						
hereb	y certif	fy that	the info	rmation on this form	is true and correct to	to the	best of my kr	nowledg	ge.								•
Signat	ure		Rober	t Wesebal	Firn	m A	ECOM										Tel: Fax:

Boring	Numb	er	EX-	-4 Use only as an attachment to Form 4400-1	22.						Pag		of	2
Samp	ple									Soil	Prop	erties		
	(E) &	ξĆ	et	Soil/Rock Description					o					
	Att.	oun	n Fe	And Geologic Origin For					SSiv	بو		2		nts
Typ	gth ove	Č	th L	Each Major Unit	CS	phic	1 gran	/FII	ngth	stur	bii it	ticit	0)/ Ime
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet		S O	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
7.1				Yellowish brown (10YR 5/4) WELL GRADED SAND,										
			-26	dry, non-plastic, non-cohesive, trace gravel	SW	*****	>							
				Strong brown (7.5YR 5/6) SANDY SILT seam	ML			0.8						
			-28	Yellowish brown (10YR 5/4) WELL GRADED SAND, dry, non-plastic, non-cohesive, trace gravel	SW	*****								
			E	Yellowish brown (10YR 5/4) POORLY GRADED				0.8						
4	120		-30	SAND, dry, non-plastic, non-cohesive Buried TOPSOIL with rootlets from 30 to 30.5 feet	SP									
	120		Ē					7.2						
			32	Yellowish brown (10YR 5/4) SILTY SAND with										
			Ē	GRAVEL, dry, non-plastic, non-cohesive, fine to coarse gravel										
			34					5.9						
			Ė											
			_36		SM									
			-					3.2						
			38	Color change to very dark gray (10YR 3/1) from 38 to 39										
			-	feet with trace wood fragments				15.6						
5	120		-40	Yellowish brown (10YR 5/4) SILTY SAND, dry,				10.0						
	120		F	non-plastic, non-cohesive, trace fine to coarse gravel			:	0.4						
			-42											
			-				:							
			-44					2.5						
			E		SM			2.3						
			-46					8.9						
			E					0.9						
			-48	Color change to dark yellowish brown (10YR 4/4) at 47.5										
			E	feet Color change to black (7.5YR 2.5/1) and dark brown				151.0						
, H	122		-50	(7.5YR 3/2) and wet at 48 feet				151.8						
6	132 84		E	Light olive brown (2.5Y 5/3) SILTY SAND, wet, non-plastic, non-cohesive				5.0						
			- 52					5.8						
			_				:							
			- 54											
			_					5.9						
			- -56		SM									
			Ė											
			_ 58					24						
			-	Color change to black at 58 feet Color change to dark brown (7.5YR 3/2) at 58.2				225						
			E 60	Color change to yellowish brown (10YR 5/4) at 59 feet Oily sheen at 59 feet										
Ц			Ė Š											
				End of boring at 61 feet bgs										

SOIL BORING LOG INFORMATION

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			Ro		ed/Wastewater ation/Redevelop			Manage	ement								
														Pag	e 1	of	2
	y/Projeo mer N			vel Pit			License	Permit/	Monito	ring Nı	ımber		Boring I		er		
_		d By: 1	Name o	f crew chief (first, l	ast) and Firm		Date Drilling	Started	Date I	Drilling	g Compl	leted	Drillin	g Metho	od		
Cas	Jehn cade l						6/5/2023			2023			otoso	nic			-
WI Ur	nique W	ell No.		DNR Well ID No		ll Name X-5	Final Sta	atıc Wa 5.74 Fe			Surface 7		_{tion} Feet N	1SI	Во		Diameter 3.00
Local	Grid Oı	rigin	(es	stimated:			1	0					Grid Lo				3.00
State :		of N	W 1	/4 of Section 2,	1	C/N J R 23	Lat Long						Feet	□ N □ S		1	☐ E Feet ☐ W
Facilit	y ID		** 1	County		1, IC 23	County Co	ode	Civil T	own/C	ity/ or V	Village	1 001				1001 🗀 🗤
	10402	20		Manitov	voc		36		Newt	on	1		~ "				T
San	nple												Soil	Prope	erties		
	t. & I (in)	nts	reet		Soil/Rock Descri	-						ive					
ser ype	th At	Con	I ll I	A:	nd Geologic Orig Each Major U			S	nic	am	Ð	oress gth	bure	-	city	_	/ nents
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet		Euch Major C	III.		USC	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1	120 120		-	Very dark gray (10 \non-plastic, cohes	OYR 3/1) LEAN (CLAY, d	ry,	CL	777			0 01					
	120		_2	Yellowish brown	10YR 5/4) SILT	Y SAND	, dry,				0.0						
				non-plastic, non-c gravel		to coarse	subrounded										
			-4	Geomembrane at 2	2. / Teet						0.0						
			Ē								0.0						
			-6														
			_					G) (
			-8					SM			0.0						
			E														
2	120 120		10								0.0						
	120		-12														
			_ 12	D (7.57) A((103)	TD 2/1) C										
			14	Brown (7.5YR 4/3 13 to 13.1 feet) and very dark g	gray (10 Y	K 3/1) from										
			-	Light brownish gr SAND, dry, non-r	ay (10YR 6/2) PC	OORLY (GRADED										
			16	SAND, dry, non-p	lastic, non-cones	ive											
			18					SP			3.6						
3	120		20	Brown (10YR 5/3	SILTY SAND	dry non-	nlastic										
	120		-	non-cohesive, few	fine trace coarse	subround	ded gravel				1.0						
			-22					SM									
			E														
			<u>-24</u>					SP-SN	1								
hereb	y certif	fy that	the info	rmation on this form	n is true and cor	rect to th	e best of my k	nowled	ge.	I		<u> </u>					I
Signat	-			t Wesebat			AECOM										Tel:
			Kofer	1 Vossey													Fax:

Borin	g Numb	er	EX-	Use only as an attachment to Form 4400-	122.						Pag	ge 2	of	2
San	nple									Soil	Prope	erties		
	s (ii)	S	et	Soil/Rock Description					စ					
, e	Att.	uno	n Fe	And Geologic Origin For					SSiv	بو		25		nts
nber Typ	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Each Major Unit	CS	phic	II gran	/FII	npre	Moisture Content	nid iit	ticit	200	D/ nme
Number and Type	Len	Blo	Dep		S O	Graphic	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 2(RQD/ Comments
			26	Yellowish brown (10YR 5/4) POORLY GRADED SAND with SILT, dry, non-plastic, non-cohesive										
			_26	(continued)	CD CA									
			F 20		SP-SN	4								
			_28					3.9						
			- 20	Yellowish brown (10YR 5/4) SILTY SAND, dry, non-plastic, non-cohesive, trace to few fine to coarse	SM									
4	60 60		_30	\subrounded gravel										
			32	Yellowish brown (10YR 5/4) POORLY GRADED SAND with SILT, dry, non-plastic, non-cohesive	SP-SN	1		0.0						
			- 32											
			<u>-</u> 34	Yellowish brown (10YR 5/4) SILTY SAND, dry,				0.1						
			- 34	non-plastic, non-cohesive, few fine to coarse subrounded gravel	SM									
5	60 60		36	Yellowish brown (10YR 5/4) POORLY GRADED										
			- 30	SAND, dry, non-plastic, non-cohesive										
					SP			3.5						
			-											
			-40											
6	120 120			Yellowish brown (10YR 5/4) SILTY SAND, dry, non-plastic, cohesive, trace fine to coarse subrounded				4.5						
			-42	gravel				2.5						
			E					3.5						
			<u>-</u> 44		SM									
			-46											
			E	Black (10YR 2/1) SILTY SAND, dry, non-plastic,	-			363						
			-48	non-cohesive				303						
			E	Wet and product at 48 feet										
7	132		50		SM									
′	132		-					7.8						
			52					7.0						
			-	Brown (7.5YR 4/4) SILTY CLAY, wet, low to medium plasticity, cohesive										
			_54	plasticity, concerve	CL/MI									
			-											
			_56	Dark grayish brown (10YR 4/2) SANDY SILT, wet,										
			E	non-plastic, cohesive	ML									
			-58	Black from 58 to 58.1 feet	1,12			0.4						
			E	Brown (10YR 4/3) SILTY SAND, wet, non-plastic,	+									
			-60	non-cohesive	SM									
_				End of boring at 61 feet bgs	+	1000								

SOIL BORING LOG INFORMATION

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			Ro		ed/Wastewater tion/Redevelopm	□ nent ⊠	Waste Other	_	ement								
														Pag	e 1	of	2
Fori		ewtoi	n Grav	vel Pit			License/	Permit/	Monito	ring Nu	umber		Boring I		er		
_		1 By: 1	Name o	f crew chief (first, la	st) and Firm		Date Drilling	Started	Date I	Orilling	g Compl	eted	Drillin	g Metho	od		
Cas	Jehn cade I			DAID WAILID AL	C W 11	N	5/31/2023	4: - W/-		2023	Surface		rotoso	nic	D.	11.	Dit
wi Un	iique w	eli No.	•	DNR Well ID No.	EX		Final Sta	.50 Fe					uon Feet N	1SL	Во		Diameter 3.00
	Grid Or	rigin	(es	stimated:) or	Boring Location	n 🗌	1	0	,				Grid Lo		I		
State I	1/4	of N	W 1	/4 of Section 2,	I, E s/0 T 18 N,		Lat Long	-			"		Feet	□ N □ S]	☐ E Feet ☐ W
Facility 436	y ID 10402	20		County Manitow	roc		County Co	ode	Civil To Newt		ity/ or V	illage					
San	nple			·									Soil	Prope	erties		
	. & (in)	ts.	et	S	oil/Rock Descrip	otion						e/					
Number and Type and Type and Type Length Att. & Recovered (in) Pepth In Feet Depth In Feet (in) Each Wajor Counts								S	. <u>.</u> 2	띰		essiv	ure nt		ity		ents
Numb and Ty	Secov	3low (Depth		ıt .		USC	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments	
1	120 120	I	-	Very dark gray (10 TOPSOIL	YR 3/1) LEAN C	LAY, n	noist /	Topsoi	137, 30 11 1		 	0 01					10
	120		_ 2	Yellowish brown (inon-plastic, non-co	10YR 5/4) SILTY	SAND	, dry,				0.0						
				gravel	nesive, iew iine i	o coarse	subrounded										
-4 graver																	
			_					SM									
			- 6								0.0						
			<u>-</u> -8														
			_														
2	120		10	Yellowish brown (10VR 5/4) SII TV	SAND	with										
2	120		_	GRAVEL, dry, nor subrounded gravel							0.0						
			-12	subfounded graver													
			Ē ,,					SM									
			14 														
			_ 16		4.5.0												
				Larger rock around	16 feet												
			-18	Very dark gray (2.5 medium plasticity,	Y 3/1) LEAN CI	AY, dr	y, low to				0.0						
			_	gravel Color change to day	ŕ			CL			***						
3	120		20	3/3) to dark reddish Yellowish brown (brown (5YR 3/4) at 19 f	feet /		/////								
	120		- -22	SAND, dry, non-pl													
			- 22					SP									
			24	Silt seam from 23 t													
			<u> </u>						A STATE								
hereb Signat	•	•		rmation on this form		т.		nowledg	ge.								
- igiiat			Robert	+ Wesefal			AECOM										Tel: Fax:

Borin	g Numb	er	EX-	-6 Use only as an attachment to Form 4400-	-122.							ge 2	of	2
San	nple									Soil	Prope	erties		
	æ (iii)	ξĆ	et	Soil/Rock Description					o					
. e	Att.	Junc	л Fе	And Geologic Origin For			_		SSIV	ပ		>		nts
ıber Typ	gth /	ŭ	th Ir	Each Major Unit	CS	hic	l gram	(FIL	ipre ngth	sture	it it	ticit	0)/
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet		S	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
				Yellowish brown (10YR 5/4) POORLY GRADED	+-			0.6	0 02					
			-26	SAND, dry, non-plastic, non-cohesive, fine to coarse gravel (continued)			:							
			Ē	g-11-12 (vermines)	SP									
			28		51		:							
			_					0.6						
4	120		-30	Yellowish brown (10YR 5/4) POORLY GRADED	+			0.0						
7	72		E	SAND, dry, non-plastic, non-cohesive, fine to coarse				0.6						
			-32	gravel				0.6						
			F		SP		:							
			□ 34				1							
			- '	Silt seam from 34.5 to 36 feet			:							
			-36											
				Yellowish brown (10YR 5/4) POORLY GRADED SAND, dry, non-plastic, non-cohesive, fine to coarse			}							
			F 20	gravel	SP									
			-38		51									
			E					0.6						
5	120		-40	Yellowish brown (10YR 5/4) POORLY GRADED SAND, dry, non-plsatic, non-cohesive				0						
	120		Ė	oration, and, non-position constitution										
			-42											
			_											
			-44				:	0						
			E											
			- 46				:							
			Ē		CD		:							
			_ 48		SP									
				Wet at 48.5 feet			:							
			_ 50					1.3						
6	120 60		- 30					0						
	00		- 52				:							
			 52				•							
			L											
			54											
			E	Black (10YR 2/1) POORLY GRADED SAND, wet,				1.6						
			-56	non-plastic, non-cohesive, slight odor										
			Ē		SP									
			_58				:							
			Ė	Color change to yellowish brown (10YR 5/4) at 59 feet										
L			-60	End of boring at 60.5 feet bgs	+									
				Overdrilled from 60 to 60.5 feet. No sample.										

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater Remediation/Redevelop		Waste I Other	_	ment								
									Pag	e 1	of	2
Facility/Project Name Former Newton Gravel Pit		License/I	Permit/I	Monitor	ing Nu	ımber		Boring F		er	01	
Boring Drilled By: Name of crew chief (first, last) and Firm		Date Drilling	Started	Date I	Prilling	Compl	eted	Drilling	g Metho	od		
Jeff Jehn Cascade Drilling		6/5/2023			2023	~		rotosoı	nic			
WI Unique Well No. DNR Well ID No. Common Wel	ll Name X-7	Final Sta		er Leve et MS		Surface 7		ition Feet N	ISI	Bo		Diameter 3.00
Local Grid Origin ☐ (estimated: ☐) or Boring Location State Plane N, E S/	on C/N	Lat	° –	'-				Grid Loc				
SW 1/4 of NW 1/4 of Section 2, T 18 N	N, R 23	Long		'		"			□ S]	Feet W
Facility ID County 436104020 Manitowoc		County Co		Civil To Newt		ty/ or V	illage					
Sample								Soil	Prope	rties		
Number and Type and Type and Type Art. & County Art. & Condition And Geologic Original Each Major University of the Art. & County Art. & Each Major University of the Art. & E	gin For		USCS	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
Very dark gray (10YR 3/1) CLAY Yellowish brown (10YR 5/4) SILTY GRAVEL, dry, non-plastic, non-col subrounded gravel Geomembrane at 2.5 feet 120 84 Dark brown (7.5YR 3/2) mixed wit LEAN CLAY, dry, low to medium trace gravel Black (7.5YR 2.5/1) SILTY SAND CLAY, low to medium plasticity, co material looks burnt Yellowish brown (10YR 5/6) SILTY GRAVEL, dry, non-plastic, non-col subrounded gravel 2	Y SAND hesive, fin th black (' plasticity mixed wohesive, to Y SAND hesive, fin	7.5YR 2.5/1), cohesive, with LEAN race gravel, with the to coarse	SM SM SW SP			0 0.6						
I hereby certify that the information on this form is true and corn		e best of my kr	owledg	ge.								
Signature Robert Weselfal	Firm	AECOM										Tel: Fax:

Borin	g Numb	er	EX-	Use only as an attachment to Form 4400-	122.						Pag	ge 2	of	2
San	nple									Soil	Prop	erties		
	(ii) &	S	et	Soil/Rock Description					و					
, e	Att.	Counts	n Fe	And Geologic Origin For					SSiv	و		2		nts
nber Typ	gth,	ٽ ≽	th I	Each Major Unit	CS	ohic	l gran		ngth	stur	ii d	ticit	0)/ ime
Number and Type	Length Att. & Recovered (in)	Blow	Depth In Feet		S O	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
			-	subrounded gravel										
			-26	Black (7.5YR 2.5/1) ash from 22 to 22.2 feet Silt seam from 24.9 to 25 feet										
			E	Pale brown (10YR 6/3) POORLY GRADED SAND, non-plastic, non-cohesive (continued)	SP									
			-28	Color change to yellowish brown (10YR 5/6) at 26 feet										
			E					0						
4	120		_30	Black (7.5YR 2.5/1) SILTY SAND mixed with LEAN	SM		•							
	120		E	CLAY, low to medium plasticity, cohesive, trace gravel, material looks burnt	SW									
			32	Light gray (7.5YR 7/1) WELL GRADED SAND with										
			F	GRAVEL, dry, non-plastic, non-cohesive, fine to coarse subrounded gravel	SM		:	0.9						
			34	Black (7.5YR 2.5/1) SILTY SAND mixed with LEAN CLAY, low to medium plasticity, cohesive, gravel,										
			F	material looks burnt			>							
			_36	Color change to dark yellowish brown (10YR 3/4) at 32 feet				1.3						
			F	Pale brown (10YR 6/3) WELL GRADED SAND, dry,										
			38	non-plastic, non-cohesive										
			F				>							
5	120		-40											
	120		-	Color change to black (7.5YR 2.5/1) at 41 feet	SW			2.6						
			-42	Gray (5YR 6/1) silt seam from 41 to 42 feet			>	2.0						
			_											
			-44											
			_	Silt seam from 44.5 to 45 feet										
			-46	Sin stand from the test of 1000										
			-48	Dark gray (2.5Y 4/1) SILTY SAND, wet, non-plastic, non-cohesive		*****								
			F	Color change to very dark gray (5Y 3/1) at 49 feet	SW			2.4						
6	120		50	Dark grayish brown (10YR 4/2) CLAYEY SILT, wet, low	ATT /CI		P.	2.4						
0	120		_	plasticity, cohesive	ML/CI			0.0						
			52	Dark grayish brown (10YR 4/2) SILTY SAND, wet, non-plastic, cohesive to non-cohesive	C) (0.0						
				1	SM		:	0.1						
			54	WELL GRADED SAND seam from 53.8 to 54 feet	+		. 	0.0						
			E	Dark grayish brown (10YR 4/2) SILTY CLAY, wet, low	CT 2 0			0.0						
			-56	plasticity, cohesive, no gravel Sand seam from 55 to 55.4 feet	CL/MI			0.0						
			E	Dark grayish brown (10YR 4/2) POORLY GRADED				0.0						
			58	SAND with SILT, wet, non-plastic, non-cohesive to	CD CI			0.0						
			E	cohesive, trace fine to coarse subrounded gravel	SP-SN			0.0						
			-60	End of boring at 60 feet bgs			:							
				End of boring at 60 feet bgs										

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

			<u>Ro</u>	oute To:		ed/Wastewater tion/Redevelop			te Mana	agei	ment								
					remedia	tion reac velop	men <u>v</u>	y our								Pag	1	of	2
	y/Project mer N			vel Pit				Licens	se/Perm	it/N	Monito	ring N	umber		Boring]		er	01	
		d By:	Name c	f crew ch	nief (first, la	st) and Firm		Date Drillin	ng Start	ed	Date I	Orilling	Comp	leted	Drillin	g Meth	od		
	f Jehn scade I	Drilli	ng					5/30/202	23		5/31	/2023	3	ı	rotoso	nic			
WI U	nique W	ell No		DNR '	Well ID No.	Common We			Static V				Surface	e Eleva	tion		Во		Diameter
Local	Grid Oı	rigin	(e	stimated:		Boring Locati	X-8	68	36.34	Fee	et MS	SL			Feet N				8.00
	Plane	igiii	_ (c	stimated.	□) or N		/C/N	Lat		_	'			Locar	oria Lo		1		□Е
SW		of N	W	1/4 of Sec		т 18	n, r 23	Long)			"		Feet]	Feet W
Facilit	y ID 510402	20			County Manitow			County 36	Code		Civil To Newt		ity/ or \	/illage					
	nple				Maiiiow	000		30		1	Newi	.011			Soil	Prop	erties		
																			-
	tt. &	unts	gin For							sive					ts				
lber Type	gth A	္ပိ	Jnit		\ \frac{1}{2}		hic	ram	PID/FID	pres	sture	lid if	Plasticity Index	0	men				
and dand dand dand dand dand dand dand									\ \frac{1}{2})	Graphic Log	Well Diagram	PID/	Compressive Strength	Moisture Content	Liquid Limit	Plastic Index	P 200	RQD/ Comments
			E		lark gray (10			Гор	soil	11, . 11,									
			F 2	GRAV	vish brown (1 EL, dry, non														
1 Г	92.4		_2	subrou Geome	inded gravel embrane at 2	.25 feet													
	92.4		_4										0.0						
			F 7																
			E_6										0.0						
			E																
			-8																
			E										0.0						
2	120		10						SN	Λ									
2	120		E																
			12																
			F										0.0						
			14																
			E																
			-16																
			E																
			-18	Dealel		2/2) I E AN C	I A 37 1	. 4 4											
			F 20	plastici	ity, cohesive.	R 3/3) LEAN Cl trace gravel			C	Ĺ			1.1						
3	120 120		-20		-	1) sand mixed v 10YR 5/6) POC				_									
	120		-22			astic, non-cohes		. 12 22											
									S)			4.5						
			E-24																
			F																
I here	hereby certify that the information on this form is true and correct t								knowl	edg	e.		•	•	•	•			•
Signa	ture		Polon	t Wesel	10 L		Firm	AECOM											Tel:
			Violes	0															Fax:

Borin	g Numb	er	EX-	-8 Use only as an attachment to Form 4400-	122.						Pa	ge 2	of	2
San	nple									Soil	Prop	erties		-
	s (iii)	ts	set	Soil/Rock Description					,e					
r. pe	Att	ono	In F	And Geologic Origin For	S	ွ			essi'	le t		ity		ents
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Each Major Unit	SC	Graphic Log	Well	Diagram PID/FID	Compressive Strength	Moisture Content	Liquid	Plasticity Index	200	RQD/ Comments
Nu	Le Re	Ble	De		Ď	Grap	i ĕ i		သီ	≱ రి	Ë Ë	Pla	P 2	% °°
			-26	Yellowish brown (10YR 5/6) POORLY GRADED SAND, dry, non-plastic, non-cohesive (continued)										
					SP									
			-28	DIII (10VD (2) WELL CDADED GAND 31		0.000		1,	,					
				Pale brown (10YR 6/3) WELL GRADED SAND with GRAVEL, dry, non-plastic, non-cohesive, fine to coarse	SW			4.7						
4	120		30	subrounded gravel Dark yellowish brown (10YR 4/4) SILTY SAND, dry,										
7	120		E	non-plastic, non-cohesive to cohesive fine to coarse	SM			0.4						
			32	subrounded gravel	Sivi			0.5						
			_	Pale brown (10YR 6/3) WELL GRADED SAND with		*****		0.0	,					
			_34	GRAVEL, dry, non-plastic, non-cohesive, fine to coarse subrounded gravel			•							
			_		SW			1.0	,					
			_36				•							
			_	Yellowish brown (10YR 5/4) POORLY GRADED	SP									
			_38	SAND, dry, non-plastic, non-cohesive Pale brown (10YR 6/3) WELL GRADED SAND with	1	*****	•							
			- 40	GRAVEL, dry, non-plastic, non-cohesive, fine to coarse subrounded gravel	SW		•	0.0)					
5	120 120		-40	Yellowish brown (10YR 5/4) POORLY GRADED										
	120		- -42	SAND, dry, non-plastic, non-cohesive				0.0)					
			- 72											
			44											
			E											
					SP			0.0)					
			-48					0.0	'					
			E	Wet at 49 feet				0.0	,					
6	120		50	Wet at 49 leet				0.0	'					
	120		_					0.0	,					
			52	Dark gray (2.5Y 4/1) SILTY SAND, wet, non-plastic,										
			E	non-cohesive to cohesive, slight odor	SM			30.	0					
			_54		5111									
			E	Silt seam from 54.5 to 55 feet Very dark gray (5Y 3/1) WELL GRADED SAND, wet,	+		•							
			- 56	non-plastic, non-cohesive			•							
			F	Color change to grayish brown (2.5Y 5/2) at 57 feet	SW	****	•	0.0)					
			- 58				•							
			-60	Brown (10YR 4/3) SILTY CLAY, wet, low plasticity, cohesive	CL/MI									
			_ 60	End of boring at 60 feet bgs										

Attachment C:

Well Construction Forms

State of Wisconsin									ONITORING	WELL CON		
Department of Natural Resourc				. 🗖				Form 4400-11	.3A		Rev.	7-98
Ro	ute to:	•	ed/Wastewa	=	Waste	Management						
Facility/Project Name		Remediation/F				Other	ш	Well Name				
Tacility/Troject Name		Local Olid Loc	cation of vve	·II	N		E					
Former Newton Grav	el Pit			ft			ft W		EX	-1		
Facility License, Permit or Moni	toring No.	Local Grid Ori	_	stimated:		ell Location		Wis. Unique \	Vell No	DNR Well	d No.	
		χ =	216948.2	53	y =	289339.724						
Facility ID		Lat. 1983 Manitow	oc County C	Co-ordinates	Long system(feet MSL)	or	Date Well Ins	talled			
. domity 12		St. Plane	oo oouniy o		t N		ft E S/C/N		08 /	2	023	
436104020		Section Locat	ion of Waste	e/Source				m m	d d	уууу		
Type of Well		C\N/ 1/4 of	: NIM af (200 O T	. 10	N.D.	E 23 W □	Well Installed	By: Name (fi	rst, last) and	Firm	
Well Code 5	57 / sv .	Location of W	NW of S			N, R2	Gov. Lot No.		Cascade (leff Jehn)		
	Enf. Stds.	_	Jpgradient	S Waste/600		Sidegradient	GOV. LOT 140.		Ouscauc (C	och och)		
Sourceft.	Apply	_	Downgradien		_	lot Known						
A. Protective pipe, top elevation		NA	ft. M	SL			1. Cap and loc	ck?		Yes		No
B. Temporary Well casing, top	elevation	<u>734.90</u>	ft. MS	_ \			2. Protective of					
C. Land surface elevation		<u>731.66</u>	ft. M	\		_//	a. Inside dia	ameter:				_ In.
D. Surface seal, bottom	<u>726.66</u>	ft. MSL or	5.0	Ft.	$\rightarrow \uparrow \downarrow \downarrow$		b. Length:				<u> </u>	Ft.
12. USCS classification of soil r	noor ooroon:			$\neg \setminus \setminus$		1 [c. Material:				Steel Other	04
		SW ☑ SF	V				d Additiona	I Protection?			Yes 🗹	
		CL CH	=					scribe:		_		110
Bedrock	_						3. Surface sea			Bento	onite	30
	_	_		\						Conc		01
13. Sieve analysis performed?	☐ Y	es 🗹 No					Sa			=	her 🛂	ı
44 5 '11'	Б.	□ 50					. 4. material bet	ween well casi	ng and prote			7 00
14 Drilling method used:	Rota llow Stem Aug	· =								Bento	her	30
Rotosonic	Othe						5 Annular sna	ace seal:	a Granular	/Chipped Be	_	33
rtotosomo	0	· <u> </u>						.bs/gal mud we		entonite-san		_
15 Drilling fluid used: Wa	ater 🗹 02	Air 🔲 01						.bs/gal mud we	eight		e slurry 🗆	
Drilling M	/lud 🗌 03 N	lone 🗌 99						Bentonite		onite-cemen] 50
								lbs . volu	me added for			1
16 Drilling additives used?	_	es 🛂 No					f. Ho	w installed:			「remie ∐	
Describe		<u>-</u>								Tremie P	umped∟ Gravity ☑	
17. Source of water (attach ana	lvsis if require	ed).					6. Bentonite S	eal·	a P	entonite gra		-
City of Manitowoc, Wise	-	-/.					′ b.		□/2 in.	Bentonite		-
							C			_ (Other \Box	J <u></u>
E Bentonite seal, top	<u>726.66</u>	ft. MSL _	5.0	ft.			_/ 7. Fine sand n					
F. Fine sand, top	707.66	ft MSI	24.0	ft.			9	Ma Red Flint	anufacturer, p	roduct name	& mesh □	size
1. Tille salla, top	101.00	II. WOL	24.0	"//			b. Volume)S	.		·
G. Filter Pack, top	705.66	ft. MSL _	26.0	ft.			8. Filter pack r					
									anufacturer, p	roduct name	& mesh	size
H. Screen joint, top	<u>702.46</u>	ft. MSL _	29.2	ft			a. Red F		07F lbs	-		J
I. Well Bottom	672.46	ft MSI	59.2	ft.			b. Volume9. Well casing		875 lbs ush threaded	PVC sched	ule 40 🗀	23
i. Won Bottom	012.10	<u> </u>	00.2	"-			o. Won odonig		ush threaded			
J. Filter Pack, bottom	672.46	ft. MSL	59.2	ft.			20 ft Stainle	ss Steel/9.2 ft So	:h80 PVC.	(Other 🔽	<u></u> .
					_		`	aterial: Stainles	s Steel.			ļ <u></u>
K. Borehole, bottom	<u>672.46</u>	ft. MSL _	59.2	ft.			a. screen t	type:			ry cut	11
L. Borehole, diameter	<u>8</u> In						30 ft Stair	nless Steel V-w	vire	Continuou	Other 🗹	01
, a.a	""						b. Manufactu			ne works/Felk		
M. O.D. well casing	4.500 In.						b. Slot size	_			0.02	in.
							c. slotted le				28.8	ft.
N. I.D. well casing	3.786 In.					\	11. Backfill ma	aterial (below filt	er pack):			14
									<u>-</u>	(Other L	·
I hereby certify that the informat	tion on this for	m is true and c	orrect to the	best of mv k	knowledo	ge.						—
Signature		bert Weseljak		Firm		AECOM						
g. 14ta10		U										

State of Wisconsin				MONITORING	WELL CONSTRUCTION
Department of Natural Resources				orm 4400-113A	Rev. 7-98
Route to:	Watershed/Wastewater	=			
Facility/Duniant Name	Remediation/Redevelopment	<u>✓</u> Other		-U M	
Facility/Project Name	Local Grid Location of Well	N	E	ell Name	
Former Newton Gravel Pit		ft S	ft W	EX	-2
Facility License, Permit or Monitoring No.	Local Grid Originestim			is. Unique Well No	DNR Well Id No.
,	x = 217005.284	y = 289338.943		•	
	Lat.	Long	or		
Facility ID	1983 Manitowoc County Co-c	ordinates system(feet MSL)	Da	ate Well Installed	
	St. Plane	ft N	ft E S/C/N	<u>06 /</u> <u>07 /</u>	<u>2023</u>
436104020	Section Location of Waste/So	ource		mm dd	уууу
Type of Well	SW 1/4 of NW of Sec	c. 2 .T. 18 N.R 2	<u> </u>	ell Installed By: Name (fir	st, last) and Firm
Well Code 57 / sv .	Location of Well relative to W		Gov. Lot No.	Cascade (J	loff John)
Distance from Waste/ Enf. Stds.	u Upgradient	s Sidegradient	GOV. LOT NO.	Cascade (C	ien Jenn)
Sourceft. Apply _	d Downgradient	n Not Known			
A. Protective pipe, top elevation	NA ft. MSL		,1. Cap and lock?		Yes No
B. Temporary Well casing, top elevation	732.08 ft. MSL		2. Protective cove		
C. Land surface elevation	730.50 ft. MSL		a. Inside diame	• •	In.
D. Surface seal, bottom 725.50	ft. MSL or <u>5.0</u> Ft.		b. Length:		Ft.
·		\\ '\ \	c. Material:		Steel 04
12. USCS classification of soil near screen:					Other 🔲
	SW□ SP☑		d. Additional Pr	rotection?	☐ Yes ☑ No
SM ☑ SC ☐ ML ☐ MH ☐	CL □ CH □		If yes, descri	ibe:	<u>.</u>
Bedrock			3. Surface seal:		Bentonite 2 30
<u></u>					Concrete \bigsqcup 01
13. Sieve analysis performed?	′es ☑ No		Sand		Other ✓
			. 4. material between	en well casing and protec	
14 Drilling method used: Rota	· =				Bentonite 2 30
Hollow Stem Aug					Other <u></u>
Rotosonic Othe	er <u> </u>		5. Annular space		Chipped Bentonite 33
45 B 1111 B 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	🗆			•	entonite-sand slurry 35
15 Drilling fluid used: Water ☑ 02 Drilling Mud ☐ 03	Air U 01			gal mud weight	Bentonite slurry 4 31 onite-cement grout 5 50
	None 📙 99			entonite Bento volume added for	
16 Drilling additives used?	′es ☑ No		e. <u>250 lbs</u> f. How in		Tremie 01
Describe	es 🗀 NO		1. 1 IOW III	istalieu.	Tremie Pumped 02
Describe					Gravity ✓ 08
17. Source of water (attach analysis, if require	ed).		6. Bentonite Seal:	. а В	entonite granules 33
City of Manitowoc, Wisconsin			' b. □/4 in.		Bentonite Chips ☑ 32
		' /	c		Other 🔲 🛄
E Bentonite seal, top 725.50	ft. MSL <u>5.0</u> ft.、		7. Fine sand mate	erial:	
					roduct name & mesh size
F. Fine sand, top <u>707.50</u>	ft. MSL <u>23.0</u> ft			Red Flint	. L <u></u>
O Filter Deals to 205.00	# MOL 055 #		b. Volume add		<u>-</u>
G. Filter Pack, top 705.00	ft. MSL <u>25.5</u> ft.		8. Filter pack mate		roduct name & mesh size
H. Screen joint, top 702.50	ft. MSL		a. Red Flint	·	
71. Ostosti jelik, top <u>102.00</u>	10. WOL 10.		b. Volume add		. — —
I. Well Bottom 672.50	ft. MSL <u>58.0</u> ft.	=	9. Well casing:		PVC schedule 40 ☐ 23
			· ·	Flush threaded	PVC schedule 80 24
J. Filter Pack, bottom 672.50	ft. MSL <u>58.0</u> ft.			Steel/8 ft Sch80 PVC.	Other 🗹
			•	ial: Stainless Steel.	
K. Borehole, bottom 672.50	oft. MSL <u>58.0</u> ft.		a. screen type):	Factory cut 11
I Danahala diamatan			20 # 04-:	- 0411/	Continuous slot 01
L. Borehole, diameter 8 In			30 π Stainless b. Manufacturer	s Steel V-wire .	Other 🛂 ne works/Felker USA weld
M. O.D. well casing <u>4.500</u> In.			b. Slot size:	Alloy Iviachir	0.02 in.
			c. slotted leng	ıth:	28.8 ft.
N. I.D. well casing <u>3.786</u> In.			•	ial (below filter pack):	None
		`		, 201/).	Other
				<u> </u>	
I hereby certify that the information on this for	m is true and correct to the be	st of my knowledge.			
Signature ${\mathcal R}$	obert Weseljak	Firm AECOM			

State of Wisconsin									ONITORING	WELL CON		
Department of Natural Resource								Form 4400-1	13A		Rev. 7	7-98
Ro	oute to:	=	ed/Wastewate	=	Waste N	/lanagement						
Facility/Project Name		Remediation/F				Other		Well Name				—
T domey/T Tojoot Hamo		Local Ona Lo			N		E		EV	•		
Former Newton Grav				ft	_		ft W		EX			
Facility License, Permit or Mon	itoring No.	Local Grid Or	•	imated:		ell Location		Wis. Unique \	Well No	DNR Well I	d No.	
		x = Lat.	217063.29	91	y = Long	289342.431	or					
Facility ID		1983 Manitow	oc County Co	o-ordinates	_	et MSL)	OI.	Date Well Ins	talled	1		
•		St. Plane			. N `	,	ft E S/C/N	06 /	02 /	<u>2</u>	023	
436104020		Section Locat	ion of Waste/	Source				m m	d d	уууу		
Type of Well		SW 1/4 of	f <u>NW</u> of S	ec. 2 .T	10	_N, R2	E 23 W □	Well Installed	By: Name (fi	rst, last) and	Firm	
Well Code	57 / sv .	Location of W					Gov. Lot No.	1	Cascade (Jeff Jehn)		
Distance from Waste/	Enf. Stds.	_	Jpgradient	S		degradient			(,		
Source ft.	Apply 🗌	d 🔲 [Downgradient	n	☐ No	t Known						
A. Protective pipe, top elevation		<u>NA</u>	ft. MS	_			1. Cap and loo			Yes		No
B. Temporary Well casing, top	elevation	<u>733.10</u>	ft. MS	_ \			2. Protective of					
C. Land surface elevation	706.60	731.62	ft. MS	\	\searrow	-//	a. Inside dia	imeter:				_ In. Ft.
D. Surface seal, bottom	120.02	ft. MSL or	<u>5.0</u> F	.	7	\mathcal{V}	b. Length:c. Material:				Steel	_ Ft.] 04
12. USCS classification of soil	near screen:			$\neg \setminus \setminus$	ЩП		C. Material.				Other	=
		SW ✓ SF	V				d. Additiona	I Protection?		· 🗆 ,	Yes 🔽	
SM ☑ SC ☐ MI	L☑ MH□	CL ☑ CH			_		If yes, de	scribe:			<u>.</u>	_
Bedrock							3. Surface sea	ıl:		Bento		30
40.01				\	\					Concr		01
13. Sieve analysis performed?	☐ Y	es 🛂 No					Sa 4 masterial bet		ing and proto	=	ner 🛂	· —
14 Drilling method used:	Rota	ırv 🗌 50					. 4. material bet	ween well cas	ing and prote	ctive pipe: Bento	nite 🗸	30
=	ollow Stem Aug	- =								Oth		j .
Rotosonic	Othe						5. Annular spa	ice seal:	a. Granulaı	/Chipped Be	ntonite⊡	33
	_	_						.bs/gal mud we		entonite-sand	l slurry 🗀	35
	ater 🗹 02	Air 📙 01						bs/gal mud we				
Drilling I	Mud ∐ 03 N	None 📙 99						Bentonite		onite-cement		」 50
16 Drilling additives used?		es 🗹 No						<u>bs</u> volu w installed:	ime added io		remie 🗌	01
Describe	_						1.110	w installed.		Tremie Pu		
											ravity 🗹	
17. Source of water (attach and	alysis, if require	ed):					6. Bentonite S		a. B	entonite gra		-
City of Manitowoc, Wis	consin						b.	. <u>✓</u> }/8 in.	/2 in.	Bentonite (. —	32
E Bentonite seal, top	726.62	ft. MSL _	5.0	ft.、			.7. Fine sand n	naterial:		_ (Other L	J <u></u>
L bentonite sear, top	120.02	II. IVIOL	5.0	11.			/1.1 lile salid li		anufacturer, p	roduct name	& mesh	size
F. Fine sand, top	699.62	ft. MSL _	32.0	ft.			a	Red Flint	/1	-] <u></u>
							b. Volume		os	<u> </u>		
G. Filter Pack, top	697.62	ft. MSL _	34.0	ft		// /	8. Filter pack r		anufacturar n	roduct name	0 maah	0170
H. Screen joint, top	695.62	ft. MSL _	36.0	ft			a. Red F		anufacturer, p	roduct name	a illesii	SIZE
The Goldon James, top	<u> </u>		00.0				b. Volume		775 lbs	<u>.</u>	_	. —
I. Well Bottom	670.62	ft. MSL _	61.0	ft			9. Well casing		lush threaded			23
. E'' B	070.00	6 MOI	04.0	,					lush threaded		=	=
J. Filter Pack, bottom	670.62	ft. MSL _	61.0	ft			25 ft Stainle 10. Screen Ma	ss Steel/11 ft So		C	Other ☑	¦
K. Borehole, bottom	670.62	ft. MSL _	61.0	ft.			a. screen t		ss oleel.	Facto	rv cut 📙	11
Till Berentete, Bettern	<u> </u>		0 1.0				u. 55.55	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Continuou	•	01
L. Borehole, diameter	<u>8</u> In							less Steel V-w			Other 🔽	
M. O.D. well active	4.500						b. Manufactu	_	Alloy Machir	ne works/Felke		
M. O.D. well casing	<u>4.500</u> In.						b. Slot size c. slotted le				<u>0.02</u> 23.8	_ in. _ ft.
N. I.D. well casing _	3.786 In.					\	c. siotled i 11. Backfill ma	•	ter pack):]	14
						`		(20.017 III			Other \Box	j <u></u>
I hereby certify that the informa				oest of my k	nowledge	Э.						
Signature	\mathcal{R}_{ϵ}	obert Weseljak	ė	Firm	AE	СОМ						

State of Wisconsin								N	IONITORING	WELL CON	STRUCT	LION
Department of Natural Resource								Form 4400-1	13A		Rev.	7-98
Ro	oute to:	=	ed/Wastewat	=	Waste N	/lanagement						
Facility/Project Name		Remediation/F				Other	Ш	Well Name				
T acility/T Toject Name		Local Olid Lo	cation of wei	•	N		Е					
Former Newton Grav	rel Pit			ft			ft W		EX	-4		
Facility License, Permit or Mon	itoring No.	Local Grid Or	_	imated:		ell Location		Wis. Unique	Well No	DNR Well I	d No.	
		χ =	216974.29	94	,	289293.370						
Facility ID		Lat. 1983 Manitow	oc County Co	o-ordinates	Long system(fe	eet MSL)	or	Date Well Ins	stalled			
. aointy 12		St. Plane	oo oouniy o		: N	, oto_	ft E S/C/N		08 /	2	023	
436104020		Section Locat	ion of Waste	/Source				m m	d d	уууу		
Type of Well		C)M 4/4 -4	. NIM -40	O T	40	N.D.	=	Well Installed	l By: Name (fi	rst, last) and	Firm	
Well Code 5	57 / sv .	Location of W	f <u>NW</u> of S		-	N, R2	Gov. Lot No.		Cascade (loff John)		
Distance from Waste/	Enf. Stds.	_	Jpgradient	S S		degradient	GOV. LOT NO.		Oascade (Jen Jenn)		—
Sourceft.	Apply	_ =	Downgradient		_	ot Known						
A. Protective pipe, top elevation		<u>NA</u>	ft. MS	SL			1. Cap and loc	ck?		Yes		No
B. Temporary Well casing, top	elevation	<u>733.56</u>	ft. MS	_ \			2. Protective of					
C. Land surface elevation		<u>733.14</u>	ft. MS	\		_//	a. Inside dia	ameter:				_ In.
D. Surface seal, bottom	<u>728.14</u>	ft. MSL or	<u>5.0</u> F	·t.	\rightarrow	1	b. Length:				- I	Ft.
12. USCS classification of soil	noor ooroon:			$\neg \setminus \setminus$	IП		c. Material:				Steel _ Other _	04
		sw□ sr	>				d Additiona	I Protection?		· 🗇 ·	Yes 🗹	. —
		CL CH	=					scribe:				110
Bedrock	_						3. Surface sea			Bento	nite 🗀	30
				\	\					Conc	_	01
13. Sieve analysis performed?	☐ Y	es 🗹 No					Sa			-	her <u></u>	J <u></u>
44 5 ''''	5.1	□ 50					. 4. material bet	ween well cas	sing and prote		., Б	7 00
14 Drilling method used:	Rota Ilow Stem Aug	- =								Bento Otl	_	30
Rotosonic	Othe						5. Annular spa	ace seal:	a Granulai	r/Chipped Be	_	<u> </u>
rtotocomo	0	- <u> </u>						.bs/gal mud w				
15 Drilling fluid used: Wa	ater 🗹 02	Air 🔲 01						.bs/gal mud w	eight	Bentonite	slurry 🗀	31
Drilling N	Mud 🗌 03 N	None 🗌 99						Bentonite		onite-cement] 50
								lbs . volu	ume added fo			7
16 Drilling additives used?	_	es 🛂 No					f. Ho	w installed:			remie L	
Describe		<u> </u>								Tremie P	umped∟ Bravity ☑	
17. Source of water (attach ana	alvsis if require	eq).					6. Bentonite S	eal·	a F	Bentonite gra		_
City of Manitowoc, Wis						/	b.		□/2 in.	Bentonite (=
							C			_ (Other _]
E Bentonite seal, top	<u>728.14</u>	ft. MSL	5.0	ft.			,7. Fine sand n					
F. Fine sand, top	708 1/	ft. MSL _	25.0	ft.			2	M Red Flint	anufacturer, p	roduct name	& mesh	size
1. Tille sallu, top	700.14	II. IVIOL	23.0	".//			b. Volume		bs	-		٠
G. Filter Pack, top	706.14	ft. MSL	27.0	ft			8. Filter pack r					
						<u> </u>			anufacturer, p	roduct name	& mesh	size
H. Screen joint, top	<u>702.74</u>	ft. MSL _	30.4	ft			a. Red F		775 !!	_	L	ــــ ا
I. Well Bottom	672 74	ft. MSL _	60.4	ft.			b. Volume9. Well casing		775 lbs lush threaded	I DVC schad	ا ۱۸ مایی	7 23
i. Well bottom	012.14	II. WIOL _	00.4	"			5. Well cashing		lush threaded			_
J. Filter Pack, bottom	672.14	ft. MSL _	61.0	ft.			25 ft Stainle	ss Steel/6 ft Sch			Other 🔽	=
							10. Screen Ma		ss Steel.]
K. Borehole, bottom	<u>672.14</u>	ft. MSL _	61.0	ft.			a. screen t	type:		Facto	-	11
L. Borehole, diameter	8_ In				\		30 ft Stair	nless Steel V-v	vire	Continuou	S SIOT Other	01
L. Doronoio, diamotor	""					_	b. Manufactu			ne works/Felke		
M. O.D. well casing	4.500 In.						b. Slot size	_	,		0.02	in.
							c. slotted le	•			28.8	ft.
N. I.D. well casing	3.786 In.						11. Backfill ma	aterial (below fi	ter pack):			14
										(Other L	<u></u>
I hereby certify that the informa	tion on this for	m is true and o	correct to the	best of mv k	nowledae	ə.						
Signature	_	obert Weseljak		Firm		ECOM						
Oignature		0		1 11111	A	-00141						

State of Wisconsin				MONITORING	WELL CONSTRUCTION
Department of Natural Resources				orm 4400-113A	Rev. 7-98
Route to:	Watershed/Wastewater	Waste Management			
	Remediation/Redevelopment	Other		V-II NI	
Facility/Project Name	Local Grid Location of Well	N	E	Vell Name	
Former Newton Gravel Pit		ft S	ft W	EX	5
Facility License, Permit or Monitoring No.	Local Grid Originestimate			Vis. Unique Well No	DNR Well Id No.
	x = 217026.018	y = 289296.259	_	•	
	Lat.	Long	or		
Facility ID	1983 Manitowoc County Co-ordi			ate Well Installed	2000
436104020	St. Plane Section Location of Waste/Sour	ft N	ft E S/C/N	<u>06 /</u> m m d d	<u>2023</u>
Type of Well	Section Education of Waste/Soul	o c	✓ EW	Vell Installed By: Name (fi	rst_last) and Firm
.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<u>SW_</u> 1/4 of <u>NW_</u> of Sec	2 , T, <u>18</u> N, R <u>2</u>	<u>23</u> w☐	ron motanou by: mamo (m	rot, labely arrain in
Well Code57 /sv	Location of Well relative to Was	te/Source	Gov. Lot No.	Cascade (Jeff Jehn)
Distance from Waste/ Enf. Stds.	u Upgradient	s 🔲 Sidegradient			
Source ft. Apply	d Downgradient	n 🔲 Not Known			
A. Protective pipe, top elevation	NA ft. MSL		_1. Cap and lock?		☐ Yes ☐ No
B. Temporary Well casing, top elevation	733.75 ft. MSL	\ //	2. Protective cov		
C. Land surface elevation	732.56 ft. MSL		a. Inside diam	eter:	In.
D. Surface seal, bottom 727.56	ft. MSL or5.0_ Ft. \		b. Length:		Ft.
12. USCS classification of soil near screen:	\	\	c. Material:		Steel U 04 Other .
	SW□ SP☑		d. Additional F	Protection?	Other □
	CL O CH			ribe:	
Bedrock	02 2 02		3. Surface seal:		Bentonite 30
_					Concrete 01
13. Sieve analysis performed?	es 🗸 No		Sand	<u> </u>	Other 🗸
			. 4. material betwe	een well casing and prote	
14 Drilling method used: Rota	ıry 🔲 50				Bentonite 🗹 30
Hollow Stem Aug					Other <u></u>
Rotosonic Othe	r <u> </u>		5. Annular space		r/Chipped Bentonite ☐ 33
45 B 1111 B 111 B 11	🗆		b Lbs	;/gal mud weight Be	entonite-sand slurry 35
15 Drilling fluid used: Water ☑ 02 Drilling Mud ☐ 03	Air ☐ 01 None ☐ 99			s/gal mud weight	Bentonite slurry 4 31 onite-cement grout 5 50
	10He 🗀 99			Bentonite Bentos Bentos Bentos	
16 Drilling additives used?	es ☑ No			installed:	Tremie 01
Describe			1.11000	motalica.	Tremie Pumped ☐ 02
					Gravity ✓ 08
17. Source of water (attach analysis, if require	ed):		6. Bentonite Sea	al: a. E	Bentonite granules 33
City of Manitowoc, Wisconsin			′ b.	☑ l /8 in.	Bentonite Chips 2 32
			C		Other \bigsqcup
E Bentonite seal, top <u>727.56</u>	ft. MSL <u>5.0</u> ft.		7. Fine sand mat		
F. Fine sand, top 707.56	ft. MSL <u>25.0</u> ft.		2	Red Flint	product name & mesh size
1. Title saild, top <u>101.50</u>	It. MSL It.		b. Volume ad		. U <u></u>
G. Filter Pack, top 705.06	ft. MSL ft		8. Filter pack ma		
· ·				Manufacturer, p	product name & mesh size
H. Screen joint, top <u>701.76</u>	ft. MSL 30.8 ft		a. Red Flin		<u> </u>
	5 1401		b. Volume ad		
I. Well Bottom <u>671.76</u>	ft. MSL60.8 ft		9. Well casing:		I PVC schedule 40 23
J. Filter Pack, bottom 671.56	ft. MSL61.0 ft.		25 ft Stainless	Steel/6 ft Sch80 PVC.	I PVC schedule 80 24 Other 2
5. Titler Fack, bottom <u>07 1.50</u>	11. MOL 11.			erial: Stainless Steel.	
K. Borehole, bottom 671.56	ft. MSL61.0_ ft.		a. screen typ		Factory cut 11
·			,,		Continuous slot 01
L. Borehole, diameter <u>8</u> In				ss Steel V-wire .	Other 🔽
			b. Manufacture	r Alloy Machir	ne works/Felker USA weld
M. O.D. well casing 4.500 In.			b. Slot size:		<u>0.02</u> in.
N I D well enging 2.706 In			c. slotted len	igth: erial (below filter pack):	<u>28.8</u> ft. None ☑ 14
N. I.D. well casing <u>3.786</u> In.		\	, ii. Dackiili iiiate	mai (below liller pack).	None ☑ 14 Other ☐
				·	Outer 🗖
I hereby certify that the information on this form	m is true and correct to the best	of my knowledge.			
Signature Ro	obert Weseljak 💮 🕞	n AECOM			

State of Wisconsin								N	IONITORING	WELL CON	STRUCT	LION
Department of Natural Resour								Form 4400-1	13A		Rev.	7-98
<u>R</u>	oute to:	=	ed/Wastewat	=	Waste I	Management						
Facility/Project Name		Remediation/F Local Grid Lo				Other	. Ш	Well Name				
T acility/T Toject Name		Local Olid Lo	cation of we	"	N		Е					
Former Newton Gra	vel Pit			ft			ft W		EX	4-6		
Facility License, Permit or Mor	nitoring No.	Local Grid Or	•	timated:		ell Location		Wis. Unique	Well No	DNR Well I	d No.	
		χ =	217065.48	88	y =	289303.725						
Facility ID		Lat. 1983 Manitow	oc County C	o-ordinates	Long system(f	eet MSL)	or	Date Well Ins	stalled			
		St. Plane	oo oounty o		t N	ooto_,	ft E S/C/N		01 /	2	023	
436104020		Section Locat	ion of Waste	/Source				m m	d d	уууу		
Type of Well		OW 4/4	5 NNA/ -5 C) O T	. 40	N.D.	=	Well Installed	l By: Name (fi	rst, last) and	Firm	
Well Code	57 / sv .	Location of W	f <u>NW</u> of S			N, R2	Gov. Lot No.		Cascade (loff John)		
Distance from Waste/	Enf. Stds.	_	Jpgradient	s S		degradient	GOV. LOT NO.		Cascade (Jen Jenn)		
Sourceft.	Apply	=	Downgradien			ot Known						
A. Protective pipe, top elevati		NA	ft. MS	SL			1. Cap and loo	ck?		Yes		No
B. Temporary Well casing, to	p elevation	<u>734.96</u>	ft. MS	_ \			2. Protective of					
C. Land surface elevation		733.62	ft. MS	\		_//	a. Inside dia	ameter:				_ In.
D. Surface seal, bottom	<u>728.12</u>	ft. MSL or	<u>5.5</u> l	Ft.	$\mathcal{A}_{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline{\overline}}}}}}$		b. Length:					Ft.
12. USCS classification of soil	noor coroon:			$\neg \setminus \setminus$	ΙП		c. Material:				Steel	04
		sw ✓ sr	>				d Additions	I Protection?		· 🗇 ·	Yes 🗹	. —
_ = =		CL CH	=					scribe:				110
Bedrock	_						3. Surface sea			Bento	nite 🗀	30
	_			\						Conc	_	01
13. Sieve analysis performed?	Y	es 🗸 No					Sa			- '	her <u></u> ✓	J
44 5 '11' 11 1	Б.	□ 50					. 4. material bet	tween well cas	ing and prote		Б	7 00
14 Drilling method used:	Rota ollow Stem Aug	- =								Bento Otl		30
Rotosonic	Othe						5. Annular spa	ace seal:	a Granulai	_ r/Chipped Be	_	<u> </u>
rtotosomo	0	- <u> </u>						.bs/gal mud we				
15 Drilling fluid used: V	/ater ☑ 02	Air 🔲 01					c L	.bs/gal mud we	eight	Bentonite	slurry 🗀	31
Drilling	Mud 🗌 03 N	None 🗌 99						Bentonite		onite-cement] 50
								lbs . volu	ıme added fo			7
16 Drilling additives used?	_	es 🛂 No					f. Ho	w installed:			remie L	
Describe		<u>-</u>								Tremie P	umped∟ Bravity ☑	
17. Source of water (attach an	alvsis if require	eq).					6. Bentonite S	eal·	a F	Bentonite gra		_
City of Manitowoc, Wi						/	′ b.		□/2 in.	Bentonite (=
							C			_	Other \Box]
E Bentonite seal, top	<u>728.12</u>	ft. MSL	5.5	ft.			7. Fine sand n					
F. Fine sand, top	707 12	ft. MSL _	26.5	ft.			9	M Red Flint	anufacturer, p	product name	⊹& mesh	size
1. Tille salid, top	101.12	II. IVIOL _	20.5	"//			b. Volume		os	-		٠
G. Filter Pack, top	705.12	ft. MSL	28.5	ft			8. Filter pack i					
				_		<u> </u>			anufacturer, p	product name	& mesh	size
H. Screen joint, top	<u>703.12</u>	ft. MSL _	30.5	ft			a. Red F		050 11	_	L	J <u></u>
I. Well Bottom	673 12	ft. MSL	60.5	ft.			b. Volume 9. Well casing		850 lbs lush threaded	I DVC schad	ا ۱۸ ماری	7 23
i. Well bottom	073.12	II. WIOL _	00.5	"			9. Well cashing		lush threaded			_
J. Filter Pack, bottom	673.12	ft. MSL	60.5	ft.			25 ft Stainle	ss Steel/5.5 ft S	ch80 PVC.	(Other 🔽	=
					_		10. Screen Ma		ss Steel.]
K. Borehole, bottom	<u>673.12</u>	ft. MSL _	60.5	ft.			a. screen t	type:		Facto	- =	11
L. Borehole, diameter	<u>8</u> ln				(30 ft Stair	nless Steel V-v	vire	Continuou	s siot [Other	01
L. Doronoio, diamotor							b. Manufacti			ne works/Felke		
M. O.D. well casing	4.500 In.						b. Slot size	_			0.02	in.
							c. slotted l	•			28.8	ft.
N. I.D. well casing	3.786 In.						11. Backfill ma	aterial (below fil	ter pack):			14
										. (Other L	<u></u>
I hereby certify that the information	ation on this for	m is true and o	correct to the	best of mv l	knowleda	e.						
Signature		obert Weseljak		Firm		ECOM						
Oignature		0		11 11 11	A							

State of Wisconsin									IONITORING	WELL CON		
Department of Natural Resource								Form 4400-1	13A		Rev.	7-98
Roi	ute to:	=	ed/Wastewat	=	Waste I	Management						
Facility/Project Name		Remediation/F Local Grid Lo				Other		Well Name				
r domey/r roject rume		Local Ona Lo	odilon or tro		N		E			-		
Former Newton Grave				ft			ft W		EX			
Facility License, Permit or Monit	toring No.	Local Grid Or	•	timated:		ell Location		Wis. Unique	Well No	DNR Well I	d No.	
		x = Lat.	217010.80	0/	y = Long	289252.982	: or					
Facility ID		1983 Manitow	voc County C	o-ordinates	•	eet MSL)	OI.	Date Well Ins	stalled			
,		St. Plane			. N `	,	ft E S/C/N	<u>06 /</u>	05 /	2	023	
436104020		Section Locat	tion of Waste	/Source				m m	d d	уууу	-	
Type of Well		SW 1/4 of	f <u>NW</u> of S	Sec. 2 .T	18	N, R2	E 23 W□	Well Installed	i By: Name (īi	rst, last) and	Firm	
Well Code 5	57 / sv .	Location of W					Gov. Lot No.		Cascade (Jeff Jehn)		
	Enf. Stds.	_	Jpgradient	S		degradient				,	-	
Source ft.	Apply \square	d 🔲 [Downgradien	t n	□ N	ot Known						
A. Protective pipe, top elevation		<u>NA</u>	ft. MS	_			_1. Cap and loo			Yes		No
B. Temporary Well casing, top	elevation	<u>737.36</u>	ft. MS	_ \			2. Protective of					1
C. Land surface elevation D. Surface seal, bottom	720.52	734.52 ft. MSL or	ft. MS 5.0	\		_//	a. Inside diab. Length:	ameter:				In. Ft.
D. Surface Seal, Dollotti	129.32	IL. IVIOL OI	<u> </u>				c. Material:				Steel	04
12. USCS classification of soil r	near screen:			$\neg \setminus \bot$			o. matorial.				Other [_
			⊃ ✓				d. Additiona	I Protection?			Yes 🔽	No
	. 🔽 MH 🗌	CL ☑ CH	ı		_		-	scribe:				_
Bedrock							3. Surface sea	al:		Bento		⊿ 30
13. Sieve analysis performed?	□ Y	es 🗹 No		\	\		Sa	nd		Conc	rete ∟ her ⊡	」 01 刁
13. Sieve analysis perionneu!	ш ''	es 🖸 NO					. 4. material bet		ing and prote	-		<u>-</u>
14 Drilling method used:	Rota	ry 🗌 50					T. Matorial Bo	Woon won out	mig and proto	Bento	onite 🖸	 30
=	llow Stem Aug	er					-			Ot	her [] <u>.</u> .
Rotosonic	Othe	er 🗸 <u>.</u>					5. Annular spa			r/Chipped Be		
	. 🗆	🗆					b L	.bs/gal mud w	eight Be	entonite-sand		
	ater ☑ 02 ⁄lud ☐ 03 N	Air						.bs/gal mud wo	eight Bont	Bentonite onite-cemen		
Drilling IV	nuu 🗀 03 I	Notice 🗀 33						lbs				_ 30
16 Drilling additives used?	□ Y	es 🗹 No						w installed:			remie 🗆] 01
Describe										Tremie P	umped] 02
											Gravity <u></u>	_
17. Source of water (attach ana	-	ed):					6. Bentonite S		_	Bentonite gra		=
City of Manitowoc, Wisc	consin						′b. ∐/4 in c.	i. <u>⊡</u> γ/8 in.	/ ∕2 in.	Bentonite (Other [32
E Bentonite seal, top	729.52	ft. MSL	5.0	ft.、			,7. Fine sand n	naterial:		-	J.1101	
							,		anufacturer, p	roduct name	a & mesh	າ size
F. Fine sand, top	<u>704.02</u>	ft. MSL _	30.5	ft.			a b. Volume	Red Flint added 50 ll	he	=		اـ
G. Filter Pack, top	702.02	ft. MSL	32.5	ft			8. Filter pack		00	<u> </u>		
				,		<u> </u>			anufacturer, p	roduct name	₃ & mesh	າ size
H. Screen joint, top	700.02	ft. MSL _	34.5	ft			a. <u>Red F</u> b. Volume		800 lbs	-	L	<u></u>
I. Well Bottom	675.02	ft. MSL	59.5	ft.			9. Well casing		lush threaded	PVC sched	ule 40 [7 23
				,					lush threaded		=	=
J. Filter Pack, bottom	674.52	ft. MSL _	60.0	ft			25 ft Stainle 10. Screen Ma	ss Steel/10 ft So aterial: Stainle:		(Other <u>L</u> ✓	
K. Borehole, bottom	674.52	ft. MSL	60.0	ft.		Ì	a. screen t		<u> </u>		ry cut	11
I Darahala diamatar	0 lm				`		OF # Ctair	ologo Ctool V v	uine.	Continuou	=	01
L. Borehole, diameter	<u>8</u> In						b. Manufacti	<u>ıless Steel V-v</u> urer) ne works/Felk	Other	
M. O.D. well casing	4.500 In.						b. Slot size	_	Alloy Wacilli	IO WOINS/I CIKI	0.02	in.
N ID well seeing	2 706 I-						c. slotted l	•	tor needs).		23.8	ft.
N. I.D. well casing	<u>3.786</u> In.					\	∖11. Backfill ma	ateriai (below fil	iter pack):		None Ľ Other Ľ	14
							-		•			
I hereby certify that the informat				best of my k	knowledg	e.						
Signature	\mathcal{R}_{c}	obert Weseljak	k	Firm	Α	ECOM						

State of Wisconsin							MONITORI	NG WELL CONSTRUCTION
Department of Natural Resour	ces		_				Form 4400-113A	Rev. 7-98
<u>R</u>	oute to:		ed/Wastewater 🔲	Was	ste Management			
			Redevelopment 🗹		Other		1	
Facility/Project Name		Local Grid Lo	cation of Well	_		_	Well Name	
Farmer Navitan Con	I Dit				N	E		EX-8
Former Newton Gra Facility License, Permit or Mor		Local Crid Or	iginestimated		S Noll Location	ft W	Wis. Unique Well No	DNR Well Id No.
Facility License, Permit or Mor	illoring No.	Local Grid Or x =	217060.840	. <u>"</u> р	or Well Location = 289264.637	Ш	Wis. Onique Weil No	DINK Well Id No.
		Lat.	217000.040	Lon		or		
Facility ID			voc County Co-ordina			O.	Date Well Installed	L
,		St. Plane		ft 1		ft E S/C/N		/ 2023
436104020		Section Local	tion of Waste/Source)			mm dd	
Type of Well						✓ E	Well Installed By: Name	e (first, last) and Firm
			f <u>NW</u> of Sec. 2		<u>18</u> N, R <u>2</u>	23 W		
	<u>57</u> / <u>sv</u> .	_	ell relative to Waste	/Source_		Gov. Lot No.	Cascad	le (Jeff Jehn)
Distance from Waste/	Enf. Stds.		Jpgradient	s \square	Sidegradient			
Sourceft.	Apply 📙	d 🔲 I	Downgradient	n	Not Known			
A. Protective pipe, top elevation	on	<u>NA</u>	ft. MSL			1. Cap and loo	ck?	☐ Yes ☐ No
B. Temporary Well casing, top	p elevation	<u>736.28</u>	ft. MSL		//	2. Protective of		
C. Land surface elevation		<u>734.26</u>	ft. MSL	\\ <u> </u>	//	 a. Inside dia 	ameter:	In.
D. Surface seal, bottom	<u>729.26</u>	ft. MSL or	<u>5.0</u> Ft.			b. Length:		Ft.
			\ \	\	H	c. Material:		Steel 🔲 04
12. USCS classification of soil		_	_					Other
			엘 \			d. Additiona	I Protection?	☐ Yes ☑ No
SM ☑ SC ☐ M	IL 🗹 MH 🗌	CL ☑ C⊦	ı ∐	\ 		If yes, de	scribe:	<u>-</u> _
Bedrock						3. Surface sea	al:	Bentonite 📙 30
		_						Concrete \bigsqcup 01
13. Sieve analysis performed?	Y	es 🗹 No				Sa	nd	Other 🗹
		_				4. material bet	tween well casing and pr	• • • • •
14 Drilling method used:	Rota	ıry <u> </u> 50						Bentonite 💆 30
He	ollow Stem Aug	er 🔲 41						Other <u> </u>
Rotosonic	Othe	er <u>√</u>						ular/Chipped Bentonite <u></u> 33
	_	_				b L	.bs/gal mud weight	Bentonite-sand slurry 2 35
	/ater <u>√</u> 02	Air 🔲 01					.bs/gal mud weight	Bentonite slurry 📙 31
Drilling	Mud 🗌 03 N	None 📙 99				d%	Bentonite Be	entonite-cement grout \square 50
	_	_				e. <u>200 l</u>	<u>bs</u> volume added	for any of the above
16 Drilling additives used?	☐ Y	es ☑ No				f. Ho	w installed:	Tremie <u> </u> 01
Describe		<u> </u>						Tremie Pumped☐ 02
								Gravity ☑ 08
17. Source of water (attach an	alysis, if require	ed):				6. Bentonite S	eal:a.	. Bentonite granules 🔲 33
City of Manitowoc, Wis	sconsin					b/4 in	ı. ☑ /8 in. ☐ /2 in.	Bentonite Chips 2 32
						C		Other L
E Bentonite seal, top	<u>729.26</u>	ft. MSL	5.0 ft.			,7. Fine sand n		
C Fine and ton	700.06	# MCI	26.0 #					er, product name & mesh size
F. Fine sand, top	<u>708.26</u>	ft. MSL _	<u>26.0</u> ft.			a b. Volume	Red Flint added 50 lbs	U
G. Filter Pack, top	706.26	ft. MSL	28.0ft			8. Filter pack r		
G. Tiller Fack, top	100.20	it. WOL	20.0			o. i illei pack i		er, product name & mesh size
H. Screen joint, top	704 26	ft. MSL	30.0 ft			a. Red F	lint #40	n, product name a mesh size
· · · · · · · · · · · · · · · · · · ·	101.20		00.0			b. Volume		<u> </u>
I. Well Bottom	674.26	ft. MSL	60.0 ft.			9. Well casing		ded PVC schedule 40 ☐ 23
		=						ded PVC schedule 80 24
J. Filter Pack, bottom	674.26	ft. MSL	60.0 ft.			20 ft Stainle	ss Steel/10 ft Sch80 PVC.	Other 🔽 <u></u>
			_			10. Screen Ma	aterial: Stainless Steel.	<u> </u>
K. Borehole, bottom	674.26	ft. MSL	60.0 ft.			a. screen t	type:	Factory cut 🔲 11
								Continuous slot 01
L. Borehole, diameter	<u>8</u> In						less Steel V-wire .	Other 🗹
	4.500					b. Manufactu		achine works/Felker USA weld
M. O.D. well casing	4.500 In.					b. Slot size		<u>0.02</u> in.
	0.706					c. slotted le	•	28.8 ft.
N. I.D. well casing	3.786 In.				\	11. Backfill ma	aterial (below filter pack):	None 4 14
						-		Other 🚨
I hereby certify that the information	ation on this for	m is true and a	correct to the best of	my knowl	ledge			
<u> </u>				IIIY KIIUWI				
Signature	No	obert Weseljas	Firm		AECOM			

Attachment D:

Laboratory Data

Synergy Environmental Lab, INC.

1990 Prospect Ct., Appleton, WI 54914 *P 920-830-2455 * F 920-733-0631

DAVE HENDERSON AECOM 1555 N RIVERCENTER DRIVE MILWAUKEE, WI 53212

Report Date 28-Jun-23

Project Name FORMER NEWTON GRAVEL PIT Invoice # E42516

Project # 60135471

Lab Code 5042516A

Sample ID WCOMP

Sample Matrix Soil

Sample Date 6/8/2023

	Result	Unit	LOD	LOQ D	il	Method	Ext Date	Run Date	Analyst	Code
Inorganic										
Metals										
TCLP Arsenic	< 0.1	mg/l	0.033	0.1	1	6010B		6/19/2023	PCE	1
TCLP Barium	0.137	mg/l	0.033	0.1	1	6010B		6/19/2023	PCE	1
TCLP Cadmium	< 0.1	mg/l	0.033	0.1	1	6010B		6/19/2023	PCE	1
TCLP Chromium	< 0.1	mg/l	0.033	0.1	1	6010B		6/19/2023	PCE	1
TCLP Copper	0.191	mg/l	0.033	0.1	1	6010B		6/19/2023	PCE	1
TCLP Lead	< 0.1	mg/l	0.033	0.1	1	6010B		6/19/2023	PCE	1
TCLP Mercury	< 0.01	mg/l	0.0033	0.01	1	7470A		6/20/2023	PCE	1
TCLP Nickel	< 0.1	mg/l	0.033	0.1	1	6010B		6/19/2023	PCE	1
TCLP Selenium	< 0.1	mg/l	0.033	0.1	1	6010B		6/19/2023	PCE	1
TCLP Silver	< 0.1	mg/l	0.033	0.1	1	6010B		6/19/2023	PCE	1
TCLP Zinc	< 0.5	mg/l	0.165	0.5	1	6010B		6/19/2023	PCE	1
Organic										
PCB'S										
PCB-1016	< 0.0072	mg/kg	0.0072	0.024	2	EPA 8082A		6/19/2023	PCE	1
PCB-1221	< 0.008	mg/kg	0.008	0.026	2	EPA 8082A		6/19/2023	PCE	1
PCB-1232	< 0.0064	mg/kg	0.0064	0.022	2	EPA 8082A		6/19/2023	PCE	1
PCB-1242	< 0.0064	mg/kg	0.0064	0.022	2	EPA 8082A		6/19/2023	PCE	1
PCB-1248	2.60	mg/kg	0.036	0.12	10	EPA 8082A		6/19/2023	PCE	1
PCB-1254	1.42	mg/kg	0.0082	0.028	2	EPA 8082A		6/19/2023	PCE	1
PCB-1260	< 0.014	mg/kg	0.014	0.046	2	EPA 8082A		6/19/2023	PCE	1
TCLP SVOC's										
TCLP o-Cresol	< 0.111	mg/l	0.033	0.111	1	625		6/19/2023	PCE	1
TCLP m & p-Cresol	< 0.111	mg/l	0.033	0.111	1	625		6/19/2023	PCE	1
TCLP 1,4-Dichlorobenzene	< 0.111	mg/l	0.033	0.111	1	625		6/19/2023	PCE	1
TCLP 2,4-Dinitrotoluene	< 0.111	mg/l	0.033	0.111	1	625		6/19/2023	PCE	1
TCLP Hexachlorobenzene	< 0.111	mg/l	0.033	0.111	1	625		6/19/2023	PCE	1
TCLP Hexachlorobutadiene	< 0.111	mg/l	0.033	0.111	1	625		6/19/2023	PCE	1
TCLP Hexachloroethane	< 0.111	mg/l	0.033	0.111	1	625		6/19/2023	PCE	1

Project Name FORMER NEWTON GRAVEL PIT Invoice # E42516

Proiect # 60135471

Lab Code 5042516A

Sample ID WCOMP

Sample Matrix Soil

Sample Date 6/8/2023

-	Result	Unit	LOD	LOQ D	il	Method	Ext Date	Run Date	Analyst	Code
TCLP Nitrobenzene	< 0.111	mg/l	0.033	0.111	1	625		6/19/2023	PCE	1
TCLP Pentachlorophenol	< 0.111	mg/l	0.033	0.111	1	625		6/19/2023	PCE	1
TCLP Phenol	< 0.111	mg/l	0.033	0.111	1	625		6/19/2023	PCE	1
TCLP Pyridine	< 0.111	mg/l	0.033	0.111	1	625		6/19/2023	PCE	1
TCLP 2,4,6-Trichlorophenol	< 0.111	mg/l	0.033	0.111	1	625		6/19/2023	PCE	1
TCLP 2,4,5-Trichlorophenol	< 0.111	mg/l	0.033	0.111	1	625		6/19/2023	PCE	1
TCLP VOC's										
TCLP Benzene	< 0.05	mg/l	0.015	0.05	1	8260B		6/19/2023	PCE	1
TCLP Carbon Tetrachloride	< 0.05	mg/l	0.015	0.05	1	8260B		6/19/2023	PCE	1
TCLP Chlorobenzene	< 0.05	mg/l	0.015	0.05	1	8260B		6/19/2023	PCE	1
TCLP Chloroform	< 0.25	mg/l	0.075	0.25	1	8260B		6/19/2023	PCE	1
TCLP 1,2-Dichloroethane	< 0.05	mg/l	0.015	0.05	1	8260B		6/19/2023	PCE	1
TCLP 1,1-Dichloroethene	< 0.05	mg/l	0.015	0.05	1	8260B		6/19/2023	PCE	1
TCLP Methyl Ethyl Ketone	< 0.5	mg/l	0.5	0.15	1	8260B		6/19/2023	PCE	1
TCLP Tetrachloroethene	0.119	mg/l	0.015	0.05	1	8260B		6/19/2023	PCE	1
TCLP Trichloroethene	1.51	mg/l	0.015	0.05	1	8260B		6/19/2023	PCE	1
TCLP Vinyl Chloride	< 0.05	mg/l	0.015	0.05	1	8260B		6/19/2023	PCE	1
Wet Chemistry										
General										
Specific Gravity	1.80	g/cm3			1	2710F		6/15/2023	PCE	1
Reactive Sulfide	< 100	mg/kg	30	100	1	EPA 9034		6/15/2023	PCE	1
Free Liquid	none				1	9095A		6/14/2023	PCE	1
Reactive Cyanide	< 0.13	mg/kg	0.13		1	9012B		6/14/2023	PCE	1
Solids, Total %	89.2	%			1	2540B		6/14/2023	PCE	1
pH	6.71	su			1	EPA 9045D		6/19/2023	PCE	1
Chlorides, Unfiltered	< 92	mg/kg	92	307	10	9056		6/24/2023	PCE	1
Flash Point	> 170	F			1	D93		6/19/2023	PCE	1

"J" Flag: Analyte detected between LOD and LOQ

LOD Limit of Detection

LOQ Limit of Quantitation

Code Comment

Laboratory QC within limits.

PCE denotes sub contract lab - Certification #998093910

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

Michaelyllul

Authorized Signature

CHAIN	OF	STODY	RECORD

Cooler seal intact upon receipt: ______No

Lab I.D. #

- DW	 1 4 0	W
2A	- 3	

Environmental Lab, LLC

Chain #	4583

Page

Sample Handling Request

QUOTE #:				www.synergy-lab.netRush A				nalv	sis		ate	Requi	red:											
Project #: 601	35471					rospect Ct.	· Appleton, V							(Ru	she	s ac	cepte	d on	ly w	ith p	rior aut	noriza	tion)	
Sampler: (signature)	lethe fret				920-830-	-2455 • mrs	synergy@wi.t	wct	oc.c	om			-	<u>_</u>	VOII	IIai	Tun	IAI	ouri	u				
Project (Name / Loc	ation): Former New to	on Gravel	Pit						,	Analy	ysis	Rec	uest	ed							Other	Analy	sis	
Reports To: Pave	2 Henderson		Invoi	ce To:	991	me								1										
Company Aec			Com	pany												SC								
	- N. River Cente	n Prostez	14 Add	ress				100	2)					및		SOLIE								
	lwanker, wit s			State Zip				ep 9	6 des					ALEN		EDS	4.2)			B				
Phone 4/4-	944 6190		Pho	Phone				RO S	ROS	I I	SE	(02	3021	I		END	A 52	1- 15	ALS	6	-			
Email dave, He	nderson Gaecom	recom	Ema	mail				od Do	od G	E N	REA	A 82	Ada	NAP	ш	SUSF	V (EP	T) K	MET	200				ID/
Lab I.D.	Sample I.D.	Collec	ction Time	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation	DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 95)	LEAD NITRATE/NITRITE	OIL & GREASE	PAH (EPA 8270)	PCB	PVOC + NAPHTHALENE	SULFATE	TOTAL	VOC (EPA 524.2)	VOC AIR (TO - 15)	8-RCRA METALS	Prot				
souzstie A	WComp	6/8/23	12:00	N	7	soil	~									-				X	#	\blacksquare	+	
		1																						
										-	-		-	-		+	-	-			-	+	+	
										+	-		+	+	Н	+		+			+			
																							工	
										+			-	-		-	+	+		-	++	+	+	
										+	+			+			+	H			+	+	\pm	
	7.	H																						
			#014# F		«Dum u					07													_	
	ial Instructions (*Specify	r 1		orinking v	Relinquishe	ed By/(sign)		Tim	e		Date	ige,	etc.)	ived	Ву: (sign)				Time		Date	
Meth	od of Shipment:	°C On Ice			Robeitlya	efan		21	35		19	23												_

Received in Laboratory By:



July 05, 2023

Enthalpy Analytical - El Dorado Hills Work Order No. 2306087

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 Enthalpy Analytical - EDH on June 10, 2023 under your Project Name '60135471'.

Enthalpy Analytical - EDH is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at james.fox@enthalpy.com.

Thank you for choosing Enthalpy Analytical - EDH as part of your analytical support team.

Sincerely,

For

Jamie Fox Senior Program Manager



Enthalpy Analytical -EDH certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Enthalpy Analytical -EDH.

Enthalpy Analytical - EDH 1104 Windfield Way El Dorado Hills, CA 95762 ph: 916-673-1520 fx: 916-673-0106 www.enthalpy.com

Work Order 2306087 Page 1 of 23

Enthalpy Analytical - EDH Work Order No. 2306087 Case Narrative

Sample Condition on Receipt:

One aqueous sample and one soil sample were received and stored securely in accordance with Enthalpy Analytical - EDH standard operating procedures and EPA methodology. The samples were received in good condition and within the recommended temperature requirements.

Analytical Notes:

PFAS Isotope Dilution Method - Aqueous

The sample was extracted and analyzed for a selected list of PFAS using Enthalpy Analytical - EDH's 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 sample was extracted and analyzed within the 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 1/2 the Reporting Limits (RL). The OPR recoveries were within the method acceptance criteria.

The labeled standard recoveries for all QC and field samples were within the acceptance criteria.

PFAS Isotope Dilution Method - Solid

The sample was extracted and analyzed for a selected list of PFAS using Enthalpy Analytical - EDH's 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 sample was extracted and analyzed within the hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the

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preparation batch. No analytes were detected in the Method Blank above 1/2 the Reporting Limits (RL). The OPR recoveries were within the method acceptance criteria.

The labeled standard recoveries for all QC and field samples were within the acceptance criteria.

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Sample Inventory Report

Sample ID	Client Sample ID	Sampled	Received	Components/Containers
2306087-01	WT060723	07-Jun-23 10:08	10-Jun-23 09:25	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2306087-02	WCopm	08-Jun-23 12:00	10-Jun-23 09:25	HDPE Jar, 6 oz

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ANALYTICAL RESULTS

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Sample ID: Method Blank PFAS Isotope Dilution Method

Client Data Laboratory Data

Name: AECOM Matrix: Aqueous Lab Sample: B23F107-BLK1 Column: BEH C18

Name. AECOVI		Matrix.	riqueous		Laos	ampic.	D231 107-1	DLICI	Column:	BEH C18	
Project: 60135471											
Analyte	CAS Number	Conc. (ng/L)	MDL		RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<1.33	1.33		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
PFPeA	2706-90-3	<1.30	1.30		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
PFBS	375-73-5	<1.14	1.14		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
4:2 FTS	757124-72-4	<1.31	1.31		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
PFHxA	307-24-4	<1.26	1.26		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
PFPeS	2706-91-4	<1.74	1.74		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
HFPO-DA	13252-13-6	<1.95	1.95		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
PFHpA	375-85-9	< 0.875	0.875		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
ADONA	919005-14-4	<1.10	1.10		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
PFHxS	355-46-4	<1.42	1.42		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
6:2 FTS	27619-97-2	<1.46	1.46		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
PFOA	335-67-1	<1.11	1.11		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
PFHpS	375-92-8	<1.64	1.64		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
PFNA	375-95-1	<1.25	1.25		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
PFOSA	754-91-6	<1.73	1.73		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
PFOS	1763-23-1	<1.86	1.86		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
9Cl-PF3ONS	756426-58-1	<1.50	1.50		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
PFDA	335-76-2	<1.21	1.21		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
8:2 FTS	39108-34-4	<1.72	1.72		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
PFNS	68259-12-1	<1.65	1.65		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
MeFOSAA	2355-31-9	<1.38	1.38		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
EtFOSAA	2991-50-6	<1.34	1.34		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
PFUnA	2058-94-8	<1.07	1.07		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
PFDS	335-77-3	<1.55	1.55		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
11Cl-PF3OUdS	763051-92-9	<1.20	1.20		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
PFDoA	307-55-1	<1.33	1.33		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
MeFOSA	31506-32-8	< 3.00	3.00		4.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
PFTrDA	72629-94-8	<1.40	1.40		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
PFDoS	79780-39-5	<1.73	1.73		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
PFTeDA	376-06-7	<1.15	1.15		2.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
EtFOSA	4151-50-2	< 2.46	2.46		4.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
MeFOSE	24448-09-7	< 2.35	2.35		2.50		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
EtFOSE	1691-99-2	<2.11	2.11		4.00		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
Labeled Standards	Type	% Recovery		Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	55.5		25 - 150			B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
13C3-PFPeA	IS	59.6		25 - 150			B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
13C3-PFBS	IS	48.8		25 - 150			B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
13C2-4:2 FTS	IS	54.6		25 - 150			B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1

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Sample ID: Method Blank

PFAS Isotope Dilution Method

Client Data Laboratory Data

Name: AECOM Matrix: Aqueous Lab Sample: B23F107-BLK1 Column: BEH C18
Project: 60135471

T 1 1 1 Gr 1 1	T.	0/ D	T,	0 1'6'	D / I	T 1	G G:		D2 41
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	IS	62.7	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
13C3-HFPO-DA	IS	69.8	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
13C4-PFHpA	IS	61.0	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
13C3-PFHxS	IS	44.2	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
13C2-6:2 FTS	IS	57.6	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
13C2-PFOA	IS	63.6	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
13C5-PFNA	IS	61.8	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
13C8-PFOSA	IS	93.4	10 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
13C8-PFOS	IS	60.1	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
13C2-PFDA	IS	58.0	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
13C2-8:2 FTS	IS	49.3	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
d3-MeFOSAA	IS	43.2	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
d5-EtFOSAA	IS	40.6	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
13C2-PFUnA	IS	65.9	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
13C2-PFDoA	IS	61.6	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
d3-MeFOSA	IS	43.4	10 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
13C2-PFTeDA	IS	51.4	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
d5-EtFOSA	IS	37.6	10 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
d7-MeFOSE	IS	82.6	10 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	1
d9-EtFOSE	IS	81.3	10 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:26	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.

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Sample ID: OPR

PFAS Isotope Dilution Method

Client Data Laboratory Data

60135471

Project:

Name: AECOM Matrix: Aqueous Lab Sample: B23F107-BS1 Column: BEH C18

CAS Number Oualifiers Amt Found (ng/L) Spike Amt % Rec Limits Batch Extracted Analyte Samp Size Analyzed Dilution 93.3 50 - 150 PFBA 375-22-4 3.73 4.00 B23F107 14-Jun-23 0.250 L 20-Jun-23 03:37 2706-90-3 3.73 4.00 93.1 50 - 150 B23F107 14-Jun-23 0.250 L 20-Jun-23 03:37 **PFPeA** 20-Jun-23 03:37 375-73-5 3.15 4.04 78.0 50 - 150 B23F107 14-Jun-23 0.250 L PFBS 757124-72-4 3.93 4.00 98.4 50 - 150 B23F107 14-Jun-23 0.250 L 20-Jun-23 03:37 4:2 FTS 307-24-4 3.73 4.00 93.3 50 - 150 B23F107 14-Jun-23 0.250 L 20-Jun-23 03:37 **PFHxA PFPeS** 2706-91-4 3.63 4.04 89.8 50 - 150 B23F107 14-Jun-23 0.250 L 20-Jun-23 03:37 13252-13-6 3.64 4.00 91.0 50 - 150 B23F107 14-Jun-23 0.250 L 20-Jun-23 03:37 HFPO-DA 375-85-9 3.74 4.00 93.6 50 - 150 B23F107 14-Jun-23 0.250 L 20-Jun-23 03:37 PFHpA 919005-14-4 4.04 0.250 L 4.05 100 50 - 150 B23F107 14-Jun-23 20-Jun-23 03:37 **ADONA** 355-46-4 4.00 B23F107 14-Jun-23 0.250 L 3.77 94.2 50 - 150 20-Jun-23 03:37 1 PFHxS 27619-97-2 4.06 4.00 102 50 - 150 B23F107 14-Jun-23 0.250 L 20-Jun-23 03:37 1 6:2 FTS 335-67-1 4.00 96.8 B23F107 14-Jun-23 0.250 L **PFOA** 3.87 50 - 150 20-Jun-23 03:37 1 375-92-8 2.67 4.00 50 - 150 B23F107 14-Jun-23 0.250 L 66.6 20-Jun-23 03:37 **PFHpS** 375-95-1 3.96 4.00 99.0 B23F107 14-Jun-23 0.250 L 50 - 150 20-Jun-23 03:37 1 **PFNA** 754-91-6 3.63 4.00 90.8 50 - 150 B23F107 14-Jun-23 0.250 L 20-Jun-23 03:37 1 **PFOSA** 1763-23-1 3.20 4.00 80.0 50 - 150 B23F107 14-Jun-23 0.250 L 20-Jun-23 03:37 **PFOS** 756426-58-1 4.00 O 0.250 L 9C1-PF3ONS 3.68 91.9 50 - 150 B23F107 14-Jun-23 20-Jun-23 03:37 335-76-2 B23F107 0.250 L 4.08 4.00 102 50 - 150 14-Jun-23 20-Jun-23 03:37 **PFDA** 4.09 4.00 102 0.250 L 39108-34-4 50 - 150 B23F107 14-Jun-23 20-Jun-23 03:37 8:2 FTS 68259-12-1 4.00 B23F107 14-Jun-23 0.250 L 3.77 94.2 50 - 150 20-Jun-23 03:37 PFNS 1 2355-31-9 4.08 4.00 102 50 - 150 B23F107 14-Jun-23 0.250 L 20-Jun-23 03:37 MeFOSAA 2991-50-6 3.59 4.00 B23F107 0.250 L **EtFOSAA** 89.8 50 - 150 14-Jun-23 20-Jun-23 03:37 2058-94-8 3.97 4.00 B23F107 0.250 L 99.1 50 - 150 14-Jun-23 20-Jun-23 03:37 **PFUnA** 335-77-3 3.83 4.00 95.8 B23F107 14-Jun-23 0.250 L 20-Jun-23 03:37 50 - 150 1 PFDS 763051-92-9 3.21 4.04 79.4 50 - 150 B23F107 14-Jun-23 0.250 L 20-Jun-23 03:37 11Cl-PF3OUdS 307-55-1 3.93 4.00 98.3 B23F107 14-Jun-23 0.250 L 20-Jun-23 03:37 50 - 150 1 **PFDoA** 31506-32-8 3.49 4.00 87.1 50 - 150 J B23F107 14-Jun-23 0.250 L 20-Jun-23 03:37 MeFOSA 72629-94-8 3.97 4.00 99.2 50 - 150 B23F107 14-Jun-23 0.250 L 20-Jun-23 03:37 **PFTrDA** 1 79780-39-5 3.70 4.00 92.4 50 - 150 B23F107 14-Jun-23 0.250 L 20-Jun-23 03:37 **PFDoS** 376-06-7 3.13 4.00 78.3 B23F107 14-Jun-23 0.250 L 20-Jun-23 03:37 50 - 150 **PFTeDA** 4151-50-2 3.27 4.00 81.7 50 - 150 B23F107 14-Jun-23 0.250 L 20-Jun-23 03:37 J **EtFOSA**

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Sample ID: OPR PFAS Isotope Dilution Method

Client Data Laboratory Data

Name: AECOM Matrix: Aqueous Lab Sample: B23F107-BS1 Column: BEH C18

Project: 60135471

Project: 60135471											
Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
MeFOSE	24448-09-7	3.95	4.00	98.7	50 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1
EtFOSE	1691-99-2	4.10	4.00	102	50 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1
Labeled Standards		Type		% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA		IS		65.5	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1
13C3-PFPeA		IS		66.9	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1
13C3-PFBS		IS		60.8	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1
13C2-4:2 FTS		IS		61.8	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1
13C2-PFHxA		IS		70.4	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1
13C3-HFPO-DA		IS		73.6	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1
13C4-PFHpA		IS		70.2	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1
13C3-PFHxS		IS		51.0	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1
13C2-6:2 FTS		IS		64.8	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1
13C2-PFOA		IS		70.8	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1
13C5-PFNA		IS		69.3	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1
13C8-PFOSA		IS		85.8	10 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1
13C8-PFOS		IS		66.8	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1
13C2-PFDA		IS		64.8	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1
13C2-8:2 FTS		IS		65.1	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1
d3-MeFOSAA		IS		51.2	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1
d5-EtFOSAA		IS		49.0	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1
13C2-PFUnA		IS		69.9	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1
13C2-PFDoA		IS		68.6	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1
d3-MeFOSA		IS		33.4	10 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1
13C2-PFTeDA		IS		62.7	25 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1
d5-EtFOSA		IS		30.7	10 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1
d7-MeFOSE		IS		77.9	10 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1
d9-EtFOSE		IS		76.0	10 - 150		B23F107	14-Jun-23	0.250 L	20-Jun-23 03:37	1

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Sample ID: V	VT060723								PFAS Iso	otope Dilution N	Method
Client Data Name: Project: Location:	AECOM 60135471 Water Tank		Matrix: Date Colle	Aqueous ected: 07-Jun-23 1	Lal	boratory Data o Sample: te Received:	2306087-0 10-Jun-23		Column:	BEH C18	
Analyte		CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA		375-22-4	1.51	1.30	1.96	J	B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
PFPeA		2706-90-3	<1.27	1.27	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	
PFBS		375-73-5	<1.12	1.12	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	
4:2 FTS		757124-72-4	<1.28	1.28	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	
PFHxA		307-24-4	<1.23	1.23	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	
PFPeS		2706-91-4	<1.70	1.70	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	
HFPO-DA		13252-13-6	<1.91	1.91	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
PFHpA		375-85-9	< 0.857	0.857	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
ADONA		919005-14-4	<1.07	1.07	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
PFHxS		355-46-4	<1.39	1.39	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
6:2 FTS		27619-97-2	<1.42	1.42	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
PFOA		335-67-1	2.10	1.09	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
PFHpS		375-92-8	<1.60	1.60	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
PFNA		375-95-1	<1.22	1.22	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
PFOSA		754-91-6	3.55	1.69	1.96	Q	B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
PFOS		1763-23-1	3.55	1.82	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
9Cl-PF3ONS		756426-58-1	<1.47	1.47	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
PFDA		335-76-2	<1.18	1.18	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
8:2 FTS		39108-34-4	<1.68	1.68	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
PFNS		68259-12-1	<1.61	1.61	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
MeFOSAA		2355-31-9	<1.35	1.35	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
EtFOSAA		2991-50-6	<1.31	1.31	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
PFUnA		2058-94-8	<1.05	1.05	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
PFDS		335-77-3	<1.51	1.51	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
11Cl-PF3OUdS		763051-92-9	<1.17	1.17	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
PFDoA		307-55-1	<1.30	1.30	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
MeFOSA		31506-32-8	< 2.94	2.94	3.92		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
PFTrDA		72629-94-8	<1.37	1.37	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
PFDoS		79780-39-5	<1.69	1.69	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
PFTeDA		376-06-7	<1.13	1.13	1.96		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
EtFOSA		4151-50-2	<2.40	2.40	3.92		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
MeFOSE		24448-09-7	<2.30	2.30	2.45		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
EtFOSE		1691-99-2	< 2.07	2.07	3.92		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
Labeled Standa	rds	Туре	% Recovery	I	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA		IS	69.9	2	5 - 150		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
13C3-PFPeA		IS	82.1		5 - 150			14-Jun-23	0.255 L	20-Jun-23 04:39	
13C3-PFBS		IS	69.4		5 - 150			14-Jun-23	0.255 L	20-Jun-23 04:39	1

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Sample ID: WT060723 PFAS Isotope Dilution Method

Client Data Laboratory Data

Name: AECOM Matrix: Aqueous Lab Sample: 2306087-01 Column: BEH C18

Project: 60135471 Date Collected: 07-Jun-23 10:08 Date Received: 10-Jun-23 09:25 Location: Water Tank

Zetarien water runk									
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-4:2 FTS	IS	77.5	25 - 150		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
13C2-PFHxA	IS	86.6	25 - 150		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
13C3-HFPO-DA	IS	94.3	25 - 150		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
13C4-PFHpA	IS	84.6	25 - 150		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
13C3-PFHxS	IS	67.2	25 - 150		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
13C2-6:2 FTS	IS	76.9	25 - 150		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
13C2-PFOA	IS	82.1	25 - 150		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
13C5-PFNA	IS	82.1	25 - 150		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
13C8-PFOSA	IS	101	10 - 150		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
13C8-PFOS	IS	83.5	25 - 150		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
13C2-PFDA	IS	78.8	25 - 150		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
13C2-8:2 FTS	IS	86.0	25 - 150		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
d3-MeFOSAA	IS	63.3	25 - 150		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
d5-EtFOSAA	IS	57.8	25 - 150		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
13C2-PFUnA	IS	82.8	25 - 150		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
13C2-PFDoA	IS	81.9	25 - 150		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
d3-MeFOSA	IS	36.6	10 - 150		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
13C2-PFTeDA	IS	76.5	25 - 150		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
d5-EtFOSA	IS	30.2	10 - 150		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
d7-MeFOSE	IS	84.4	10 - 150		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	1
d9-EtFOSE	IS	81.2	10 - 150		B23F107	14-Jun-23	0.255 L	20-Jun-23 04:39	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.

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Sample ID: Method Blank PFAS Isotope Dilution Method

Client Data Laboratory Data

Name: AECOM Matrix: Solid Lab Sample: B23F138-BLK1 Column: BEH C18

Name: AECOM		Matrix:	Solid		Lab S	Sample:	B23F138-I	BLK1	Column:	BEH C18	
Project: 60135471											
Analyte	CAS Number	Conc. (ng/g)	MDL		RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	< 0.330	0.330	(0.500		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
PFPeA	2706-90-3	< 0.372	0.372	(0.500		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
PFBS	375-73-5	< 0.480	0.480	(0.500		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
4:2 FTS	757124-72-4	< 0.584	0.584		1.00		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
PFHxA	307-24-4	< 0.330	0.330	(0.500		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
PFPeS	2706-91-4	< 0.482	0.482	(0.500		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
HFPO-DA	13252-13-6	< 0.604	0.604		1.00		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
PFHpA	375-85-9	< 0.376	0.376	(0.500		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
ADONA	919005-14-4	< 0.348	0.348	(0.500		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
PFHxS	355-46-4	< 0.576	0.576		1.00		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
6:2 FTS	27619-97-2	< 0.482	0.482		1.00		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
PFOA	335-67-1	< 0.394	0.394	(0.500		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
PFHpS	375-92-8	< 0.630	0.630		1.00		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
PFNA	375-95-1	< 0.412	0.412	(0.500		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
PFOSA	754-91-6	< 0.586	0.586		1.00		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
PFOS	1763-23-1	< 0.684	0.684		1.00		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
9Cl-PF3ONS	756426-58-1	< 0.364	0.364		0.500		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
PFDA	335-76-2	< 0.400	0.400		0.500		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
8:2 FTS	39108-34-4	< 0.814	0.814		1.00		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
PFNS	68259-12-1	< 0.576	0.576		1.00		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
MeFOSAA	2355-31-9	< 0.414	0.414		0.500		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
EtFOSAA	2991-50-6	< 0.484	0.484		0.500		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
PFUnA	2058-94-8	< 0.442	0.442		1.00		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
PFDS	335-77-3	< 0.546	0.546		1.00		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
11Cl-PF3OUdS	763051-92-9	< 0.928	0.928		1.00		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
PFDoA	307-55-1	< 0.578	0.578		1.00		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
MeFOSA	31506-32-8	<1.34	1.34		1.50		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
PFTrDA	72629-94-8	< 0.584	0.584		1.00		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
PFDoS	79780-39-5	<0.472	0.472		0.500		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
PFTeDA	376-06-7	< 0.314	0.314		0.500		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
EtFOSA	4151-50-2	<1.04	1.04		1.50		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
MeFOSE	24448-09-7	< 0.894	0.894		1.00		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
EtFOSE	1691-99-2	< 0.860	0.860		1.00		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	
Labeled Standards	Type	% Recovery	0.000	Limits	1.00	Qualifiers	Batch	Extracted	Samp Size		Dilution
13C3-PFBA	IS	93.9		25 - 150			B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
13C3-PFPeA	IS	96.6		25 - 150			B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
13C3-PFBS	IS	101		25 - 150			B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
13C2-4:2 FTS	IS	91.8		25 - 150			B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	
	10	71.0		20 100			3201100	10 0 0011 23	5		

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Sample ID: Method Blank

PFAS Isotope Dilution Method

Client Data Laboratory Data

Name: AECOM Matrix: Solid Lab Sample: B23F138-BLK1 Column: BEH C18
Project: 60135471

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	IS	96.8	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
13C3-HFPO-DA	IS	95.9	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
13C4-PFHpA	IS	95.3	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
13C3-PFHxS	IS	100	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
13C2-6:2 FTS	IS	99.3	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
13C2-PFOA	IS	94.0	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
13C5-PFNA	IS	79.5	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
13C8-PFOSA	IS	48.5	10 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
13C8-PFOS	IS	97.8	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
13C2-PFDA	IS	75.5	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
13C2-8:2 FTS	IS	96.5	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
d3-MeFOSAA	IS	73.5	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
d5-EtFOSAA	IS	67.0	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
13C2-PFUnA	IS	66.5	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
13C2-PFDoA	IS	64.0	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
d3-MeFOSA	IS	16.6	10 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
13C2-PFTeDA	IS	71.0	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
d5-EtFOSA	IS	12.8	10 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
d7-MeFOSE	IS	27.4	10 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1
d9-EtFOSE	IS	24.2	10 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:00	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.

The sample size is reported in wet weight.

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.

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Sample ID: OPR

PFAS Isotope Dilution Method

Client Data Laboratory Data

Name: AECOM Matrix: Solid Lab Sample: B23F138-BS1 Column: BEH C18
Project: 60135471

Analyte	CAS Number	Amt Found (ng/g)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	9.81	10.0	98.1	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
PFPeA	2706-90-3	9.89	10.0	98.9	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
PFBS	375-73-5	9.07	10.0	90.7	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
4:2 FTS	757124-72-4	9.88	10.0	98.8	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
PFHxA	307-24-4	10.2	10.0	102	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
PFPeS	2706-91-4	8.52	10.0	85.2	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
HFPO-DA	13252-13-6	10.7	10.0	107	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
PFHpA	375-85-9	9.80	10.0	98.0	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
ADONA	919005-14-4	9.84	10.0	98.4	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
PFHxS	355-46-4	10.0	10.0	100	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
6:2 FTS	27619-97-2	9.98	10.0	99.8	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
PFOA	335-67-1	10.1	10.0	101	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
PFHpS	375-92-8	11.5	10.0	115	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
PFNA	375-95-1	11.4	10.0	114	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
PFOSA	754-91-6	10.0	10.0	100	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
PFOS	1763-23-1	10.9	10.0	109	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
9Cl-PF3ONS	756426-58-1	11.2	10.0	112	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
PFDA	335-76-2	10.3	10.0	103	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
8:2 FTS	39108-34-4	9.43	10.0	94.3	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
PFNS	68259-12-1	10.1	10.0	101	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
MeFOSAA	2355-31-9	9.59	10.0	95.9	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
EtFOSAA	2991-50-6	8.61	10.0	86.1	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
PFUnA	2058-94-8	9.95	10.0	99.5	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
PFDS	335-77-3	10.1	10.0	101	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
11Cl-PF3OUdS	763051-92-9	12.9	10.0	129	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
PFDoA	307-55-1	10.6	10.0	106	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
MeFOSA	31506-32-8	10.3	10.0	103	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
PFTrDA	72629-94-8	11.1	10.0	111	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
PFDoS	79780-39-5	12.2	10.0	122	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
PFTeDA	376-06-7	10.4	10.0	104	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
EtFOSA	4151-50-2	9.59	10.0	95.9	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
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Sample ID: OPR

PFAS Isotope Dilution Method

Client Data Laboratory Data

Name: AECOM Matrix: Solid Lab Sample: B23F138-BS1 Column: BEH C18

Project: 60135471

Analyte	CAS Number	Amt Found (ng/g)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
MeFOSE	24448-09-7	10.5	10.0	105	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
EtFOSE	1691-99-2	10.2	10.0	102	50 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
Labeled Standards		Type		% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA		IS		92.6	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
13C3-PFPeA		IS		93.6	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
13C3-PFBS		IS		104	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
13C2-4:2 FTS		IS		86.9	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
13C2-PFHxA		IS		96.3	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
13C3-HFPO-DA		IS		90.2	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
13C4-PFHpA		IS		92.8	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
13C3-PFHxS		IS		93.5	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
13C2-6:2 FTS		IS		92.2	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
13C2-PFOA		IS		90.4	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
13C5-PFNA		IS		82.4	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
13C8-PFOSA		IS		43.8	10 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
13C8-PFOS		IS		90.2	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
13C2-PFDA		IS		75.8	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
13C2-8:2 FTS		IS		97.7	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
d3-MeFOSAA		IS		66.1	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
d5-EtFOSAA		IS		67.3	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
13C2-PFUnA		IS		66.1	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
13C2-PFDoA		IS		58.8	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
d3-MeFOSA		IS		14.9	10 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
13C2-PFTeDA		IS		68.8	25 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
d5-EtFOSA		IS		11.8	10 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
d7-MeFOSE		IS		24.7	10 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1
d9-EtFOSE		IS		23.2	10 - 150		B23F138	15-Jun-23	1.00 g	21-Jun-23 00:11	1

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									111	NALYII	CALL
Sample ID: V	WComp								PFAS Iso	tope Dilution 1	Method
Client Data Name: Project: Location:	AECOM 60135471 Soil		Matrix: Date Colle	Soil ected: 08-Jun-23 1	Lab	oratory Data Sample: Received:	2306087-0 10-Jun-23 79.7		Column:	ВЕН С18	
Analyte		CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA		375-22-4	< 0.321	0.321	0.487		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
PFPeA		2706-90-3	< 0.362	0.362	0.487		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
PFBS		375-73-5	< 0.467	0.467	0.487		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
4:2 FTS		757124-72-4	< 0.568	0.568	0.973		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
PFHxA		307-24-4	< 0.321	0.321	0.487		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
PFPeS		2706-91-4	< 0.469	0.469	0.487		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
HFPO-DA		13252-13-6	< 0.588	0.588	0.973		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
PFHpA		375-85-9	< 0.366	0.366	0.487		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
ADONA		919005-14-4	< 0.339	0.339	0.487		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
PFHxS		355-46-4	< 0.561	0.561	0.973		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
6:2 FTS		27619-97-2	< 0.469	0.469	0.973		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
PFOA		335-67-1	< 0.383	0.383	0.487		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
PFHpS		375-92-8	< 0.613	0.613	0.973		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
PFNA		375-95-1	< 0.401	0.401	0.487		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
PFOSA		754-91-6	< 0.570	0.570	0.973		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
PFOS		1763-23-1	< 0.666	0.666	0.973		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
9C1-PF3ONS		756426-58-1	< 0.354	0.354	0.487		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
PFDA		335-76-2	< 0.389	0.389	0.487		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
8:2 FTS		39108-34-4	< 0.792	0.792	0.973		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
PFNS		68259-12-1	< 0.561	0.561	0.973		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
MeFOSAA		2355-31-9	< 0.403	0.403	0.487		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
EtFOSAA		2991-50-6	< 0.471	0.471	0.487		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
PFUnA		2058-94-8	< 0.430	0.430	0.973		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
PFDS		335-77-3	< 0.531	0.531	0.973		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
11Cl-PF3OUdS		763051-92-9	< 0.903	0.903	0.973		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
PFDoA		307-55-1	< 0.562	0.562	0.973		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
MeFOSA		31506-32-8	<1.30	1.30	1.46		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
PFTrDA		72629-94-8	< 0.568	0.568	0.973		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
PFDoS		79780-39-5	< 0.459	0.459	0.487		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
PFTeDA		376-06-7	< 0.306	0.306	0.487		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
EtFOSA		4151-50-2	<1.01	1.01	1.46		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
MeFOSE		24448-09-7	< 0.870	0.870	0.973		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
EtFOSE		1691-99-2	< 0.837	0.837	0.973		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
Labeled Standa	ırds	Туре	% Recovery	I	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA		IS	86.2	2	25 - 150		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
13C3-PFPeA		IS	93.2	2	25 - 150		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1
13C3-PFBS		IS	92.3	2	25 - 150		B23F138	15-Jun-23	1.29 g	21-Jun-23 00:21	1

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Sample ID: WComp

PFAS Isotope Dilution Method

Client Data Laboratory Data

Name: AECOM Matrix: Soil Lab Sample: 2306087-02 Column: BEH C18
Project: 60135471 Date Collected: 08-Jun-23 12:00 Date Received: 10-Jun-23 09:25

Location: Soil % Solids: 79.7

Labeled Standards % Recovery Limits Qualifiers Extracted Samp Size Analyzed **Dilution** Type Batch 13C2-4:2 FTS IS 86.3 25 - 150 B23F138 15-Jun-23 1.29 g 21-Jun-23 00:21 25 - 150 13C2-PFHxA IS 90.8 B23F138 15-Jun-23 21-Jun-23 00:21 1.29 g 1 25 - 150 13C3-HFPO-DA IS 91.8 B23F138 15-Jun-23 1.29 g 21-Jun-23 00:21 IS 88.7 25 - 150 B23F138 15-Jun-23 1.29 g 21-Jun-23 00:21 13C4-PFHpA 1 IS 92.2 13C3-PFHxS 25 - 150 B23F138 15-Jun-23 1.29 g 21-Jun-23 00:21 IS 102 25 - 15015-Jun-23 13C2-6:2 FTS B23F138 1.29 g 21-Jun-23 00:21 1 13C2-PFOA IS 89.7 25 - 150 B23F138 15-Jun-23 1.29 g 21-Jun-23 00:21 15-Jun-23 13C5-PFNA IS 82.1 25 - 150B23F138 1.29 g 21-Jun-23 00:21 1 13C8-PFOSA IS 69.4 10 - 150 B23F138 15-Jun-23 1.29 g 21-Jun-23 00:21 13C8-PFOS IS 88.4 25 - 150 B23F138 15-Jun-23 1.29 g 21-Jun-23 00:21 1 13C2-PFDA IS 25 - 150 15-Jun-23 1.29 g 77.3 B23F138 21-Jun-23 00:21 13C2-8:2 FTS IS 112 25 - 150 B23F138 15-Jun-23 1.29 g 21-Jun-23 00:21 1 d3-MeFOSAA IS 89.5 25 - 150 B23F138 15-Jun-23 1.29 g 21-Jun-23 00:21 1 d5-EtFOSAA IS 87.0 25 - 150 15-Jun-23 B23F138 1.29 g 21-Jun-23 00:21 1 13C2-PFUnA IS 78.4 25 - 150 B23F138 15-Jun-23 1.29 g 21-Jun-23 00:21 13C2-PFDoA IS 81.1 25 - 150 B23F138 15-Jun-23 21-Jun-23 00:21 1.29 g 1 IS 43.3 10 - 150 B23F138 15-Jun-23 1.29 g d3-MeFOSA 21-Jun-23 00:21 13C2-PFTeDA IS 68.6 25 - 150 B23F138 15-Jun-23 1.29 g 21-Jun-23 00:21 1 IS d5-EtFOSA 34.0 10 - 150 B23F138 15-Jun-23 1.29 g 21-Jun-23 00:21 B23F138 d7-MeFOSE IS 65.8 10 - 150 15-Jun-23 1.29 g 21-Jun-23 00:21 1 d9-EtFOSE IS 59.1 10 - 150 B23F138 15-Jun-23 1.29 g 21-Jun-23 00:21

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.

The sample size is reported in wet weight.

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.

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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)

MDL Method Detection Limit

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

RL For 537.1, the reported RLs are the MRLs.

TEQ Toxic Equivalency, sum of the toxic equivalency factors (TEF) multiplied by the

sample concentrations.

TEQMax TEQ calculation that uses the detection limit as the concentration for non-detects

TEQMin TEQ calculation that uses zero as the concentration for non-detects

TEQ calculation that uses ½ the detection limit as the concentration for non-

detects

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.

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Enthalpy Analytical - EDH Certifications

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	21-023-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025	3091.01
Florida Department of Health	E87777
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2020018
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	2211390
Nevada Division of Environmental Protection	CA00413
New Hampshire Environmental Accreditation Program	207721
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Ohio Environmental Protection Agency	87778
Oregon Laboratory Accreditation Program	4042-021
Texas Commission on Environmental Quality	T104704189-22-13
Vermont Department of Health	VT-4042
Virginia Department of General Services	11276
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

 $Current\ certificates\ and\ lists\ of\ licensed\ parameters\ can\ be\ found\ at\ Enthalpy.com/Resources/Accreditations.$

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For Laborato	ry Use On	ly		3	
Work Order #:	23	26087	Temp:	3.0	90
Storage ID:	2-13	LARIZ	Storage Secur	ed: Lives L	No
	,				

Project ID: 60133	5 ナウロ	Company	PO#:		Addre	ess	_			Vose (name)	City State Phone #
Pave Henderson Relinquished by (printed name about west	and signa		0 15 Date (e/9/23)	55	Time	:50	Rece	eived by	(printe	Dou V	and signature) Date Time
SHIP TO: Enthalpy Analytics 1104 Windfield W El Dorado Hills, C (916) 673-1520	ay		Method of Shipment: Tracking No.;	Cont	Arainer(sis(es) R	equested		ALPS BY SOLO	Requirements:
Sample ID W7060723 WCom0	Date 6/7/23	10:08	Location/ Sample Description Watter Yan K	3	A P	A CO	84189113				DOD QSM Compliant PFAS List Below (or attach compound list): Seecont fract for PFAS - List 33 Might be Very High (ODOR)
- Camp	Cloles	72.00		-							THE GREAT CONCENT
ther Instructions/ Comments:									CUME	ND NTATION ULTS TO	
Container Types: P= HDPE, PJ: PY= Polypropylene.			Bottle Preservation Type TZ = Trizma: Rev. No. 2		4	n. Aceta Rev. Dat		/2/2023	Matri		AQ = Aqueous, DW = Drinking Water, EF = Effluent, SD = Sediment, T=Tissue SL = Studge, SO = Soil, WW = Wastewater, O = Other: Page: 1 of 1

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Sample Log-In Checklist



Work Order #: _		23	608	7		т		e#	_ of _ SHI		
Samples Arrival:	Date/Tim		09:25		itials:				ωα «:_Λ		
Delivered By:	FedEx	UPS	On Tra	ic	GLS	DHL		Han Delive	120	Oth	ner
Preservation:	(ce)		Blue Ice			Techni Ice Dŋ		lce	None		
Temp °C: 1.2 Temp °C: 3.		F	robe use	ed:	Y / (N)		The	rmome	eter ID:	IR-	3
						774		A 100	YES	NO	NA
Shipping Contain	ner(s) Intac	t?							V		
Shipping Custod	y Seals Int	act?								V	1
Airbill —	Trk	Trk# 8171-2366-4720					~				
Shipping Docum					V				V	1	
Shipping Contain	ner	En	thalpy	1	Client	Re	etain	P.	eturn	Disp	ose
Chain of Custod	y / Sample	Documer	ntation Pre	ese	ent?				~		
Chain of Custod	7.5.				2.712				1		

Comments:

Holding Time Acceptable?

ID.: LR - SLC

Rev No.: 7

Rev Date: 01/02/2023

Page: 1 of 1

CoC/Label Reconciliation Report WO# 2306087

abNumber CoC Sample ID		SampleAlias	Sample Date/Time	Container	BaseMatrix	Sample Comments
306087-01 A WT060723	☑′	Water Tank	07-Jun-23 10:08 (A)	HDPE Bonle, 250 mL	Aqueous	
306087-01 B WT060723	Q,	Water Tank	07-Jun-23 10:08	HDPE Bottle, 250 mL	Aqueous	
306087-02 A WComp	☑	Soil	08-Jun-23 12:00 🔲 👸	HDPE Jar, 6 oz	Solid	
Checkmarks indicate that inform Any discrepancies are noted in the	ation on the COC reconciled with ne following columns.					
		Yes No	NA Comments:	Table 1 To the second		
Sample Container Intact?		V	(B) C	e 1a10el time: 1008		
Sample Custody Seals Intact?		V	Vamp	e label time: 1005 le label time: 1205		
Adequate Sample Volume?		V				
Container Type Appropriate for	Analysis(es)	V	1.1			
Preservation Documented: N	a2S2O3 Trizma NH4CH3C	O2 None Other				

Verifed by/Date: YW 0(413/23

Printed: 6/13/2023 7:09:32AM

Attachment E:

LNAPL & Groundwater Elevation Data

AECOM

Project No.	60135471		Site:	Former Newton Gravel Pit
Description of S	ite:	Top of former western source	area cap	
Weather:				Date:

	Data	Top of Pipe	Depth to	Depth to	Elevation	
Well Number	Date	Elevation	Product (TOC)	Water (TOC)	(ft MSL)	Comments
EX-1	5/31/2023	734.90				
EX-1	6/1/2023	734.90				
EX-1	6/2/2023	734.90				
EX-1	6/5/2023	734.90				
EX-1	6/6/2023	734.90				
EX-1	6/7/2023	734.90				
EX-1	6/8/2023	734.90				Well installed on 6/8/2023
EX-1	6/9/2023	734.90	46.82	46.83	688.07	
EX-1	6/12/2023	734.90		47.04	687.86	
EX-1	6/15/2023	734.90		47.12	687.78	
EX-2	5/31/2023	732.08				
EX-2	6/1/2023	732.08				
EX-2	6/2/2023	732.08				
EX-2	6/5/2023	732.08				
EX-2	6/6/2023	732.08				
EX-2	6/7/2023	732.08				Well installed on 6/7/2023
EX-2	6/8/2023	732.08	44.55	44.56	687.52	
EX-2	6/9/2023	732.08	44.05	44.06	688.02	
EX-2	6/12/2023	732.08	-	44.67	687.41	
EX-2	6/15/2023	732.08	-	44.74	687.34	
EX-3	5/31/2023	733.10				
EX-3	6/1/2023	733.10				
EX-3	6/2/2023	733.10		37.90	695.20	Well installed on 6/2/2023
EX-3	6/5/2023	733.10		46.03	687.07	
EX-3	6/6/2023	733.10		46.03	687.07	
EX-3	6/7/2023	733.10	46.06	46.07	687.03	
EX-3	6/8/2023	733.10		46.07	687.03	
EX-3	6/9/2023	733.10		46.11	686.99	
EX-3	6/12/2023	733.10		46.16	686.94	
EX-3	6/15/2023	733.10		46.20	686.90	

Entered on C	omputer:		Date	6/23/	2023	
TOC = Top of	Casing or Top of Pipe		·			
Personnel	RW	Page	1	of	3	

AECOM

Project No.	60135471	Si	ite:	Former Newton Gravel Pit
Description of S	ite:	Top of former western source a	area cap	
Weather:				Date:

	Data	Top of Pipe	Depth to	Depth to	Elevation	
Well Number	Date	Elevation	Product (TOC)	Water (TOC)	(ft MSL)	Comments
EX-4	5/31/2023	733.56				
EX-4	6/1/2023	733.56				
EX-4	6/2/2023	733.56				
EX-4	6/5/2023	733.56				
EX-4	6/6/2023	733.56				
EX-4	6/7/2023	733.56				
EX-4	6/8/2023	733.56				Well installed on 6/8/2023
EX-4	6/9/2023	733.56		44.58	688.98	
EX-4	6/12/2023	733.56		46.26	687.30	
EX-4	6/15/2023	733.56		46.32	687.24	
EX-5	5/31/2023	733.75				
EX-5	6/1/2023	733.75				
EX-5	6/2/2023	733.75				
EX-5	6/5/2023	733.75				
EX-5	6/6/2023	733.75				Well installed on 6/6/2023
EX-5	6/7/2023	733.75		46.88	686.87	
EX-5	6/8/2023	733.75		46.85	686.90	
EX-5	6/9/2023	733.75		46.90	686.85	
EX-5	6/12/2023	733.75		46.96	686.79	
EX-5	6/15/2023	733.75		47.01	686.74	
EX-6	5/31/2023	734.96				
EX-6	6/1/2023	734.96		49.90	685.06	Well installed on 6/1/2023
EX-6	6/2/2023	734.96		47.64	687.32	
EX-6	6/5/2023	734.96		48.25	686.71	
EX-6	6/6/2023	734.96		48.28	686.68	
EX-6	6/7/2023	734.96		48.31	686.65	
EX-6	6/8/2023	734.96		48.32	686.64	
EX-6	6/9/2023	734.96		48.37	686.59	
EX-6	6/12/2023	734.96		48.42	686.54	
EX-6	6/15/2023	734.96		48.46	686.50	

Entered on C	omputer:		Date	6/23/	2023	
TOC = Top of	Casing or Top of Pipe		·			
Personnel	RW	Page	2	of	3	



Project No. 60135471 Site: Former Newton Gravel Pit

Description of Site: Top of former western source area cap

Weather: Varied Date: May 31 thru June 15, 2023

		Top of Pipe	Depth to	Depth to	Elevation	1
Well Number	Date	Elevation	Product (TOC)	Water (TOC)	(ft MSL)	Comments
EX-7	5/31/2023	737.36		11466 (100)	(1011102)	
EX-7	6/1/2023	737.36				
EX-7	6/2/2023	737.36				
EX-7	6/5/2023	737.36				Well installed on 6/5/2023
EX-7	6/6/2023	737.36		50.24	687.12	
EX-7	6/7/2023	737.36		50.27	687.09	
EX-7	6/8/2023	737.36	50.29	50.29	687.07	
EX-7	6/9/2023	737.36		50.31	687.05	
EX-7	6/12/2023	737.36		50.38	686.98	
EX-7	6/15/2023	737.36		50.44	686.92	
EX-8	5/31/2023	736.28				Well installed on 5/31/2023
EX-8	6/1/2023	736.28		49.62	686.66	
EX-8	6/2/2023	736.28		49.65	686.63	
EX-8	6/5/2023	736.28		49.78	686.50	
EX-8	6/6/2023	736.28		49.77	686.51	
EX-8	6/7/2023	736.28		49.81	686.47	
EX-8	6/8/2023	736.28	49.81	49.82	686.46	
EX-8	6/9/2023	736.28		49.85	686.43	
EX-8	6/12/2023	736.28	79.90	49.91	686.37	
EX-8	6/15/2023	736.28		49.94	686.34	
	_					
						•

Entered on C	omputer:		Date	6/23/	2023
TOC = Top of	Casing or Top of Pipe		_		
Personnel	RW	Page	3	of	3