

Technical Memorandum

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CC Mike Schmoller, WDNR

Subject Preliminary Summary of Environmental Laboratory Data
ATC Blount Transmission Substation, Madison Wisconsin

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Date September 9, 2019

Page 1 of 6

This technical memorandum presents a preliminary summary of the laboratory results from environmental samples collected at the American Transmission Company (ATC) Blount Transmission (BLT) Substation located within the Madison Gas & Electric (MG&E) Blount Spot (BLS) Substation, 722 East Main Street, Madison Wisconsin.

Background Information

On the morning of July 19, 2019, ATC had a 138 kV transformer explode at the Madison Gas & Electric (MGE) Blount Substation in downtown Madison. The resulting explosion ruptured the transformer releasing a portion of the approximately 17,000 gallons of mineral oil that it contained. The explosion is believed to have also ignited the mineral oil causing a large fire.

The Madison Fire Department (MFD) first responders used an aqueous film forming foam (AFFF) fire suppressant agent, Fire Service Plus, Inc., FireAde brand, 3% AFFF Liquid Foam Concentrate for firefighting. Based on information from the manufacturer, the AFFF product contained at least one of the Per- and Polyfluoroalkyl Substances (PFAS).

A secondary fire was observed approximately 0.5 miles away at ATC's East Side Substation as one of the underground oil-filled electrical lines from the Blount Substation also had a minor fire. MFD extinguished the fire at East Campus Substation with dry chemical suppressant and mineral oil was contained within the containment structure.

After the first responders completed activities at the site, ATC mobilized its emergency response contractor, North Shore Environmental Construction, Inc. (NSEC), of Germantown Wisconsin. NSEC performed immediate cleanup of mineral oil and AFFF residuals that were observed in storm sewers and on the ground surface.

From historical information, the Blount Substation is also a closed Environmental Repair Program (ERP) site and is tracked in the WDNR's BRRTS as 02-13-001567 Madison Gas & Electric Manufactured Gas Plant (MGP) site.

As described in AECOM's Technical Memorandum entitled, *Preliminary Review of Initial PFAS Laboratory Data*, dated July 30, 2019, NSEC collected an initial set of water and soil samples for PFAS analyses. Those samples were shipped to Eurofins/TestAmerica Laboratory (Eurofins), Sacramento, CA under chain-of-custody (COC) control, and analysis was conducted following EPA Method 537 (Modified) isotope dilution. The results for those samples confirmed the presence of PFAS.

WDNR issued a responsible party letter to ATC on August 8, 2019 that required the submittal of a NR716 Site Investigation Work Plan to investigate the magnitude and extent of impacts from the release of mineral oil from the transformer and the subsequent release of PFAS from the AFFF used by the MFD. The WDNR letter required the Work Plan be submitted by August 23, 2019, but WDNR in subsequent email correspondence agreed that the Work Plan submittal may be delayed until the spill cleanup activities are completed and the laboratory reports from soil and water samples collected during the cleanup have been received.

Chronological Data Summary

A total of around 80 soil, water and oil samples were collected from the ATC Blount Substation and East Campus by NSEC, SCS, and AECOM between July 19th and August 8th, 2019. A sample inventory was created to present the samples collected and analysis performed and is presented in Table 1. Most samples were analyzed for DRO and PFAS. Exceptions to this are shown on Table 1. Data is sorted first by date then by matrix and sample time. Analytical results were tabulated and organized by matrix. Soil, water, and oil data are presented on Tables 1, 2, and 3, respectively. A total of 13 laboratory reports are associated with this data and a list is attached to this memorandum. The complete laboratory reports will be submitted separately as an attachment to the formal Spill Response and Immediate Cleanup Report to be completed later this month.

The sample IDs, sample location and reason for sampling are as follows:

1. Friday- 7/19/2019
 - a. Soil
 - i. **Breaker Soil:** 320-52453-1 and 500-167039-1
sample time 15:30 – soil obtained by NSEC from a “breaker” structure located northeast of the damaged transformer and within the firefighting area. The surface soil sample should also be representative of conditions immediately after firefighting activities.
 - b. Water
 - i. **Catch Basin Water:** 320-52453-1
sample time 14:00 – water obtained by NSEC from the eastern on-site storm sewer catch basin, inside the BLS substation fence/wall. This catch basin drains to the City of Madison storm sewer system at structure number IN 5247-050.
 - ii. **Surface Water:** 500-167039-1 and 320-52453-1
sample time 15:00 – ponded surface water obtained by NSEC from the gravel area northeast of the damaged transformer and within the firefighting area. This sample was obtained after fire-fighting activities were complete.
 - iii. **LW (Basin):** 500-167041-1, 320-52453-1, and 500-167039-1
sampled 14:30 and 16:20 – water sample obtained from the City of Madison's storm sewer system at the southwest corner of E. Washington Ave and Livingston St., structure number IN 5247-117. SCS first sampled this location at 14:30 (LW1), then NSEC and SCS both collected a split sample from the same location at 16:20

(LW Basin and LW2). These samples were obtained after fire-fighting activities were complete, while NSEC was conducting full-scale storm water system water recovery efforts (i.e. oil skimming and water recovery). Therefore, the water samples should be representative of the water present in the storm sewer system immediately after firefighting activities.

- iv. **Blount Street:** 320-52453-1, 500-167039-1, and 500-167041-1 sampled 17:00 – water sample split obtained by NSEC and SCS from the City of Madison’s storm sewer system approximately ½ block south of the intersection of E. Main Street and S. Blount Street, structure number IN 5248-009.

c. Oil

- i. **Catch Basin Oil:** 500-167039-1
sample time 13:45 – oil obtained by NSEC from the eastern on-site catch basin, inside the BLS substation fence/wall. This catch basin drains to the City of Madison storm sewer system.
- ii. **Main & Blount:** 500-167039-1
Sample time 16:45 - oil obtained by NSEC from a catch basin near the corner of Main Street and S. Blount Street, structure number IN 5248-009.

2. Tuesday- 7/23/2019

a. Soil

- i. **Stained Soil:** 500-167154
Sampled at 16:00 – a soil sample from near the burned transformer is collected by NSEC as directed by WDNR to be analyzed for DRO to determine if n-Nonane is a concern.

3. Wednesday- 7/24/2019

a. Soil

- i. **SS-01 to SS-12:** 500-167225-1 and 500-167225-2
Sampled between 8:30 to 11:00 – soil samples were obtained by AECOM in the grass right of way (terrace) outside the southern wall of BLT substation along E. Main Street. Samples were collected every 25 feet moving west starting at the E. Main Street entrance to the substation. During fire suppression activities, some oil-water-foam mix seeped under the wall and onto the terrace. Impacted soil along the terrace was excavated by NSEC. AECOM collected these samples post excavation to evaluate residual impacts.
- ii. **SS-13 to SS-16:** 500-167225-1 and 500-167225-2
Sampled between 11:45 and 12:20 – AECOM collected two samples from the north side and two from south side of the transformer. Several inches of the surface had been scraped once earlier by NSEC.
- iii. **SS-17:** 500-167225-1 and 500-167225-2
Sample time 13:00 – one sample was collected by AECOM approximately 5 feet west of the east catch basin (also known as stormceptor).

b. Water

- i. **North Power Pole:** 500-167225-1 and 500-167225-2
Sample time 6:40 – water sample was obtained by AECOM from a void where a power pole was located directly east of the

transformer. Two wooden power poles were charred in the fire. When NSEC removed remaining buried portions of the poles, the voids filled with a water and oil mixture. This water is representative of shallow groundwater conditions on site within a week of the incident.

ii. **South Power Pole:** failed attempt

No sample was collected from the south power pole void due to lack of water at the bottom of the pit. The south void had about two inches of product above a small amount of water. Depth to product was approximately 47 inches.

4. Thursday- 7/25/2019

a. Soil

i. **EC-1 and EC-2:** 500-167337-1

Sampled at 12:05 and 12:10– Two soil samples were collected by AECOM from the East Campus Substation to evaluate residual DRO impacts.

b. Water

i. **Storm Ceptor:** 320-52698-1

Sample time 8:30 – AECOM collected a water sample from the east catch basin within the substation. This sample was collected to evaluate progression of product recovery nearly a week after the incident. This catch basin drains to the City of Madison storm sewer system at structure number IN 5247-050.

ii. **River Outlet:** 320-52698-1

Sample time 9:25 – a sample was collected by AECOM from the storm sewer outlet (near AS 5543-084) near the intersection of E. Washington Ave. and the Yahara River Bike Path to evaluate potential PFAS impact at the Yahara River. The distance from the transformer to this outlet via storm sewer is approximately 1.02 miles.

iii. **Blount St. Outlet:** 320-52698-1

Sample time 9:40 – a sample was collected by AECOM from the S Blount Street storm sewer outlet (Near IN 5349-001) to evaluate potential PFAS impact at Lake Monona. The distance from the transformer to this outlet via storm sewer is approximately 0.33 miles.

iv. **Path Outlet:** 320-52698-1

Sample time 10:00 – a sample was collected by AECOM from the storm sewer outlet at the north end of Law Park to evaluate potential PFAS impact at Lake Monona. The distance from the transformer to this outlet via storm sewer is approximately 0.40 miles.

v. **LVN-6:** 320-52698-1

Sampled at 13:00 – a sample was collected by AECOM from a catch basin (Structure #IN 5247-115) at the corner of S Livingston Street and E. Washington Ave to evaluate potential PFAS impact between the Storm Ceptor and the Yahara River.

vi. **BNT-3, BNT-4, and BNT-8:** 320-52698-1

Sampled between 13:30 and 14:15 – three samples were collected by AECOM from catch basins along S. Blount St to evaluate potential PFAS impact between the substation and Lake Monona.

5. Friday- 7/26/2019

a. Soil

i. **SS-18 and SS-19:** 500-167417-1 and 500-167417-2

Sample times 8:40 and 8:55 – two samples were collected by AECOM along the inside of the east wall of the substation to the north and south of SS-17. These were collected to evaluate extent of products that may have reached the east wall.

ii. **SS-20 to SS-28:** 500-167417-1 and 500-167417-2

Sampled between 13:05 and 13:45 – nine samples were collected by AECOM along the inside southern wall of the substation. Oil and water from the incident migrated across the site east and south. Immediately after the incident NSEC scraped the surface material. These samples were collected to evaluate residual impacts at the south end the substation.

b. Oil

i. **West Wall Manhole:** 500-167410-1

1. Sample time 13:45 – an oil/water sample was collected by NSEC a week after the incident from outside the west wall of the substation. The manhole is for MG&E's storm sewer area drain and also accepts discharges from a French drain system under the west perimeter wall and also a sump system beneath the west control building.

6. Tuesday- 8/6/2019

a. Soil

i. **WC-2:** 500-167874-1

1. Sample time 11:30 – Soil sample collected by AECOM from trench excavation adjacent to transformer location just above the water table estimated at 4 ft below ground surface; represents soil to be removed during foundation excavation.

ii. **WC-4:** 500-167874-1

1. Sample time 12:30 - Soil sample collected by AECOM from rolloff box of stained surface scrapings from around the transformer and substation yard; represents soil that WDNR requested be removed as part of the spill cleanup.

b. Water

i. **WC-1:** 500-167874-1

1. Sample time 11:00 - Water sample collected by AECOM from trench excavation (below floating mineral oil layer and within apparent MGP impacts) adjacent to transformer location; represents water that may need to be treated during foundation construction.

ii. **WC-3:** 500-167874-1

1. Sample time 12:00- Water sample collected by AECOM from NSEC's FRAC tank (below floating mineral oil layer) containing water removed from storm sewers (equal parts from Livingston and Blount St catch basins); represents water that WDNR request be removed from sewers.

7. Thursday- 8/8/2019

a. Soil

i. **RES-SS-01, -08 and -12:** 500-168051-1

1. Three soil samples were collected by AECOM between 13:00 and 14:00. Based on the first round of samples collected from the terrace on 7/24/2019, additional excavation and soil removal was performed by NSEC. These three samples were collected to evaluate residual impacts.

Memo Attachments:

Table 1 – Sample Inventory

Table 2 – Soil Analytical

Table 3 – Water analytical

Table 4 – Oil Analytical

Figure 1 – Site Location

Figure 2 – Site Features

Figure 3 – Sample Locations – Madison City Region

Figure 4 – Sample Locations – ATC Blount SS

Attachment A – List of Eurofins/TestAmerica Laboratory Reports (reports submitted separately)



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TABLES



Table 1
Sample Inventory
ATC Blount SS-Environmental Emergency Spill Response
60611431; 722 E. Main Street Madison, WI 53703

Sample ID	Location Notes	Sample Date	COC #	Sampled By	Matrix	Analysis Performed				
						PFAS	DRO	PCB		
Breaker Soil	Center Inside SS	7/19/2019	320-52453-1	NSEC	Soil	x				
			500-167039-1							x
Catch Basin Water	east side catch basin			320-52453-1	NSEC	Water	x			
				500-167039-1						x
Surface Water	on-site NE of trans.			320-52453-1	SCS	Water	x			
				500-167041-1					x	
LW1	Structure #IN 5247-117			320-52453-1	NSEC	Water	x			
				500-167039-1						
LW (Basin)	Structure # IN 5247-117			500-167041-1	SCS Split	Water	x			
				320-52453-1					x	
LW2	Structure #IN 5247-117			500-167039-1	NSEC	Water				
				320-52453-1						
Blount Street	Structure # IN 5248-009		500-167041-1	SCS Split	Water	x				
			320-52453-1							x
Blount Street			500-167039-1	SCS Split	Water	x				
			500-167041-1					x		x
Catch Basin Oil	east side catch basin		320-52453-1	NSEC	Oil	Cancelled				
			500-167039-1							x
Main & Blount			500-167039-1	NSEC	Oil			x		
Stained Soil		7/23/2019	500-167154-1	NSEC	Soil		x			
SS-01	Outside SS Terrace	7/24/2019	500-167225-1 (DRO)	AECOM	Soil	x	x			
SS-02						x	x			
SS-03						x	x			
SS-04						x	x			
SS-05						x	x			
SS-06						x	x			
SS-07						x	x			
SS-08						x	x			
SS-09						x	x			
SS-10						x	x			
SS-11						x	x			
SS-12						x	x			
SS-13	Gravel around transformer					x	x			
SS-14						x	x			
SS-15						x	x			
SS-16						x	x			
SS-17						x	x			
North Power Pole	5ft from Storm Ceptor on-site E of trans.				Water	x				
EC-1	East Campus	7/25/2019	500-167337-1	AECOM	Soil		x			
EC-2							x			
Storm Ceptor	east side catch basin		320-52698-1	AECOM	Water	x				
River Outlet	Yahara River outlet							x		
Blount St Outlet	Monona Blount outlet							x		
Path Outlet	Monona Blount outlet							x		
LVN-6	Structure #IN 5247-115							x		
BNT-3	Square grate - main & blount							x		
BNT-4	Structure #IN 5248-028							x		
BNT-8	Structure #IN 5248-009							x		
SS-18	East wall inside SS	7/26/2019	500-167417-1 (DRO)	AECOM	Soil	x	x			
SS-19						x	x			
SS-20						x	x			
SS-21						x	x			
SS-22						x	x			
SS-23						x	x			
SS-24						x	x			
SS-25						x	x			
SS-26						x	x			
SS-27						x	x			
SS-28	x	x								
West Wall Manhole	Outside SS		500-167410-1	NSEC	Oil			x		
WC-1	Sump	8/6/2019	500-167874-1	AECOM	Water	See Notes				
WC-2	NE Corner Excavation				Soil					
WC-3	Frac Tank SW				Water					
WC-4	Roll Off (Cap Barrier)				Soil					
RES-SS-01	Outside SS Terrace	8/8/2019	500-168051-1	AECOM	Soil	x	x			
RES-SS-08					Soil	x	x			
RES-SS-12					Soil	x	x			



Table 1
Sample Inventory
ATC Blount SS-Environmental Emergency Spill Response
60611431; 722 E. Main Street Madison, WI 53703

Notes:

WC-1 was analyzed for VOC, SVOC, O&G HEM, RCRA Metals, pH, Flash Point, mercury, cyanide, phenol, sulfate

WC-2 was analyzed for VOC, SVOC, DRO, PFAS, RCRA Metals, pesticides, herbicides, PCBs, pH, Flash Point, mercury, cyanide, phenol, paint filter, reactive sulfide

WC-3 was analyzed for VOC, SVOC, DRO O&G HEM, RCRA Metals, pH, flash point

WC-4 was analyzed for VOC, SVOC, RCRA Metals, pH, flash point, mercury, cyanide, phenol, paint filter, reactive sulfide

NS = not sampled

x = submitted to laboratory for analysis

WC = Waste Characterization

SS = Blount Substation

NSEC = North Shore Environmental Construction, Inc.

SCS = SCS Engineers

PFAS = per- and polyfluoroalkyl substances

DRO = diesel range organics

PCB = polychlorinated biphenyl

RES = Resampled

Table 2
Soil Sample Laboratory Analytical Results
ATC Blount SS-Environmental Emergency Spill Response
60611431; 722 E. Main Street Madison, WI 53703

Parameters	Generic RCLs			BREAKER SOIL	Stained Soil	SS-01	RES-SS-01	SS-02	SS-03	SS-04	SS-05	SS-05 FD	SS-06	SS-07	SS-08	RES-SS-08	SS-09	SS-10	SS-11	SS-12	RES-SS-12	
	Non-Industrial	Industrial	Groundwater Pathway	Surface 7/19/2019	Surface 7/23/2019	8" 7/24/2019	12" 8/8/2019	9" 7/24/2019	10" 7/24/2019	8" 7/24/2019	7" 7/24/2019	7" 7/24/2019	9" 7/24/2019	9" 7/24/2019	10" 7/24/2019	12" 8/8/2019	8" 7/24/2019	9" 7/24/2019	8" 7/24/2019	9" 7/24/2019	12" 8/8/2019	
Metals (mg/kg)																						
Silicon	--	--	--	350	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DRO (mg/kg)																						
Dry Weight (%)	--	--	--	NA 93.6 / 93.9	43000 92.2	7600 ^B 90.7	250 80.6	140 ^B 92.8	<1.5 91.3	28 ^B 82	<1.6 84.3	<1.7 84.2	88 ^B 84.6	1.9 ^{J,B} 94.9	8600 ^B 86.7	11000 80.3	<1.5 85.9	<1.6 92.1	56 ^B 86.4	1200 ^B 81	120 65.1	
PFAS (µg/kg)																						
ABBR.																						
4:2 Fluorotelomer Sulfonic Acid or 4:2 FTSA	4:2 FTS	--	--	<0.39	NA	<0.40	<0.46	<0.38	<0.39	<0.46	<0.44	<0.44	<0.45	<0.39	<0.42	<0.46	<0.46	<0.38	<0.45	<0.46	<0.55	
6:2 Fluorotelomer sulfonic acid	6:2 FTS	--	--	7.7 ^{F1}	NA	0.74 ^J	1.9 ^J	0.16 ^J	0.17 ^J	1.1 ^J	1.1 ^J	<0.18	<0.18	0.29 ^J	1.3 ^J	0.87 ^J	<0.19	<0.16	<0.18	<0.18	0.36 ^J	
8:2 Fluorotelomer sulfonic acid	8:2 FTS	--	--	<0.26	NA	<0.27	<0.31	<0.26	<0.27	<0.31	<0.30	<0.30	<0.31	<0.26	<0.28	<0.31	<0.31	<0.26	<0.30	<0.31	<0.37	
10:2 FTS	10:2 FTS	--	--	<0.052 ^{F1}	NA	<0.054	<0.063	<0.051	<0.053	<0.062	<0.060	<0.059	<0.061	<0.053	<0.056	<0.063	<0.062	<0.052	<0.061	<0.061	<0.074	
ADONA	ADONA	--	--	<0.02	NA	<0.020	<0.024	<0.020	<0.020	<0.024	<0.023	<0.023	<0.023	<0.020	<0.021	<0.024	<0.023	<0.020	<0.023	<0.023	<0.028	
Ammonium Perfluorooctanoate	APFO	--	--	<0.093	NA	0.12 ^J	0.29	<0.091	<0.095	0.28	0.26	0.31	0.46	<0.094	0.17 ^J	<0.11	0.41	0.21 ^J	0.88	0.73	0.37	
DONA	DONA	--	--	<0.019	NA	<0.019	<0.023	<0.019	<0.019	<0.022	<0.022	<0.021	<0.022	<0.019	<0.020	<0.023	<0.022	<0.019	<0.022	<0.022	<0.027	
F-53B Major	F-53B Major	--	--	<0.028	NA	<0.029	<0.034	<0.028	<0.029	<0.034	<0.032	<0.032	<0.033	<0.029	<0.030	<0.034	<0.033	<0.028	<0.033	<0.033	<0.040	
F-53B Minor	F-53B Minor	--	--	<0.023	NA	<0.024	<0.028	<0.023	<0.023	<0.027	<0.026	<0.026	<0.027	<0.023	<0.025	<0.028	<0.027	<0.023	<0.027	<0.027	<0.033	
Perfluorooctanesulfonamide	FOSA	--	--	<0.086	NA	<0.088	<0.10	<0.084	<0.087	<0.10	<0.098	<0.097	<0.10	<0.087	<0.092	<0.10	<0.10	<0.085	<0.10	<0.10	<0.12	
HFPO-DA	GenX	--	--	<0.11	NA	<0.12	<0.14	<0.11	<0.12	<0.14	<0.13	<0.13	<0.13	<0.12	<0.12	<0.14	<0.14	<0.11	<0.13	<0.14	<0.16	
NaDONA	NaDONA	--	--	<0.02	NA	<0.020	<0.024	<0.020	<0.020	<0.024	<0.023	<0.023	<0.023	<0.020	<0.021	<0.024	<0.023	<0.020	<0.023	<0.023	<0.028	
N-ethylperfluorooctanesulfonamidoacetic acid	NEFOSAA	--	--	<0.39	NA	<0.40	<0.46	<0.38	<0.39	<0.46	<0.44	<0.44	<0.45	<0.39	<0.42	<0.46	<0.46	<0.38	<0.45	<0.46	<0.55	
N-methylperfluorooctanesulfonamidoacetic acid	NMeFOSAA	--	--	<0.41	NA	<0.42	<0.49	<0.40	<0.41	<0.49	<0.47	<0.46	<0.48	<0.41	<0.44	<0.49	<0.48	<0.40	<0.47	<0.48	<0.58	
Perfluorobutanoic acid	PFBA	--	--	0.16 ^{J,B}	NA	0.37 ^B	0.22 ^J	0.17 ^{J,B}	0.13 ^{J,B}	0.44 ^B	0.15 ^{J,B}	0.16 ^{J,B}	0.39 ^B	0.15 ^{J,B}	0.099 ^{J,B}	0.15 ^J	0.13 ^{J,B}	0.13 ^{J,B}	0.2 ^{J,B}	<0.034	0.27 ^J	
Perfluorobutanesulfonic acid	PFBS	1,260,000	16,400,000	<0.026	NA	<0.027	<0.031	<0.026	<0.027	<0.031	0.045 ^J	0.047 ^J	<0.031	<0.026	<0.028	<0.031	0.048 ^J	<0.026	0.061 ^J	0.065 ^J	<0.037	
Perfluorodecanoic acid	PFDA	--	--	<0.023	NA	0.19 ^J	0.60	0.26	0.12 ^J	0.54	0.34	0.34	0.93	0.17 ^J	0.21 ^J	0.081 ^J	0.38	0.31	0.76	0.3	0.41	
Perfluorododecanoic acid	PFDoA	--	--	<0.07	NA	0.073 ^J	0.25	0.16 ^J	0.21	0.43	0.092 ^J	0.082 ^J	1.0	0.24	0.17 ^J	<0.084	0.17 ^J	0.19 ^J	0.15 ^J	0.096 ^J	0.17 ^J	
Perfluorododecanesulfonic acid	PFDS	--	--	<0.063	NA	<0.065	<0.075	<0.062	<0.064	<0.075	<0.072	<0.071	<0.073	<0.063	<0.067	<0.075	<0.074	<0.062	<0.073	<0.074	<0.089	
Perfluorodecanesulfonic acid	PFDS	--	--	<0.041	NA	<0.042	0.72	0.053 ^J	<0.041	0.13 ^J	0.05 ^J	0.084 ^J	0.21 ^J	<0.041	0.057 ^J	<0.049	0.12 ^J	0.045 ^J	0.06 ^J	<0.048	0.29 ^J	
Perfluorooheptanoic acid	PFHpA	--	--	<0.030	NA	0.29	0.37	0.11 ^J	0.093 ^J	0.37	0.073 ^J	0.067 ^J	0.2 ^J	0.062 ^J	0.13 ^J	0.16 ^J	0.12 ^J	0.062 ^J	0.27	0.11 ^J	0.10 ^J	
Perfluorooheptanesulfonic Acid	PFHpS	--	--	<0.037	NA	<0.038	<0.044	<0.036	<0.037	<0.044	<0.042	<0.042	<0.043	<0.037	<0.039	<0.044	<0.043	<0.036	<0.043	<0.043	<0.052	
Perfluorohexanoic acid	PFHxA	--	--	<0.044	NA	0.56	1.2	0.17 ^J	0.18 ^J	0.95	0.13 ^J	0.13 ^J	0.41	0.15 ^J	0.17 ^J	0.28	0.17 ^J	0.073 ^J	0.28	0.058 ^J	0.15 ^J	
Perfluoro-n-hexadecanoic acid	PFHxDA	--	--	<0.046 ^{F1}	NA	<0.047 ^{F1}	<0.55 [*]	<0.045 [*]	0.054 ^J	0.075 [*]	<0.053 [*]	<0.052 [*]	0.15 [*]	<0.047 [*]	<0.049 [*]	<0.055 [*]	<0.054 [*]	<0.045 [*]	<0.054 [*]	<0.054 [*]	<0.065 [*]	
Perfluorohexanesulfonic acid	PFHxS	--	--	<0.032	NA	0.055 ^J	0.18 ^J	0.047 ^J	0.078 ^J	0.066 ^J	0.053 ^J	0.069 ^J	0.093 ^J	<0.033	0.035 ^J	<0.039	0.096 ^J	0.042 ^J	0.058 ^J	0.17 ^J	0.14 ^J	
Perfluorononanoic acid	PFNA	--	--	<0.038	NA	0.061 ^J	0.16 ^J	<0.037	<0.038	0.1 ^J	0.13 ^J	0.14 ^J	0.16 ^J	<0.038	0.1 ^J	<0.045	0.12 ^J	0.065 ^J	0.29	0.3	0.13 ^J	
Perfluorononanesulfonic Acid	PFNS	--	--	<0.021	NA	<0.022	<0.025	<0.021	<0.021	<0.025	<0.024	<0.024	<0.024	<0.021	<0.022	<0.025	<0.025	<0.021	<0.024	<0.025	<0.030	
Perfluorooctanoic acid	PFOA	1,260	16,400	<0.09	NA	0.11 ^J	0.27	<0.088	<0.091	0.27	0.25	0.3	0.44	<0.091	0.16 ^J	<0.11	0.39	0.2 ^J	0.85	0.71	0.36	
Perfluoro-n-octadecanoic acid	PFODA	--	--	<0.029 ^{F1}	NA	<0.030 ^{F1}	<0.035 [*]	<0.029 [*]	<0.030 [*]	<0.035 [*]	<0.033 [*]	<0.033 [*]	0.035 ^J	<0.030 [*]	<0.031 [*]	<0.035 [*]	<0.035 [*]	<0.029 [*]	<0.034 [*]	<0.034 [*]	<0.041 [*]	
Perfluorooctanesulfonic acid	PFOS	1,260	16,400	<0.21	NA	0.91	4.7	0.4 ^J	0.39 ^J	1.2	1.5	1.8	1.2	0.22 ^J	0.58	<0.25	1.6	0.5 ^J	1.6	2.7	2.9	
Perfluoropentanoic acid	PFPaA	--	--	<0.080	NA	1.3	2.7	0.56	0.33	2.6	<0.092	0.17 ^J	0.67	0.29	0.42	0.63	0.18 ^J	0.17 ^J	0.36	<0.095	0.44	
Perfluoropentanesulfonic acid	PFPaS	--	--	<0.021	NA	<0.022	<0.025	<0.021	<0.021	<0.025	<0.024	<0.024	<0.024	<0.021	<0.022	<0.025	<0.025	<0.021	<0.024	<0.025	<0.030	
Perfluorotetradecanoic acid	PFTeA	--	--	<0.056	NA	<0.058	<0.068	0.06 ^J	0.26	0.23 ^J	<0.065	<0.064	0.56	0.068 ^J	0.076 ^J	<0.068	0.074 ^J	0.091 ^J	<0.066	<0.066	<0.080	
Perfluorotridecanoic acid	PFTriA	--	--	<0.053	NA	<0.055	<0.064	<0.052	0.094 ^J	0.08 ^J	<0.061	<0.061	0.22 ^J	<0.054	<0.057	<0.064	<0.063	<0.053	<0.062	<0.063	<0.075	
Perfluoroundecanoic acid	PFUnA	--	--	<0.038	NA	0.051 ^J	0.14 ^J	0.11 ^J	0.043 ^J	0.17 ^J	0.062 ^J	0.067 ^J	0.39	0.11 ^J	0.095 ^J	<0.045	0.11 ^J	0.088 ^J	0.089 ^J	0.048 ^J	0.10 ^J	
Total Detected PFAS		--	--	8	NA	5	14	2	2	9	4	4	8	2	4	2	4	2	6	5	6	
PCBs (µg/kg)																						
Aroclor 1016	4,110	28,000	9.4 ⁴	<6.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Aroclor 1221	213	883	9.4 ⁴	<7.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Aroclor 1232	190	792	9.4 ⁴	<7.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Aroclor 1242	235	972	9.4 ⁴	<5.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Aroclor 1248	236	975	9.4 ⁴	<7.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Aroclor 1254	239	988	9.4 ⁴	<3.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Aroclor 1260	243	1,000	9.4 ⁴	<8.7 ^{F1}	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
PCB, Total	234	967	9.4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Notes:

DRO = Diesel Range Organics
 GRO = Gasoline Range Organics
 VOCs = Volatile Organic Compounds
 SVOCs = Semi-Volatile Organic Compounds
 PAHs = Polynuclear Aromatic Hydrocarbons
 PCBs = PolyChlorinated Biphenyls
 NA = Not analyzed
 mg/kg = milligrams per kilogram
 µg/kg = micrograms per kilogram

Table 2
Soil Sample Laboratory Analytical Results
ATC Blount SS-Environmental Emergency Spill Response
60611431; 722 E. Main Street Madison, WI 53703

Parameters	SS-13 Surface 7/24/2019	SS-14 Surface 7/24/2019	SS-15 Surface 7/24/2019	SS-16 Surface 7/24/2019	SS-17 Surface 7/24/2019	SS-17 FD Surface 7/24/2019	EC-1 Surface 7/25/2019	EC-2 Surface 7/25/2019	SS-18 Surface 7/26/2019	SS-19 Surface 7/26/2019	SS-20 Surface 7/26/2019	SS-21 Surface 7/26/2019	SS-22 Surface 7/26/2019	SS-23 Surface 7/26/2019	SS-24 Surface 7/26/2019	SS-25 Surface 7/26/2019	SS-26 Surface 7/26/2019	SS-27 Surface 7/26/2019	SS-28 Surface 7/26/2019
Metals (mg/kg)																			
Silicon	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DRO (mg/kg)	15000 ^B	9500 ^B	11000 ^B	20000 ^B	1400 ^B	630 ^B	<1.5	5.1 ^B	11000 ^B	4100 ^B	55 ^B	990 ^B	12 ^B	280 ^B	700 ^B	2800 ^B	9200 ^B	4700 ^B	3000 ^B
Dry Weight (%)	91.8	92.9	91.9	91.6	94.4	94.2	90.7	84.8	93.9	94.2	92.9	95.2	94.8	95.1	94.5	94.9	92.8	95.9	94.3
PFAS (µg/kg)	ABBR.																		
4:2 Fluorotelomer Sulfonic Acid or 4:2 FTSA	4:2 FTS	<0.40	<0.38	<0.38	<0.42	<0.40	<0.40	NA	NA	<0.38	<0.41	<0.38	<0.39	<0.41	<0.39	<0.38	<0.39	<0.39	<0.39
6:2 Fluorotelomer sulfonic acid	6:2 FTS	120	310	140	140	15	6.6	NA	NA	11	130	<0.16	1.5 ^J	0.44 ^J	2.0 ^J	3.8	1.2 ^J	9.8	13
8:2 Fluorotelomer sulfonic acid	8:2 FTS	<0.27	1.4 ^J	<2.5	<0.28	0.30 ^J	<0.27	NA	NA	0.62 ^J	<2.8	<0.26	<0.27	<0.28	<0.26	<0.27	<0.27	<0.26	<0.27
10:2 FTS	10:2 FTS	<0.054	0.64	<0.051	<0.056	0.14 ^J	<0.055	NA	NA	0.20	0.44	<0.052	<0.053	<0.055	<0.052	<0.051	<0.053	0.11 ^J	0.11 ^J
ADONA	ADONA	<0.021	<0.020	<0.019	<0.021	<0.020	<0.021	NA	NA	<0.019	<0.021	<0.020	<0.020	<0.021	<0.020	<0.019	<0.020	<0.020	<0.020
Ammonium Perfluorooctanoate	APFO	<0.096	<0.092	<0.090	<0.10	<0.096	<0.097	NA	NA	<0.091	<0.098	<0.092	<0.094	<0.099	<0.093	<0.090	<0.095	<0.094	<0.095
DONA	DONA	<0.019	<0.019	<0.018	<0.020	<0.019	<0.020	NA	NA	<0.018	<0.020	<0.019	<0.019	<0.020	<0.019	<0.018	<0.019	<0.019	<0.019
F-53B Major	F-53B Major	<0.029	<0.028	<0.027	<0.030	<0.029	<0.029	NA	NA	<0.027	<0.030	<0.028	<0.029	<0.030	<0.028	<0.027	<0.029	<0.029	<0.028
F-53B Minor	F-53B Minor	<0.024	<0.023	<0.022	<0.025	<0.024	<0.024	NA	NA	<0.022	<0.024	<0.023	<0.023	<0.024	<0.023	<0.022	<0.023	<0.023	<0.023
Perfluorooctanesulfonamide	FOSA	<0.089	<0.085	<0.083	<0.092	<0.088	<0.090	NA	NA	<0.083	<0.090	<0.085	<0.087	<0.091	<0.086	<0.083	<0.087	<0.087	<0.087
HFPO-DA	GenX	<0.12	<0.11	<0.11	<0.12	<0.12	<0.12	NA	NA	<0.11	<0.12	<0.11	<0.12	<0.12	<0.11	<0.11	<0.12	<0.12	<0.12
NaDONA	NaDONA	<0.021	<0.020	<0.019	<0.021	<0.020	<0.021	NA	NA	<0.019	<0.021	<0.020	<0.020	<0.021	<0.020	<0.019	<0.020	<0.020	<0.020
N-ethylperfluorooctanesulfonamidoacetic acid	NEtFOSAA	<0.40	<0.38	<3.8	<0.42	<0.40	<0.40	NA	NA	<0.38	<0.41	<0.38	<0.39	<0.41	<0.39	<0.38	<0.39	<0.39	<0.39
N-methylperfluorooctanesulfonamidoacetic acid	NMeFOSAA	<0.42	<0.40	<0.40	<0.44	<0.42	<0.43	NA	NA	<0.40	<0.43	<0.40	<0.41	<0.43	<0.41	<0.40	<0.42	<0.42	<0.41
Perfluorobutanoic acid	PFBA	1.3 ^B	4.4 ^B	1.6 ^B	2 ^B	0.58 ^B	0.22 ^B	NA	NA	0.59 ^B	3.4 ^B	0.14 ^{JB}	0.17 ^{JB}	0.12 ^{JB}	0.24 ^B	0.21 ^B	0.31 ^B	0.86 ^B	0.58 ^B
Perfluorobutanesulfonic acid	PFBS	<0.027	<0.026	<0.025	<0.028	<0.027	<0.027	NA	NA	<0.025	<0.028	<0.026	<0.027	<0.028	<0.026	<0.025	<0.027	<0.027	<0.026
Perfluorodecanoic acid	PFDA	<0.024	<0.023	<0.022	<0.025	<0.024	<0.024	NA	NA	<0.022	0.03 ^J	<0.023	<0.023	<0.024	<0.023	<0.022	0.058 ^J	0.042 ^J	<0.023
Perfluorododecanoic acid	PFDoA	<0.072	<0.069	<0.068	<0.075	<0.072	<0.073	NA	NA	<0.068	<0.074	<0.070	<0.071	<0.074	<0.070	<0.068	<0.071	<0.071	<0.071
Perfluorododecanesulfonic acid	PFDoS	<0.065	<0.062	<0.061	<0.067	<0.065	<0.066	NA	NA	<0.061	<0.066	<0.062	<0.064	<0.066	<0.063	<0.061	<0.064	<0.063	<0.063
Perfluorodecanesulfonic acid	PFDS	<0.042	<0.040	<0.040	<0.044	<0.042	<0.043	NA	NA	<0.040	<0.043	<0.040	<0.041	<0.043	<0.041	<0.040	<0.042	<0.042	<0.041
Perfluoroheptanoic acid	PFHpA	0.075 ^J	0.16 ^J	0.04 ^{J1}	0.075 ^J	0.087 ^J	0.067 ^{J1}	NA	NA	0.031 ^J	0.180 ^J	<0.030	<0.031	<0.032	<0.030	0.032 ^J	<0.031	0.070 ^J	0.056 ^J
Perfluoroheptanesulfonic Acid	PFHpS	<0.038	<0.036	<0.036	<0.039	<0.038	<0.038	NA	NA	<0.036	<0.039	<0.036	<0.037	<0.039	<0.037	<0.035	<0.037	<0.037	<0.037
Perfluorohexanoic acid	PFHxA	1.7	3.7	2	2.4	0.43	0.26	NA	NA	0.26	1.00	<0.044	<0.045	<0.047	0.050 ^J	0.083 ^J	0.280	0.500	<0.045
Perfluoro-n-hexadecanoic acid	PFHxDA	<0.048 [*]	<0.045 [*]	<0.045 [*]	<0.049 [*]	<0.047 [*]	<0.048 [*]	NA	NA	<0.045	<0.048	<0.046	<0.047	<0.049	<0.046	<0.045	<0.047	<0.047	<0.046
Perfluorohexanesulfonic acid	PFHxS	<0.034	<0.032	<0.032	<0.035	<0.033	<0.034	NA	NA	<0.032	<0.034	<0.032	<0.033	<0.034	<0.032	<0.031	<0.033	<0.033	0.038 ^J
Perfluorononanoic acid	PFNA	<0.039	<0.037	<0.037	<0.040	<0.039	<0.039	NA	NA	<0.037	<0.040	<0.037	<0.038	<0.040	<0.038	<0.036	<0.038	<0.038	<0.038
Perfluorononanesulfonic Acid	PFNS	<0.022	<0.021	<0.020	<0.022	<0.022	<0.022	NA	NA	<0.020	<0.022	<0.021	<0.021	<0.022	<0.021	<0.020	<0.021	<0.021	<0.021
Perfluorooctanoic acid	PFOA	<0.093	<0.089	<0.087	<0.097	<0.093	<0.094	NA	NA	<0.088	<0.095	<0.089	<0.091	<0.095	<0.090	<0.087	<0.092	<0.091	<0.091
Perfluoro-n-octadecanoic acid	PFODA	<0.030 [*]	<0.029 [*]	<0.028 [*]	<0.031 [*]	<0.030 [*]	<0.031 [*]	NA	NA	<0.028 [*]	<0.031 [*]	<0.029 [*]	<0.030 [*]	<0.031 [*]	<0.029 [*]	<0.028 [*]	<0.030 [*]	<0.030 [*]	<0.029 [*]
Perfluorooctanesulfonic acid	PFOS	<0.22	<0.21	0.26 ^{J1}	0.32 ^{J1}	<0.22	<0.22	NA	NA	<0.20	<0.22	<0.21	<0.21	<0.22	<0.21	<0.20	0.24 ^J	<0.21	<0.21
Perfluoropentanoic acid	PFPeA	0.3	0.56	0.25	0.4	0.59	0.43	NA	NA	0.22	0.38	<0.080	<0.082	<0.085	<0.080	0.17 ^J	0.11 ^J	0.31	0.42
Perfluoropentanesulfonic acid	PFPeS	<0.022	<0.021	<0.020	<0.022	<0.022	<0.022	NA	NA	<0.020	<0.022	<0.021	<0.021	<0.022	<0.021	<0.020	<0.021	<0.021	<0.021
Perfluorotetradecanoic acid	PFTeA	<0.058	<0.056	<0.055	0.064 ^J	<0.058	<0.059	NA	NA	<0.055	<0.059	<0.056	<0.057	<0.060	<0.056	<0.055	<0.057	<0.058	<0.057
Perfluorotridecanoic acid	PFTriA	<0.055	<0.053	<0.052	0.087 ^J	<0.055	<0.056	NA	NA	<0.052	<0.056	<0.053	<0.054	<0.057	<0.053	<0.052	<0.054	<0.054	<0.054
Perfluoroundecanoic acid	PFUnA	0.043 ^J	<0.037	<0.037	0.049 ^J	<0.039	<0.039	NA	NA	<0.037	<0.040	<0.037	<0.038	<0.040	<0.038	0.043 ^J	0.065 ^J	<0.038	<0.038
Total Detected PFAS		123	321	144	145	17	8	NA	NA	13	135	0	2	1	2	4	2	12	15
PCBs (µg/kg)																			
Aroclor 1016	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1221	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1232	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1242	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1248	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1254	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1260	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB, Total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

TABLE 3
LABORATORY ANALYTICAL WATER SAMPLING RESULTS
ATC Blount SS-Environmental Emergency Spill Response
60611431; 722 E. Main Street Madison, WI 53703

Parameters	NR 140 Standards		Catch Basin NSEC 7/19/2019	Surface Water NSEC 7/19/2019	Blount Street / Blount NSEC SCS Split 7/19/2019 7/19/2019		LW (Basin) / LW2 NSEC SCS Split 7/19/2019 7/19/2019		LW1 SCS 7/19/2019	North Power Pole AECOM 7/24/2019	Storm Ceptor AECOM 7/25/2019	River Outlet AECOM 7/25/2019	Blount St Outlet AECOM 7/25/2019	Blount St Outlet FD AECOM 7/25/2019	Path Outlet AECOM 7/25/2019	LVN-6 AECOM 7/25/2019	BNT-3 AECOM 7/25/2019	BNT-4 AECOM 7/25/2019	BNT-8 AECOM 7/25/2019	
	ES	PAL																		
DRO (ug/L)	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PFAS (ng/L)	PROPOSED PFAS NR 140 STANDARDS																			
1 Perfluorobutanoic acid (PFBA)	--	--	4.3	14	9.5	12	1.8	1.8	<3.0	170	11	6.4	9.0	10	8.6	5.0	15	<4.4	8.5	
2 Perfluoropentanoic acid (PFPeA)	--	--	3.2	12	2.8	3.6	1.5 J	1.5 J	6.6 J	150	27	<0.46	5.6	5.6	3.6	1.7 J	17	<6.1	6.7	
3 Perfluorohexanoic acid (PFHxA)	--	--	7.0	26	3.9	3.9	6.3	5.0	10 J	230	24	1.5 J	5.7	5.5	3.3	2.2	11	<7.3	5.8	
4 Perfluoroheptanoic acid (PFHpA)	--	--	0.67 J	3.0	1.5 J	1.2 J	0.41 J	0.33 J	<2.2	21	12	0.88 J	2.7	2.8	1.6 J	1.2 J	5.0	<3.1	2.3	
5 Perfluorooctanoic acid (PFOA)	20	2	1.8	<u>2.7</u>	<u>3.2</u>	<u>3.0</u>	1.6 J	0.96 J	<7.3	24	<u>5.4</u>	1.8 J	<u>4.9</u>	<u>5.4</u>	<u>3.9</u>	<u>1.6 J</u>	<u>6.0</u>	<u>12 J</u>	<u>5.0</u>	
6 Perfluorononanoic acid (PFNA)	--	--	0.43 J	0.60 J	0.55 J	0.55 J	<0.25	<0.23	<2.3	6.0 J	0.77 J	0.54 J	0.60 J	0.66 J	0.67 J	0.36 J	1.0 J	<3.4	0.74 J	
7 Perfluorodecanoic acid (PFDA)	--	--	0.35 J	0.68 J	0.73 J	0.90 J	<0.28	<0.27	<2.7	5.1 JI	0.82 J	<0.29	0.75 J	0.94 J	0.62 J	<0.31	0.71 JI	<3.9	0.84 J	
8 Perfluoroundecanoic acid (PFUnA)	--	--	<1.0	<1.0	<0.95	<0.90	<1.0	<0.95	<9.5	<5.5	<1.1	<1.0	<1.1	<1.1	<1.1	<1.1	<1.1	<1.4	<1.1	
9 Perfluorododecanoic acid (PFDoA)	--	--	<0.50	<0.51	<0.48	<0.45	<0.50	<0.47	<4.8	<2.8	<0.54	<0.52	<0.53	<0.56	<0.53	<0.56	<0.54	<6.9	<0.56	
10 Perfluorotridecanoic acid (PFTriA)	--	--	<1.2	<1.2	<1.1	<1.1	<1.2	<1.1	<11	<6.5	<1.3	<1.2	<1.3	<1.3	<1.3	<1.3	<1.3	<1.6	<1.3	
11 Perfluorotetradecanoic acid (PFTeA)	--	--	<0.26	0.60 J	0.44 J	<0.24	<0.26	<0.25	<2.5	<1.5	<0.29	<0.27	<0.28	<0.30	<0.28	<0.29	<0.29	<3.6	<0.30	
12 Perfluoro-n-hexadecanoic acid (PFHxDA)	--	--	<0.81	<0.83	<0.77	<0.73	<0.81	<0.77	<7.7	<4.5	<0.88	<0.84	<0.86	<0.91	<0.86	<0.90	<0.88	<11	<0.91	
13 Perfluorobutanesulfonic acid (PFBS)	--	--	0.33 J	0.71 J	1.8	<0.16	0.21 J	<0.17	<1.7	5.1 J	2.5	<0.19	3.6	4.0	1.9	<0.20	2.9	<2.5	4.5	
14 Perfluoro-n-octadecanoic acid (PFODA)	--	--	<0.42	<0.43	<0.40	<0.38	<0.42	<0.40	<4.0	<2.3	<0.45	<0.44	<0.44	<0.47	<0.44	<0.47	<0.45	<5.8	<0.47	
15 Perfluoropentanesulfonic acid (PFPeS)	--	--	<0.27	<0.28	<0.26	<0.25	<0.27	<0.26	<2.6	1.8 JI	<0.30	<0.28	1.3 J	1.1 J	1.3 J	<0.30	0.78 J	<3.8	<0.31	
16 Perfluorohexanesulfonic acid (PFHxS)	--	--	0.81 J B	1.9 B	4.4 B	3.9 B	0.40 J B	0.29 J B	<1.5	18 B	2.0 B	0.76 J B	8.2 B	8.7 B	8.2 B	0.49 J B	5.7 B	11 J B	6.7 B	
17 Perfluoroheptanesulfonic acid (PFHpS)	--	--	<0.17	<0.18	<0.16	<0.16	<0.17	<0.16	<1.6	<0.95	<0.19	<0.18	<0.18	0.25 J	<0.18	<0.19	0.29 J	<2.4	<0.19	
18 Perfluorooctanesulfonic acid (PFOS)	20	2	<u>7.0 / CL</u>	<u>13 / CL</u>	<u>6.1</u>	<u>5.6</u>	<u>2.9 / CL</u>	<4.7	<4.7	31	<u>7.0</u>	1.1 J	<u>13</u>	<u>12</u>	<u>18</u>	<u>0.76 J</u>	<u>13</u>	<u>14 J</u>	<u>12</u>	
19 Perfluoronanesulfonic acid (PFNS)	--	--	<0.15	<0.15	<0.14	<0.13	<0.15	<0.14	<1.4	<0.80	<0.16	<0.15	<0.15	<0.16	<0.15	<0.16	<0.16	<2.0	<0.16	
20 Perfluorodecanesulfonic acid (PFDS)	--	--	<0.29	<0.30	<0.28	<0.26	<0.29	<0.28	<2.8	<0.32	<0.30	<0.30	<0.31	<0.33	<0.31	<0.32	<0.31	<4.0	<0.33	
21 Perfluorooctanesulfonamide (FOSA)	--	--	<0.32	<0.32	<0.30	<0.29	<0.32	<0.30	<3.0	<1.8	<0.35	<0.33	<0.34	<0.36	<0.34	<0.35	<0.34	<4.4	<0.36	
22 N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	--	--	<2.8	<2.9	<2.7	<2.5	<2.8	<2.7	<27	<16	<3.1	<2.9	<3.0	<3.2	<3.0	<3.1	<3.0	<39	<3.2	
23 N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	--	--	<1.7	<1.8	<1.6	<1.6	<1.7	<1.6	<16	<9.5	<1.9	<1.8	<1.8	<1.9	<1.8	<1.9	<1.9	<24	<1.9	
24 4:2 Fluorotelomer Sulfonic Acid or 4:2 FTSA (4:2 FTS)	--	--	<4.7	<2.4	<4.5	<4.3	<4.7	<4.5	<4.5	<26	<5.1	<4.9	<5.0	<5.3	<5.0	<5.3	<5.1	<6.5	<5.3	
25 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	--	--	230	790	45	42	80	97	250	4900	470	<1.9	19	29	3.0 J	2.9 J	30	49 J	47	
26 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	--	--	19	21	1.9 J	1.7 J	2.5 J	2.8 J	<17	17 J	<20	<1.9	<1.9	<2.0	<1.9	<2.0	<2.0	<25	<2.0	
27 Perfluorododecanesulfonic acid (PFDoS)	--	--	<0.41	<0.42	<0.39	<0.37	<0.41	<0.39	<3.9	<2.3	<0.44	<0.43	<0.43	<0.46	<0.43	<0.46	<0.44	<5.6	<0.46	
28 ADONA	--	--	<0.17	<0.18	<0.16	<0.16	<0.17	<0.16	<1.6	<0.95	<0.19	<0.18	<0.18	<0.19	<0.18	<0.19	<0.19	<2.4	<0.19	
29 F-53B Major	--	--	<0.22	<0.22	<0.21	<0.20	<0.22	<0.21	<2.1	<1.2	<0.24	<0.23	<0.23	<0.25	<0.23	<0.24	<0.24	<3.0	<0.25	
30 HFPO-DA (GenX)	--	--	<1.4	<1.4	<1.3	<1.2	<1.4	<1.3	<13	<7.5	<1.5	<1.4	<1.4	<1.5	<1.4	<1.5	<1.5	<19	<1.5	
31 F-53B Minor	--	--	<0.29	<0.30	<0.28	<0.26	<0.29	<0.28	<2.8	<1.6	<0.32	<0.30	<0.31	<0.33	<0.31	<0.32	<0.31	<4.0	<0.33	
32 10:2 FTS	--	--	1.5 J	1.1 J	0.28 J	0.28 J	0.87 J	0.90 J	<1.6	<0.95	<1.9	<0.18	<0.18	<0.19	<0.18	<0.19	<0.19	<2.4	<0.19	
33 NaDONA	--	--	<0.17	<0.18	<0.16	<0.16	<0.17	<0.16	<1.6	<0.95	<0.19	<0.18	<0.18	<0.19	<0.18	<0.19	<0.19	<2.4	<0.19	
34 DONA	--	--	<0.16	<0.17	<0.16	<0.15	<0.16	<0.15	<1.6	<0.90	<0.18	<0.17	<0.17	<0.18	<0.17	<0.18	<0.18	<2.3	<0.18	
35 Ammonium Perfluorooctanoate (APFO)	--	--	1.9	2.8	3.4	3.1	1.7 J	1.0 J	<7.6	25	5.6	1.9 J	5.1	5.6	4.0	1.7 J	6.2	13 J	5.2	
Total Detected PFAS	--	--	278	890	86	82	100	112	267	5604	568	15	79	92	59	18	115	99	105	
PCBs (ug/L)																				
Aroclor 1016 ³	0.03	0.003	NA	<0.16	<0.064	<0.062	<0.062	<0.063	<0.063	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1221 ³	0.03	0.003	NA	<0.25	<0.19	<0.18	<0.19	<0.19	<0.19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1232 ³	0.03	0.003	NA	<0.089	<0.19	<0.18	<0.19	<0.19	<0.19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1242 ³	0.03	0.003	NA	<0.13	<0.19	<0.18	<0.19	<0.19	<0.19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1248 ³	0.03	0.003	NA	<0.11	<0.19	<0.18	<0.19	<0.19	<0.19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1254 ³	0.03	0.003	NA	<0.11	<0.19	<0.18	<0.19	<0.19	<0.19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1260 ³	0.03	0.003	NA	<0.11	<0.067	<0.064	<0.065	<0.066	<0.065	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
DRO = Diesel Range Organics
PAHs = Polynuclear Aromatic Hydrocarbons
PFAS = Per- and polyfluoroalkyl substances
J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B = Compound was found in the blank and sample.
I = Value is EMPC (estimated maximum possible concentration).
CL = The peak identified by the data system exhibited chromatographic interference that could not be resolved. There is reason to suspect there may be a high bias.
Bold value = NR 140 Enforcement Standard Exceedance
Italic value = NR 140 Preventive Action Limit Exceedance
-- No NR 140 ES or PAL established.
NA = Not analyzed
*Spreadsheet updated with NR 140 Published February 2017 No. 734



Table 4
Oil Sample Laboratory Analytical Results
ATC Blount SS-Environmental Emergency Spill Response
60611431; 722 E. Main Street Madison, WI 53703

Parameters	Generic RCLs			Catch Basin Oil	Main & Blount	West Wall MH
	Non-Industrial	Industrial	Groundwater Pathway	7/19/2019	7/19/2019	7/26/2019
Metals (mg/kg)						
Silicon	--	--	--	24	<8.1	NA
PCBs (mgkg)						
Aroclor 1016	4,110	28,000	9.4 ⁴	<0.25 [*]	<0.25 [*]	<0.25
Aroclor 1221	213	883	9.4 ⁴	<0.25	<0.25	<0.25
Aroclor 1232	190	792	9.4 ⁴	<0.25	<0.25	<0.25
Aroclor 1242	235	972	9.4 ⁴	<0.25	<0.25	<0.25
Aroclor 1248	236	975	9.4 ⁴	<0.25	<0.25	<0.25
Aroclor 1254	239	988	9.4 ⁴	<0.25	<0.25	<0.25
Aroclor 1260	243	1,000	9.4 ⁴	<0.25	<0.25	<0.25
PCB, Total	234	967	9.4	--	--	--

Notes:

PCBs = PolyChlorinated Biphenyls

NA = Not analyzed

mg/kg = miligrams per kilogram

^J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

^B Compound was found in the blank and sample

^{*} Isotope dilution and/or LCS/LCSD is outside acceptance limits

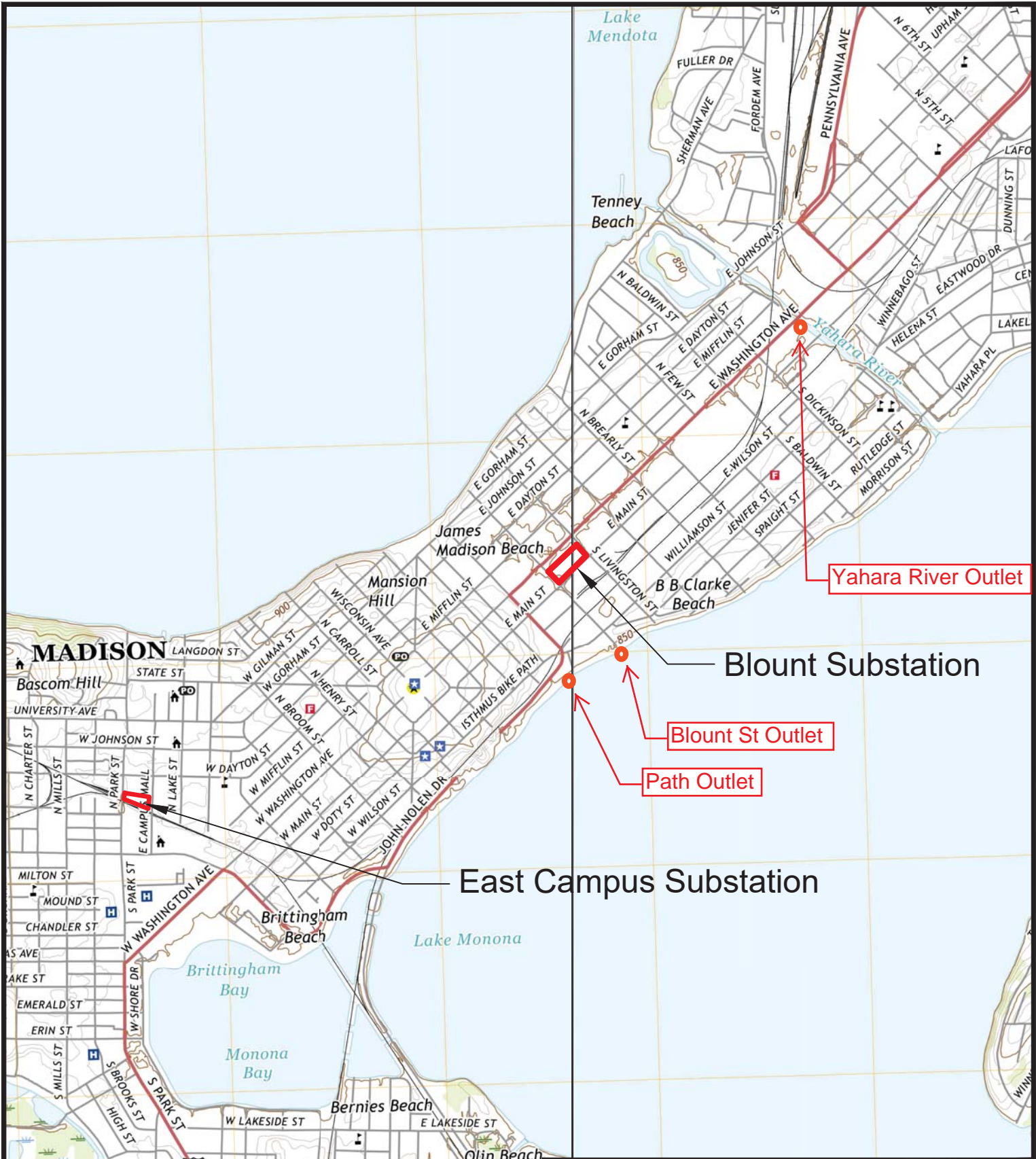
^{F1} MS and/or MSD Recovery is outside acceptance limits

⁴ Standards are for Total PCBs.

-- No Generic RCL established.

Generic RCLs from WDNR RR-890, January 2014; WDNR RCL Calculator December 2017

FIGURES



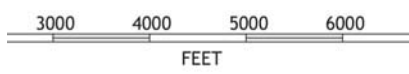
Yahara River Outlet

Blount Substation

Blount St Outlet

Path Outlet

East Campus Substation



QUADRANGLE LOCATION

AECOM
 Milwaukee Office
 1555 RiverCenter Dr
 Milwaukee, WI
 414.944.6080

ATC Blount Transmission Substation
 722 East Main St.
 Madison, WI

SITE LOCATION



Project Number: 60611431	Drawn By: EMS/JSW	Date: 8/30/2019	Figure No. 1
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Notes:
 1. TOPO maps from <http://store.usgs.gov> Madison East and West quadrangles, dated: 2018

REGISTRATION

ISSUE/REVISION

NO.	DATE	DESCRIPTION

KEY PLAN

PROJECT NUMBER

60611431

DRAWING TITLE
BLOUNT VICINITY
FEATURE MAP

DRAWING NUMBER

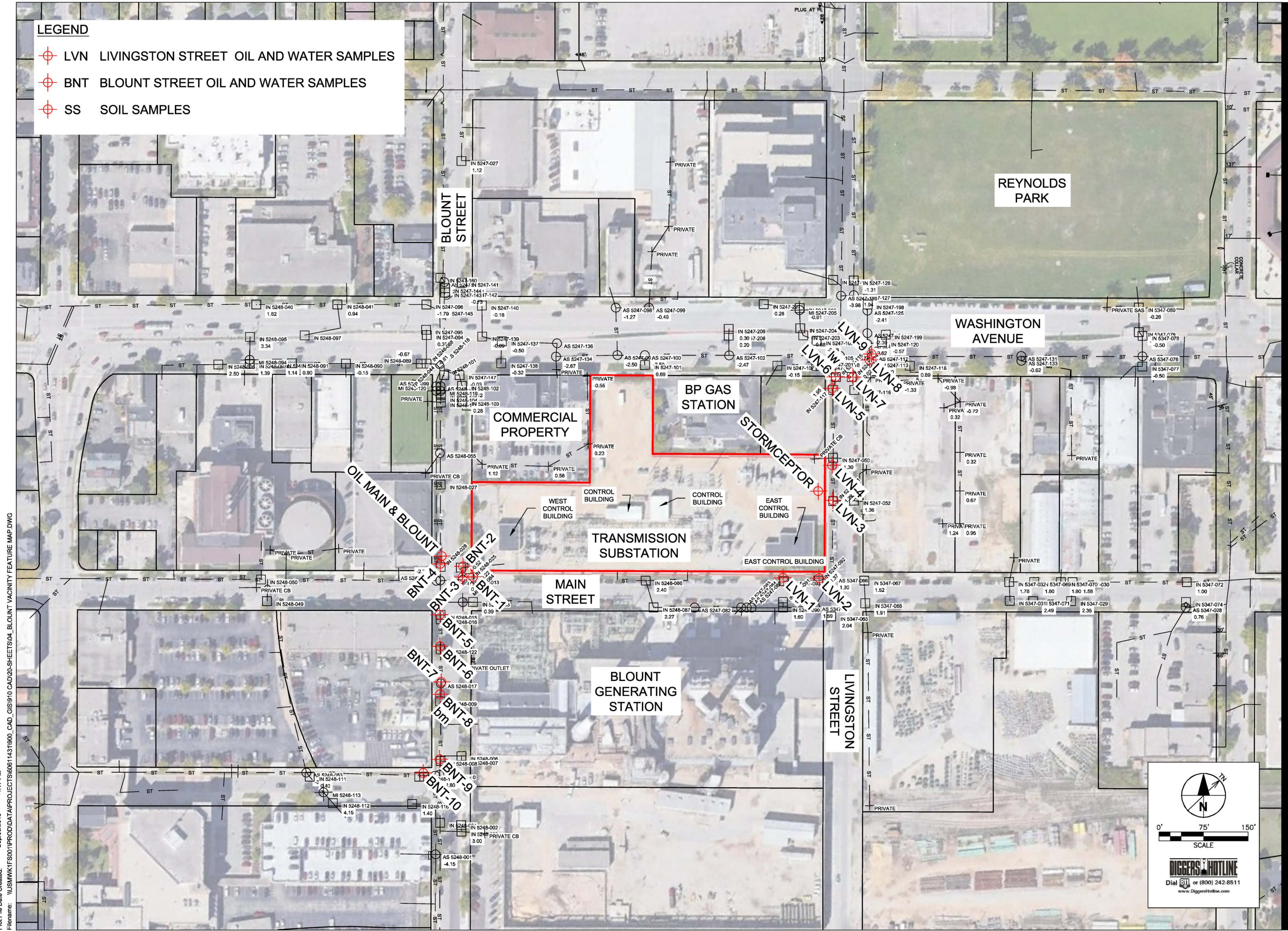
02-CE-03

SHEET NUMBER

04

LEGEND

- LVN LIVINGSTON STREET OIL AND WATER SAMPLES
- BNT BLOUNT STREET OIL AND WATER SAMPLES
- SS SOIL SAMPLES



Plotted By: brandt
Plot File Date Created: 4:17 PM
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LEGEND

⊕ SS SOIL SAMPLES

PROJECT
 ATC BLOUNT
 SUBSTATION
 RESPONSE AND
 CLEANUP
 MADISON, WISCONSIN

CLIENT
 AMERICAN
 TRANSMISSION CO.

2 FEN OAK CT.
 MADISON, WI 53718
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 www.atcllc.com

CONSULTANT
 AECOM
 1555 N RIVERCENTER DR.
 MILWAUKEE, WI 53212
 (414) 944-6080 tel
 www.aecom.com

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NO.	DATE	DESCRIPTION

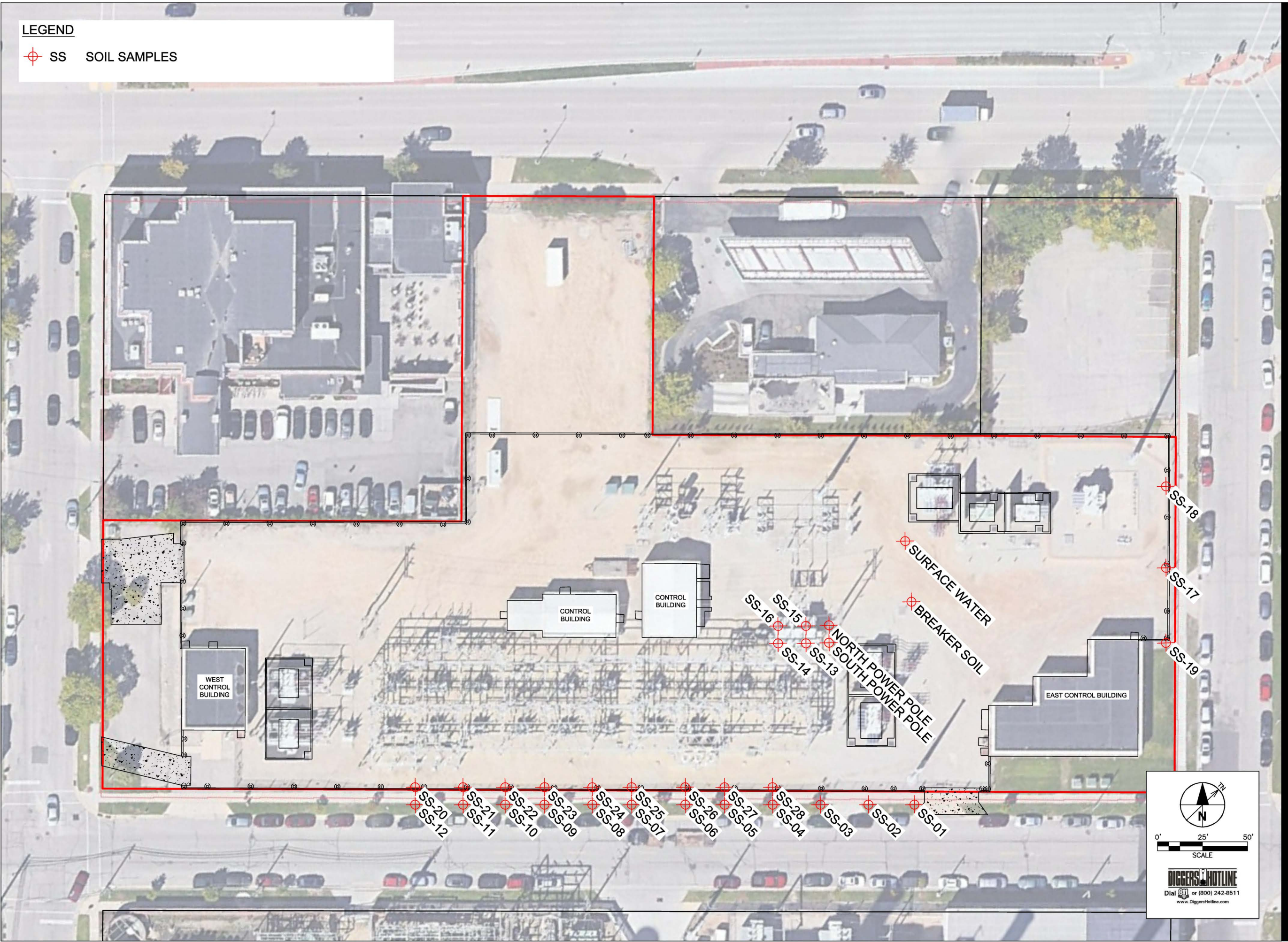
KEY PLAN

PROJECT NUMBER
 60611431

DRAWING TITLE
 BLOUNT SOIL
 CONTAMINATION MAP

DRAWING NUMBER SHEET NUMBER
 02-CS-01 06

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North arrow pointing up with 'N' and 'TN' labels.

Scale bar showing 0', 25', and 50'.

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LEGEND

⊕ EC EAST CAMPUS SOIL SAMPLES



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REGISTRATION

ISSUE/REVISION

NR	DATE	DESCRIPTION

KEY PLAN

PROJECT NUMBER
 60611431

DRAWING TITLE
 EAST CAMPUS SITE
 FEATURE MAP

DRAWING NUMBER SHEET NUMBER
 02-CE-02 03

Plotted By: brandt
 Plot File Date Created: 4:15 PM
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ATTACHMENTS

<u>Lab Report#</u>	<u>Collection Date</u>
320-52453-1	7/19/2019
500-167039-1	7/19/2019
500-167041-1	7/19/2019
500-167154-1	7/23/2019
500-167225-1	7/24/2019
500-167225-2	7/24/2019
500-167337-1	7/25/2019
320-52698-1	7/25/2019
500-167417-1	7/26/2019
500-167417-2	7/26/2019
500-167410-1	7/26/2019
500-167874-1	8/6/2019
500-168051-1	8/8/2019