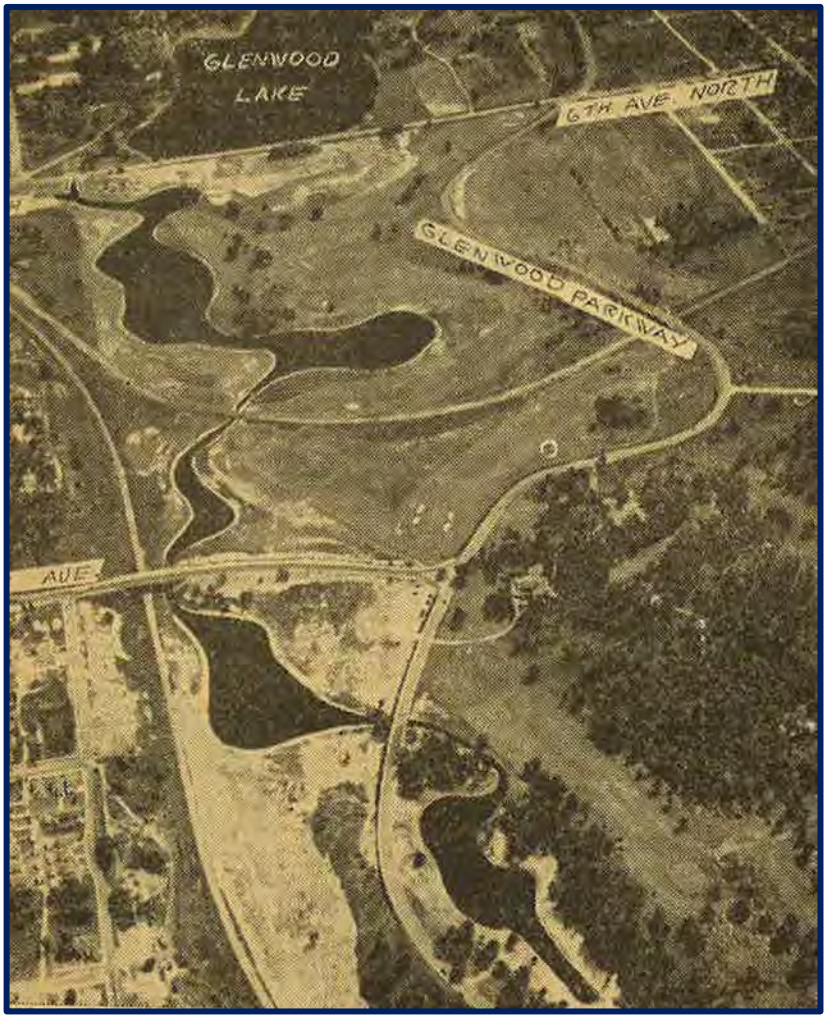
Appendices Only

Main Stem Lagoon Dredging Project Feasibility Study

Golden Valley, Minnesota

April 2020



Prepared for
Bassett Creek Watershed Management Commission

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Appendices

Appendix A

Sediment Sampling Memo

resourceful. naturally.
engineering and environmental consultants

BARR

Technical Memorandum

To: Bassett Creek Watershed Management Commission
From: John W. Juntilla and Kevin Menken
Subject: Bassett Creek Lagoons Sediment Characterization
Date: March 19, 2020
Project: 23/27-0051

Introduction

This memorandum summarizes sediment characterization for sediment samples collected from the Bassett Creek Lagoons D, E, and F (Lagoons) in the City of Golden Valley (City). Sediment samples were collected by Barr Engineering Co. (Barr) on October 17 and 18, 2019 on behalf of Bassett Creek Watershed Management Commission.

The purpose of sediment characterization is to determine whether the sediment in the three lagoons, when excavated or dredged, could potentially be reused as fill, or if other management methods such as landfill disposal, would be required. The use and/or disposal of excavated or dredged material is determined based on concentrations of potential contaminants in the sediments, including metals and polycyclic aromatic hydrocarbons (PAHs), as well as diesel range organics (DRO) based on the property use and previous known spills near these Lagoons. Excavated sediment and soils that do not exhibit field screening impacts and do not exceed the Minnesota Pollution Control Agency's (MPCA) Soil Reference Values (SRV) or applicable Screening Soil Leaching Values (SLVs) may be considered Unregulated Fill that is suitable for off-site reuse according to the MPCA document *Best Management Practices for the Off-Site Reuse of Unregulated Fill* (MPCA, 2012). Sediment or soil excavated from stormwater ponds with constituents that exceed SRVs or applicable Screening SLVs are often disposed at a solid waste landfill. Other options involving reusing the sediments on sites with specific non-residential land uses could be explored if there are suitable locations elsewhere at City-owned property if the sediment meets MPCA Industrial SRVs, for example

Sediment Sample Collection

Sediment sampling was conducted in accordance with the MPCA's *Managing Stormwater Sediment, Best Management Practice Guidance* (MPCA, 2017). This document provides technical guidance for characterizing sediment in stormwater ponds, including the number of samples that should be collected and potential contaminants to be analyzed. Barr staff collected two sediment samples in Lagoon D, five sediment samples in Lagoon E (including the duplicate core), and two sediment samples in Lagoon F, consistent with MPCA guidance recommendations for the associated pond sizes. Sampling locations were recorded with a handheld GPS unit; locations are shown on Figure 1. Barr staff used aluminum coring

tubes for collecting sediment cores. The Sediment Core Field Logs with sediment descriptions and field screening results are provided in Attachment A. A Photographic Log of the cores and site conditions is provided in Attachment B. The entire depth of each sediment core was homogenized in a clean stainless steel bowl before transferring portions to sample containers provided by the laboratory. Samples were sent to Pace Analytical in Minneapolis, MN and Pace Analytical in Madison, WI for analyses of potential contaminants.

The MPCA guidance for stormwater pond sediment management lists the baseline parameters that should be analyzed in order to determine whether excavated sediment is contaminated or could be considered Unregulated Fill (MPCA, 2017). The baseline parameters listed in the MPCA guidance are arsenic, copper, and polycyclic aromatic hydrocarbons (PAHs). PAHs are organic compounds that are formed by the incomplete combustion of organic materials, such as wood, oil, and coal. They are also naturally occurring in crude oil and coal. The MPCA determined that coal tar-based sealants are the largest source of PAHs to stormwater ponds, and a state-wide ban of coal tar-based sealants took effect January 1, 2014.

In addition to the baseline parameters, additional parameters may be appropriate with consideration of potential sources of other contaminants in the watershed. A query of MPCA's *What's in My Neighborhood* (*WIMN*) website was performed for the Bassett Creek watershed. *WIMN* is a database maintained by the MPCA that includes potentially contaminated sites (e.g., documented tank leaks), and environmental permits and registrations (e.g., small quantity hazardous waste generator). Based on the MPCA guidance (MPCA, 2017), the identification of a fuel oil leak (MPCA Leak Site 4162) in the park near Lagoon E and use of adjacent land as a golf course, the sediment samples were analyzed for RCRA Metals, copper, PAHs, DRO, pesticides, and volatile organic compounds (VOCs). Select samples were analyzed following the Toxicity Characteristic Leaching Procedure (TCLP) for lead, in order to satisfy landfill testing requirements in the event of landfill disposal. In addition, samples were field screened for potential impacts from chemical impacts, including examination for visual staining, oil sheen, and odors. If field screening indicated possible impacts, additional analytical testing would have been considered.

Laboratory Methodologies and Determination of BaP Equivalents

The parameters analyzed and their laboratory analytical methods are listed below:

- RCRA metals and copper (method EPA 6010D, and EPA 7471B for Hg)
- PAHs (method EPA 8270D by SIM)
- DRO (method Modified Wisconsin DRO with Silica Gel)
- Minnesota Department of Agriculture (MDA) List 1 Pesticides (method EPA 8270D)
- VOCs (method EPA 8260B)
- Percent solids (method ASTM 2974)
- TCLP lead (methods EPA 3010A, EPA 6010D)

The PAHs that were analyzed can be grouped into two categories: carcinogenic (i.e., cancer causing) and non-carcinogenic. In order to assess the contamination level of the carcinogenic PAHs in stormwater pond sediment, the MPCA requires the calculation of benzo[a]pyrene (BaP) equivalents, which is a single value representing the combined potency of 17 individual carcinogenic PAH compounds, relative to BaP as the reference compound. The list of compounds and their respective potency equivalents factors used to calculate the BaP equivalents can be found in the MPCA guidance document, along with methods for addressing constituents at concentrations below the detection limit (MPCA 2017).

Laboratory analytical results for the sediment samples are summarized in Table 1. The detailed laboratory report is included in Attachment C.

Results of Sediment Characterization

Results of laboratory analytical testing on the sediment samples were compared to the MPCA's current SRVs and Screening SLVs on Table 1. Results of field screening for staining, sheen, or odor, were negative for all sediment samples; therefore, no additional analytical testing was conducted beyond the predetermined parameter list based on historical spills in the area. BaP equivalents results in all the sediment samples collected were above MPCA's Screening SLV (1.4 mg/kg) for all three Lagoons, ranging from 1.6 to 9.0 mg/kg. In addition, some BaP equivalent values are also above MPCA Industrial SRV of 3 mg/kg. Results of DRO were all above the MPCA Criteria for unregulated fill (100 mg/kg), with the exception of LF-SED-01 (77.5mg/kg). Samples LD-SED-01, LD-SED-02, LE-SED-01, Dupe-01, LE-SED-03, and LF-SED-02 had arsenic concentrations of ranging from 6.2 to 9.2 mg/kg, which is slightly above the SLV of 5.8 mg/kg, but within the range of background arsenic concentrations (9 mg/kg). Based on BaP equivalents and DRO concentrations, the overall sediment sampling results indicate that the sediment to be removed from Lagoons D, E and F is not suitable for off-site reuse under MPCA's Unregulated Fill Best Practice (MPCA, 2012).

The MPCA had originally intended to implement changes to the SRVs in 2017, but recent conversations with MCPA staff indicated that the timing of these potential changes still had not been determined. The status of MPCA's SRV revisions should be reassessed prior to proceeding with the sediment excavation and management.

References

Minnesota Pollution Control Agency (MPCA), 2012. *Best Management Practices for the Off-Site Reuse of Unregulated Fill.* February 2012.

MPCA, 2017. *Managing Stormwater Sediment, Best Management Practice Guidance*, document wq-strm4-16, May 2017.

Tables

Table 1 – Lagoon Sediment Testing Results Summary

Figures

Figure 1 – Bassett Creek Lagoons Sediment Sampling Locations

Attachments

Attachment A – Sediment Core Field Logs

Attachment B – Photographs

Attachment C – Laboratory Analytical Data Report

Tables

Table 1
Lagoon Sediment Testing Results Summary
BCWMC

						Location	LD-SED-01	LD-SED-02	LE-SED-01		LE-SED-02	LE-SED-03	LE-SED-04	LF-SED-01	LF-SED-02
						Date	10/18/2019	10/18/2019	10/18/2019		10/18/2019	10/18/2019	10/18/2019	10/17/2019	10/17/2019
						Sample Type	N	N	N	FD	N	N	N	N	N
Parameter †	Analysis Location	Units	MPCA Screening Soil Leaching Values	MPCA Tier 1 Residential Soil Reference Values	MPCA Criteria for Unregulated Fill										
Effective Date			06/01/2013	06/22/2009	06/22/2009										
Exceedance Key			**Bold**	Underline	Shade										
General Parameters															
Moisture	Lab	%					56.4	53.3	44.4	44.5	30.2	46.4	47.2	45.5	53.4
Metals															
Arsenic	Lab	mg/kg	**5.8**	9	5.8		**6.4**	**8.7**	**6.2**	**6.4**	2.0	**8.0**	4.6	4.7	**9.2**
Barium	Lab	mg/kg	1700	1100	1100		101	169	102	119	54.4	148	60.6	87.3	148
Cadmium	Lab	mg/kg	8.8	25	8.8		0.77	1.1	0.78	0.91	0.40	1.1	0.63	0.31	0.68
Chromium	Lab	mg/kg	36 CR6	87 CR6	36		17.7	24.6	17.8	15.3	8.5	18.1	12.7	11.0	22.5
Copper	Lab	mg/kg	700	100	100		29.4	41.9	39.0	30.6	12.0	36.6	19.3	14.7	32.0
Lead	Lab	mg/kg	2700	300	300		131	184	158	163	42.1	198	89.4	16.3	74.3
Mercury	Lab	mg/kg	3.3 MC	0.5	0.5		0.097	0.19	0.14	0.16	0.020 j	0.20	0.055	0.052	0.13
Selenium	Lab	mg/kg	2.6	160	2.6		< 0.72	< 0.68	< 0.58	< 0.56	< 0.43	< 0.57	< 0.60	< 0.59	< 0.67
Silver	Lab	mg/kg	7.9	160	7.9		< 0.079	0.17 j	0.13 j	0.15 j	< 0.047	0.17 j	< 0.067	< 0.065	0.12 j
TCLP Metals															
Lead	Lab	mg/l					0.062 jb	0.14 jb	< 0.0098	--	--	0.47 j	--	--	--
PAHs (carcinogenic)															
3-Methylcholanthrene	Lab	mg/kg	T	T			0.0133 j*	0.0218	0.0245	< 0.0020	0.0489	< 0.0021 *	< 0.0021	< 0.0021	< 0.0024
5-Methylchrysene	Lab	mg/kg	T	T			0.0966	0.277	0.322	0.308	0.219	0.32	0.262	0.0851	0.0635
7,12-Dimethylbenz(a)anthracene	Lab	mg/kg	T	T			< 0.0084	< 0.0078	< 0.0066	< 0.0066	< 0.0052	< 0.0068	< 0.0069	< 0.0067	< 0.0079
7h-Dibenzo(c,g)carbazole	Lab	mg/kg	T	T			< 0.0030	< 0.0028	< 0.0024	< 0.0024	< 0.0019	< 0.0024	< 0.0025	< 0.0024	< 0.0028
Benz(a)anthracene	Lab	mg/kg	T	T			0.626	1.11	1.39	1.26	2.77	1.26	1.24	0.32	0.346
Benzo(a)pyrene	Lab	mg/kg	T	T			0.566	1.04	1.19	1.12	2.07	1.11	1.01	0.326	0.345
Chrysene	Lab	mg/kg	T	T			0.782 *	1.56	1.77	1.72	3.12	1.71 *	1.56	0.472	0.522
Dibenz(a,h)acridine	Lab	mg/kg	T	T			0.0249	< 0.0069	< 0.0058	< 0.0058	< 0.0046	< 0.0060	< 0.0061	< 0.0059	< 0.0070
Dibenz(a,h)anthracene	Lab	mg/kg	T	T			0.103	0.184	0.201	0.194	0.346	0.209	0.188	0.0606	0.0832
Dibenzo(a,e)pyrene	Lab	mg/kg	T	T			0.2	0.456	0.499	0.432	0.641	0.445	0.338	0.15	0.16
Dibenzo(a,h)pyrene	Lab	mg/kg	T	T			0.0881	0.169	0.16	0.15	0.231	0.148	0.114	0.0540	0.0538
Dibenzo(a,i)pyrene	Lab	mg/kg	T	T			0.0310 *	0.0531	0.0468	0.101	0.207	0.1 *	0.0402	0.0202	0.0178 j
Dibenzo(a,l)pyrene	Lab	mg/kg	T	T			0.0113 j	0.0212 j	0.0261	0.0166 j	0.0446	0.0165 j	0.0190	0.0070 j	0.0061 j
Indeno(1,2,3-cd)pyrene	Lab	mg/kg	T	T			0.313	0.62	0.662	0.628	1.08	0.615	0.574	0.205	0.221
B(a)P Equivalent, Kaplan-Meier	Barr Calculation	mg/kg	**1.4 T**	2 T	1.4		**2.6 a**	**4.9 a**	**5.1**	**5.2 a**	**9.0**	**5.1 a**	**3.9**	**1.6 a**	**1.6 a**
% non-detected	Barr Calculation	%					13.3 a	20.0 a	20.0	26.7 a	20.0	26.7 a	26.7	26.7 a	26.7 a
PAHs (general)															
2-Methylnaphthalene	Lab	mg/kg		100	100		0.0115 j	0.0440	0.0736	0.0912	0.0325	0.0785	0.0527	0.0022 j	0.0037 j
Acenaphthene	Lab	mg/kg	81	1200	81		0.0637	0.12	0.213	0.197	0.472	0.174	0.185	0.0227	0.0373
Acenaphthylene	Lab	mg/kg	NA				0.0405	0.173	0.202	0.212	0.0682	0.173	0.0894	0.0283	0.0559
Anthracene	Lab	mg/kg	1300	7880	1300		0.192	0.414	0.526	0.558	1.18	0.519	0.485	0.0762	0.113
Benzo(g,h,i)perylene	Lab	mg/kg	NA				0.387	0.745	0.791	0.762	1.18	0.737	0.651	0.267	0.265
Benzofluoranthenes	Lab	mg/kg					1.26	2.32	2.51	2.42	4.17	2.39	2.09	0.724	0.782
Fluoranthene	Lab	mg/kg	670	1080	670		1.45	2.85	3.67	3.47	6.63	3.34	3.12	0.771	0.891
Fluorene	Lab	mg/kg	110	850	110		0.0631	0.146	0.311	0.27	0.483	0.219	0.198	0.0309	0.0484
Naphthalene	Lab	mg/kg	4.5	10	4.5		0.0097 j	0.0327	0.0719	0.0629	0.0512	0.0683	0.0602	< 0.0054	< 0.0064
Phenanthrene	Lab	mg/kg	NA				0.752 *	1.41	2.39	1.98	4.83	1.97 *	2.08	0.36	0.425
Pyrene	Lab	mg/kg	440	890	440		1.21	2.46	3.14	3	5.5	2.95	2.69	0.686	0.801
Total Petroleum Hydrocarbons															
DRO-modified silica gel cleanup C10-C28	Lab	mg/kg			100		722	487	619	936	384	850	729	77.5	213

† VOCs and Pesticides results were all below reporting limits. See lab report for details.

Data Footnotes and Qualifiers

Barr Standard Footnotes and Qualifiers

--	Not analyzed/Not available.
N	Sample Type: Normal
FD	Sample Type: Field Duplicate
*	Estimated value, QA/QC criteria not met.
a	Estimated value, calculated using some or all values that are estimates.
b	Potential false positive value based on blank data validation procedures. Concentrations identified as potential false positive are excluded from calculations.
j	Estimated detected value. The reported value is less than the stated laboratory quantitation limit but greater than the laboratory method detection limit.

MPCA Screening Soil Leaching Values

CR6	Value represents the criteria for Chromium, hexavalent.
MC	Mercury as Mercuric Chloride.
NA	Criterion value is not available for this analyte.
T	Value represents a criteria for the total carcinogenic PAHs as B(a)P.

MPCA Tier 1 Residential Soil Reference Values

CR6	Value represents the criteria for Chromium, hexavalent.
T	Value represents a criteria for the total carcinogenic PAHs as B(a)P.

Figures

2019 Sediment Sampling Point

N

0 200 400

Feet

Bassett Creek Watershed Management Commission

BASSETT CREEK LAGOONS SEDIMENT SAMPLING LOCATIONS

FIGURE 1

Attachment A

Sediment Core Field Logs

Sediment Core/Boring Log

BARR

VC: vibracore
PC: push core

Proj#: 23270051 Project: Bassett Creek Lagoons
Collection Date(s): 10-18-19 GPS X:
Ice Thickness (feet): — GPS Y:
Water Depth (feet): 1.0 GPS Z:
Length of Push (feet): 6.5 Driller: Barr
Recovery (feet): 2.1 Crew: JWS/KDM
% Recovery: 32% Observer: II
Core/Boring#: LD-SED-01
Drilling Method: VC
Logged by: JWJ
Checked by: KDM

Depth (ft.)		Sample Interval and number	Properties: Moisture	Density or Consistency	Plasticity	Cohesiveness	Particles	Odor	Staining	Sheen	ASTM / USCS Classification	Graphic Log	Description
0	2.1	2.1	W	Soft	N	Yes	golf ball, twigs	N	N	N	OL/OH		0-2.1 = Black organic silts, soft w/ debris (twigs, golf ball, OL/OH
													Sampled 0-2.1 @ 13:20

BARR

Sediment Core/Boring Log

9.5 − 2.7 = 6.8′ recovery

VC: vibracore
PC: push core

Proj#: 2327051
Project: Bassett Creek Lagoons
Core/Boring#: LD-SED-02
Collection Date(s): 10-16-19
GPS X:
Length of Push (feet): 6.8′
Driller: Barr
Drilling Method: VC
Ice Thickness (feet): —
GPS Y:
Recovery (feet): 6.0
Crew: JWJ
Logged by: JWJ
Water Depth (feet): 0.7
GPS Z:
% Recovery: 88%
Observer: KDM
Checked by: KDM

Depth (ft.)		Sample Interval and number	Moisture	Density or Consistency	Plasticity	Cohesiveness	Particles	Odor	Staining	Sheen	ASTM / USCS Classification	Graphic Log	Description
0	0.5	0-6.0′	W	loose	N	N	roots leaves	N	N	N	OL/OH		0–0.5 = Black Loose organic silts OL/OH. leafs + roots
0.5	6.0		W	soft	N	Yes	twig @ 2′	N	N	N	OL/OH		0.5-6.0 = Black soft organic silts trace twigs @ 2′

9.5 - 3.5 = LOP

Sediment Core/Boring Log

BARR

VC: vibracore
PC: push core

Proj#: 23270057 Project: Bassett Creek Lagoons Core/Boring#: LE-SED-01

Collection Date(s): 10-18-14 GPS X: Length of Push (feet): 6.0 Driller: Barr Drilling Method: VC

Ice Thickness (feet): GPS Y: Recovery (feet): 5.6 Crew: JWS/KDM Logged by: JWJ

Water Depth (feet): 0.5 GPS Z: % Recovery: 93% Observer: Checked by:

Depth (ft.)		Sample Interval and number	Properties: Moisture	Density or Consistency	Plasticity	Cohesiveness	Particles	Odor	Staining	Sheen	ASTM / USCS Classification	Graphic Log	Description
0	0.5		W	loose	N	N	N	P	N	N	OL/OH		0-0.5 = Black organic silts w/ some sand ~10%, vfg-mg sands
0.5	2.9	0-5.6		loose	N	N	little garbage	N	N	N	SM		0.5-2.9 = Black silty sands w/ some gravel ~30% silts, ~10% gravel some garbage (plastic, glass)
2.9	5.6		↓	soft	N	yes	little garbage	N	N	N	~~OH/OL~~ OL/OH		2.9-5.6 = Black organic silts sticky, little garbage
													Sampled 0-5.6 @ 10:00

9.4 - 3.5 = 5.9'

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Sediment Core/Boring Log

VC: vibracore
PC: push core

Proj#: 23270057 Project: Bassett Creek Lagoons

Collection Date(s): 10-18-19 GPS X: Length of Push (feet): 5.9 Driller:

Ice Thickness (feet): — GPS Y: Recovery (feet): Crew:

Water Depth (feet): 0.5 GPS Z: % Recovery: — Observer:

Core/Boring#: DUPE LE-SED-02 Samples LE-SED-01

Drilling Method:

Logged by:

Checked by:

Depth (ft.)		Sample Interval and number	Properties										Description
			Moisture	Density or Consistency	Plasticity	Cohesiveness	Particles	Odor	Staining	Sheen	ASTM / USCS Classification	Graphic Log	
													Same as LE-SED-01

Red Cap

Sediment Core/Boring Log 9.0 - 4.9 = 4.1

page 1 of 1

BARR

VC: vibracore
PC: push core

Proj#: 23270051 Project: Bassett Creek Lagoons
Collection Date(s): 10-18-19 GPS X: Length of Push (feet): 4.1 Driller: Barr
Ice Thickness (feet): — GPS Y: Recovery (feet): 4.1 Crew: JWJ KDM
Water Depth (feet): 1.0 GPS Z: % Recovery: 100% Observer: —
Core/Boring#: LESED-02
Drilling Method: VC
Logged by: JWJ
Checked by: KDM

Depth (ft.)		Sample Interval and number	Properties: Moisture	Density or Consistency	Plasticity	Cohesiveness	Particles	Odor	Staining	Sheen	ASTM / USCS Classification	Graphic Log	Description
0	0.3		W	Loose	N	N	N	N	N	N	OL/OH		0-0.3 = Loose black organic silts
0.3	2.8	0-4.1		Loose	N	N	Glass	N	N	N	SM		0.3-2.8 = Black loose silty sand w/ gravel shells, and garbage (glass)
2.8'	3.2			Soft	N	Yes	N	N	N	N	OL/OH		2.8-3.2' = Black organic silts trace sand, twigs, leaves
3.2	4.1			loose	N	N	N	N	N	N	SM		3.2-4.1 = Black organic silty sand

Sediment Core/Boring Log 9.5 - 2.8 = 6.7'

BARR

Proj#: 23270051 Project: Bassett Creek Lagoons

Collection Date(s): 10-18-19 GPS X:

Ice Thickness (feet): — GPS Y:

Water Depth (feet): 0.3 GPS Z:

Length of Push (feet): 6.7 Driller: Barr

Recovery (feet): 5.9' Crew: JWJ/KDM

% Recovery: 88% Observer: —

VC: vibracore
PC: push core

Core/Boring#: LESED-03

Drilling Method: VC

Logged by: JWJ

Checked by: KDM

Depth (ft.)		Sample Interval and number	Properties: Moisture	Density or Consistency	Plasticity	Cohesiveness	Particles	Odor	Staining	Sheen	ASTM / USCS Classification	Graphic Log	Description
0	0.3	↑	W	Loose	N	N	Leaves & twigs	N	N	N	OL/OH		0'-0.3' = Black loose organic silts w/ leaves
0.3	4.4	0.5d		Soft		Y	N	N	N	N	OL/OH		0.3'-4.4' = Black soft organic silt trace shells
4.4	4.9			Soft		N	N	N	N	N	SM		4.4'-4.9' = Black silty sand vfg-fg sands (~45% silts)
4.9	5.9	↓	↓	Soft (Stick)	↓	Yes	N	N	N	N	OL/OH		4.9'-5.9' = Black soft organic silts (Sticky)

9.5-2.3=7.2

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Sediment Core/Boring Log

VC: vibracore
PC: push core

Proj#: 23270057 Project: BCWMD Bassett Creek Lagoons
Collection Date(s): 10-18-19 GPS X:
Ice Thickness (feet): GPS Y:
Water Depth (feet): 0.5 GPS Z:
Length of Push (feet): 7.2 Driller: Barr
Recovery (feet): 6.1 Crew: JWJ/KDM
% Recovery: 85% Observer: "
Core/Boring#: LE-SED-04
Drilling Method:
Logged by:
Checked by:

Depth (ft.)		Sample Interval and number	Properties: Moisture	Density or Consistency	Plasticity	Cohesiveness	Particles	Odor	Staining	Sheen	ASTM / USCS Classification	Graphic Log	Description
0	1.2		W	Loose	N	N	leaves twigs	N	N	N	OH/PT		0-1.2 = Black loose organic silts w/ twigs, leaves
1.2	3.7	0-6"		Soft	N	Yes	twigs screw	N	N	N	OH/PT		1.2-3.7' = Black soft organic silts w/ twigs and trash (foil, screws)
3.7	6.1			Loose	N	N	N	N	N	N	SM		3.7-6.1 = Black silty sand mostly w/ lens of gravel @ 5' to 5.3' silt = ~25%

Sediment Core/Boring Log

6.0' - 0.9 = 5.1 LOP

BARR

VC: vibracore
PC: push core

Proj#: 23270057 Project: BCWM Bassett Creek Lagoons

Collection Date(s): 10/7-9 GPS X:
Ice Thickness (feet): GPS Y:
Water Depth (feet): 0 @ WS GPS Z:

Length of Push (feet): 5.1'
Recovery (feet): 4.1
% Recovery: 80%

Driller: Barr
Crew: KDM/JWS
Observer:

Core/Boring#: LF-SED-01
Drilling Method: VC
Logged by: JWS
Checked by:

Depth (ft.)		Sample Interval and number	Properties: Moisture	Density or Consistency	Plasticity	Cohesiveness	Particles	Odor	Staining	Sheen	ASTM / USCS Classification	Graphic Log	Description
0	4.1	0-4.1	W	S/F	N	Yes	Veg shells	N	N	N	OL/OH		0-4.1 = Black organics, ~~MS~~ w/ peaty organics w/ leafs and twigs trace shells @ 3' interbedded vfg sand lenses throughout (up to 40% vfg sand)

5.1' - 7.0' = hand auger

Sediment Core/Boring Log

9.5 - 1.8 = 7.7

BARR

VC: vibracore
PC: push core

Proj#: 23270051 Project: BCWSM Bassett Creek Lagoons

Collection Date(s): 10-17-19 GPS X:

Ice Thickness (feet): — GPS Y:

Water Depth (feet): 0.4 GPS Z:

Length of Push (feet): 7.7 Driller: Barr

Recovery (feet): 6.0 Crew: JWJ/KDM

% Recovery: 78% Observer: JWJ/KDM

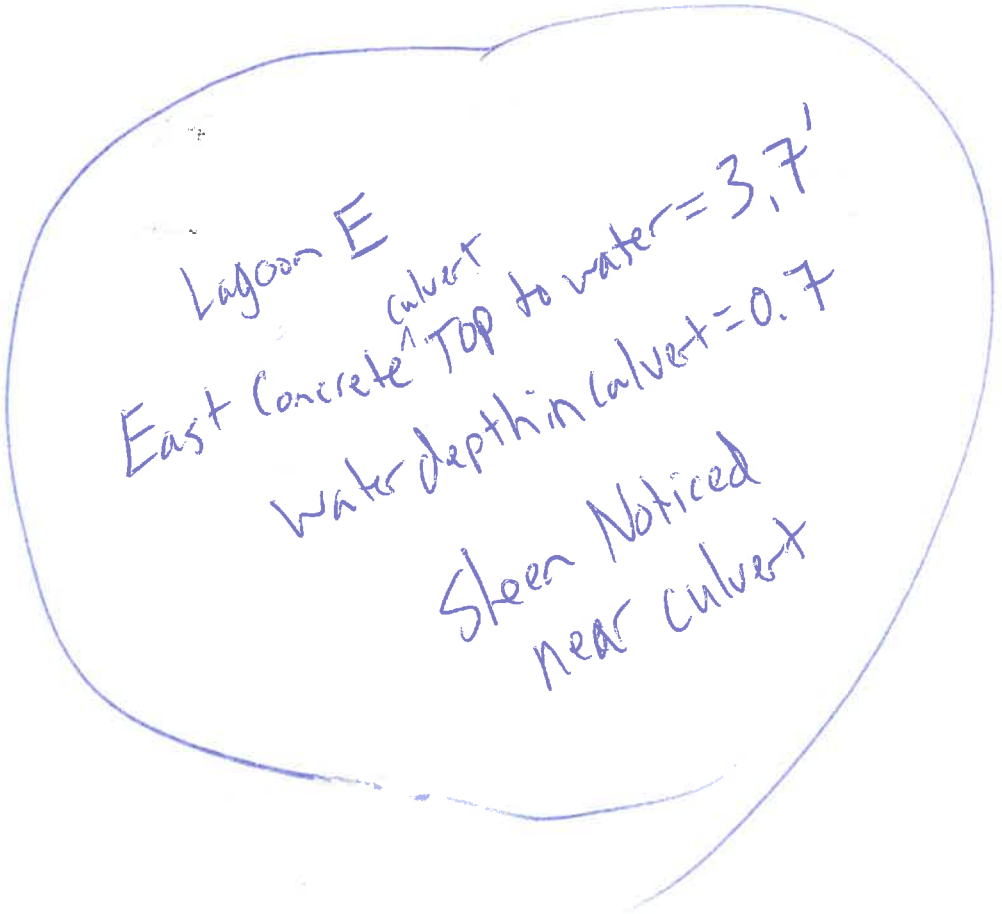
Core/Boring#: LF-SED-02

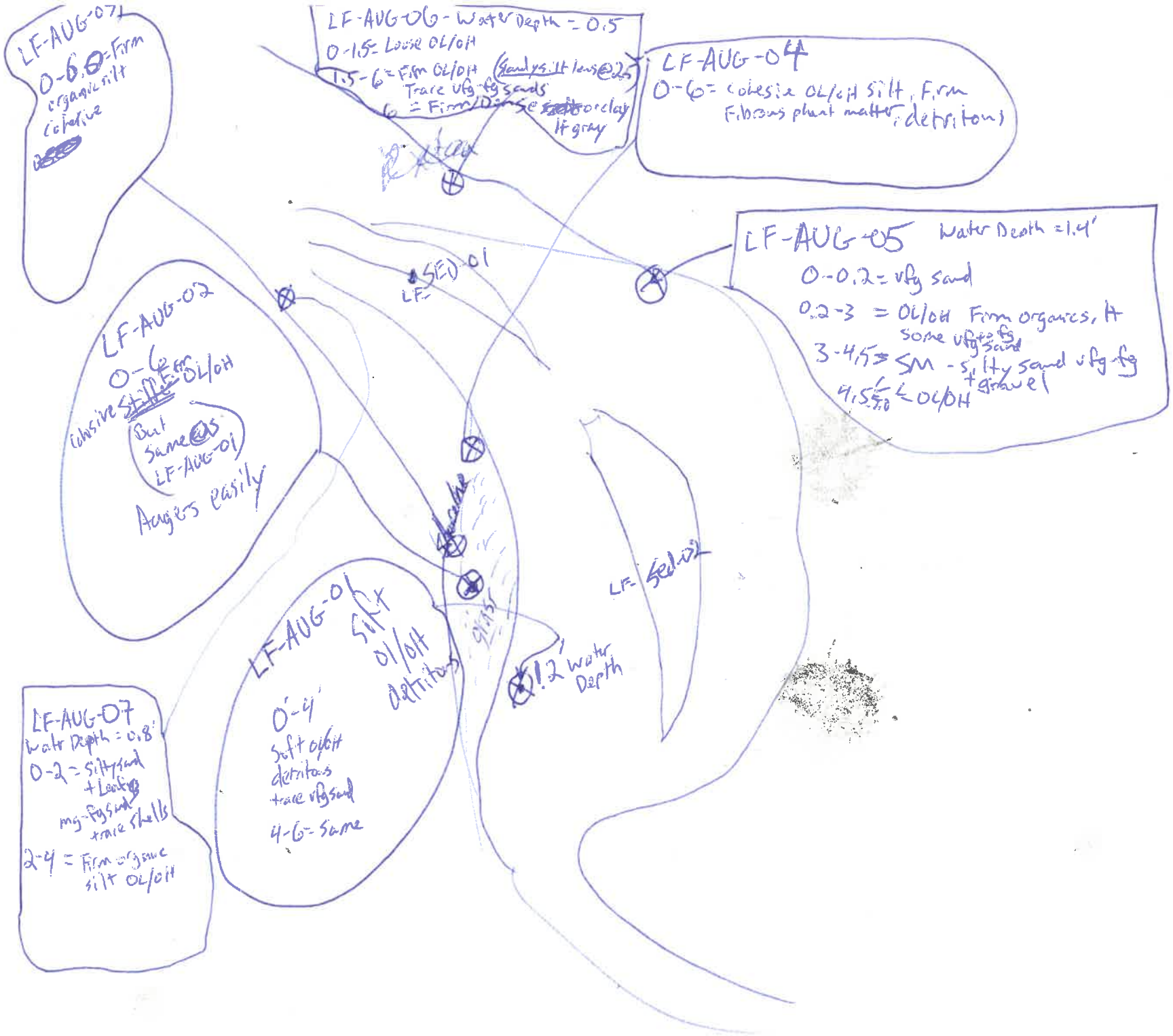
Drilling Method: VC

Logged by: JWJ

Checked by:

Depth (ft.)		Sample Interval and number	Properties										Description
			Moisture	Density or Consistency	Plasticity	Cohesiveness	Particles	Odor	Staining	Sheen	ASTM / USCS Classification	Graphic Log	
0	1.5	0-6'	W	Loose to soft	N	N	leaf + twigs	N	N	N	OL/OH		0-1.5 = Black soft organic silts w/ leafs and twigs Trace vfg sand
1.5	6.0		W	soft	N	Yes	Trace leaf twigs	N	N	N	OL/OH		1.5-6.0 = Black soft organic silts w/ little leafs & twigs trace vfg sand


Lagoon E
East Concrete Culvert
Top to water = 3.7'
water depth in culvert = 0.7
Sheen Noticed
near Culvert


LF-AUG-07
0-6.0 = Firm organic silt cohesive
LF-AUG-06 - Water Depth = 0.5
0-1.5 = Loose OL/OH
1.5-6 = Firm OL/OH Trace vfg-fg sands
6 = Firm/Dense sand/silt/clay
If gray
LF-AUG-04
0-6 = cohesive OL/OH silt, Firm Fibrous plant matter (detritus)
LF-AUG-05 Water Depth = 1.4'
0-0.2 = vfg sand
0.2-3 = OL/OH Firm organics, some vfg-fg sand
3-4.5 = SM - silty sand vfg-fg + gravel
4.5-7.0 = OL/OH
LF-AUG-02
0-6 = Firm cohesive stiff OL/OH
But same as LF-AUG-01
Augers easily
SED-01
LF-
LF-AUG-01
Silty OL/OH detritus
0'-4' soft OL/OH detritus trace vfg sand
4-6 = same
1.2' Water Depth
LF-
LF-AUG-07
Water Depth = 0.8'
0-2 = Silty sand + Leaf mg-fg sand trace shells
2-4 = Firm organic silt OL/OH

Attachment B

Photographs

Photographic Log – Bassett Creek Lagoons 2019

Photograph #1: Sediment Core LD-SED-01

Photograph #2: Sediment Core LD-SED-02

Photograph #3: Lagoon D - Facing North

Photograph #4: Sediment Core LE-SED-01

Photograph #5: Sediment Core DUP-01 (near LE-SED-01)

Photograph #6: Sediment Core LE-SED-02

Photograph #7: Sediment Core LE-SED-03

Photograph #8: Sediment Core LE-SED-04

Photograph #9: Lagoon E – Culvert near LE-SED-01

Photograph #9: Lagoon E - Facing North

Photograph #9: Lagoon E - Facing South

Photograph #10: Sediment Core LF-SED-01

Photograph #11: Sediment Core LF-SED-02

Photograph #12: Lagoon F – LF-SED-01 Sample Collection

Photograph #13: Lagoon F – Facing South

Attachment C

Laboratory Analytical Data

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

February 24, 2020

Kevin Menken
Barr Engineering
4300 MarketPointe Drive
Suite 200
Minneapolis, MN 55435

RE: Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Dear Kevin Menken:
Enclosed are the analytical results for sample(s) received by the laboratory on October 18, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This report was revised on February 24, 2020, to include TCLP lead results for Pace samples #001, 002, 005, 009.

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

Sincerely,

Amanda Albrecht
amanda.albrecht@pacelabs.com
(612)607-6382
Project Manager

Enclosures

cc: BarrDM, Barr Engineering Company
Data Management, Barr Engineering
Terri Olson, Barr Engineering Company
Accounts Payable, Barr Engineering

REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Pace Analytical Services Minneapolis

A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas DW Certification #: MN00064
Arkansas WW Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064
Massachusetts DWP Certification #: via MN 027-053-137
Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Minnesota Dept of Ag Certifcation #: via MN 027-053-137
Minnesota Petrofund Certification #: 1240
Mississippi Certification #: MN00064
Missouri Certification #: 10100
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Primary Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #:74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Vermont Certification #: VT-027053137
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DEP Certification #: 382
West Virginia DW Certification #: 9952 C
Wisconsin Certification #: 999407970
Wyoming UST Certification #: via A2LA 2926.01

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SAMPLE SUMMARY

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10496207001	**LD-SED-01**	Solid	10/18/19 13:20	10/18/19 18:43
10496207002	**LD-SED-02**	Solid	10/18/19 13:40	10/18/19 18:43
10496207005	**LE-SED-01**	Solid	10/18/19 10:00	10/18/19 18:43
10496207006	**LE-SED-01-VOC**	Solid	10/18/19 10:00	10/18/19 18:43
10496207007	**LE-SED-02**	Solid	10/18/19 10:20	10/18/19 18:43
10496207008	**LE-SED-02-VOC**	Solid	10/18/19 10:20	10/18/19 18:43
10496207009	**LE-SED-03**	Solid	10/18/19 14:00	10/18/19 18:43
10496207010	**LE-SED-03-VOC**	Solid	10/18/19 14:00	10/18/19 18:43
10496207011	**LE-SED-04**	Solid	10/18/19 14:20	10/18/19 18:43
10496207012	**LE-SED-04-VOC**	Solid	10/18/19 14:20	10/18/19 18:43
10496207013	**DUP-01**	Solid	10/18/19 00:00	10/18/19 18:43
10496207014	**DUP-01-VOC**	Solid	10/18/19 00:00	10/18/19 18:43
10496207015	**LF-SED-01**	Solid	10/17/19 14:15	10/18/19 18:43
10496207016	**LF-SED-02**	Solid	10/17/19 13:55	10/18/19 18:43
10496207017	**TRIP BLANK 1**	Solid	10/18/19 00:00	10/18/19 18:43

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10496207001	**LD-SED-01**	WI MOD DRO	EC2	2	PASI-M
		EPA 6010D	DM	1	PASI-M
		EPA 6010D	IP	8	PASI-M
		EPA 7471B	BTS	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270D by SIM	STB	27	PASI-M
10496207002	**LD-SED-02**	WI MOD DRO	EC2	2	PASI-M
		EPA 6010D	DM	1	PASI-M
		EPA 6010D	IP	8	PASI-M
		EPA 7471B	BTS	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270D by SIM	STB	27	PASI-M
10496207005	**LE-SED-01**	WI MOD DRO	EC2	2	PASI-M
		EPA 6010D	DM	1	PASI-M
		EPA 6010D	IP	8	PASI-M
		EPA 7471B	BTS	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270D by SIM	STB	27	PASI-M
10496207006	**LE-SED-01-VOC**	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	70	PASI-M
10496207007	**LE-SED-02**	WI MOD DRO	EC2	2	PASI-M
		EPA 6010D	IP	8	PASI-M
		EPA 7471B	BTS	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270D by SIM	STB	27	PASI-M
10496207008	**LE-SED-02-VOC**	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	70	PASI-M
10496207009	**LE-SED-03**	WI MOD DRO	EC2	2	PASI-M
		EPA 6010D	DM	1	PASI-M
		EPA 6010D	IP	8	PASI-M
		EPA 7471B	BTS	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270D by SIM	STB	27	PASI-M
10496207010	**LE-SED-03-VOC**	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	70	PASI-M
10496207011	**LE-SED-04**	WI MOD DRO	EC2	2	PASI-M
		EPA 6010D	IP	8	PASI-M

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Minneapolis, MN 55414
(612)607-1700

SAMPLE ANALYTE COUNT

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 7471B	BTS	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270D by SIM	STB	27	PASI-M
10496207012	**LE-SED-04-VOC**	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	70	PASI-M
10496207013	**DUP-01**	WI MOD DRO	EC2	2	PASI-M
		EPA 6010D	IP	8	PASI-M
		EPA 7471B	BTS	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270D by SIM	STB	27	PASI-M
10496207014	**DUP-01-VOC**	ASTM D2974	JDL	1	PASI-M
		EPA 8260B	CD2	70	PASI-M
10496207015	**LF-SED-01**	WI MOD DRO	EC2	2	PASI-M
		EPA 6010D	IP	8	PASI-M
		EPA 7471B	BTS	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270D by SIM	STB	27	PASI-M
10496207016	**LF-SED-02**	WI MOD DRO	EC2	2	PASI-M
		EPA 6010D	IP	8	PASI-M
		EPA 7471B	BTS	1	PASI-M
		ASTM D2974	JDL	1	PASI-M
		EPA 8270D by SIM	STB	27	PASI-M
10496207017	**TRIP BLANK 1**	EPA 8260B	CD2	70	PASI-M

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PROJECT NARRATIVE

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Date: February 24, 2020

Case Narrative:

Volatile Organic Analysis

8260B

Regarding a qualifier that appears later in this report:

SS: Recovery for trichlorofluoromethane in the second source check (SS) was outside of laboratory control limits at 162% (limits 50-150%). Reported values may be biased high.

CH: Recovery for trichlorofluoromethane in the calibration verification was outside of laboratory control limits at 162% (limits 60-140%). Reported values may be biased high.

Semi-volatile Organic Analysis

8270 SIM

Regarding a qualifier that appears later in this report:

SS: Recovery for 7,12-dimethylbenz(a)anthracene in the second source check (SS) was outside of laboratory control limits at 151% (limits 70-130%). Reported values may be biased high.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: LD-SED-01 **Lab ID: 10496207001** Collected: 10/18/19 13:20 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
WIDRO GCS Silica Gel	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO								
WDRO C10-C28	**722**	mg/kg	248	96.1	10	10/21/19 12:15	10/23/19 13:01		T6
Surrogates									
n-Triacontane (S)	0	%.	44-143		10	10/21/19 12:15	10/23/19 13:01	638-68-6	S4
6010D MET ICP, TCLP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Leachate Method/Date: EPA 1311; 02/19/20 15:44 Initial pH: 8.09; Final pH: 4.72								
Lead	**0.062J**	mg/L	0.50	0.0098	1	02/20/20 11:16	02/21/20 10:15	7439-92-1	B
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3050B								
Arsenic	**6.4**	mg/kg	2.2	0.45	1	10/23/19 08:59	10/29/19 17:15	7440-38-2	
Barium	**101**	mg/kg	1.1	0.17	1	10/23/19 08:59	10/29/19 17:15	7440-39-3	
Cadmium	**0.77**	mg/kg	0.33	0.066	1	10/23/19 08:59	10/29/19 17:15	7440-43-9	
Chromium	**17.7**	mg/kg	1.1	0.22	1	10/23/19 08:59	10/29/19 17:15	7440-47-3	
Copper	**29.4**	mg/kg	1.1	0.30	1	10/23/19 08:59	10/29/19 17:15	7440-50-8	
Lead	**131**	mg/kg	1.1	0.25	1	10/23/19 08:59	10/29/19 17:15	7439-92-1	
Selenium	**<0.72**	mg/kg	2.2	0.72	1	10/23/19 08:59	10/29/19 17:15	7782-49-2	
Silver	**<0.079**	mg/kg	1.1	0.079	1	10/23/19 08:59	10/29/19 17:15	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B								
Mercury	**0.097**	mg/kg	0.043	0.019	1	10/23/19 08:53	10/30/19 09:10	7439-97-6	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974								
Percent Moisture	**56.4**	%	0.10	0.10	1		10/30/19 14:27		
8270D MSSV CPAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550C								
2-Methylnaphthalene	**11.5J**	ug/kg	22.9	2.1	1	10/23/19 16:19	10/30/19 17:08	91-57-6	
3-Methylcholanthrene	**13.3J**	ug/kg	22.9	2.6	1	10/23/19 16:19	10/30/19 17:08	56-49-5	M1
5-Methylchrysene	**96.6**	ug/kg	22.9	1.6	1	10/23/19 16:19	10/30/19 17:08	3697-24-3	M1
7,12-Dimethylbenz(a)anthracene	**<8.4**	ug/kg	22.9	8.4	1	10/23/19 16:19	10/30/19 17:08	57-97-6	SS
7H-Dibenzo(c,g)carbazole	**<3.0**	ug/kg	22.9	3.0	1	10/23/19 16:19	10/30/19 17:08	194-59-2	
Acenaphthene	**63.7**	ug/kg	22.9	7.2	1	10/23/19 16:19	10/30/19 17:08	83-32-9	
Acenaphthylene	**40.5**	ug/kg	22.9	5.9	1	10/23/19 16:19	10/30/19 17:08	208-96-8	
Anthracene	**192**	ug/kg	22.9	1.7	1	10/23/19 16:19	10/30/19 17:08	120-12-7	
Benzo(a)anthracene	**626**	ug/kg	22.9	2.7	1	10/23/19 16:19	10/30/19 17:08	56-55-3	M1
Benzo(a)pyrene	**566**	ug/kg	22.9	2.1	1	10/23/19 16:19	10/30/19 17:08	50-32-8	
Benzo(g,h,i)perylene	**387**	ug/kg	22.9	3.0	1	10/23/19 16:19	10/30/19 17:08	191-24-2	
Benzofluoranthenes (Total)	**1260**	ug/kg	68.7	5.6	1	10/23/19 16:19	10/30/19 17:08		N2
Chrysene	**782**	ug/kg	115	16.3	5	10/23/19 16:19	10/31/19 14:48	218-01-9	M1
Dibenz(a,h)acridine	**24.9**	ug/kg	22.9	7.4	1	10/23/19 16:19	10/30/19 17:08	226-36-8	
Dibenz(a,h)anthracene	**103**	ug/kg	22.9	2.7	1	10/23/19 16:19	10/30/19 17:08	53-70-3	
Dibenzo(a,e)pyrene	**200**	ug/kg	22.9	2.9	1	10/23/19 16:19	10/30/19 17:08	192-65-4	
Dibenzo(a,h)pyrene	**88.1**	ug/kg	22.9	4.8	1	10/23/19 16:19	10/30/19 17:08	189-64-0	
Dibenzo(a,i)pyrene	**31.0**	ug/kg	22.9	5.9	1	10/23/19 16:19	10/30/19 17:08	189-55-9	M1,R1
Dibenzo(a,l)pyrene	**11.3J**	ug/kg	22.9	5.3	1	10/23/19 16:19	10/30/19 17:08	191-30-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: LD-SED-01 **Lab ID: 10496207001** Collected: 10/18/19 13:20 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV CPAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550C								
Fluoranthene	**1450**	ug/kg	115	9.8	5	10/23/19 16:19	10/31/19 14:48	206-44-0	M1
Fluorene	**63.1**	ug/kg	22.9	4.8	1	10/23/19 16:19	10/30/19 17:08	86-73-7	
Indeno(1,2,3-cd)pyrene	**313**	ug/kg	22.9	2.5	1	10/23/19 16:19	10/30/19 17:08	193-39-5	
Naphthalene	**9.7J**	ug/kg	22.9	6.8	1	10/23/19 16:19	10/30/19 17:08	91-20-3	
Phenanthrene	**752**	ug/kg	22.9	3.9	1	10/23/19 16:19	10/30/19 17:08	85-01-8	M1
Pyrene	**1210**	ug/kg	115	13.6	5	10/23/19 16:19	10/31/19 14:48	129-00-0	M1
Surrogates									
2-Fluorobiphenyl (S)	74	%.	30-125		1	10/23/19 16:19	10/30/19 17:08	321-60-8	
p-Terphenyl-d14 (S)	69	%.	30-127		1	10/23/19 16:19	10/30/19 17:08	1718-51-0	

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: LD-SED-02 **Lab ID: 10496207002** Collected: 10/18/19 13:40 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
WIDRO GCS Silica Gel	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO								
WDRO C10-C28	**487**	mg/kg	223	86.7	10	10/21/19 12:15	10/23/19 13:08		T6
Surrogates									
n-Triacontane (S)	0	%.	44-143		10	10/21/19 12:15	10/23/19 13:08	638-68-6	S4
6010D MET ICP, TCLP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Leachate Method/Date: EPA 1311; 02/19/20 15:44 Initial pH: 8.51; Final pH: 5.28								
Lead	**0.14J**	mg/L	0.50	0.0098	1	02/20/20 11:16	02/21/20 10:24	7439-92-1	B
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3050B								
Arsenic	**8.7**	mg/kg	2.1	0.43	1	10/23/19 08:59	10/29/19 17:29	7440-38-2	
Barium	**169**	mg/kg	1.0	0.16	1	10/23/19 08:59	10/29/19 17:29	7440-39-3	
Cadmium	**1.1**	mg/kg	0.31	0.062	1	10/23/19 08:59	10/29/19 17:29	7440-43-9	
Chromium	**24.6**	mg/kg	1.0	0.21	1	10/23/19 08:59	10/29/19 17:29	7440-47-3	
Copper	**41.9**	mg/kg	1.0	0.29	1	10/23/19 08:59	10/29/19 17:29	7440-50-8	
Lead	**184**	mg/kg	1.0	0.24	1	10/23/19 08:59	10/29/19 17:29	7439-92-1	
Selenium	**<0.68**	mg/kg	2.1	0.68	1	10/23/19 08:59	10/29/19 17:29	7782-49-2	
Silver	**0.17J**	mg/kg	1.0	0.076	1	10/23/19 08:59	10/29/19 17:29	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B								
Mercury	**0.19**	mg/kg	0.039	0.018	1	10/23/19 08:53	10/30/19 09:17	7439-97-6	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974								
Percent Moisture	**53.3**	%	0.10	0.10	1		10/30/19 14:27		
8270D MSSV CPAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550C								
2-Methylnaphthalene	**44.0**	ug/kg	21.4	2.0	1	10/23/19 16:19	10/30/19 18:35	91-57-6	
3-Methylcholanthrene	**21.8**	ug/kg	21.4	2.4	1	10/23/19 16:19	10/30/19 18:35	56-49-5	
5-Methylchrysene	**277**	ug/kg	21.4	1.5	1	10/23/19 16:19	10/30/19 18:35	3697-24-3	
7,12-Dimethylbenz(a)anthracene	**<7.8**	ug/kg	21.4	7.8	1	10/23/19 16:19	10/30/19 18:35	57-97-6	
7H-Dibenzo(c,g)carbazole	**<2.8**	ug/kg	21.4	2.8	1	10/23/19 16:19	10/30/19 18:35	194-59-2	
Acenaphthene	**120**	ug/kg	21.4	6.7	1	10/23/19 16:19	10/30/19 18:35	83-32-9	
Acenaphthylene	**173**	ug/kg	21.4	5.5	1	10/23/19 16:19	10/30/19 18:35	208-96-8	
Anthracene	**414**	ug/kg	21.4	1.6	1	10/23/19 16:19	10/30/19 18:35	120-12-7	
Benzo(a)anthracene	**1110**	ug/kg	214	24.8	10	10/23/19 16:19	10/31/19 15:17	56-55-3	
Benzo(a)pyrene	**1040**	ug/kg	214	19.3	10	10/23/19 16:19	10/31/19 15:17	50-32-8	
Benzo(g,h,i)perylene	**745**	ug/kg	214	27.8	10	10/23/19 16:19	10/31/19 15:17	191-24-2	
Benzofluoranthenes (Total)	**2320**	ug/kg	641	51.9	10	10/23/19 16:19	10/31/19 15:17		N2
Chrysene	**1560**	ug/kg	214	30.3	10	10/23/19 16:19	10/31/19 15:17	218-01-9	
Dibenz(a,h)acridine	**<6.9**	ug/kg	21.4	6.9	1	10/23/19 16:19	10/30/19 18:35	226-36-8	
Dibenz(a,h)anthracene	**184**	ug/kg	21.4	2.6	1	10/23/19 16:19	10/30/19 18:35	53-70-3	
Dibenzo(a,e)pyrene	**456**	ug/kg	21.4	2.7	1	10/23/19 16:19	10/30/19 18:35	192-65-4	
Dibenzo(a,h)pyrene	**169**	ug/kg	21.4	4.5	1	10/23/19 16:19	10/30/19 18:35	189-64-0	
Dibenzo(a,i)pyrene	**53.1**	ug/kg	21.4	5.5	1	10/23/19 16:19	10/30/19 18:35	189-55-9	
Dibenzo(a,l)pyrene	**21.2J**	ug/kg	21.4	4.9	1	10/23/19 16:19	10/30/19 18:35	191-30-0	

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: LD-SED-02 **Lab ID: 10496207002** Collected: 10/18/19 13:40 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV CPAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550C								
Fluoranthene	**2850**	ug/kg	214	18.4	10	10/23/19 16:19	10/31/19 15:17	206-44-0	
Fluorene	**146**	ug/kg	21.4	4.5	1	10/23/19 16:19	10/30/19 18:35	86-73-7	
Indeno(1,2,3-cd)pyrene	**620**	ug/kg	21.4	2.4	1	10/23/19 16:19	10/30/19 18:35	193-39-5	
Naphthalene	**32.7**	ug/kg	21.4	6.3	1	10/23/19 16:19	10/30/19 18:35	91-20-3	
Phenanthrene	**1410**	ug/kg	214	36.1	10	10/23/19 16:19	10/31/19 15:17	85-01-8	
Pyrene	**2460**	ug/kg	214	25.4	10	10/23/19 16:19	10/31/19 15:17	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	82	%.	30-125		1	10/23/19 16:19	10/30/19 18:35	321-60-8	
p-Terphenyl-d14 (S)	80	%.	30-127		1	10/23/19 16:19	10/30/19 18:35	1718-51-0	

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: LE-SED-01 **Lab ID: 10496207005** Collected: 10/18/19 10:00 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
WIDRO GCS Silica Gel	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO								
WDRO C10-C28	**619**	mg/kg	172	66.6	10	10/21/19 12:15	10/23/19 13:15		T6
Surrogates									
n-Triacontane (S)	0	%.	44-143		10	10/21/19 12:15	10/23/19 13:15	638-68-6	S4
6010D MET ICP, TCLP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Leachate Method/Date: EPA 1311; 02/19/20 15:44 Initial pH: 8.37; Final pH: 3.31								
Lead	**<0.0098**	mg/L	0.50	0.0098	1	02/20/20 11:16	02/21/20 10:25	7439-92-1	
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3050B								
Arsenic	**6.2**	mg/kg	1.8	0.36	1	10/23/19 08:59	10/29/19 17:32	7440-38-2	
Barium	**102**	mg/kg	0.88	0.14	1	10/23/19 08:59	10/29/19 17:32	7440-39-3	
Cadmium	**0.78**	mg/kg	0.26	0.053	1	10/23/19 08:59	10/29/19 17:32	7440-43-9	
Chromium	**17.8**	mg/kg	0.88	0.18	1	10/23/19 08:59	10/29/19 17:32	7440-47-3	
Copper	**39.0**	mg/kg	0.88	0.25	1	10/23/19 08:59	10/29/19 17:32	7440-50-8	
Lead	**158**	mg/kg	0.88	0.20	1	10/23/19 08:59	10/29/19 17:32	7439-92-1	
Selenium	**<0.58**	mg/kg	1.8	0.58	1	10/23/19 08:59	10/29/19 17:32	7782-49-2	
Silver	**0.13J**	mg/kg	0.88	0.064	1	10/23/19 08:59	10/29/19 17:32	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B								
Mercury	**0.14**	mg/kg	0.036	0.016	1	10/23/19 08:53	10/30/19 09:20	7439-97-6	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974								
Percent Moisture	**44.4**	%	0.10	0.10	1		10/30/19 14:27		
8270D MSSV CPAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550C								
2-Methylnaphthalene	**73.6**	ug/kg	18.0	1.6	1	10/23/19 16:19	10/30/19 19:04	91-57-6	
3-Methylcholanthrene	**24.5**	ug/kg	18.0	2.0	1	10/23/19 16:19	10/30/19 19:04	56-49-5	
5-Methylchrysene	**322**	ug/kg	18.0	1.2	1	10/23/19 16:19	10/30/19 19:04	3697-24-3	
7,12-Dimethylbenz(a)anthracene	**<6.6**	ug/kg	18.0	6.6	1	10/23/19 16:19	10/30/19 19:04	57-97-6	
7H-Dibenzo(c,g)carbazole	**<2.4**	ug/kg	18.0	2.4	1	10/23/19 16:19	10/30/19 19:04	194-59-2	
Acenaphthene	**213**	ug/kg	18.0	5.7	1	10/23/19 16:19	10/30/19 19:04	83-32-9	
Acenaphthylene	**202**	ug/kg	18.0	4.7	1	10/23/19 16:19	10/30/19 19:04	208-96-8	
Anthracene	**526**	ug/kg	360	27.4	20	10/23/19 16:19	10/31/19 15:46	120-12-7	
Benzo(a)anthracene	**1390**	ug/kg	360	41.8	20	10/23/19 16:19	10/31/19 15:46	56-55-3	
Benzo(a)pyrene	**1190**	ug/kg	360	32.5	20	10/23/19 16:19	10/31/19 15:46	50-32-8	
Benzo(g,h,i)perylene	**791**	ug/kg	360	46.8	20	10/23/19 16:19	10/31/19 15:46	191-24-2	
Benzofluoranthenes (Total)	**2510**	ug/kg	1080	87.5	20	10/23/19 16:19	10/31/19 15:46		N2
Chrysene	**1770**	ug/kg	360	51.1	20	10/23/19 16:19	10/31/19 15:46	218-01-9	
Dibenz(a,h)acridine	**<5.8**	ug/kg	18.0	5.8	1	10/23/19 16:19	10/30/19 19:04	226-36-8	
Dibenz(a,h)anthracene	**201**	ug/kg	18.0	2.2	1	10/23/19 16:19	10/30/19 19:04	53-70-3	
Dibenzo(a,e)pyrene	**499**	ug/kg	18.0	2.3	1	10/23/19 16:19	10/30/19 19:04	192-65-4	
Dibenzo(a,h)pyrene	**160**	ug/kg	18.0	3.8	1	10/23/19 16:19	10/30/19 19:04	189-64-0	
Dibenzo(a,i)pyrene	**46.8**	ug/kg	18.0	4.6	1	10/23/19 16:19	10/30/19 19:04	189-55-9	
Dibenzo(a,l)pyrene	**26.1**	ug/kg	18.0	4.1	1	10/23/19 16:19	10/30/19 19:04	191-30-0	

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: LE-SED-01 **Lab ID: 10496207005** Collected: 10/18/19 10:00 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV CPAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550C								
Fluoranthene	**3670**	ug/kg	360	31.0	20	10/23/19 16:19	10/31/19 15:46	206-44-0	
Fluorene	**311**	ug/kg	18.0	3.8	1	10/23/19 16:19	10/30/19 19:04	86-73-7	
Indeno(1,2,3-cd)pyrene	**662**	ug/kg	360	39.6	20	10/23/19 16:19	10/31/19 15:46	193-39-5	
Naphthalene	**71.9**	ug/kg	18.0	5.3	1	10/23/19 16:19	10/30/19 19:04	91-20-3	
Phenanthrene	**2390**	ug/kg	360	60.8	20	10/23/19 16:19	10/31/19 15:46	85-01-8	
Pyrene	**3140**	ug/kg	360	42.8	20	10/23/19 16:19	10/31/19 15:46	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	75	%.	30-125		1	10/23/19 16:19	10/30/19 19:04	321-60-8	
p-Terphenyl-d14 (S)	76	%.	30-127		1	10/23/19 16:19	10/30/19 19:04	1718-51-0	

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: LE-SED-01-VOC **Lab ID: 10496207006** Collected: 10/18/19 10:00 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974								
Percent Moisture	**44.4**	%	0.10	0.10	1		10/30/19 14:27		N2
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B								
Acetone	**<1950**	ug/kg	1950	608	1	10/31/19 11:44	11/01/19 01:02	67-64-1	
Allyl chloride	**<391**	ug/kg	391	81.9	1	10/31/19 11:44	11/01/19 01:02	107-05-1	
Benzene	**<39.1**	ug/kg	39.1	5.5	1	10/31/19 11:44	11/01/19 01:02	71-43-2	
Bromobenzene	**<97.7**	ug/kg	97.7	6.0	1	10/31/19 11:44	11/01/19 01:02	108-86-1	
Bromochloromethane	**<97.7**	ug/kg	97.7	33.8	1	10/31/19 11:44	11/01/19 01:02	74-97-5	
Bromodichloromethane	**<97.7**	ug/kg	97.7	33.4	1	10/31/19 11:44	11/01/19 01:02	75-27-4	
Bromoform	**<391**	ug/kg	391	148	1	10/31/19 11:44	11/01/19 01:02	75-25-2	
Bromomethane	**<977**	ug/kg	977	114	1	10/31/19 11:44	11/01/19 01:02	74-83-9	
2-Butanone (MEK)	**<489**	ug/kg	489	52.0	1	10/31/19 11:44	11/01/19 01:02	78-93-3	
n-Butylbenzene	**<97.7**	ug/kg	97.7	46.5	1	10/31/19 11:44	11/01/19 01:02	104-51-8	
sec-Butylbenzene	**<97.7**	ug/kg	97.7	18.7	1	10/31/19 11:44	11/01/19 01:02	135-98-8	
tert-Butylbenzene	**<97.7**	ug/kg	97.7	18.8	1	10/31/19 11:44	11/01/19 01:02	98-06-6	
Carbon tetrachloride	**<97.7**	ug/kg	97.7	46.7	1	10/31/19 11:44	11/01/19 01:02	56-23-5	
Chlorobenzene	**<97.7**	ug/kg	97.7	5.5	1	10/31/19 11:44	11/01/19 01:02	108-90-7	
Chloroethane	**<977**	ug/kg	977	50.8	1	10/31/19 11:44	11/01/19 01:02	75-00-3	
Chloroform	**<97.7**	ug/kg	97.7	48.9	1	10/31/19 11:44	11/01/19 01:02	67-66-3	
Chloromethane	**<391**	ug/kg	391	23.5	1	10/31/19 11:44	11/01/19 01:02	74-87-3	
2-Chlorotoluene	**<97.7**	ug/kg	97.7	4.8	1	10/31/19 11:44	11/01/19 01:02	95-49-8	
4-Chlorotoluene	**<97.7**	ug/kg	97.7	5.0	1	10/31/19 11:44	11/01/19 01:02	106-43-4	
1,2-Dibromo-3-chloropropane	**<977**	ug/kg	977	340	1	10/31/19 11:44	11/01/19 01:02	96-12-8	
Dibromochloromethane	**<391**	ug/kg	391	11.3	1	10/31/19 11:44	11/01/19 01:02	124-48-1	
1,2-Dibromoethane (EDB)	**<97.7**	ug/kg	97.7	10.3	1	10/31/19 11:44	11/01/19 01:02	106-93-4	
Dibromomethane	**<97.7**	ug/kg	97.7	17.9	1	10/31/19 11:44	11/01/19 01:02	74-95-3	
1,2-Dichlorobenzene	**<97.7**	ug/kg	97.7	3.9	1	10/31/19 11:44	11/01/19 01:02	95-50-1	
1,3-Dichlorobenzene	**<97.7**	ug/kg	97.7	3.6	1	10/31/19 11:44	11/01/19 01:02	541-73-1	
1,4-Dichlorobenzene	**<97.7**	ug/kg	97.7	6.1	1	10/31/19 11:44	11/01/19 01:02	106-46-7	
Dichlorodifluoromethane	**<391**	ug/kg	391	31.7	1	10/31/19 11:44	11/01/19 01:02	75-71-8	
1,1-Dichloroethane	**<97.7**	ug/kg	97.7	11.0	1	10/31/19 11:44	11/01/19 01:02	75-34-3	
1,2-Dichloroethane	**<97.7**	ug/kg	97.7	10.7	1	10/31/19 11:44	11/01/19 01:02	107-06-2	
1,1-Dichloroethene	**<97.7**	ug/kg	97.7	29.3	1	10/31/19 11:44	11/01/19 01:02	75-35-4	
cis-1,2-Dichloroethene	**<97.7**	ug/kg	97.7	16.2	1	10/31/19 11:44	11/01/19 01:02	156-59-2	
trans-1,2-Dichloroethene	**<97.7**	ug/kg	97.7	45.7	1	10/31/19 11:44	11/01/19 01:02	156-60-5	
Dichlorofluoromethane	**<977**	ug/kg	977	135	1	10/31/19 11:44	11/01/19 01:02	75-43-4	
1,2-Dichloropropane	**<97.7**	ug/kg	97.7	16.8	1	10/31/19 11:44	11/01/19 01:02	78-87-5	
1,3-Dichloropropane	**<97.7**	ug/kg	97.7	13.5	1	10/31/19 11:44	11/01/19 01:02	142-28-9	
2,2-Dichloropropane	**<391**	ug/kg	391	12.2	1	10/31/19 11:44	11/01/19 01:02	594-20-7	
1,1-Dichloropropene	**<97.7**	ug/kg	97.7	45.1	1	10/31/19 11:44	11/01/19 01:02	563-58-6	
cis-1,3-Dichloropropene	**<97.7**	ug/kg	97.7	14.0	1	10/31/19 11:44	11/01/19 01:02	10061-01-5	
trans-1,3-Dichloropropene	**<97.7**	ug/kg	97.7	13.6	1	10/31/19 11:44	11/01/19 01:02	10061-02-6	
Diethyl ether (Ethyl ether)	**<391**	ug/kg	391	59.8	1	10/31/19 11:44	11/01/19 01:02	60-29-7	
Ethylbenzene	**<97.7**	ug/kg	97.7	5.3	1	10/31/19 11:44	11/01/19 01:02	100-41-4	
Hexachloro-1,3-butadiene	**<489**	ug/kg	489	23.8	1	10/31/19 11:44	11/01/19 01:02	87-68-3	

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: LE-SED-01-VOC **Lab ID: 10496207006** Collected: 10/18/19 10:00 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B								
Isopropylbenzene (Cumene)	**<97.7**	ug/kg	97.7	4.3	1	10/31/19 11:44	11/01/19 01:02	98-82-8	
p-Isopropyltoluene	**<97.7**	ug/kg	97.7	29.7	1	10/31/19 11:44	11/01/19 01:02	99-87-6	
Methylene Chloride	**<391**	ug/kg	391	184	1	10/31/19 11:44	11/01/19 01:02	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<489**	ug/kg	489	20.3	1	10/31/19 11:44	11/01/19 01:02	108-10-1	
Methyl-tert-butyl ether	**<97.7**	ug/kg	97.7	11.6	1	10/31/19 11:44	11/01/19 01:02	1634-04-4	
Naphthalene	**<391**	ug/kg	391	91.5	1	10/31/19 11:44	11/01/19 01:02	91-20-3	
n-Propylbenzene	**<97.7**	ug/kg	97.7	5.2	1	10/31/19 11:44	11/01/19 01:02	103-65-1	
Styrene	**<97.7**	ug/kg	97.7	4.5	1	10/31/19 11:44	11/01/19 01:02	100-42-5	
1,1,1,2-Tetrachloroethane	**<97.7**	ug/kg	97.7	30.7	1	10/31/19 11:44	11/01/19 01:02	630-20-6	
1,1,2,2-Tetrachloroethane	**<97.7**	ug/kg	97.7	17.2	1	10/31/19 11:44	11/01/19 01:02	79-34-5	
Tetrachloroethene	**<97.7**	ug/kg	97.7	34.4	1	10/31/19 11:44	11/01/19 01:02	127-18-4	
Tetrahydrofuran	**<3910**	ug/kg	3910	142	1	10/31/19 11:44	11/01/19 01:02	109-99-9	
Toluene	**<97.7**	ug/kg	97.7	23.8	1	10/31/19 11:44	11/01/19 01:02	108-88-3	
1,2,3-Trichlorobenzene	**<97.7**	ug/kg	97.7	15.6	1	10/31/19 11:44	11/01/19 01:02	87-61-6	
1,2,4-Trichlorobenzene	**<97.7**	ug/kg	97.7	21.7	1	10/31/19 11:44	11/01/19 01:02	120-82-1	
1,1,1-Trichloroethane	**<97.7**	ug/kg	97.7	45.5	1	10/31/19 11:44	11/01/19 01:02	71-55-6	
1,1,2-Trichloroethane	**<97.7**	ug/kg	97.7	11.7	1	10/31/19 11:44	11/01/19 01:02	79-00-5	
Trichloroethene	**<97.7**	ug/kg	97.7	15.1	1	10/31/19 11:44	11/01/19 01:02	79-01-6	
Trichlorofluoromethane	**<977**	ug/kg	977	170	1	10/31/19 11:44	11/01/19 01:02	75-69-4	
1,2,3-Trichloropropane	**<391**	ug/kg	391	25.6	1	10/31/19 11:44	11/01/19 01:02	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<391**	ug/kg	391	113	1	10/31/19 11:44	11/01/19 01:02	76-13-1	
1,2,4-Trimethylbenzene	**<97.7**	ug/kg	97.7	19.5	1	10/31/19 11:44	11/01/19 01:02	95-63-6	
1,3,5-Trimethylbenzene	**<97.7**	ug/kg	97.7	15.6	1	10/31/19 11:44	11/01/19 01:02	108-67-8	
Vinyl chloride	**<39.1**	ug/kg	39.1	19.2	1	10/31/19 11:44	11/01/19 01:02	75-01-4	
Xylene (Total)	**<293**	ug/kg	293	22.7	1	10/31/19 11:44	11/01/19 01:02	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	116	%.	75-125		1	10/31/19 11:44	11/01/19 01:02	17060-07-0	
Toluene-d8 (S)	98	%.	75-125		1	10/31/19 11:44	11/01/19 01:02	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	75-125		1	10/31/19 11:44	11/01/19 01:02	460-00-4	

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: LE-SED-02 **Lab ID: 10496207007** Collected: 10/18/19 10:20 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
WIDRO GCS Silica Gel	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO								
WDRO C10-C28	**384**	mg/kg	117	45.3	10	10/21/19 12:15	10/23/19 13:22		T6
Surrogates									
n-Triacontane (S)	0	%.	44-143		10	10/21/19 12:15	10/23/19 13:22	638-68-6	S4
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3050B								
Arsenic	**2.0**	mg/kg	1.3	0.27	1	10/23/19 08:59	10/29/19 17:35	7440-38-2	
Barium	**54.4**	mg/kg	0.65	0.10	1	10/23/19 08:59	10/29/19 17:35	7440-39-3	
Cadmium	**0.40**	mg/kg	0.20	0.039	1	10/23/19 08:59	10/29/19 17:35	7440-43-9	
Chromium	**8.5**	mg/kg	0.65	0.13	1	10/23/19 08:59	10/29/19 17:35	7440-47-3	
Copper	**12.0**	mg/kg	0.65	0.18	1	10/23/19 08:59	10/29/19 17:35	7440-50-8	
Lead	**42.1**	mg/kg	0.65	0.15	1	10/23/19 08:59	10/29/19 17:35	7439-92-1	
Selenium	**<0.43**	mg/kg	1.3	0.43	1	10/23/19 08:59	10/29/19 17:35	7782-49-2	
Silver	**<0.047**	mg/kg	0.65	0.047	1	10/23/19 08:59	10/29/19 17:35	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B								
Mercury	**0.020J**	mg/kg	0.025	0.011	1	10/23/19 08:53	10/30/19 09:22	7439-97-6	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974								
Percent Moisture	**30.2**	%	0.10	0.10	1		10/30/19 14:28		
8270D MSSV CPAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550C								
2-Methylnaphthalene	**32.5**	ug/kg	14.3	1.3	1	10/23/19 16:19	10/30/19 19:33	91-57-6	
3-Methylcholanthrene	**48.9**	ug/kg	14.3	1.6	1	10/23/19 16:19	10/30/19 19:33	56-49-5	
5-Methylchrysene	**219**	ug/kg	14.3	0.99	1	10/23/19 16:19	10/30/19 19:33	3697-24-3	
7,12-Dimethylbenz(a)anthracene	**<5.2**	ug/kg	14.3	5.2	1	10/23/19 16:19	10/30/19 19:33	57-97-6	
7H-Dibenzo(c,g)carbazole	**<1.9**	ug/kg	14.3	1.9	1	10/23/19 16:19	10/30/19 19:33	194-59-2	
Acenaphthene	**472**	ug/kg	14.3	4.5	1	10/23/19 16:19	10/30/19 19:33	83-32-9	
Acenaphthylene	**68.2**	ug/kg	14.3	3.7	1	10/23/19 16:19	10/30/19 19:33	208-96-8	
Anthracene	**1180**	ug/kg	143	10.9	10	10/23/19 16:19	10/31/19 16:15	120-12-7	
Benzo(a)anthracene	**2770**	ug/kg	143	16.6	10	10/23/19 16:19	10/31/19 16:15	56-55-3	
Benzo(a)pyrene	**2070**	ug/kg	143	12.9	10	10/23/19 16:19	10/31/19 16:15	50-32-8	
Benzo(g,h,i)perylene	**1180**	ug/kg	143	18.6	10	10/23/19 16:19	10/31/19 16:15	191-24-2	
Benzofluoranthenes (Total)	**4170**	ug/kg	429	34.8	10	10/23/19 16:19	10/31/19 16:15		N2
Chrysene	**3120**	ug/kg	143	20.3	10	10/23/19 16:19	10/31/19 16:15	218-01-9	
Dibenz(a,h)acridine	**<4.6**	ug/kg	14.3	4.6	1	10/23/19 16:19	10/30/19 19:33	226-36-8	
Dibenz(a,h)anthracene	**346**	ug/kg	14.3	1.7	1	10/23/19 16:19	10/30/19 19:33	53-70-3	
Dibenzo(a,e)pyrene	**641**	ug/kg	143	18.3	10	10/23/19 16:19	10/31/19 16:15	192-65-4	
Dibenzo(a,h)pyrene	**231**	ug/kg	14.3	3.0	1	10/23/19 16:19	10/30/19 19:33	189-64-0	
Dibenzo(a,i)pyrene	**207**	ug/kg	14.3	3.7	1	10/23/19 16:19	10/30/19 19:33	189-55-9	
Dibenzo(a,l)pyrene	**44.6**	ug/kg	14.3	3.3	1	10/23/19 16:19	10/30/19 19:33	191-30-0	
Fluoranthene	**6630**	ug/kg	716	61.6	50	10/23/19 16:19	10/31/19 16:44	206-44-0	
Fluorene	**483**	ug/kg	143	30.1	10	10/23/19 16:19	10/31/19 16:15	86-73-7	
Indeno(1,2,3-cd)pyrene	**1080**	ug/kg	143	15.7	10	10/23/19 16:19	10/31/19 16:15	193-39-5	
Naphthalene	**51.2**	ug/kg	14.3	4.2	1	10/23/19 16:19	10/30/19 19:33	91-20-3	
Phenanthrene	**4830**	ug/kg	716	121	50	10/23/19 16:19	10/31/19 16:44	85-01-8	

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: LE-SED-02 **Lab ID: 10496207007** Collected: 10/18/19 10:20 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV CPAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550C								
Pyrene	**5500**	ug/kg	716	85.2	50	10/23/19 16:19	10/31/19 16:44	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	86	%.	30-125		1	10/23/19 16:19	10/30/19 19:33	321-60-8	
p-Terphenyl-d14 (S)	82	%.	30-127		1	10/23/19 16:19	10/30/19 19:33	1718-51-0	

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: LE-SED-02-VOC **Lab ID: 10496207008** Collected: 10/18/19 10:20 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974								
Percent Moisture	**30.2**	%	0.10	0.10	1		10/30/19 14:28		N2
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B								
Acetone	**<1430**	ug/kg	1430	446	1	10/31/19 11:44	11/01/19 01:23	67-64-1	
Allyl chloride	**<287**	ug/kg	287	60.1	1	10/31/19 11:44	11/01/19 01:23	107-05-1	
Benzene	**<28.7**	ug/kg	28.7	4.0	1	10/31/19 11:44	11/01/19 01:23	71-43-2	
Bromobenzene	**<71.7**	ug/kg	71.7	4.4	1	10/31/19 11:44	11/01/19 01:23	108-86-1	
Bromochloromethane	**<71.7**	ug/kg	71.7	24.8	1	10/31/19 11:44	11/01/19 01:23	74-97-5	
Bromodichloromethane	**<71.7**	ug/kg	71.7	24.5	1	10/31/19 11:44	11/01/19 01:23	75-27-4	
Bromoform	**<287**	ug/kg	287	109	1	10/31/19 11:44	11/01/19 01:23	75-25-2	
Bromomethane	**<717**	ug/kg	717	83.9	1	10/31/19 11:44	11/01/19 01:23	74-83-9	
2-Butanone (MEK)	**<358**	ug/kg	358	38.1	1	10/31/19 11:44	11/01/19 01:23	78-93-3	
n-Butylbenzene	**<71.7**	ug/kg	71.7	34.1	1	10/31/19 11:44	11/01/19 01:23	104-51-8	
sec-Butylbenzene	**<71.7**	ug/kg	71.7	13.7	1	10/31/19 11:44	11/01/19 01:23	135-98-8	
tert-Butylbenzene	**<71.7**	ug/kg	71.7	13.8	1	10/31/19 11:44	11/01/19 01:23	98-06-6	
Carbon tetrachloride	**<71.7**	ug/kg	71.7	34.3	1	10/31/19 11:44	11/01/19 01:23	56-23-5	
Chlorobenzene	**<71.7**	ug/kg	71.7	4.0	1	10/31/19 11:44	11/01/19 01:23	108-90-7	
Chloroethane	**<717**	ug/kg	717	37.3	1	10/31/19 11:44	11/01/19 01:23	75-00-3	
Chloroform	**<71.7**	ug/kg	71.7	35.8	1	10/31/19 11:44	11/01/19 01:23	67-66-3	
Chloromethane	**<287**	ug/kg	287	17.2	1	10/31/19 11:44	11/01/19 01:23	74-87-3	
2-Chlorotoluene	**<71.7**	ug/kg	71.7	3.5	1	10/31/19 11:44	11/01/19 01:23	95-49-8	
4-Chlorotoluene	**<71.7**	ug/kg	71.7	3.7	1	10/31/19 11:44	11/01/19 01:23	106-43-4	
1,2-Dibromo-3-chloropropane	**<717**	ug/kg	717	249	1	10/31/19 11:44	11/01/19 01:23	96-12-8	
Dibromochloromethane	**<287**	ug/kg	287	8.3	1	10/31/19 11:44	11/01/19 01:23	124-48-1	
1,2-Dibromoethane (EDB)	**<71.7**	ug/kg	71.7	7.5	1	10/31/19 11:44	11/01/19 01:23	106-93-4	
Dibromomethane	**<71.7**	ug/kg	71.7	13.1	1	10/31/19 11:44	11/01/19 01:23	74-95-3	
1,2-Dichlorobenzene	**<71.7**	ug/kg	71.7	2.9	1	10/31/19 11:44	11/01/19 01:23	95-50-1	
1,3-Dichlorobenzene	**<71.7**	ug/kg	71.7	2.6	1	10/31/19 11:44	11/01/19 01:23	541-73-1	
1,4-Dichlorobenzene	**<71.7**	ug/kg	71.7	4.4	1	10/31/19 11:44	11/01/19 01:23	106-46-7	
Dichlorodifluoromethane	**<287**	ug/kg	287	23.2	1	10/31/19 11:44	11/01/19 01:23	75-71-8	
1,1-Dichloroethane	**<71.7**	ug/kg	71.7	8.0	1	10/31/19 11:44	11/01/19 01:23	75-34-3	
1,2-Dichloroethane	**<71.7**	ug/kg	71.7	7.9	1	10/31/19 11:44	11/01/19 01:23	107-06-2	
1,1-Dichloroethene	**<71.7**	ug/kg	71.7	21.5	1	10/31/19 11:44	11/01/19 01:23	75-35-4	
cis-1,2-Dichloroethene	**<71.7**	ug/kg	71.7	11.9	1	10/31/19 11:44	11/01/19 01:23	156-59-2	
trans-1,2-Dichloroethene	**<71.7**	ug/kg	71.7	33.5	1	10/31/19 11:44	11/01/19 01:23	156-60-5	
Dichlorofluoromethane	**<717**	ug/kg	717	99.0	1	10/31/19 11:44	11/01/19 01:23	75-43-4	
1,2-Dichloropropane	**<71.7**	ug/kg	71.7	12.4	1	10/31/19 11:44	11/01/19 01:23	78-87-5	
1,3-Dichloropropane	**<71.7**	ug/kg	71.7	9.9	1	10/31/19 11:44	11/01/19 01:23	142-28-9	
2,2-Dichloropropane	**<287**	ug/kg	287	8.9	1	10/31/19 11:44	11/01/19 01:23	594-20-7	
1,1-Dichloropropene	**<71.7**	ug/kg	71.7	33.1	1	10/31/19 11:44	11/01/19 01:23	563-58-6	
cis-1,3-Dichloropropene	**<71.7**	ug/kg	71.7	10.3	1	10/31/19 11:44	11/01/19 01:23	10061-01-5	
trans-1,3-Dichloropropene	**<71.7**	ug/kg	71.7	10	1	10/31/19 11:44	11/01/19 01:23	10061-02-6	
Diethyl ether (Ethyl ether)	**<287**	ug/kg	287	43.9	1	10/31/19 11:44	11/01/19 01:23	60-29-7	
Ethylbenzene	**<71.7**	ug/kg	71.7	3.9	1	10/31/19 11:44	11/01/19 01:23	100-41-4	
Hexachloro-1,3-butadiene	**<358**	ug/kg	358	17.5	1	10/31/19 11:44	11/01/19 01:23	87-68-3	

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: LE-SED-02-VOC **Lab ID: 10496207008** Collected: 10/18/19 10:20 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B								
Isopropylbenzene (Cumene)	**<71.7**	ug/kg	71.7	3.2	1	10/31/19 11:44	11/01/19 01:23	98-82-8	
p-Isopropyltoluene	**<71.7**	ug/kg	71.7	21.8	1	10/31/19 11:44	11/01/19 01:23	99-87-6	
Methylene Chloride	**<287**	ug/kg	287	135	1	10/31/19 11:44	11/01/19 01:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<358**	ug/kg	358	14.9	1	10/31/19 11:44	11/01/19 01:23	108-10-1	
Methyl-tert-butyl ether	**<71.7**	ug/kg	71.7	8.5	1	10/31/19 11:44	11/01/19 01:23	1634-04-4	
Naphthalene	**<287**	ug/kg	287	67.1	1	10/31/19 11:44	11/01/19 01:23	91-20-3	
n-Propylbenzene	**<71.7**	ug/kg	71.7	3.8	1	10/31/19 11:44	11/01/19 01:23	103-65-1	
Styrene	**<71.7**	ug/kg	71.7	3.3	1	10/31/19 11:44	11/01/19 01:23	100-42-5	
1,1,1,2-Tetrachloroethane	**<71.7**	ug/kg	71.7	22.5	1	10/31/19 11:44	11/01/19 01:23	630-20-6	
1,1,2,2-Tetrachloroethane	**<71.7**	ug/kg	71.7	12.6	1	10/31/19 11:44	11/01/19 01:23	79-34-5	
Tetrachloroethene	**<71.7**	ug/kg	71.7	25.2	1	10/31/19 11:44	11/01/19 01:23	127-18-4	
Tetrahydrofuran	**<2870**	ug/kg	2870	104	1	10/31/19 11:44	11/01/19 01:23	109-99-9	
Toluene	**<71.7**	ug/kg	71.7	17.5	1	10/31/19 11:44	11/01/19 01:23	108-88-3	
1,2,3-Trichlorobenzene	**<71.7**	ug/kg	71.7	11.5	1	10/31/19 11:44	11/01/19 01:23	87-61-6	
1,2,4-Trichlorobenzene	**<71.7**	ug/kg	71.7	15.9	1	10/31/19 11:44	11/01/19 01:23	120-82-1	
1,1,1-Trichloroethane	**<71.7**	ug/kg	71.7	33.4	1	10/31/19 11:44	11/01/19 01:23	71-55-6	
1,1,2-Trichloroethane	**<71.7**	ug/kg	71.7	8.6	1	10/31/19 11:44	11/01/19 01:23	79-00-5	
Trichloroethene	**<71.7**	ug/kg	71.7	11.1	1	10/31/19 11:44	11/01/19 01:23	79-01-6	
Trichlorofluoromethane	**<717**	ug/kg	717	125	1	10/31/19 11:44	11/01/19 01:23	75-69-4	
1,2,3-Trichloropropane	**<287**	ug/kg	287	18.8	1	10/31/19 11:44	11/01/19 01:23	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<287**	ug/kg	287	83.1	1	10/31/19 11:44	11/01/19 01:23	76-13-1	
1,2,4-Trimethylbenzene	**<71.7**	ug/kg	71.7	14.3	1	10/31/19 11:44	11/01/19 01:23	95-63-6	
1,3,5-Trimethylbenzene	**<71.7**	ug/kg	71.7	11.4	1	10/31/19 11:44	11/01/19 01:23	108-67-8	
Vinyl chloride	**<28.7**	ug/kg	28.7	14.1	1	10/31/19 11:44	11/01/19 01:23	75-01-4	
Xylene (Total)	**<215**	ug/kg	215	16.6	1	10/31/19 11:44	11/01/19 01:23	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	115	%.	75-125		1	10/31/19 11:44	11/01/19 01:23	17060-07-0	
Toluene-d8 (S)	97	%.	75-125		1	10/31/19 11:44	11/01/19 01:23	2037-26-5	
4-Bromofluorobenzene (S)	99	%.	75-125		1	10/31/19 11:44	11/01/19 01:23	460-00-4	

REPORT OF LABORATORY ANALYSIS

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(612)607-1700

ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: LE-SED-03 **Lab ID: 10496207009** Collected: 10/18/19 14:00 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
WIDRO GCS Silica Gel	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO								
WDRO C10-C28	**850**	mg/kg	182	70.5	10	10/21/19 12:15	10/23/19 13:29		T6
Surrogates									
n-Triacontane (S)	0	%.	44-143		10	10/21/19 12:15	10/23/19 13:29	638-68-6	S4
6010D MET ICP, TCLP	Analytical Method: EPA 6010D Preparation Method: EPA 3010A Leachate Method/Date: EPA 1311; 02/19/20 15:44 Initial pH: 8.17; Final pH: 5.25								
Lead	**0.47J**	mg/L	0.50	0.0098	1	02/20/20 11:16	02/21/20 10:27	7439-92-1	B
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3050B								
Arsenic	**8.0**	mg/kg	1.7	0.36	1	10/23/19 08:59	10/29/19 17:38	7440-38-2	
Barium	**148**	mg/kg	0.87	0.14	1	10/23/19 08:59	10/29/19 17:38	7440-39-3	
Cadmium	**1.1**	mg/kg	0.26	0.052	1	10/23/19 08:59	10/29/19 17:38	7440-43-9	
Chromium	**18.1**	mg/kg	0.87	0.17	1	10/23/19 08:59	10/29/19 17:38	7440-47-3	
Copper	**36.6**	mg/kg	0.87	0.24	1	10/23/19 08:59	10/29/19 17:38	7440-50-8	
Lead	**198**	mg/kg	0.87	0.20	1	10/23/19 08:59	10/29/19 17:38	7439-92-1	
Selenium	**<0.57**	mg/kg	1.7	0.57	1	10/23/19 08:59	10/29/19 17:38	7782-49-2	
Silver	**0.17J**	mg/kg	0.87	0.063	1	10/23/19 08:59	10/29/19 17:38	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B								
Mercury	**0.20**	mg/kg	0.036	0.016	1	10/23/19 08:53	10/30/19 09:29	7439-97-6	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974								
Percent Moisture	**46.4**	%	0.10	0.10	1		10/30/19 14:28		
8270D MSSV CPAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550C								
2-Methylnaphthalene	**78.5**	ug/kg	18.7	1.7	1	10/23/19 16:19	10/30/19 20:02	91-57-6	
3-Methylcholanthrene	**<2.1**	ug/kg	18.7	2.1	1	10/23/19 16:19	10/30/19 20:02	56-49-5	
5-Methylchrysene	**320**	ug/kg	18.7	1.3	1	10/23/19 16:19	10/30/19 20:02	3697-24-3	
7,12-Dimethylbenz(a)anthracene	**<6.8**	ug/kg	18.7	6.8	1	10/23/19 16:19	10/30/19 20:02	57-97-6	
7H-Dibenzo(c,g)carbazole	**<2.4**	ug/kg	18.7	2.4	1	10/23/19 16:19	10/30/19 20:02	194-59-2	
Acenaphthene	**174**	ug/kg	18.7	5.9	1	10/23/19 16:19	10/30/19 20:02	83-32-9	
Acenaphthylene	**173**	ug/kg	18.7	4.8	1	10/23/19 16:19	10/30/19 20:02	208-96-8	
Anthracene	**519**	ug/kg	18.7	1.4	1	10/23/19 16:19	10/30/19 20:02	120-12-7	
Benzo(a)anthracene	**1260**	ug/kg	187	21.6	10	10/23/19 16:19	10/31/19 17:13	56-55-3	
Benzo(a)pyrene	**1110**	ug/kg	187	16.8	10	10/23/19 16:19	10/31/19 17:13	50-32-8	
Benzo(g,h,i)perylene	**737**	ug/kg	187	24.3	10	10/23/19 16:19	10/31/19 17:13	191-24-2	
Benzofluoranthenes (Total)	**2390**	ug/kg	560	45.3	10	10/23/19 16:19	10/31/19 17:13		N2
Chrysene	**1710**	ug/kg	187	26.5	10	10/23/19 16:19	10/31/19 17:13	218-01-9	
Dibenz(a,h)acridine	**<6.0**	ug/kg	18.7	6.0	1	10/23/19 16:19	10/30/19 20:02	226-36-8	
Dibenz(a,h)anthracene	**209**	ug/kg	18.7	2.2	1	10/23/19 16:19	10/30/19 20:02	53-70-3	
Dibenzo(a,e)pyrene	**445**	ug/kg	18.7	2.4	1	10/23/19 16:19	10/30/19 20:02	192-65-4	
Dibenzo(a,h)pyrene	**148**	ug/kg	18.7	3.9	1	10/23/19 16:19	10/30/19 20:02	189-64-0	
Dibenzo(a,i)pyrene	**100**	ug/kg	18.7	4.8	1	10/23/19 16:19	10/30/19 20:02	189-55-9	
Dibenzo(a,l)pyrene	**16.5J**	ug/kg	18.7	4.3	1	10/23/19 16:19	10/30/19 20:02	191-30-0	

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: LE-SED-03 **Lab ID: 10496207009** Collected: 10/18/19 14:00 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV CPAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550C								
Fluoranthene	**3340**	ug/kg	187	16.0	10	10/23/19 16:19	10/31/19 17:13	206-44-0	
Fluorene	**219**	ug/kg	18.7	3.9	1	10/23/19 16:19	10/30/19 20:02	86-73-7	
Indeno(1,2,3-cd)pyrene	**615**	ug/kg	18.7	2.1	1	10/23/19 16:19	10/30/19 20:02	193-39-5	
Naphthalene	**68.3**	ug/kg	18.7	5.5	1	10/23/19 16:19	10/30/19 20:02	91-20-3	
Phenanthrene	**1970**	ug/kg	187	31.5	10	10/23/19 16:19	10/31/19 17:13	85-01-8	
Pyrene	**2950**	ug/kg	187	22.2	10	10/23/19 16:19	10/31/19 17:13	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	80	%.	30-125		1	10/23/19 16:19	10/30/19 20:02	321-60-8	
p-Terphenyl-d14 (S)	81	%.	30-127		1	10/23/19 16:19	10/30/19 20:02	1718-51-0	

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: LE-SED-03-VOC **Lab ID: 10496207010** Collected: 10/18/19 14:00 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974								
Percent Moisture	**46.4**	%	0.10	0.10	1		10/30/19 14:28		N2
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B								
Acetone	**<2250**	ug/kg	2250	700	1	10/31/19 11:44	11/01/19 01:45	67-64-1	
Allyl chloride	**<450**	ug/kg	450	94.3	1	10/31/19 11:44	11/01/19 01:45	107-05-1	
Benzene	**<45.0**	ug/kg	45.0	6.3	1	10/31/19 11:44	11/01/19 01:45	71-43-2	
Bromobenzene	**<113**	ug/kg	113	6.9	1	10/31/19 11:44	11/01/19 01:45	108-86-1	
Bromochloromethane	**<113**	ug/kg	113	38.9	1	10/31/19 11:44	11/01/19 01:45	74-97-5	
Bromodichloromethane	**<113**	ug/kg	113	38.5	1	10/31/19 11:44	11/01/19 01:45	75-27-4	
Bromoform	**<450**	ug/kg	450	170	1	10/31/19 11:44	11/01/19 01:45	75-25-2	
Bromomethane	**<1130**	ug/kg	1130	132	1	10/31/19 11:44	11/01/19 01:45	74-83-9	
2-Butanone (MEK)	**<563**	ug/kg	563	59.9	1	10/31/19 11:44	11/01/19 01:45	78-93-3	
n-Butylbenzene	**<113**	ug/kg	113	53.6	1	10/31/19 11:44	11/01/19 01:45	104-51-8	
sec-Butylbenzene	**<113**	ug/kg	113	21.6	1	10/31/19 11:44	11/01/19 01:45	135-98-8	
tert-Butylbenzene	**<113**	ug/kg	113	21.6	1	10/31/19 11:44	11/01/19 01:45	98-06-6	
Carbon tetrachloride	**<113**	ug/kg	113	53.8	1	10/31/19 11:44	11/01/19 01:45	56-23-5	
Chlorobenzene	**<113**	ug/kg	113	6.3	1	10/31/19 11:44	11/01/19 01:45	108-90-7	
Chloroethane	**<1130**	ug/kg	1130	58.5	1	10/31/19 11:44	11/01/19 01:45	75-00-3	
Chloroform	**<113**	ug/kg	113	56.3	1	10/31/19 11:44	11/01/19 01:45	67-66-3	
Chloromethane	**<450**	ug/kg	450	27.0	1	10/31/19 11:44	11/01/19 01:45	74-87-3	
2-Chlorotoluene	**<113**	ug/kg	113	5.5	1	10/31/19 11:44	11/01/19 01:45	95-49-8	
4-Chlorotoluene	**<113**	ug/kg	113	5.8	1	10/31/19 11:44	11/01/19 01:45	106-43-4	
1,2-Dibromo-3-chloropropane	**<1130**	ug/kg	1130	392	1	10/31/19 11:44	11/01/19 01:45	96-12-8	
Dibromochloromethane	**<450**	ug/kg	450	13.1	1	10/31/19 11:44	11/01/19 01:45	124-48-1	
1,2-Dibromoethane (EDB)	**<113**	ug/kg	113	11.8	1	10/31/19 11:44	11/01/19 01:45	106-93-4	
Dibromomethane	**<113**	ug/kg	113	20.6	1	10/31/19 11:44	11/01/19 01:45	74-95-3	
1,2-Dichlorobenzene	**<113**	ug/kg	113	4.5	1	10/31/19 11:44	11/01/19 01:45	95-50-1	
1,3-Dichlorobenzene	**<113**	ug/kg	113	4.1	1	10/31/19 11:44	11/01/19 01:45	541-73-1	
1,4-Dichlorobenzene	**<113**	ug/kg	113	7.0	1	10/31/19 11:44	11/01/19 01:45	106-46-7	
Dichlorodifluoromethane	**<450**	ug/kg	450	36.5	1	10/31/19 11:44	11/01/19 01:45	75-71-8	
1,1-Dichloroethane	**<113**	ug/kg	113	12.6	1	10/31/19 11:44	11/01/19 01:45	75-34-3	
1,2-Dichloroethane	**<113**	ug/kg	113	12.4	1	10/31/19 11:44	11/01/19 01:45	107-06-2	
1,1-Dichloroethene	**<113**	ug/kg	113	33.8	1	10/31/19 11:44	11/01/19 01:45	75-35-4	
cis-1,2-Dichloroethene	**<113**	ug/kg	113	18.7	1	10/31/19 11:44	11/01/19 01:45	156-59-2	
trans-1,2-Dichloroethene	**<113**	ug/kg	113	52.7	1	10/31/19 11:44	11/01/19 01:45	156-60-5	
Dichlorofluoromethane	**<1130**	ug/kg	1130	156	1	10/31/19 11:44	11/01/19 01:45	75-43-4	
1,2-Dichloropropane	**<113**	ug/kg	113	19.4	1	10/31/19 11:44	11/01/19 01:45	78-87-5	
1,3-Dichloropropane	**<113**	ug/kg	113	15.6	1	10/31/19 11:44	11/01/19 01:45	142-28-9	
2,2-Dichloropropane	**<450**	ug/kg	450	14.0	1	10/31/19 11:44	11/01/19 01:45	594-20-7	
1,1-Dichloropropene	**<113**	ug/kg	113	52.0	1	10/31/19 11:44	11/01/19 01:45	563-58-6	
cis-1,3-Dichloropropene	**<113**	ug/kg	113	16.1	1	10/31/19 11:44	11/01/19 01:45	10061-01-5	
trans-1,3-Dichloropropene	**<113**	ug/kg	113	15.6	1	10/31/19 11:44	11/01/19 01:45	10061-02-6	
Diethyl ether (Ethyl ether)	**<450**	ug/kg	450	68.9	1	10/31/19 11:44	11/01/19 01:45	60-29-7	
Ethylbenzene	**<113**	ug/kg	113	6.1	1	10/31/19 11:44	11/01/19 01:45	100-41-4	
Hexachloro-1,3-butadiene	**<563**	ug/kg	563	27.5	1	10/31/19 11:44	11/01/19 01:45	87-68-3	

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: LE-SED-03-VOC **Lab ID: 10496207010** Collected: 10/18/19 14:00 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B								
Isopropylbenzene (Cumene)	**<113**	ug/kg	113	5.0	1	10/31/19 11:44	11/01/19 01:45	98-82-8	
p-Isopropyltoluene	**<113**	ug/kg	113	34.2	1	10/31/19 11:44	11/01/19 01:45	99-87-6	
Methylene Chloride	**<450**	ug/kg	450	212	1	10/31/19 11:44	11/01/19 01:45	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<563**	ug/kg	563	23.4	1	10/31/19 11:44	11/01/19 01:45	108-10-1	
Methyl-tert-butyl ether	**<113**	ug/kg	113	13.4	1	10/31/19 11:44	11/01/19 01:45	1634-04-4	
Naphthalene	**<450**	ug/kg	450	105	1	10/31/19 11:44	11/01/19 01:45	91-20-3	
n-Propylbenzene	**<113**	ug/kg	113	6.0	1	10/31/19 11:44	11/01/19 01:45	103-65-1	
Styrene	**<113**	ug/kg	113	5.1	1	10/31/19 11:44	11/01/19 01:45	100-42-5	
1,1,1,2-Tetrachloroethane	**<113**	ug/kg	113	35.3	1	10/31/19 11:44	11/01/19 01:45	630-20-6	
1,1,2,2-Tetrachloroethane	**<113**	ug/kg	113	19.8	1	10/31/19 11:44	11/01/19 01:45	79-34-5	
Tetrachloroethene	**<113**	ug/kg	113	39.6	1	10/31/19 11:44	11/01/19 01:45	127-18-4	
Tetrahydrofuran	**<4500**	ug/kg	4500	164	1	10/31/19 11:44	11/01/19 01:45	109-99-9	
Toluene	**<113**	ug/kg	113	27.5	1	10/31/19 11:44	11/01/19 01:45	108-88-3	
1,2,3-Trichlorobenzene	**<113**	ug/kg	113	18.0	1	10/31/19 11:44	11/01/19 01:45	87-61-6	
1,2,4-Trichlorobenzene	**<113**	ug/kg	113	25.0	1	10/31/19 11:44	11/01/19 01:45	120-82-1	
1,1,1-Trichloroethane	**<113**	ug/kg	113	52.4	1	10/31/19 11:44	11/01/19 01:45	71-55-6	
1,1,2-Trichloroethane	**<113**	ug/kg	113	13.5	1	10/31/19 11:44	11/01/19 01:45	79-00-5	
Trichloroethene	**<113**	ug/kg	113	17.4	1	10/31/19 11:44	11/01/19 01:45	79-01-6	
Trichlorofluoromethane	**<1130**	ug/kg	1130	196	1	10/31/19 11:44	11/01/19 01:45	75-69-4	
1,2,3-Trichloropropane	**<450**	ug/kg	450	29.5	1	10/31/19 11:44	11/01/19 01:45	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<450**	ug/kg	450	131	1	10/31/19 11:44	11/01/19 01:45	76-13-1	
1,2,4-Trimethylbenzene	**<113**	ug/kg	113	22.5	1	10/31/19 11:44	11/01/19 01:45	95-63-6	
1,3,5-Trimethylbenzene	**<113**	ug/kg	113	17.9	1	10/31/19 11:44	11/01/19 01:45	108-67-8	
Vinyl chloride	**<45.0**	ug/kg	45.0	22.1	1	10/31/19 11:44	11/01/19 01:45	75-01-4	
Xylene (Total)	**<338**	ug/kg	338	26.1	1	10/31/19 11:44	11/01/19 01:45	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	115	%.	75-125		1	10/31/19 11:44	11/01/19 01:45	17060-07-0	
Toluene-d8 (S)	99	%.	75-125		1	10/31/19 11:44	11/01/19 01:45	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	75-125		1	10/31/19 11:44	11/01/19 01:45	460-00-4	

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: LE-SED-04 **Lab ID: 10496207011** Collected: 10/18/19 14:20 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
WIDRO GCS Silica Gel	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO								
WDRO C10-C28	**729**	mg/kg	167	64.9	10	10/21/19 12:15	10/23/19 13:36		T6
Surrogates									
n-Triacontane (S)	0	%.	44-143		10	10/21/19 12:15	10/23/19 13:36	638-68-6	S4
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3050B								
Arsenic	**4.6**	mg/kg	1.8	0.38	1	10/23/19 08:59	10/29/19 17:41	7440-38-2	
Barium	**60.6**	mg/kg	0.92	0.15	1	10/23/19 08:59	10/29/19 17:41	7440-39-3	
Cadmium	**0.63**	mg/kg	0.28	0.055	1	10/23/19 08:59	10/29/19 17:41	7440-43-9	
Chromium	**12.7**	mg/kg	0.92	0.18	1	10/23/19 08:59	10/29/19 17:41	7440-47-3	
Copper	**19.3**	mg/kg	0.92	0.26	1	10/23/19 08:59	10/29/19 17:41	7440-50-8	
Lead	**89.4**	mg/kg	0.92	0.21	1	10/23/19 08:59	10/29/19 17:41	7439-92-1	
Selenium	**<0.60**	mg/kg	1.8	0.60	1	10/23/19 08:59	10/29/19 17:41	7782-49-2	
Silver	**<0.067**	mg/kg	0.92	0.067	1	10/23/19 08:59	10/29/19 17:41	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B								
Mercury	**0.055**	mg/kg	0.038	0.017	1	10/23/19 08:53	10/30/19 09:32	7439-97-6	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974								
Percent Moisture	**47.2**	%	0.10	0.10	1		10/30/19 14:28		
8270D MSSV CPAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550C								
2-Methylnaphthalene	**52.7**	ug/kg	18.9	1.7	1	10/23/19 16:19	10/30/19 22:26	91-57-6	
3-Methylcholanthrene	**<2.1**	ug/kg	18.9	2.1	1	10/23/19 16:19	10/30/19 22:26	56-49-5	
5-Methylchrysene	**262**	ug/kg	18.9	1.3	1	10/23/19 16:19	10/30/19 22:26	3697-24-3	
7,12-Dimethylbenz(a)anthracene	**<6.9**	ug/kg	18.9	6.9	1	10/23/19 16:19	10/30/19 22:26	57-97-6	
7H-Dibenzo(c,g)carbazole	**<2.5**	ug/kg	18.9	2.5	1	10/23/19 16:19	10/30/19 22:26	194-59-2	
Acenaphthene	**185**	ug/kg	18.9	5.9	1	10/23/19 16:19	10/30/19 22:26	83-32-9	
Acenaphthylene	**89.4**	ug/kg	18.9	4.9	1	10/23/19 16:19	10/30/19 22:26	208-96-8	
Anthracene	**485**	ug/kg	18.9	1.4	1	10/23/19 16:19	10/30/19 22:26	120-12-7	
Benzo(a)anthracene	**1240**	ug/kg	189	21.9	10	10/23/19 16:19	10/31/19 19:09	56-55-3	
Benzo(a)pyrene	**1010**	ug/kg	189	17.1	10	10/23/19 16:19	10/31/19 19:09	50-32-8	
Benzo(g,h,i)perylene	**651**	ug/kg	189	24.6	10	10/23/19 16:19	10/31/19 19:09	191-24-2	
Benzofluoranthenes (Total)	**2090**	ug/kg	568	46.0	10	10/23/19 16:19	10/31/19 19:09		N2
Chrysene	**1560**	ug/kg	189	26.9	10	10/23/19 16:19	10/31/19 19:09	218-01-9	
Dibenz(a,h)acridine	**<6.1**	ug/kg	18.9	6.1	1	10/23/19 16:19	10/30/19 22:26	226-36-8	
Dibenz(a,h)anthracene	**188**	ug/kg	18.9	2.3	1	10/23/19 16:19	10/30/19 22:26	53-70-3	
Dibenzo(a,e)pyrene	**338**	ug/kg	18.9	2.4	1	10/23/19 16:19	10/30/19 22:26	192-65-4	
Dibenzo(a,h)pyrene	**114**	ug/kg	18.9	4.0	1	10/23/19 16:19	10/30/19 22:26	189-64-0	
Dibenzo(a,i)pyrene	**40.2**	ug/kg	18.9	4.9	1	10/23/19 16:19	10/30/19 22:26	189-55-9	
Dibenzo(a,l)pyrene	**19.0**	ug/kg	18.9	4.4	1	10/23/19 16:19	10/30/19 22:26	191-30-0	
Fluoranthene	**3120**	ug/kg	189	16.3	10	10/23/19 16:19	10/31/19 19:09	206-44-0	
Fluorene	**198**	ug/kg	18.9	4.0	1	10/23/19 16:19	10/30/19 22:26	86-73-7	
Indeno(1,2,3-cd)pyrene	**574**	ug/kg	18.9	2.1	1	10/23/19 16:19	10/30/19 22:26	193-39-5	
Naphthalene	**60.2**	ug/kg	18.9	5.6	1	10/23/19 16:19	10/30/19 22:26	91-20-3	
Phenanthrene	**2080**	ug/kg	189	32.0	10	10/23/19 16:19	10/31/19 19:09	85-01-8	

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: LE-SED-04 **Lab ID: 10496207011** Collected: 10/18/19 14:20 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV CPAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550C								
Pyrene	**2690**	ug/kg	189	22.5	10	10/23/19 16:19	10/31/19 19:09	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	72	%.	30-125		1	10/23/19 16:19	10/30/19 22:26	321-60-8	
p-Terphenyl-d14 (S)	69	%.	30-127		1	10/23/19 16:19	10/30/19 22:26	1718-51-0	

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: LE-SED-04-VOC **Lab ID: 10496207012** Collected: 10/18/19 14:20 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974								
Percent Moisture	**47.2**	%	0.10	0.10	1		10/30/19 14:28		N2
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B								
Acetone	**<2140**	ug/kg	2140	666	1	10/31/19 11:44	11/01/19 00:41	67-64-1	
Allyl chloride	**<428**	ug/kg	428	89.7	1	10/31/19 11:44	11/01/19 00:41	107-05-1	
Benzene	**<42.8**	ug/kg	42.8	6.0	1	10/31/19 11:44	11/01/19 00:41	71-43-2	
Bromobenzene	**<107**	ug/kg	107	6.6	1	10/31/19 11:44	11/01/19 00:41	108-86-1	
Bromochloromethane	**<107**	ug/kg	107	37.0	1	10/31/19 11:44	11/01/19 00:41	74-97-5	
Bromodichloromethane	**<107**	ug/kg	107	36.6	1	10/31/19 11:44	11/01/19 00:41	75-27-4	
Bromoform	**<428**	ug/kg	428	162	1	10/31/19 11:44	11/01/19 00:41	75-25-2	
Bromomethane	**<1070**	ug/kg	1070	125	1	10/31/19 11:44	11/01/19 00:41	74-83-9	
2-Butanone (MEK)	**<535**	ug/kg	535	56.9	1	10/31/19 11:44	11/01/19 00:41	78-93-3	
n-Butylbenzene	**<107**	ug/kg	107	51.0	1	10/31/19 11:44	11/01/19 00:41	104-51-8	
sec-Butylbenzene	**<107**	ug/kg	107	20.5	1	10/31/19 11:44	11/01/19 00:41	135-98-8	
tert-Butylbenzene	**<107**	ug/kg	107	20.6	1	10/31/19 11:44	11/01/19 00:41	98-06-6	
Carbon tetrachloride	**<107**	ug/kg	107	51.2	1	10/31/19 11:44	11/01/19 00:41	56-23-5	
Chlorobenzene	**<107**	ug/kg	107	6.0	1	10/31/19 11:44	11/01/19 00:41	108-90-7	
Chloroethane	**<1070**	ug/kg	1070	55.7	1	10/31/19 11:44	11/01/19 00:41	75-00-3	
Chloroform	**<107**	ug/kg	107	53.5	1	10/31/19 11:44	11/01/19 00:41	67-66-3	
Chloromethane	**<428**	ug/kg	428	25.7	1	10/31/19 11:44	11/01/19 00:41	74-87-3	
2-Chlorotoluene	**<107**	ug/kg	107	5.3	1	10/31/19 11:44	11/01/19 00:41	95-49-8	
4-Chlorotoluene	**<107**	ug/kg	107	5.5	1	10/31/19 11:44	11/01/19 00:41	106-43-4	
1,2-Dibromo-3-chloropropane	**<1070**	ug/kg	1070	373	1	10/31/19 11:44	11/01/19 00:41	96-12-8	
Dibromochloromethane	**<428**	ug/kg	428	12.4	1	10/31/19 11:44	11/01/19 00:41	124-48-1	
1,2-Dibromoethane (EDB)	**<107**	ug/kg	107	11.3	1	10/31/19 11:44	11/01/19 00:41	106-93-4	
Dibromomethane	**<107**	ug/kg	107	19.6	1	10/31/19 11:44	11/01/19 00:41	74-95-3	
1,2-Dichlorobenzene	**<107**	ug/kg	107	4.3	1	10/31/19 11:44	11/01/19 00:41	95-50-1	
1,3-Dichlorobenzene	**<107**	ug/kg	107	3.9	1	10/31/19 11:44	11/01/19 00:41	541-73-1	
1,4-Dichlorobenzene	**<107**	ug/kg	107	6.6	1	10/31/19 11:44	11/01/19 00:41	106-46-7	
Dichlorodifluoromethane	**<428**	ug/kg	428	34.7	1	10/31/19 11:44	11/01/19 00:41	75-71-8	
1,1-Dichloroethane	**<107**	ug/kg	107	12.0	1	10/31/19 11:44	11/01/19 00:41	75-34-3	
1,2-Dichloroethane	**<107**	ug/kg	107	11.8	1	10/31/19 11:44	11/01/19 00:41	107-06-2	
1,1-Dichloroethene	**<107**	ug/kg	107	32.1	1	10/31/19 11:44	11/01/19 00:41	75-35-4	
cis-1,2-Dichloroethene	**<107**	ug/kg	107	17.7	1	10/31/19 11:44	11/01/19 00:41	156-59-2	
trans-1,2-Dichloroethene	**<107**	ug/kg	107	50.1	1	10/31/19 11:44	11/01/19 00:41	156-60-5	
Dichlorofluoromethane	**<1070**	ug/kg	1070	148	1	10/31/19 11:44	11/01/19 00:41	75-43-4	
1,2-Dichloropropane	**<107**	ug/kg	107	18.5	1	10/31/19 11:44	11/01/19 00:41	78-87-5	
1,3-Dichloropropane	**<107**	ug/kg	107	14.8	1	10/31/19 11:44	11/01/19 00:41	142-28-9	
2,2-Dichloropropane	**<428**	ug/kg	428	13.4	1	10/31/19 11:44	11/01/19 00:41	594-20-7	
1,1-Dichloropropene	**<107**	ug/kg	107	49.5	1	10/31/19 11:44	11/01/19 00:41	563-58-6	
cis-1,3-Dichloropropene	**<107**	ug/kg	107	15.3	1	10/31/19 11:44	11/01/19 00:41	10061-01-5	
trans-1,3-Dichloropropene	**<107**	ug/kg	107	14.9	1	10/31/19 11:44	11/01/19 00:41	10061-02-6	
Diethyl ether (Ethyl ether)	**<428**	ug/kg	428	65.5	1	10/31/19 11:44	11/01/19 00:41	60-29-7	
Ethylbenzene	**<107**	ug/kg	107	5.8	1	10/31/19 11:44	11/01/19 00:41	100-41-4	
Hexachloro-1,3-butadiene	**<535**	ug/kg	535	26.1	1	10/31/19 11:44	11/01/19 00:41	87-68-3	

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: LE-SED-04-VOC **Lab ID: 10496207012** Collected: 10/18/19 14:20 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B								
Isopropylbenzene (Cumene)	**<107**	ug/kg	107	4.8	1	10/31/19 11:44	11/01/19 00:41	98-82-8	
p-Isopropyltoluene	**<107**	ug/kg	107	32.5	1	10/31/19 11:44	11/01/19 00:41	99-87-6	
Methylene Chloride	**<428**	ug/kg	428	201	1	10/31/19 11:44	11/01/19 00:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<535**	ug/kg	535	22.3	1	10/31/19 11:44	11/01/19 00:41	108-10-1	
Methyl-tert-butyl ether	**<107**	ug/kg	107	12.7	1	10/31/19 11:44	11/01/19 00:41	1634-04-4	
Naphthalene	**<428**	ug/kg	428	100	1	10/31/19 11:44	11/01/19 00:41	91-20-3	
n-Propylbenzene	**<107**	ug/kg	107	5.7	1	10/31/19 11:44	11/01/19 00:41	103-65-1	
Styrene	**<107**	ug/kg	107	4.9	1	10/31/19 11:44	11/01/19 00:41	100-42-5	
1,1,1,2-Tetrachloroethane	**<107**	ug/kg	107	33.6	1	10/31/19 11:44	11/01/19 00:41	630-20-6	
1,1,2,2-Tetrachloroethane	**<107**	ug/kg	107	18.9	1	10/31/19 11:44	11/01/19 00:41	79-34-5	
Tetrachloroethene	**<107**	ug/kg	107	37.7	1	10/31/19 11:44	11/01/19 00:41	127-18-4	
Tetrahydrofuran	**<4280**	ug/kg	4280	156	1	10/31/19 11:44	11/01/19 00:41	109-99-9	
Toluene	**<107**	ug/kg	107	26.1	1	10/31/19 11:44	11/01/19 00:41	108-88-3	
1,2,3-Trichlorobenzene	**<107**	ug/kg	107	17.1	1	10/31/19 11:44	11/01/19 00:41	87-61-6	
1,2,4-Trichlorobenzene	**<107**	ug/kg	107	23.8	1	10/31/19 11:44	11/01/19 00:41	120-82-1	
1,1,1-Trichloroethane	**<107**	ug/kg	107	49.9	1	10/31/19 11:44	11/01/19 00:41	71-55-6	
1,1,2-Trichloroethane	**<107**	ug/kg	107	12.8	1	10/31/19 11:44	11/01/19 00:41	79-00-5	
Trichloroethene	**<107**	ug/kg	107	16.5	1	10/31/19 11:44	11/01/19 00:41	79-01-6	
Trichlorofluoromethane	**<1070**	ug/kg	1070	187	1	10/31/19 11:44	11/01/19 00:41	75-69-4	
1,2,3-Trichloropropane	**<428**	ug/kg	428	28.0	1	10/31/19 11:44	11/01/19 00:41	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<428**	ug/kg	428	124	1	10/31/19 11:44	11/01/19 00:41	76-13-1	
1,2,4-Trimethylbenzene	**<107**	ug/kg	107	21.4	1	10/31/19 11:44	11/01/19 00:41	95-63-6	
1,3,5-Trimethylbenzene	**<107**	ug/kg	107	17.1	1	10/31/19 11:44	11/01/19 00:41	108-67-8	
Vinyl chloride	**<42.8**	ug/kg	42.8	21.1	1	10/31/19 11:44	11/01/19 00:41	75-01-4	
Xylene (Total)	**<321**	ug/kg	321	24.8	1	10/31/19 11:44	11/01/19 00:41	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	113	%.	75-125		1	10/31/19 11:44	11/01/19 00:41	17060-07-0	
Toluene-d8 (S)	98	%.	75-125		1	10/31/19 11:44	11/01/19 00:41	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	75-125		1	10/31/19 11:44	11/01/19 00:41	460-00-4	

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: DUP-01 **Lab ID: 10496207013** Collected: 10/18/19 00:00 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
WIDRO GCS Silica Gel	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO								
WDRO C10-C28	**936**	mg/kg	165	63.9	10	10/21/19 12:15	10/23/19 13:43		T6
Surrogates									
n-Triacontane (S)	0	%.	44-143		10	10/21/19 12:15	10/23/19 13:43	638-68-6	S4
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3050B								
Arsenic	**6.4**	mg/kg	1.7	0.35	1	10/23/19 08:59	10/29/19 17:50	7440-38-2	
Barium	**119**	mg/kg	0.85	0.13	1	10/23/19 08:59	10/29/19 17:50	7440-39-3	
Cadmium	**0.91**	mg/kg	0.26	0.051	1	10/23/19 08:59	10/29/19 17:50	7440-43-9	
Chromium	**15.3**	mg/kg	0.85	0.17	1	10/23/19 08:59	10/29/19 17:50	7440-47-3	
Copper	**30.6**	mg/kg	0.85	0.24	1	10/23/19 08:59	10/29/19 17:50	7440-50-8	
Lead	**163**	mg/kg	0.85	0.19	1	10/23/19 08:59	10/29/19 17:50	7439-92-1	
Selenium	**<0.56**	mg/kg	1.7	0.56	1	10/23/19 08:59	10/29/19 17:50	7782-49-2	
Silver	**0.15J**	mg/kg	0.85	0.062	1	10/23/19 08:59	10/29/19 17:50	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B								
Mercury	**0.16**	mg/kg	0.032	0.014	1	10/23/19 08:53	10/30/19 09:34	7439-97-6	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974								
Percent Moisture	**44.5**	%	0.10	0.10	1		10/30/19 14:28		
8270D MSSV CPAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550C								
2-Methylnaphthalene	**91.2**	ug/kg	17.9	1.6	1	10/23/19 16:19	10/30/19 20:30	91-57-6	
3-Methylcholanthrene	**<2.0**	ug/kg	17.9	2.0	1	10/23/19 16:19	10/30/19 20:30	56-49-5	
5-Methylchrysene	**308**	ug/kg	17.9	1.2	1	10/23/19 16:19	10/30/19 20:30	3697-24-3	
7,12-Dimethylbenz(a)anthracene	**<6.6**	ug/kg	17.9	6.6	1	10/23/19 16:19	10/30/19 20:30	57-97-6	
7H-Dibenzo(c,g)carbazole	**<2.4**	ug/kg	17.9	2.4	1	10/23/19 16:19	10/30/19 20:30	194-59-2	
Acenaphthene	**197**	ug/kg	17.9	5.6	1	10/23/19 16:19	10/30/19 20:30	83-32-9	
Acenaphthylene	**212**	ug/kg	17.9	4.6	1	10/23/19 16:19	10/30/19 20:30	208-96-8	
Anthracene	**558**	ug/kg	17.9	1.4	1	10/23/19 16:19	10/30/19 20:30	120-12-7	
Benzo(a)anthracene	**1260**	ug/kg	179	20.8	10	10/23/19 16:19	10/31/19 17:42	56-55-3	
Benzo(a)pyrene	**1120**	ug/kg	179	16.2	10	10/23/19 16:19	10/31/19 17:42	50-32-8	
Benzo(g,h,i)perylene	**762**	ug/kg	179	23.3	10	10/23/19 16:19	10/31/19 17:42	191-24-2	
Benzofluoranthenes (Total)	**2420**	ug/kg	538	43.6	10	10/23/19 16:19	10/31/19 17:42		N2
Chrysene	**1720**	ug/kg	179	25.5	10	10/23/19 16:19	10/31/19 17:42	218-01-9	
Dibenz(a,h)acridine	**<5.8**	ug/kg	17.9	5.8	1	10/23/19 16:19	10/30/19 20:30	226-36-8	
Dibenz(a,h)anthracene	**194**	ug/kg	17.9	2.2	1	10/23/19 16:19	10/30/19 20:30	53-70-3	
Dibenzo(a,e)pyrene	**432**	ug/kg	17.9	2.3	1	10/23/19 16:19	10/30/19 20:30	192-65-4	
Dibenzo(a,h)pyrene	**150**	ug/kg	17.9	3.8	1	10/23/19 16:19	10/30/19 20:30	189-64-0	
Dibenzo(a,i)pyrene	**101**	ug/kg	17.9	4.6	1	10/23/19 16:19	10/30/19 20:30	189-55-9	
Dibenzo(a,l)pyrene	**16.6J**	ug/kg	17.9	4.1	1	10/23/19 16:19	10/30/19 20:30	191-30-0	
Fluoranthene	**3470**	ug/kg	179	15.4	10	10/23/19 16:19	10/31/19 17:42	206-44-0	
Fluorene	**270**	ug/kg	17.9	3.8	1	10/23/19 16:19	10/30/19 20:30	86-73-7	
Indeno(1,2,3-cd)pyrene	**628**	ug/kg	179	19.7	10	10/23/19 16:19	10/31/19 17:42	193-39-5	
Naphthalene	**62.9**	ug/kg	17.9	5.3	1	10/23/19 16:19	10/30/19 20:30	91-20-3	
Phenanthrene	**1980**	ug/kg	179	30.3	10	10/23/19 16:19	10/31/19 17:42	85-01-8	

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: DUP-01 **Lab ID: 10496207013** Collected: 10/18/19 00:00 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV CPAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550C								
Pyrene	**3000**	ug/kg	179	21.4	10	10/23/19 16:19	10/31/19 17:42	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	76	%.	30-125		1	10/23/19 16:19	10/30/19 20:30	321-60-8	
p-Terphenyl-d14 (S)	76	%.	30-127		1	10/23/19 16:19	10/30/19 20:30	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: DUP-01-VOC **Lab ID: 10496207014** Collected: 10/18/19 00:00 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974								
Percent Moisture	**44.5**	%	0.10	0.10	1		10/30/19 14:28		N2
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B								
Acetone	**<2160**	ug/kg	2160	673	1	10/31/19 11:44	11/01/19 02:06	67-64-1	
Allyl chloride	**<433**	ug/kg	433	90.7	1	10/31/19 11:44	11/01/19 02:06	107-05-1	
Benzene	**<43.3**	ug/kg	43.3	6.1	1	10/31/19 11:44	11/01/19 02:06	71-43-2	
Bromobenzene	**<108**	ug/kg	108	6.6	1	10/31/19 11:44	11/01/19 02:06	108-86-1	
Bromochloromethane	**<108**	ug/kg	108	37.4	1	10/31/19 11:44	11/01/19 02:06	74-97-5	
Bromodichloromethane	**<108**	ug/kg	108	37.0	1	10/31/19 11:44	11/01/19 02:06	75-27-4	
Bromoform	**<433**	ug/kg	433	164	1	10/31/19 11:44	11/01/19 02:06	75-25-2	
Bromomethane	**<1080**	ug/kg	1080	127	1	10/31/19 11:44	11/01/19 02:06	74-83-9	
2-Butanone (MEK)	**<541**	ug/kg	541	57.6	1	10/31/19 11:44	11/01/19 02:06	78-93-3	
n-Butylbenzene	**<108**	ug/kg	108	51.5	1	10/31/19 11:44	11/01/19 02:06	104-51-8	
sec-Butylbenzene	**<108**	ug/kg	108	20.7	1	10/31/19 11:44	11/01/19 02:06	135-98-8	
tert-Butylbenzene	**<108**	ug/kg	108	20.8	1	10/31/19 11:44	11/01/19 02:06	98-06-6	
Carbon tetrachloride	**<108**	ug/kg	108	51.7	1	10/31/19 11:44	11/01/19 02:06	56-23-5	
Chlorobenzene	**<108**	ug/kg	108	6.1	1	10/31/19 11:44	11/01/19 02:06	108-90-7	
Chloroethane	**<1080**	ug/kg	1080	56.3	1	10/31/19 11:44	11/01/19 02:06	75-00-3	
Chloroform	**<108**	ug/kg	108	54.1	1	10/31/19 11:44	11/01/19 02:06	67-66-3	
Chloromethane	**<433**	ug/kg	433	26.0	1	10/31/19 11:44	11/01/19 02:06	74-87-3	
2-Chlorotoluene	**<108**	ug/kg	108	5.3	1	10/31/19 11:44	11/01/19 02:06	95-49-8	
4-Chlorotoluene	**<108**	ug/kg	108	5.5	1	10/31/19 11:44	11/01/19 02:06	106-43-4	
1,2-Dibromo-3-chloropropane	**<1080**	ug/kg	1080	377	1	10/31/19 11:44	11/01/19 02:06	96-12-8	
Dibromochloromethane	**<433**	ug/kg	433	12.6	1	10/31/19 11:44	11/01/19 02:06	124-48-1	
1,2-Dibromoethane (EDB)	**<108**	ug/kg	108	11.4	1	10/31/19 11:44	11/01/19 02:06	106-93-4	
Dibromomethane	**<108**	ug/kg	108	19.8	1	10/31/19 11:44	11/01/19 02:06	74-95-3	
1,2-Dichlorobenzene	**<108**	ug/kg	108	4.4	1	10/31/19 11:44	11/01/19 02:06	95-50-1	
1,3-Dichlorobenzene	**<108**	ug/kg	108	3.9	1	10/31/19 11:44	11/01/19 02:06	541-73-1	
1,4-Dichlorobenzene	**<108**	ug/kg	108	6.7	1	10/31/19 11:44	11/01/19 02:06	106-46-7	
Dichlorodifluoromethane	**<433**	ug/kg	433	35.1	1	10/31/19 11:44	11/01/19 02:06	75-71-8	
1,1-Dichloroethane	**<108**	ug/kg	108	12.1	1	10/31/19 11:44	11/01/19 02:06	75-34-3	
1,2-Dichloroethane	**<108**	ug/kg	108	11.9	1	10/31/19 11:44	11/01/19 02:06	107-06-2	
1,1-Dichloroethene	**<108**	ug/kg	108	32.5	1	10/31/19 11:44	11/01/19 02:06	75-35-4	
cis-1,2-Dichloroethene	**<108**	ug/kg	108	17.9	1	10/31/19 11:44	11/01/19 02:06	156-59-2	
trans-1,2-Dichloroethene	**<108**	ug/kg	108	50.6	1	10/31/19 11:44	11/01/19 02:06	156-60-5	
Dichlorofluoromethane	**<1080**	ug/kg	1080	150	1	10/31/19 11:44	11/01/19 02:06	75-43-4	
1,2-Dichloropropane	**<108**	ug/kg	108	18.7	1	10/31/19 11:44	11/01/19 02:06	78-87-5	
1,3-Dichloropropane	**<108**	ug/kg	108	15.0	1	10/31/19 11:44	11/01/19 02:06	142-28-9	
2,2-Dichloropropane	**<433**	ug/kg	433	13.5	1	10/31/19 11:44	11/01/19 02:06	594-20-7	
1,1-Dichloropropene	**<108**	ug/kg	108	50.0	1	10/31/19 11:44	11/01/19 02:06	563-58-6	
cis-1,3-Dichloropropene	**<108**	ug/kg	108	15.5	1	10/31/19 11:44	11/01/19 02:06	10061-01-5	
trans-1,3-Dichloropropene	**<108**	ug/kg	108	15.0	1	10/31/19 11:44	11/01/19 02:06	10061-02-6	
Diethyl ether (Ethyl ether)	**<433**	ug/kg	433	66.2	1	10/31/19 11:44	11/01/19 02:06	60-29-7	
Ethylbenzene	**<108**	ug/kg	108	5.9	1	10/31/19 11:44	11/01/19 02:06	100-41-4	
Hexachloro-1,3-butadiene	**<541**	ug/kg	541	26.4	1	10/31/19 11:44	11/01/19 02:06	87-68-3	

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: DUP-01-VOC **Lab ID: 10496207014** Collected: 10/18/19 00:00 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B								
Isopropylbenzene (Cumene)	**<108**	ug/kg	108	4.8	1	10/31/19 11:44	11/01/19 02:06	98-82-8	
p-Isopropyltoluene	**<108**	ug/kg	108	32.9	1	10/31/19 11:44	11/01/19 02:06	99-87-6	
Methylene Chloride	**<433**	ug/kg	433	204	1	10/31/19 11:44	11/01/19 02:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<541**	ug/kg	541	22.5	1	10/31/19 11:44	11/01/19 02:06	108-10-1	
Methyl-tert-butyl ether	**<108**	ug/kg	108	12.9	1	10/31/19 11:44	11/01/19 02:06	1634-04-4	
Naphthalene	**<433**	ug/kg	433	101	1	10/31/19 11:44	11/01/19 02:06	91-20-3	
n-Propylbenzene	**<108**	ug/kg	108	5.8	1	10/31/19 11:44	11/01/19 02:06	103-65-1	
Styrene	**<108**	ug/kg	108	4.9	1	10/31/19 11:44	11/01/19 02:06	100-42-5	
1,1,1,2-Tetrachloroethane	**<108**	ug/kg	108	34.0	1	10/31/19 11:44	11/01/19 02:06	630-20-6	
1,1,2,2-Tetrachloroethane	**<108**	ug/kg	108	19.1	1	10/31/19 11:44	11/01/19 02:06	79-34-5	
Tetrachloroethene	**<108**	ug/kg	108	38.1	1	10/31/19 11:44	11/01/19 02:06	127-18-4	
Tetrahydrofuran	**<4330**	ug/kg	4330	157	1	10/31/19 11:44	11/01/19 02:06	109-99-9	
Toluene	**<108**	ug/kg	108	26.4	1	10/31/19 11:44	11/01/19 02:06	108-88-3	
1,2,3-Trichlorobenzene	**<108**	ug/kg	108	17.3	1	10/31/19 11:44	11/01/19 02:06	87-61-6	
1,2,4-Trichlorobenzene	**<108**	ug/kg	108	24.0	1	10/31/19 11:44	11/01/19 02:06	120-82-1	
1,1,1-Trichloroethane	**<108**	ug/kg	108	50.4	1	10/31/19 11:44	11/01/19 02:06	71-55-6	
1,1,2-Trichloroethane	**<108**	ug/kg	108	12.9	1	10/31/19 11:44	11/01/19 02:06	79-00-5	
Trichloroethene	**<108**	ug/kg	108	16.7	1	10/31/19 11:44	11/01/19 02:06	79-01-6	
Trichlorofluoromethane	**<1080**	ug/kg	1080	189	1	10/31/19 11:44	11/01/19 02:06	75-69-4	
1,2,3-Trichloropropane	**<433**	ug/kg	433	28.3	1	10/31/19 11:44	11/01/19 02:06	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<433**	ug/kg	433	126	1	10/31/19 11:44	11/01/19 02:06	76-13-1	
1,2,4-Trimethylbenzene	**<108**	ug/kg	108	21.6	1	10/31/19 11:44	11/01/19 02:06	95-63-6	
1,3,5-Trimethylbenzene	**<108**	ug/kg	108	17.2	1	10/31/19 11:44	11/01/19 02:06	108-67-8	
Vinyl chloride	**<43.3**	ug/kg	43.3	21.3	1	10/31/19 11:44	11/01/19 02:06	75-01-4	
Xylene (Total)	**<325**	ug/kg	325	25.1	1	10/31/19 11:44	11/01/19 02:06	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	115	%.	75-125		1	10/31/19 11:44	11/01/19 02:06	17060-07-0	
Toluene-d8 (S)	98	%.	75-125		1	10/31/19 11:44	11/01/19 02:06	2037-26-5	
4-Bromofluorobenzene (S)	100	%.	75-125		1	10/31/19 11:44	11/01/19 02:06	460-00-4	

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: LF-SED-01 **Lab ID: 10496207015** Collected: 10/17/19 14:15 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
WIDRO GCS Silica Gel	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO								
WDRO C10-C28	**77.5**	mg/kg	38.8	15.1	2	10/21/19 12:15	10/23/19 18:34		T6
Surrogates									
n-Triacontane (S)	85	%.	44-143		2	10/21/19 12:15	10/23/19 18:34	638-68-6	
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3050B								
Arsenic	**4.7**	mg/kg	1.8	0.37	1	10/23/19 08:59	10/29/19 17:53	7440-38-2	
Barium	**87.3**	mg/kg	0.90	0.14	1	10/23/19 08:59	10/29/19 17:53	7440-39-3	
Cadmium	**0.31**	mg/kg	0.27	0.054	1	10/23/19 08:59	10/29/19 17:53	7440-43-9	
Chromium	**11.0**	mg/kg	0.90	0.18	1	10/23/19 08:59	10/29/19 17:53	7440-47-3	
Copper	**14.7**	mg/kg	0.90	0.25	1	10/23/19 08:59	10/29/19 17:53	7440-50-8	
Lead	**16.3**	mg/kg	0.90	0.20	1	10/23/19 08:59	10/29/19 17:53	7439-92-1	
Selenium	**<0.59**	mg/kg	1.8	0.59	1	10/23/19 08:59	10/29/19 17:53	7782-49-2	
Silver	**<0.065**	mg/kg	0.90	0.065	1	10/23/19 08:59	10/29/19 17:53	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B								
Mercury	**0.052**	mg/kg	0.032	0.015	1	10/23/19 08:53	10/30/19 09:37	7439-97-6	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974								
Percent Moisture	**45.5**	%	0.10	0.10	1		10/30/19 14:28		
8270D MSSV CPAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550C								
2-Methylnaphthalene	**2.2J**	ug/kg	18.3	1.7	1	10/23/19 16:19	10/30/19 20:59	91-57-6	
3-Methylcholanthrene	**<2.1**	ug/kg	18.3	2.1	1	10/23/19 16:19	10/30/19 20:59	56-49-5	
5-Methylchrysene	**85.1**	ug/kg	18.3	1.3	1	10/23/19 16:19	10/30/19 20:59	3697-24-3	
7,12-Dimethylbenz(a)anthracene	**<6.7**	ug/kg	18.3	6.7	1	10/23/19 16:19	10/30/19 20:59	57-97-6	
7H-Dibenzo(c,g)carbazole	**<2.4**	ug/kg	18.3	2.4	1	10/23/19 16:19	10/30/19 20:59	194-59-2	
Acenaphthene	**22.7**	ug/kg	18.3	5.8	1	10/23/19 16:19	10/30/19 20:59	83-32-9	
Acenaphthylene	**28.3**	ug/kg	18.3	4.8	1	10/23/19 16:19	10/30/19 20:59	208-96-8	
Anthracene	**76.2**	ug/kg	18.3	1.4	1	10/23/19 16:19	10/30/19 20:59	120-12-7	
Benzo(a)anthracene	**320**	ug/kg	18.3	2.1	1	10/23/19 16:19	10/30/19 20:59	56-55-3	
Benzo(a)pyrene	**326**	ug/kg	18.3	1.7	1	10/23/19 16:19	10/30/19 20:59	50-32-8	
Benzo(g,h,i)perylene	**267**	ug/kg	18.3	2.4	1	10/23/19 16:19	10/30/19 20:59	191-24-2	
Benzofluoranthenes (Total)	**724**	ug/kg	55.0	4.5	1	10/23/19 16:19	10/30/19 20:59		N2
Chrysene	**472**	ug/kg	18.3	2.6	1	10/23/19 16:19	10/30/19 20:59	218-01-9	
Dibenz(a,h)acridine	**<5.9**	ug/kg	18.3	5.9	1	10/23/19 16:19	10/30/19 20:59	226-36-8	
Dibenz(a,h)anthracene	**60.6**	ug/kg	18.3	2.2	1	10/23/19 16:19	10/30/19 20:59	53-70-3	
Dibenzo(a,e)pyrene	**150**	ug/kg	18.3	2.3	1	10/23/19 16:19	10/30/19 20:59	192-65-4	
Dibenzo(a,h)pyrene	**54.0**	ug/kg	18.3	3.9	1	10/23/19 16:19	10/30/19 20:59	189-64-0	
Dibenzo(a,i)pyrene	**20.2**	ug/kg	18.3	4.7	1	10/23/19 16:19	10/30/19 20:59	189-55-9	
Dibenzo(a,l)pyrene	**7.0J**	ug/kg	18.3	4.2	1	10/23/19 16:19	10/30/19 20:59	191-30-0	
Fluoranthene	**771**	ug/kg	91.7	7.9	5	10/23/19 16:19	10/31/19 18:11	206-44-0	
Fluorene	**30.9**	ug/kg	18.3	3.9	1	10/23/19 16:19	10/30/19 20:59	86-73-7	
Indeno(1,2,3-cd)pyrene	**205**	ug/kg	18.3	2.0	1	10/23/19 16:19	10/30/19 20:59	193-39-5	
Naphthalene	**<5.4**	ug/kg	18.3	5.4	1	10/23/19 16:19	10/30/19 20:59	91-20-3	
Phenanthrene	**360**	ug/kg	18.3	3.1	1	10/23/19 16:19	10/30/19 20:59	85-01-8	

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: LF-SED-01 **Lab ID: 10496207015** Collected: 10/17/19 14:15 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV CPAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550C								
Pyrene	**686**	ug/kg	91.7	10.9	5	10/23/19 16:19	10/31/19 18:11	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	72	%.	30-125		1	10/23/19 16:19	10/30/19 20:59	321-60-8	
p-Terphenyl-d14 (S)	66	%.	30-127		1	10/23/19 16:19	10/30/19 20:59	1718-51-0	

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: LF-SED-02 **Lab ID: 10496207016** Collected: 10/17/19 13:55 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
WIDRO GCS Silica Gel	Analytical Method: WI MOD DRO Preparation Method: WI MOD DRO								
WDRO C10-C28	**213**	mg/kg	115	44.6	5	10/21/19 12:15	10/23/19 18:27		T6
Surrogates									
n-Triacontane (S)	75	%.	44-143		5	10/21/19 12:15	10/23/19 18:27	638-68-6	
6010D MET ICP	Analytical Method: EPA 6010D Preparation Method: EPA 3050B								
Arsenic	**9.2**	mg/kg	2.0	0.42	1	10/23/19 08:59	10/29/19 17:56	7440-38-2	
Barium	**148**	mg/kg	1.0	0.16	1	10/23/19 08:59	10/29/19 17:56	7440-39-3	
Cadmium	**0.68**	mg/kg	0.31	0.061	1	10/23/19 08:59	10/29/19 17:56	7440-43-9	
Chromium	**22.5**	mg/kg	1.0	0.20	1	10/23/19 08:59	10/29/19 17:56	7440-47-3	
Copper	**32.0**	mg/kg	1.0	0.28	1	10/23/19 08:59	10/29/19 17:56	7440-50-8	
Lead	**74.3**	mg/kg	1.0	0.23	1	10/23/19 08:59	10/29/19 17:56	7439-92-1	
Selenium	**<0.67**	mg/kg	2.0	0.67	1	10/23/19 08:59	10/29/19 17:56	7782-49-2	
Silver	**0.12J**	mg/kg	1.0	0.074	1	10/23/19 08:59	10/29/19 17:56	7440-22-4	
7471B Mercury	Analytical Method: EPA 7471B Preparation Method: EPA 7471B								
Mercury	**0.13**	mg/kg	0.038	0.017	1	10/23/19 08:53	10/30/19 09:39	7439-97-6	
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974								
Percent Moisture	**53.4**	%	0.10	0.10	1		10/30/19 14:28		
8270D MSSV CPAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550C								
2-Methylnaphthalene	**3.7J**	ug/kg	21.5	2.0	1	10/23/19 16:19	10/30/19 21:28	91-57-6	
3-Methylcholanthrene	**<2.4**	ug/kg	21.5	2.4	1	10/23/19 16:19	10/30/19 21:28	56-49-5	
5-Methylchrysene	**63.5**	ug/kg	21.5	1.5	1	10/23/19 16:19	10/30/19 21:28	3697-24-3	
7,12-Dimethylbenz(a)anthracene	**<7.9**	ug/kg	21.5	7.9	1	10/23/19 16:19	10/30/19 21:28	57-97-6	
7H-Dibenzo(c,g)carbazole	**<2.8**	ug/kg	21.5	2.8	1	10/23/19 16:19	10/30/19 21:28	194-59-2	
Acenaphthene	**37.3**	ug/kg	21.5	6.7	1	10/23/19 16:19	10/30/19 21:28	83-32-9	
Acenaphthylene	**55.9**	ug/kg	21.5	5.6	1	10/23/19 16:19	10/30/19 21:28	208-96-8	
Anthracene	**113**	ug/kg	21.5	1.6	1	10/23/19 16:19	10/30/19 21:28	120-12-7	
Benzo(a)anthracene	**346**	ug/kg	21.5	2.5	1	10/23/19 16:19	10/30/19 21:28	56-55-3	
Benzo(a)pyrene	**345**	ug/kg	21.5	1.9	1	10/23/19 16:19	10/30/19 21:28	50-32-8	
Benzo(g,h,i)perylene	**265**	ug/kg	21.5	2.8	1	10/23/19 16:19	10/30/19 21:28	191-24-2	
Benzofluoranthenes (Total)	**782**	ug/kg	64.4	5.2	1	10/23/19 16:19	10/30/19 21:28		N2
Chrysene	**522**	ug/kg	21.5	3.0	1	10/23/19 16:19	10/30/19 21:28	218-01-9	
Dibenz(a,h)acridine	**<7.0**	ug/kg	21.5	7.0	1	10/23/19 16:19	10/30/19 21:28	226-36-8	
Dibenz(a,h)anthracene	**83.2**	ug/kg	21.5	2.6	1	10/23/19 16:19	10/30/19 21:28	53-70-3	
Dibenzo(a,e)pyrene	**160**	ug/kg	21.5	2.7	1	10/23/19 16:19	10/30/19 21:28	192-65-4	
Dibenzo(a,h)pyrene	**53.8**	ug/kg	21.5	4.5	1	10/23/19 16:19	10/30/19 21:28	189-64-0	
Dibenzo(a,i)pyrene	**17.8J**	ug/kg	21.5	5.5	1	10/23/19 16:19	10/30/19 21:28	189-55-9	
Dibenzo(a,l)pyrene	**6.1J**	ug/kg	21.5	4.9	1	10/23/19 16:19	10/30/19 21:28	191-30-0	
Fluoranthene	**891**	ug/kg	107	9.2	5	10/23/19 16:19	10/31/19 18:40	206-44-0	
Fluorene	**48.4**	ug/kg	21.5	4.5	1	10/23/19 16:19	10/30/19 21:28	86-73-7	
Indeno(1,2,3-cd)pyrene	**221**	ug/kg	21.5	2.4	1	10/23/19 16:19	10/30/19 21:28	193-39-5	
Naphthalene	**<6.4**	ug/kg	21.5	6.4	1	10/23/19 16:19	10/30/19 21:28	91-20-3	
Phenanthrene	**425**	ug/kg	21.5	3.6	1	10/23/19 16:19	10/30/19 21:28	85-01-8	

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: LF-SED-02 **Lab ID: 10496207016** Collected: 10/17/19 13:55 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8270D MSSV CPAH by SIM	Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3550C								
Pyrene	**801**	ug/kg	107	12.8	5	10/23/19 16:19	10/31/19 18:40	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	80	%.	30-125		1	10/23/19 16:19	10/30/19 21:28	321-60-8	
p-Terphenyl-d14 (S)	83	%.	30-127		1	10/23/19 16:19	10/30/19 21:28	1718-51-0	

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: TRIP BLANK 1 **Lab ID: 10496207017** Collected: 10/18/19 00:00 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B								
Acetone	**<1000**	ug/kg	1000	311	1	10/31/19 11:44	10/31/19 23:59	67-64-1	
Allyl chloride	**<200**	ug/kg	200	41.9	1	10/31/19 11:44	10/31/19 23:59	107-05-1	
Benzene	**<20.0**	ug/kg	20.0	2.8	1	10/31/19 11:44	10/31/19 23:59	71-43-2	
Bromobenzene	**<50.0**	ug/kg	50.0	3.1	1	10/31/19 11:44	10/31/19 23:59	108-86-1	
Bromochloromethane	**<50.0**	ug/kg	50.0	17.3	1	10/31/19 11:44	10/31/19 23:59	74-97-5	
Bromodichloromethane	**<50.0**	ug/kg	50.0	17.1	1	10/31/19 11:44	10/31/19 23:59	75-27-4	
Bromoform	**<200**	ug/kg	200	75.7	1	10/31/19 11:44	10/31/19 23:59	75-25-2	
Bromomethane	**<500**	ug/kg	500	58.5	1	10/31/19 11:44	10/31/19 23:59	74-83-9	
2-Butanone (MEK)	**<250**	ug/kg	250	26.6	1	10/31/19 11:44	10/31/19 23:59	78-93-3	
n-Butylbenzene	**<50.0**	ug/kg	50.0	23.8	1	10/31/19 11:44	10/31/19 23:59	104-51-8	
sec-Butylbenzene	**<50.0**	ug/kg	50.0	9.6	1	10/31/19 11:44	10/31/19 23:59	135-98-8	
tert-Butylbenzene	**<50.0**	ug/kg	50.0	9.6	1	10/31/19 11:44	10/31/19 23:59	98-06-6	
Carbon tetrachloride	**<50.0**	ug/kg	50.0	23.9	1	10/31/19 11:44	10/31/19 23:59	56-23-5	
Chlorobenzene	**<50.0**	ug/kg	50.0	2.8	1	10/31/19 11:44	10/31/19 23:59	108-90-7	
Chloroethane	**<500**	ug/kg	500	26.0	1	10/31/19 11:44	10/31/19 23:59	75-00-3	
Chloroform	**<50.0**	ug/kg	50.0	25.0	1	10/31/19 11:44	10/31/19 23:59	67-66-3	
Chloromethane	**<200**	ug/kg	200	12.0	1	10/31/19 11:44	10/31/19 23:59	74-87-3	
2-Chlorotoluene	**<50.0**	ug/kg	50.0	2.5	1	10/31/19 11:44	10/31/19 23:59	95-49-8	
4-Chlorotoluene	**<50.0**	ug/kg	50.0	2.6	1	10/31/19 11:44	10/31/19 23:59	106-43-4	
1,2-Dibromo-3-chloropropane	**<500**	ug/kg	500	174	1	10/31/19 11:44	10/31/19 23:59	96-12-8	
Dibromochloromethane	**<200**	ug/kg	200	5.8	1	10/31/19 11:44	10/31/19 23:59	124-48-1	
1,2-Dibromoethane (EDB)	**<50.0**	ug/kg	50.0	5.3	1	10/31/19 11:44	10/31/19 23:59	106-93-4	
Dibromomethane	**<50.0**	ug/kg	50.0	9.2	1	10/31/19 11:44	10/31/19 23:59	74-95-3	
1,2-Dichlorobenzene	**<50.0**	ug/kg	50.0	2.0	1	10/31/19 11:44	10/31/19 23:59	95-50-1	
1,3-Dichlorobenzene	**<50.0**	ug/kg	50.0	1.8	1	10/31/19 11:44	10/31/19 23:59	541-73-1	
1,4-Dichlorobenzene	**<50.0**	ug/kg	50.0	3.1	1	10/31/19 11:44	10/31/19 23:59	106-46-7	
Dichlorodifluoromethane	**<200**	ug/kg	200	16.2	1	10/31/19 11:44	10/31/19 23:59	75-71-8	
1,1-Dichloroethane	**<50.0**	ug/kg	50.0	5.6	1	10/31/19 11:44	10/31/19 23:59	75-34-3	
1,2-Dichloroethane	**<50.0**	ug/kg	50.0	5.5	1	10/31/19 11:44	10/31/19 23:59	107-06-2	
1,1-Dichloroethene	**<50.0**	ug/kg	50.0	15.0	1	10/31/19 11:44	10/31/19 23:59	75-35-4	
cis-1,2-Dichloroethene	**<50.0**	ug/kg	50.0	8.3	1	10/31/19 11:44	10/31/19 23:59	156-59-2	
trans-1,2-Dichloroethene	**<50.0**	ug/kg	50.0	23.4	1	10/31/19 11:44	10/31/19 23:59	156-60-5	
Dichlorofluoromethane	**<500**	ug/kg	500	69.1	1	10/31/19 11:44	10/31/19 23:59	75-43-4	
1,2-Dichloropropane	**<50.0**	ug/kg	50.0	8.6	1	10/31/19 11:44	10/31/19 23:59	78-87-5	
1,3-Dichloropropane	**<50.0**	ug/kg	50.0	6.9	1	10/31/19 11:44	10/31/19 23:59	142-28-9	
2,2-Dichloropropane	**<200**	ug/kg	200	6.2	1	10/31/19 11:44	10/31/19 23:59	594-20-7	
1,1-Dichloropropene	**<50.0**	ug/kg	50.0	23.1	1	10/31/19 11:44	10/31/19 23:59	563-58-6	
cis-1,3-Dichloropropene	**<50.0**	ug/kg	50.0	7.2	1	10/31/19 11:44	10/31/19 23:59	10061-01-5	
trans-1,3-Dichloropropene	**<50.0**	ug/kg	50.0	7.0	1	10/31/19 11:44	10/31/19 23:59	10061-02-6	
Diethyl ether (Ethyl ether)	**<200**	ug/kg	200	30.6	1	10/31/19 11:44	10/31/19 23:59	60-29-7	
Ethylbenzene	**<50.0**	ug/kg	50.0	2.7	1	10/31/19 11:44	10/31/19 23:59	100-41-4	
Hexachloro-1,3-butadiene	**<250**	ug/kg	250	12.2	1	10/31/19 11:44	10/31/19 23:59	87-68-3	
Isopropylbenzene (Cumene)	**<50.0**	ug/kg	50.0	2.2	1	10/31/19 11:44	10/31/19 23:59	98-82-8	
p-Isopropyltoluene	**<50.0**	ug/kg	50.0	15.2	1	10/31/19 11:44	10/31/19 23:59	99-87-6	
Methylene Chloride	**<200**	ug/kg	200	94.1	1	10/31/19 11:44	10/31/19 23:59	75-09-2	

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ANALYTICAL RESULTS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Sample: TRIP BLANK 1 **Lab ID: 10496207017** Collected: 10/18/19 00:00 Received: 10/18/19 18:43 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV 5030 Med Level	Analytical Method: EPA 8260B Preparation Method: EPA 5035/5030B								
4-Methyl-2-pentanone (MIBK)	**<250**	ug/kg	250	10.4	1	10/31/19 11:44	10/31/19 23:59	108-10-1	
Methyl-tert-butyl ether	**<50.0**	ug/kg	50.0	6.0	1	10/31/19 11:44	10/31/19 23:59	1634-04-4	
Naphthalene	**<200**	ug/kg	200	46.8	1	10/31/19 11:44	10/31/19 23:59	91-20-3	
n-Propylbenzene	**<50.0**	ug/kg	50.0	2.7	1	10/31/19 11:44	10/31/19 23:59	103-65-1	
Styrene	**<50.0**	ug/kg	50.0	2.3	1	10/31/19 11:44	10/31/19 23:59	100-42-5	
1,1,1,2-Tetrachloroethane	**<50.0**	ug/kg	50.0	15.7	1	10/31/19 11:44	10/31/19 23:59	630-20-6	
1,1,2,2-Tetrachloroethane	**<50.0**	ug/kg	50.0	8.8	1	10/31/19 11:44	10/31/19 23:59	79-34-5	
Tetrachloroethene	**<50.0**	ug/kg	50.0	17.6	1	10/31/19 11:44	10/31/19 23:59	127-18-4	
Tetrahydrofuran	**<2000**	ug/kg	2000	72.7	1	10/31/19 11:44	10/31/19 23:59	109-99-9	
Toluene	**<50.0**	ug/kg	50.0	12.2	1	10/31/19 11:44	10/31/19 23:59	108-88-3	
1,2,3-Trichlorobenzene	**<50.0**	ug/kg	50.0	8.0	1	10/31/19 11:44	10/31/19 23:59	87-61-6	
1,2,4-Trichlorobenzene	**<50.0**	ug/kg	50.0	11.1	1	10/31/19 11:44	10/31/19 23:59	120-82-1	
1,1,1-Trichloroethane	**<50.0**	ug/kg	50.0	23.3	1	10/31/19 11:44	10/31/19 23:59	71-55-6	
1,1,2-Trichloroethane	**<50.0**	ug/kg	50.0	6.0	1	10/31/19 11:44	10/31/19 23:59	79-00-5	
Trichloroethene	**<50.0**	ug/kg	50.0	7.7	1	10/31/19 11:44	10/31/19 23:59	79-01-6	
Trichlorofluoromethane	**<500**	ug/kg	500	87.2	1	10/31/19 11:44	10/31/19 23:59	75-69-4	
1,2,3-Trichloropropane	**<200**	ug/kg	200	13.1	1	10/31/19 11:44	10/31/19 23:59	96-18-4	
1,1,2-Trichlorotrifluoroethane	**<200**	ug/kg	200	58.0	1	10/31/19 11:44	10/31/19 23:59	76-13-1	
1,2,4-Trimethylbenzene	**<50.0**	ug/kg	50.0	10.0	1	10/31/19 11:44	10/31/19 23:59	95-63-6	
1,3,5-Trimethylbenzene	**<50.0**	ug/kg	50.0	8.0	1	10/31/19 11:44	10/31/19 23:59	108-67-8	
Vinyl chloride	**<20.0**	ug/kg	20.0	9.8	1	10/31/19 11:44	10/31/19 23:59	75-01-4	
Xylene (Total)	**<150**	ug/kg	150	11.6	1	10/31/19 11:44	10/31/19 23:59	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	112	%.	75-125		1	10/31/19 11:44	10/31/19 23:59	17060-07-0	
Toluene-d8 (S)	99	%.	75-125		1	10/31/19 11:44	10/31/19 23:59	2037-26-5	
4-Bromofluorobenzene (S)	102	%.	75-125		1	10/31/19 11:44	10/31/19 23:59	460-00-4	

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QUALITY CONTROL DATA

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

QC Batch: 640123 Analysis Method: EPA 7471B
QC Batch Method: EPA 7471B Analysis Description: 7471B Mercury Solids
Associated Lab Samples: 10496207001, 10496207002, 10496207005, 10496207007, 10496207009, 10496207011, 10496207013, 10496207015, 10496207016

METHOD BLANK: 3448738 Matrix: Solid
Associated Lab Samples: 10496207001, 10496207002, 10496207005, 10496207007, 10496207009, 10496207011, 10496207013, 10496207015, 10496207016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/kg	<0.0087	0.019	0.0087	10/30/19 09:05	

LABORATORY CONTROL SAMPLE: 3448739

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	0.5	0.52	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3448740 3448741

Parameter	Units	10496207001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/kg	0.097	1.1	1.1	1.2	1.2	98	98	80-120	1	20	

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QUALITY CONTROL DATA

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

QC Batch: 660964 Analysis Method: EPA 6010D
QC Batch Method: EPA 3010A Analysis Description: 6010D TCLP
Associated Lab Samples: 10496207001, 10496207002, 10496207005, 10496207009

METHOD BLANK: 3547262 Matrix: Water
Associated Lab Samples: 10496207001, 10496207002, 10496207005, 10496207009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Lead	mg/L	<0.0098	0.50	0.0098	02/21/20 10:05	

METHOD BLANK: 3546275 Matrix: Water
Associated Lab Samples: 10496207001, 10496207002, 10496207005, 10496207009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Lead	mg/L	<0.0098	0.50	0.0098	02/21/20 10:07	

METHOD BLANK: 3546974 Matrix: Water
Associated Lab Samples: 10496207001, 10496207002, 10496207005, 10496207009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Lead	mg/L	0.056J	0.50	0.0098	02/21/20 10:08	

LABORATORY CONTROL SAMPLE: 3547263

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	mg/L	5	5.1	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3547264 3547265

Parameter	Units	10496207001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lead	mg/L	0.062J	5	5	5.1	5.1	101	100	75-125	0	20	

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QUALITY CONTROL DATA

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

QC Batch: 639853 Analysis Method: EPA 6010D
QC Batch Method: EPA 3050B Analysis Description: 6010D Solids
Associated Lab Samples: 10496207001, 10496207002, 10496207005, 10496207007, 10496207009, 10496207011, 10496207013, 10496207015, 10496207016

METHOD BLANK: 3447489 Matrix: Solid
Associated Lab Samples: 10496207001, 10496207002, 10496207005, 10496207007, 10496207009, 10496207011, 10496207013, 10496207015, 10496207016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	mg/kg	<0.19	0.91	0.19	10/29/19 17:01	
Barium	mg/kg	<0.072	0.45	0.072	10/29/19 17:01	
Cadmium	mg/kg	<0.027	0.14	0.027	10/29/19 17:01	
Chromium	mg/kg	<0.091	0.45	0.091	10/29/19 17:01	
Copper	mg/kg	<0.13	0.45	0.13	10/29/19 17:01	
Lead	mg/kg	<0.10	0.45	0.10	10/29/19 17:01	
Selenium	mg/kg	<0.30	0.91	0.30	10/29/19 17:01	
Silver	mg/kg	<0.033	0.45	0.033	10/29/19 17:01	

LABORATORY CONTROL SAMPLE: 3447490

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	45.9	39.6	86	80-120	
Barium	mg/kg	45.9	41.0	89	80-120	
Cadmium	mg/kg	45.9	41.0	89	80-120	
Chromium	mg/kg	45.9	39.6	86	80-120	
Copper	mg/kg	45.9	40.3	88	80-120	
Lead	mg/kg	45.9	42.2	92	80-120	
Selenium	mg/kg	45.9	40.0	87	80-120	
Silver	mg/kg	22.9	19.8	86	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3447491 3447492

Parameter	Units	10496207001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/kg	6.4	114	108	103	98.3	85	85	75-125	5	20	
Barium	mg/kg	101	114	108	202	202	89	93	75-125	0	20	
Cadmium	mg/kg	0.77	114	108	94.9	89.8	83	82	75-125	6	20	
Chromium	mg/kg	17.7	114	108	113	108	84	83	75-125	4	20	
Copper	mg/kg	29.4	114	108	127	121	86	85	75-125	5	20	
Lead	mg/kg	131	114	108	222	219	79	81	75-125	1	20	
Selenium	mg/kg	<0.72	114	108	92.2	87.0	81	80	75-125	6	20	
Silver	mg/kg	<0.079	56.9	54.1	48.9	46.2	86	85	75-125	6	20	

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QUALITY CONTROL DATA

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

QC Batch: 641755 Analysis Method: ASTM D2974
QC Batch Method: ASTM D2974 Analysis Description: Dry Weight / %M by ASTM D2974
Associated Lab Samples: 10496207001, 10496207002, 10496207005, 10496207007, 10496207009, 10496207011, 10496207013, 10496207015, 10496207016

SAMPLE DUPLICATE: 3456450

Parameter	Units	10496174001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	14.0	13.6	3	30	

SAMPLE DUPLICATE: 3456451

Parameter	Units	10496218011 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	18.8	18.9	0	30	

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QUALITY CONTROL DATA

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

QC Batch: 642117 Analysis Method: EPA 8260B
QC Batch Method: EPA 5035/5030B Analysis Description: 8260B MSV 5030 Med Level
Associated Lab Samples: 10496207006, 10496207008, 10496207010, 10496207012, 10496207014, 10496207017

METHOD BLANK: 3457904 Matrix: Solid
Associated Lab Samples: 10496207006, 10496207008, 10496207010, 10496207012, 10496207014, 10496207017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	<50.0	50.0	15.7	10/31/19 23:38	
1,1,1-Trichloroethane	ug/kg	<50.0	50.0	23.3	10/31/19 23:38	
1,1,2,2-Tetrachloroethane	ug/kg	<50.0	50.0	8.8	10/31/19 23:38	
1,1,2-Trichloroethane	ug/kg	<50.0	50.0	6.0	10/31/19 23:38	
1,1,2-Trichlorotrifluoroethane	ug/kg	<200	200	58.0	10/31/19 23:38	
1,1-Dichloroethane	ug/kg	<50.0	50.0	5.6	10/31/19 23:38	
1,1-Dichloroethene	ug/kg	<50.0	50.0	15.0	10/31/19 23:38	
1,1-Dichloropropene	ug/kg	<50.0	50.0	23.1	10/31/19 23:38	
1,2,3-Trichlorobenzene	ug/kg	<50.0	50.0	8.0	10/31/19 23:38	
1,2,3-Trichloropropane	ug/kg	<200	200	13.1	10/31/19 23:38	
1,2,4-Trichlorobenzene	ug/kg	<50.0	50.0	11.1	10/31/19 23:38	
1,2,4-Trimethylbenzene	ug/kg	<50.0	50.0	10.0	10/31/19 23:38	
1,2-Dibromo-3-chloropropane	ug/kg	<500	500	174	10/31/19 23:38	
1,2-Dibromoethane (EDB)	ug/kg	<50.0	50.0	5.3	10/31/19 23:38	
1,2-Dichlorobenzene	ug/kg	<50.0	50.0	2.0	10/31/19 23:38	
1,2-Dichloroethane	ug/kg	<50.0	50.0	5.5	10/31/19 23:38	
1,2-Dichloropropane	ug/kg	<50.0	50.0	8.6	10/31/19 23:38	
1,3,5-Trimethylbenzene	ug/kg	<50.0	50.0	8.0	10/31/19 23:38	
1,3-Dichlorobenzene	ug/kg	<50.0	50.0	1.8	10/31/19 23:38	
1,3-Dichloropropane	ug/kg	<50.0	50.0	6.9	10/31/19 23:38	
1,4-Dichlorobenzene	ug/kg	<50.0	50.0	3.1	10/31/19 23:38	
2,2-Dichloropropane	ug/kg	<200	200	6.2	10/31/19 23:38	
2-Butanone (MEK)	ug/kg	<250	250	26.6	10/31/19 23:38	
2-Chlorotoluene	ug/kg	<50.0	50.0	2.5	10/31/19 23:38	
4-Chlorotoluene	ug/kg	<50.0	50.0	2.6	10/31/19 23:38	
4-Methyl-2-pentanone (MIBK)	ug/kg	<250	250	10.4	10/31/19 23:38	
Acetone	ug/kg	<1000	1000	311	10/31/19 23:38	
Allyl chloride	ug/kg	<200	200	41.9	10/31/19 23:38	
Benzene	ug/kg	<20.0	20.0	2.8	10/31/19 23:38	
Bromobenzene	ug/kg	<50.0	50.0	3.1	10/31/19 23:38	
Bromochloromethane	ug/kg	<50.0	50.0	17.3	10/31/19 23:38	
Bromodichloromethane	ug/kg	<50.0	50.0	17.1	10/31/19 23:38	
Bromoform	ug/kg	<200	200	75.7	10/31/19 23:38	
Bromomethane	ug/kg	<500	500	58.5	10/31/19 23:38	
Carbon tetrachloride	ug/kg	<50.0	50.0	23.9	10/31/19 23:38	
Chlorobenzene	ug/kg	<50.0	50.0	2.8	10/31/19 23:38	
Chloroethane	ug/kg	<500	500	26.0	10/31/19 23:38	
Chloroform	ug/kg	<50.0	50.0	25.0	10/31/19 23:38	
Chloromethane	ug/kg	<200	200	12.0	10/31/19 23:38	
cis-1,2-Dichloroethene	ug/kg	<50.0	50.0	8.3	10/31/19 23:38	
cis-1,3-Dichloropropene	ug/kg	<50.0	50.0	7.2	10/31/19 23:38	

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QUALITY CONTROL DATA

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

METHOD BLANK: 3457904 Matrix: Solid
Associated Lab Samples: 10496207006, 10496207008, 10496207010, 10496207012, 10496207014, 10496207017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Dibromochloromethane	ug/kg	<200	200	5.8	10/31/19 23:38	
Dibromomethane	ug/kg	<50.0	50.0	9.2	10/31/19 23:38	
Dichlorodifluoromethane	ug/kg	<200	200	16.2	10/31/19 23:38	
Dichlorofluoromethane	ug/kg	<500	500	69.1	10/31/19 23:38	
Diethyl ether (Ethyl ether)	ug/kg	<200	200	30.6	10/31/19 23:38	
Ethylbenzene	ug/kg	<50.0	50.0	2.7	10/31/19 23:38	
Hexachloro-1,3-butadiene	ug/kg	<250	250	12.2	10/31/19 23:38	
Isopropylbenzene (Cumene)	ug/kg	<50.0	50.0	2.2	10/31/19 23:38	
Methyl-tert-butyl ether	ug/kg	<50.0	50.0	6.0	10/31/19 23:38	
Methylene Chloride	ug/kg	<200	200	94.1	10/31/19 23:38	
n-Butylbenzene	ug/kg	<50.0	50.0	23.8	10/31/19 23:38	
n-Propylbenzene	ug/kg	<50.0	50.0	2.7	10/31/19 23:38	
Naphthalene	ug/kg	<200	200	46.8	10/31/19 23:38	
p-Isopropyltoluene	ug/kg	<50.0	50.0	15.2	10/31/19 23:38	
sec-Butylbenzene	ug/kg	<50.0	50.0	9.6	10/31/19 23:38	
Styrene	ug/kg	<50.0	50.0	2.3	10/31/19 23:38	
tert-Butylbenzene	ug/kg	<50.0	50.0	9.6	10/31/19 23:38	
Tetrachloroethene	ug/kg	<50.0	50.0	17.6	10/31/19 23:38	
Tetrahydrofuran	ug/kg	<2000	2000	72.7	10/31/19 23:38	
Toluene	ug/kg	<50.0	50.0	12.2	10/31/19 23:38	
trans-1,2-Dichloroethene	ug/kg	<50.0	50.0	23.4	10/31/19 23:38	
trans-1,3-Dichloropropene	ug/kg	<50.0	50.0	7.0	10/31/19 23:38	
Trichloroethene	ug/kg	<50.0	50.0	7.7	10/31/19 23:38	
Trichlorofluoromethane	ug/kg	<500	500	87.2	10/31/19 23:38	MN
Vinyl chloride	ug/kg	<20.0	20.0	9.8	10/31/19 23:38	
Xylene (Total)	ug/kg	<150	150	11.6	10/31/19 23:38	
1,2-Dichloroethane-d4 (S)	%.	107	75-125		10/31/19 23:38	
4-Bromofluorobenzene (S)	%.	101	75-125		10/31/19 23:38	
Toluene-d8 (S)	%.	100	75-125		10/31/19 23:38	

LABORATORY CONTROL SAMPLE: 3457905

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/kg	1000	931	93	53-125	
1,1,1-Trichloroethane	ug/kg	1000	956	96	53-146	
1,1,2,2-Tetrachloroethane	ug/kg	1000	930	93	51-125	
1,1,2-Trichloroethane	ug/kg	1000	927	93	55-125	
1,1,2-Trichlorotrifluoroethane	ug/kg	1000	918	92	49-150	
1,1-Dichloroethane	ug/kg	1000	943	94	56-125	
1,1-Dichloroethene	ug/kg	1000	911	91	48-148	
1,1-Dichloropropene	ug/kg	1000	936	94	55-142	
1,2,3-Trichlorobenzene	ug/kg	1000	975	98	47-125	
1,2,3-Trichloropropane	ug/kg	1000	896	90	52-125	
1,2,4-Trichlorobenzene	ug/kg	1000	963	96	48-125	

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QUALITY CONTROL DATA

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

LABORATORY CONTROL SAMPLE: 3457905

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trimethylbenzene	ug/kg	1000	931	93	51-126	
1,2-Dibromo-3-chloropropane	ug/kg	2500	2230	89	50-125	
1,2-Dibromoethane (EDB)	ug/kg	1000	948	95	52-125	
1,2-Dichlorobenzene	ug/kg	1000	947	95	50-125	
1,2-Dichloroethane	ug/kg	1000	915	91	51-125	
1,2-Dichloropropane	ug/kg	1000	943	94	57-125	
1,3,5-Trimethylbenzene	ug/kg	1000	972	97	52-127	
1,3-Dichlorobenzene	ug/kg	1000	982	98	50-128	
1,3-Dichloropropane	ug/kg	1000	950	95	55-125	
1,4-Dichlorobenzene	ug/kg	1000	954	95	51-125	
2,2-Dichloropropane	ug/kg	1000	909	91	41-136	
2-Butanone (MEK)	ug/kg	5000	3750	75	43-125	
2-Chlorotoluene	ug/kg	1000	990	99	52-126	
4-Chlorotoluene	ug/kg	1000	980	98	53-126	
4-Methyl-2-pentanone (MIBK)	ug/kg	5000	4680	94	39-125	
Acetone	ug/kg	5000	5170	103	46-136	
Allyl chloride	ug/kg	1000	903	90	48-130	
Benzene	ug/kg	1000	982	98	48-125	
Bromobenzene	ug/kg	1000	934	93	51-125	
Bromochloromethane	ug/kg	1000	950	95	52-125	
Bromodichloromethane	ug/kg	1000	955	95	51-131	
Bromoform	ug/kg	1000	886	89	52-125	
Bromomethane	ug/kg	1000	991	99	30-150	
Carbon tetrachloride	ug/kg	1000	960	96	59-129	
Chlorobenzene	ug/kg	1000	937	94	54-125	
Chloroethane	ug/kg	1000	987	99	61-132	
Chloroform	ug/kg	1000	875	88	52-125	
Chloromethane	ug/kg	1000	901	90	46-125	
cis-1,2-Dichloroethene	ug/kg	1000	937	94	54-127	
cis-1,3-Dichloropropene	ug/kg	1000	944	94	50-134	
Dibromochloromethane	ug/kg	1000	903	90	54-125	
Dibromomethane	ug/kg	1000	953	95	51-125	
Dichlorodifluoromethane	ug/kg	1000	805	80	42-125	
Dichlorofluoromethane	ug/kg	1000	960	96	30-150	
Diethyl ether (Ethyl ether)	ug/kg	1000	947	95	50-127	
Ethylbenzene	ug/kg	1000	963	96	51-125	
Hexachloro-1,3-butadiene	ug/kg	1000	952	95	41-133	
Isopropylbenzene (Cumene)	ug/kg	1000	958	96	54-134	
Methyl-tert-butyl ether	ug/kg	1000	921	92	53-125	
Methylene Chloride	ug/kg	1000	882	88	48-125	
n-Butylbenzene	ug/kg	1000	942	94	49-135	
n-Propylbenzene	ug/kg	1000	969	97	55-129	
Naphthalene	ug/kg	1000	910	91	51-125	
p-Isopropyltoluene	ug/kg	1000	944	94	53-134	
sec-Butylbenzene	ug/kg	1000	949	95	52-134	
Styrene	ug/kg	1000	932	93	53-128	
tert-Butylbenzene	ug/kg	1000	990	99	51-133	

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QUALITY CONTROL DATA

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

LABORATORY CONTROL SAMPLE: 3457905

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Tetrachloroethene	ug/kg	1000	992	99	54-131	
Tetrahydrofuran	ug/kg	10000	9240	92	42-145	
Toluene	ug/kg	1000	977	98	51-125	
trans-1,2-Dichloroethene	ug/kg	1000	953	95	50-130	
trans-1,3-Dichloropropene	ug/kg	1000	890	89	52-125	
Trichloroethene	ug/kg	1000	1000	100	55-131	
Trichlorofluoromethane	ug/kg	1000	1210	121	30-150	CH,SS
Vinyl chloride	ug/kg	1000	939	94	58-125	
Xylene (Total)	ug/kg	3000	2710	90	52-125	
1,2-Dichloroethane-d4 (S)	%.			98	75-125	
4-Bromofluorobenzene (S)	%.			98	75-125	
Toluene-d8 (S)	%.			100	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3457906 3457907

Parameter	Units	10496207012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/kg	<107	2120	2120	2040	2090	97	98	68-150	2	30	
1,1,1-Trichloroethane	ug/kg	<107	2120	2120	2080	2140	98	101	63-150	3	30	
1,1,2,2-Tetrachloroethane	ug/kg	<107	2120	2120	2210	2230	105	105	60-146	1	30	
1,1,2-Trichloroethane	ug/kg	<107	2120	2120	2120	1960	100	92	63-143	8	30	
1,1,2-Trichlorotrifluoroethane	ug/kg	<428	2120	2120	1780	1900	84	90	30-150	7	30	
1,1-Dichloroethane	ug/kg	<107	2120	2120	2170	2110	103	99	63-144	3	30	
1,1-Dichloroethene	ug/kg	<107	2120	2120	2040	2170	96	102	30-150	6	30	
1,1-Dichloropropene	ug/kg	<107	2120	2120	2040	2080	96	98	54-150	2	30	
1,2,3-Trichlorobenzene	ug/kg	<107	2120	2120	2050	1890	97	89	63-142	8	30	
1,2,3-Trichloropropane	ug/kg	<428	2120	2120	2030	2190	96	103	59-147	8	30	
1,2,4-Trichlorobenzene	ug/kg	<107	2120	2120	2070	1970	98	93	66-142	5	30	
1,2,4-Trimethylbenzene	ug/kg	<107	2120	2120	2050	1960	97	92	65-145	5	30	
1,2-Dibromo-3-chloropropane	ug/kg	<1070	5280	5320	5190	4910	98	93	60-142	6	30	
1,2-Dibromoethane (EDB)	ug/kg	<107	2120	2120	2080	2050	98	97	67-135	1	30	
1,2-Dichlorobenzene	ug/kg	<107	2120	2120	2050	2200	97	104	68-141	7	30	
1,2-Dichloroethane	ug/kg	<107	2120	2120	2080	1940	98	91	56-132	7	30	
1,2-Dichloropropane	ug/kg	<107	2120	2120	2180	1830	103	86	58-150	17	30	
1,3,5-Trimethylbenzene	ug/kg	<107	2120	2120	2160	2260	102	107	66-148	5	30	
1,3-Dichlorobenzene	ug/kg	<107	2120	2120	2120	2150	100	101	63-148	1	30	
1,3-Dichloropropane	ug/kg	<107	2120	2120	2120	1980	100	93	63-142	7	30	
1,4-Dichlorobenzene	ug/kg	<107	2120	2120	2050	2120	97	100	68-140	3	30	
2,2-Dichloropropane	ug/kg	<428	2120	2120	2000	1930	95	91	62-143	4	30	
2-Butanone (MEK)	ug/kg	<535	10600	10600	11400	9790	107	92	53-138	15	30	
2-Chlorotoluene	ug/kg	<107	2120	2120	2250	2340	106	110	64-145	4	30	
4-Chlorotoluene	ug/kg	<107	2120	2120	2140	2220	101	105	63-149	4	30	
4-Methyl-2-pentanone (MIBK)	ug/kg	<535	10600	10600	11200	10100	106	95	47-150	10	30	

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QUALITY CONTROL DATA

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3457906 3457907

Parameter	Units	10496207012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Acetone	ug/kg	<2140	10600	10600	9370	10900	89	103	64-150	15	30	
Allyl chloride	ug/kg	<428	2120	2120	2070	1870	98	88	49-146	10	30	
Benzene	ug/kg	<42.8	2120	2120	2200	2100	104	99	63-136	5	30	
Bromobenzene	ug/kg	<107	2120	2120	2120	2180	100	102	63-142	3	30	
Bromochloromethane	ug/kg	<107	2120	2120	2110	2140	100	101	61-139	2	30	
Bromodichloromethane	ug/kg	<107	2120	2120	2160	1900	102	89	63-150	13	30	
Bromoform	ug/kg	<428	2120	2120	1970	2110	93	99	64-140	7	30	
Bromomethane	ug/kg	<1070	2120	2120	2060	2040	97	96	56-148	1	30	
Carbon tetrachloride	ug/kg	<107	2120	2120	2040	2090	96	98	75-148	2	30	
Chlorobenzene	ug/kg	<107	2120	2120	2090	2130	99	100	62-147	2	30	
Chloroethane	ug/kg	<1070	2120	2120	1930	1830	91	86	37-150	5	30	
Chloroform	ug/kg	<107	2120	2120	1940	1950	92	92	66-130	1	30	
Chloromethane	ug/kg	<428	2120	2120	1820	1590	86	75	35-131	14	30	
cis-1,2-Dichloroethene	ug/kg	<107	2120	2120	2080	2030	98	96	63-143	2	30	
cis-1,3-Dichloropropene	ug/kg	<107	2120	2120	2110	1860	100	88	60-150	13	30	
Dibromochloromethane	ug/kg	<428	2120	2120	2000	1920	95	90	64-144	4	30	
Dibromomethane	ug/kg	<107	2120	2120	2040	1950	97	92	59-148	5	30	
Dichlorodifluoromethane	ug/kg	<428	2120	2120	1100	1010	52	48	30-125	8	30	
Dichlorofluoromethane	ug/kg	<1070	2120	2120	2130	2110	101	99	39-150	1	30	
Diethyl ether (Ethyl ether)	ug/kg	<428	2120	2120	2260	2210	107	104	59-149	2	30	
Ethylbenzene	ug/kg	<107	2120	2120	2090	2120	99	100	64-142	1	30	
Hexachloro-1,3-butadiene	ug/kg	<535	2120	2120	2100	2120	99	100	58-150	1	30	
Isopropylbenzene (Cumene)	ug/kg	<107	2120	2120	2100	2190	99	103	67-150	4	30	
Methyl-tert-butyl ether	ug/kg	<107	2120	2120	2180	2160	103	102	69-134	1	30	
Methylene Chloride	ug/kg	<428	2120	2120	1970	1960	93	92	56-134	0	30	
n-Butylbenzene	ug/kg	<107	2120	2120	2070	2120	98	100	64-150	3	30	
n-Propylbenzene	ug/kg	<107	2120	2120	2170	2220	103	104	65-150	2	30	
Naphthalene	ug/kg	<428	2120	2120	2020	1880	95	89	63-148	7	30	
p-Isopropyltoluene	ug/kg	<107	2120	2120	2040	2030	96	95	69-150	0	30	
sec-Butylbenzene	ug/kg	<107	2120	2120	2100	1990	99	94	69-150	5	30	
Styrene	ug/kg	<107	2120	2120	2010	2100	95	99	63-150	4	30	
tert-Butylbenzene	ug/kg	<107	2120	2120	2170	2130	103	100	67-150	2	30	
Tetrachloroethene	ug/kg	<107	2120	2120	2050	2030	97	96	62-150	1	30	
Tetrahydrofuran	ug/kg	<4280	21200	21200	20800	23000	99	108	53-150	10	30	
Toluene	ug/kg	<107	2120	2120	2180	2000	101	93	61-141	8	30	
trans-1,2-Dichloroethene	ug/kg	<107	2120	2120	2100	2080	99	98	52-148	1	30	
trans-1,3-Dichloropropene	ug/kg	<107	2120	2120	1980	1870	94	88	62-142	6	30	
Trichloroethene	ug/kg	<107	2120	2120	2090	2150	99	101	59-150	3	30	
Trichlorofluoromethane	ug/kg	<1070	2120	2120	2900	2940	137	138	30-150	1	30	CH,SS
Vinyl chloride	ug/kg	<42.8	2120	2120	1840	1790	87	84	44-144	2	30	
Xylene (Total)	ug/kg	<321	6340	6380	5900	6250	93	98	67-145	6	30	
1,2-Dichloroethane-d4 (S)	%.						100	94	75-125			
4-Bromofluorobenzene (S)	%.						103	102	75-125			
Toluene-d8 (S)	%.						100	91	75-125			

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REPORT OF LABORATORY ANALYSIS

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(612)607-1700

QUALITY CONTROL DATA

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

QC Batch: 640327 Analysis Method: EPA 8270D by SIM
QC Batch Method: EPA 3550C Analysis Description: 8270D CPAH by SIM MSSV
Associated Lab Samples: 10496207001, 10496207002, 10496207005, 10496207007, 10496207009, 10496207011, 10496207013, 10496207015, 10496207016

METHOD BLANK: 3449473 Matrix: Solid
Associated Lab Samples: 10496207001, 10496207002, 10496207005, 10496207007, 10496207009, 10496207011, 10496207013, 10496207015, 10496207016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
2-Methylnaphthalene	ug/kg	<0.91	10.0	0.91	10/30/19 13:16	
3-Methylcholanthrene	ug/kg	<1.1	10.0	1.1	10/30/19 13:16	
5-Methylchrysene	ug/kg	<0.69	10.0	0.69	10/30/19 13:16	
7,12-Dimethylbenz(a)anthracene	ug/kg	<3.7	10.0	3.7	10/30/19 13:16	
7H-Dibenzo(c,g)carbazole	ug/kg	<1.3	10.0	1.3	10/30/19 13:16	
Acenaphthene	ug/kg	<3.1	10.0	3.1	10/30/19 13:16	
Acenaphthylene	ug/kg	<2.6	10.0	2.6	10/30/19 13:16	
Anthracene	ug/kg	<0.76	10.0	0.76	10/30/19 13:16	
Benzo(a)anthracene	ug/kg	<1.2	10.0	1.2	10/30/19 13:16	
Benzo(a)pyrene	ug/kg	<0.90	10.0	0.90	10/30/19 13:16	
Benzo(g,h,i)perylene	ug/kg	<1.3	10.0	1.3	10/30/19 13:16	
Benzofluoranthenes (Total)	ug/kg	<2.4	30.0	2.4	10/30/19 13:16	N2
Chrysene	ug/kg	<1.4	10.0	1.4	10/30/19 13:16	
Dibenz(a,h)acridine	ug/kg	<3.2	10.0	3.2	10/30/19 13:16	
Dibenz(a,h)anthracene	ug/kg	<1.2	10.0	1.2	10/30/19 13:16	
Dibenzo(a,e)pyrene	ug/kg	<1.3	10.0	1.3	10/30/19 13:16	
Dibenzo(a,h)pyrene	ug/kg	<2.1	10.0	2.1	10/30/19 13:16	
Dibenzo(a,i)pyrene	ug/kg	<2.6	10.0	2.6	10/30/19 13:16	
Dibenzo(a,l)pyrene	ug/kg	<2.3	10.0	2.3	10/30/19 13:16	
Fluoranthene	ug/kg	<0.86	10.0	0.86	10/30/19 13:16	
Fluorene	ug/kg	<2.1	10.0	2.1	10/30/19 13:16	
Indeno(1,2,3-cd)pyrene	ug/kg	<1.1	10.0	1.1	10/30/19 13:16	
Naphthalene	ug/kg	<3.0	10.0	3.0	10/30/19 13:16	
Phenanthrene	ug/kg	<1.7	10.0	1.7	10/30/19 13:16	
Pyrene	ug/kg	<1.2	10.0	1.2	10/30/19 13:16	
2-Fluorobiphenyl (S)	%.	86	30-125		10/30/19 13:16	
p-Terphenyl-d14 (S)	%.	99	30-127		10/30/19 13:16	

LABORATORY CONTROL SAMPLE: 3449474

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Methylnaphthalene	ug/kg	100	81.7	82	42-125	
3-Methylcholanthrene	ug/kg	100	64.9	65	30-125	
5-Methylchrysene	ug/kg	100	97.1	97	60-125	
7,12-Dimethylbenz(a)anthracene	ug/kg	100	93.5	93	30-125	SS
7H-Dibenzo(c,g)carbazole	ug/kg	100	92.4	92	52-125	
Acenaphthene	ug/kg	100	90.8	91	43-125	
Acenaphthylene	ug/kg	100	93.0	93	38-125	

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(612)607-1700

QUALITY CONTROL DATA

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

LABORATORY CONTROL SAMPLE: 3449474

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Anthracene	ug/kg	100	96.2	96	52-125	
Benzo(a)anthracene	ug/kg	100	91.8	92	56-125	
Benzo(a)pyrene	ug/kg	100	82.9	83	57-125	
Benzo(g,h,i)perylene	ug/kg	100	92.7	93	51-125	
Benzofluoranthenes (Total)	ug/kg	300	264	88	57-125	N2
Chrysene	ug/kg	100	98.3	98	60-125	
Dibenz(a,h)acridine	ug/kg	100	97.1	97	53-125	
Dibenz(a,h)anthracene	ug/kg	100	93.5	93	51-125	
Dibenzo(a,e)pyrene	ug/kg	100	91.4	91	52-125	
Dibenzo(a,h)pyrene	ug/kg	100	97.7	98	51-125	
Dibenzo(a,i)pyrene	ug/kg	100	89.3	89	47-125	
Dibenzo(a,l)pyrene	ug/kg	100	45.2	45	30-125	
Fluoranthene	ug/kg	100	90.4	90	60-125	
Fluorene	ug/kg	100	90.3	90	50-125	
Indeno(1,2,3-cd)pyrene	ug/kg	100	94.7	95	52-125	
Naphthalene	ug/kg	100	80.5	81	39-125	
Phenanthrene	ug/kg	100	95.3	95	57-125	
Pyrene	ug/kg	100	98.4	98	59-125	
2-Fluorobiphenyl (S)	%.			89	30-125	
p-Terphenyl-d14 (S)	%.			99	30-127	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3449475 3449476

Parameter	Units	10496207001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2-Methylnaphthalene	ug/kg	11.5J	229	229	187	189	77	77	36-125	1	30	
3-Methylcholanthrene	ug/kg	13.3J	229	229	142	<2.6	56	-6	30-125		30	M1
5-Methylchrysene	ug/kg	96.6	229	229	367	410	118	137	43-125	11	30	M1
7,12-Dimethylbenz(a)anthracene	ug/kg	<8.4	229	229	136	127	59	55	30-131	7	30	SS
7H-Dibenzo(c,g)carbazole	ug/kg	<3.0	229	229	179	161	78	70	30-125	11	30	
Acenaphthene	ug/kg	63.7	229	229	265	290	88	99	30-125	9	30	
Acenaphthylene	ug/kg	40.5	229	229	255	277	94	103	39-125	8	30	
Anthracene	ug/kg	192	229	229	433	471	106	122	30-126	8	30	
Benzo(a)anthracene	ug/kg	626	229	229	916	1090	127	202	30-150	17	30	E,M1
Benzo(a)pyrene	ug/kg	566	229	229	803	794	103	99	30-146	1	30	E
Benzo(g,h,i)perylene	ug/kg	387	229	229	578	578	83	83	30-150	0	30	
Benzofluoranthenes (Total)	ug/kg	1260	688	688	1990	1920	107	96	30-150	4	30	N2
Chrysene	ug/kg	782	229	229	1250	1370	205	257	30-150	9	30	E,M1
Dibenz(a,h)acridine	ug/kg	24.9	229	229	187	171	71	64	34-125	9	30	
Dibenz(a,h)anthracene	ug/kg	103	229	229	247	234	63	57	30-125	6	30	
Dibenzo(a,e)pyrene	ug/kg	200	229	229	353	271	67	31	30-134	26	30	
Dibenzo(a,h)pyrene	ug/kg	88.1	229	229	240	235	66	64	30-133	2	30	
Dibenzo(a,i)pyrene	ug/kg	31.0	229	229	173	57.0	62	11	30-134	101	30	M1,R1
Dibenzo(a,l)pyrene	ug/kg	11.3J	229	229	151	128	61	51	30-125	16	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3449475 3449476

Parameter	Units	10496207001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoranthene	ug/kg	1450	229	229	2080	2480	278	451	30-150	17	30	E,M1
Fluorene	ug/kg	63.1	229	229	261	281	86	95	39-125	7	30	
Indeno(1,2,3-cd)pyrene	ug/kg	313	229	229	503	489	83	77	30-144	3	30	
Naphthalene	ug/kg	9.7J	229	229	184	180	76	74	30-125	2	30	
Phenanthrene	ug/kg	752	229	229	1120	1260	162	223	30-150	12	30	E,M1
Pyrene	ug/kg	1210	229	229	1760	2060	241	369	30-150	15	30	E,M1
2-Fluorobiphenyl (S)	%.						76	84	30-125			
p-Terphenyl-d14 (S)	%.						72	84	30-127			

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QUALITY CONTROL DATA

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

QC Batch: 639676 Analysis Method: WI MOD DRO
QC Batch Method: WI MOD DRO Analysis Description: WIDRO Solid GCV
Associated Lab Samples: 10496207001, 10496207002, 10496207005, 10496207007, 10496207009, 10496207011, 10496207013, 10496207015, 10496207016

METHOD BLANK: 3446784 Matrix: Solid
Associated Lab Samples: 10496207001, 10496207002, 10496207005, 10496207007, 10496207009, 10496207011, 10496207013, 10496207015, 10496207016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
WDRO C10-C28	mg/kg	<3.9	10.0	3.9	10/23/19 12:40	
n-Triacontane (S)	%.	83	44-143		10/23/19 12:40	

LABORATORY CONTROL SAMPLE & LCSD: 3446785 3446786

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
WDRO C10-C28	mg/kg	80	59.7	63.3	75	79	61-125	6	20	
n-Triacontane (S)	%.				77	83	44-143			

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QUALIFIERS

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
MN	The reporting limit has been raised in accordance with Minnesota Statutes 4740.2100 Subpart 8. C, D. Reporting Limit Evaluation Rule.
N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.
R1	RPD value was outside control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.
SS	This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.
T6	High boiling point hydrocarbons are present in the sample.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10496207001	LD-SED-01	WI MOD DRO	639676	WI MOD DRO	640292
10496207002	LD-SED-02	WI MOD DRO	639676	WI MOD DRO	640292
10496207005	LE-SED-01	WI MOD DRO	639676	WI MOD DRO	640292
10496207007	LE-SED-02	WI MOD DRO	639676	WI MOD DRO	640292
10496207009	LE-SED-03	WI MOD DRO	639676	WI MOD DRO	640292
10496207011	LE-SED-04	WI MOD DRO	639676	WI MOD DRO	640292
10496207013	DUP-01	WI MOD DRO	639676	WI MOD DRO	640292
10496207015	LF-SED-01	WI MOD DRO	639676	WI MOD DRO	640292
10496207016	LF-SED-02	WI MOD DRO	639676	WI MOD DRO	640292
10496207001	LD-SED-01	EPA 3010A	660964	EPA 6010D	661248
10496207002	LD-SED-02	EPA 3010A	660964	EPA 6010D	661248
10496207005	LE-SED-01	EPA 3010A	660964	EPA 6010D	661248
10496207009	LE-SED-03	EPA 3010A	660964	EPA 6010D	661248
10496207001	LD-SED-01	EPA 3050B	639853	EPA 6010D	640373
10496207002	LD-SED-02	EPA 3050B	639853	EPA 6010D	640373
10496207005	LE-SED-01	EPA 3050B	639853	EPA 6010D	640373
10496207007	LE-SED-02	EPA 3050B	639853	EPA 6010D	640373
10496207009	LE-SED-03	EPA 3050B	639853	EPA 6010D	640373
10496207011	LE-SED-04	EPA 3050B	639853	EPA 6010D	640373
10496207013	DUP-01	EPA 3050B	639853	EPA 6010D	640373
10496207015	LF-SED-01	EPA 3050B	639853	EPA 6010D	640373
10496207016	LF-SED-02	EPA 3050B	639853	EPA 6010D	640373
10496207001	LD-SED-01	EPA 7471B	640123	EPA 7471B	640264
10496207002	LD-SED-02	EPA 7471B	640123	EPA 7471B	640264
10496207005	LE-SED-01	EPA 7471B	640123	EPA 7471B	640264
10496207007	LE-SED-02	EPA 7471B	640123	EPA 7471B	640264
10496207009	LE-SED-03	EPA 7471B	640123	EPA 7471B	640264
10496207011	LE-SED-04	EPA 7471B	640123	EPA 7471B	640264
10496207013	DUP-01	EPA 7471B	640123	EPA 7471B	640264
10496207015	LF-SED-01	EPA 7471B	640123	EPA 7471B	640264
10496207016	LF-SED-02	EPA 7471B	640123	EPA 7471B	640264
10496207001	LD-SED-01	ASTM D2974	641755		
10496207002	LD-SED-02	ASTM D2974	641755		
10496207005	LE-SED-01	ASTM D2974	641755		
10496207006	LE-SED-01-VOC	ASTM D2974	642013		
10496207007	LE-SED-02	ASTM D2974	641755		
10496207008	LE-SED-02-VOC	ASTM D2974	642013		
10496207009	LE-SED-03	ASTM D2974	641755		
10496207010	LE-SED-03-VOC	ASTM D2974	642013		
10496207011	LE-SED-04	ASTM D2974	641755		
10496207012	LE-SED-04-VOC	ASTM D2974	642013		
10496207013	DUP-01	ASTM D2974	641755		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 23270051.46 200 205 Bassett Po-Revised Report
Pace Project No.: 10496207

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10496207014	**DUP-01-VOC**	ASTM D2974	642013		
10496207015	**LF-SED-01**	ASTM D2974	641755		
10496207016	**LF-SED-02**	ASTM D2974	641755		
10496207001	**LD-SED-01**	EPA 3550C	640327	EPA 8270D by SIM	641837
10496207002	**LD-SED-02**	EPA 3550C	640327	EPA 8270D by SIM	641837
10496207005	**LE-SED-01**	EPA 3550C	640327	EPA 8270D by SIM	641837
10496207007	**LE-SED-02**	EPA 3550C	640327	EPA 8270D by SIM	641837
10496207009	**LE-SED-03**	EPA 3550C	640327	EPA 8270D by SIM	641837
10496207011	**LE-SED-04**	EPA 3550C	640327	EPA 8270D by SIM	641837
10496207013	**DUP-01**	EPA 3550C	640327	EPA 8270D by SIM	641837
10496207015	**LF-SED-01**	EPA 3550C	640327	EPA 8270D by SIM	641837
10496207016	**LF-SED-02**	EPA 3550C	640327	EPA 8270D by SIM	641837
10496207006	**LE-SED-01-VOC**	EPA 5035/5030B	642117	EPA 8260B	642247
10496207008	**LE-SED-02-VOC**	EPA 5035/5030B	642117	EPA 8260B	642247
10496207010	**LE-SED-03-VOC**	EPA 5035/5030B	642117	EPA 8260B	642247
10496207012	**LE-SED-04-VOC**	EPA 5035/5030B	642117	EPA 8260B	642247
10496207014	**DUP-01-VOC**	EPA 5035/5030B	642117	EPA 8260B	642247
10496207017	**TRIP BLANK 1**	EPA 5035/5030B	642117	EPA 8260B	642247

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Barr Engineering Co. Chain of Custody

BARR ☐ Ann Arbor ☐ Bismarck ☐ Duluth ☐ Grand Rapids ☐ Hibbing ☐ Jefferson City ☒ Minneapolis ☐ Salt Lake City

Sample Origination State: ☐ KS ☐ MO ☐ UT ☐ MI ☐ ND ☐ WI ☒ MN ☐ SD Other: ____

WO#: 10496207

COC Number: 5583

COC 1 of 2

REPORT TO	INVOICE TO
Company: Barr Eng.	Company: Barr Eng
Address:	Address:
Name: Kevin Menken	Name: Kevin Menken
email: kmenken@barr.com	email:
Copy to: datamgt@barr.com	P.O.
Project Name: Bassett Ponds	Barr Project No: 23270056.46 200 205

Matrix Code: GW = Groundwater; SW = Surface Water; WW = Waste Water; DW = Drinking Water; S = Soil/Solid; SD = Sediment; O = Other

Pr

Location	Sample Depth Start	Stop	Unit (m./ft. or in.)	Collection Date (mm/dd/yyyy)	Collection Time (hh:mm)	Matrix Code	Perform MS/MSD Y / N	Total Number Of Containers	Analysis Requested: Water	Soil: RCRA metals + Cu	PAHs (stormwater pond list)	Pesticides by MDA List 1	WI DRO w/ silica gel cleanup	VOCs by 8260	% Solids	Preservative Code	Field Filtered Y/N	
										A	A	A	A	F	A			
1. LD-SED-01				10/18/19	13:20	SD		6		X	X	X	X		X			Report metals, PAHs, and Pesticides to MDL.
2. LD-SED-02				10/18/19	13:40	SD		6		X	X	X	X		X			
3. LD-SED-01-VOC				10/18/19	13:20	SD		2						Hold				Hold sample / Report VOCs to RL
4. LD-SED-02-VOC				10/18/19	13:40	SD		2						Hold				Hold sample
5. LE-SED-01				10/18/19	10:00	SD		6		X	X	X	X		X			
6. LE-SED-01-VOC				10/18/19	10:00	SD		2						X				
7. LE-SED-02				10/18/19	10:20	SD		6		X	X	X	X		X			
8. LE-SED-02-VOC				10/18/19	10:20	SD		2						X				
9. LE-SED-03				10/18/19	14:00	SD		6		X	X	X	X		X			
10. LE-SED-03-VOC				10/18/19	14:00	SD		2						X				

BARR USE ONLY							
Sampled by: Kevin Menken	Relinquished by: Kevin Menken	On Ice? Y N: Y	Date: 10/18/19	Time: 18:45	Received by: Mike Pace	Date: 10/18/19	Time: 1843
Barr Proj. Manager: Patrick Brokamp	Relinquished by:	On Ice? Y N	Date	Time	Received by:	Date	Time
Barr DQ Manager: Terri Olson	Samples Shipped VIA: ☐ Courier ☐ Federal Express ☐ Sampler ☐ Other:				Air Bill Number:	Requested Due Date: ☒ Standard Turn Around Time ☐ Rush (mm/dd/yyyy)	
Lab Name: Pace	Lab WO:	Temperature on Receipt (°C):			Custody Seal Intact? ☐ Y ☐ N ☐ None		
Lab Location: Mpls							

H:\RLG\STDFORMS\Chain Of Custody Form 2015 RLG Rev. 01/02/18

Distribution - White-Original: Accompanies Shipment to Laboratory; **Yellow Copy:** Include in Field Documents; **Pink Copy:** Send to Data Management Administrator

2.9, 2.5

Barr Engineering Co. Chain of Custody

BARR ☐ Ann Arbor ☐ Bismarck ☐ Duluth ☐ Grand Rapids ☐ Hibbing ☐ Jefferson City ☒ Minneapolis ☐ Salt Lake City

Sample Origination State: ☐ KS ☐ MO ☐ UT ☐ MI ☐ ND ☐ WI ☒ MN ☐ SD Other: ____

COC Number: 55837

COC 2 of 2

REPORT TO	INVOICE TO
Company: Barr Eng	Company: Barr Eng
Address:	Address:
Name: Kevin Menken	Name: Kevin Menken
email:	email:
Copy to: datamgt@barr.com	P.O.
Project Name: Bassett Ponds	Barr Project No: 23270051.46 200 205

Matrix Code: GW = Groundwater, SW = Surface Water, WW = Waste Water, DW = Drinking Water, S = Soil/Solid, SD = Sediment, O = Other

Preservative Code: A = None, B = HCl, C = HNO_3, D = H_2SO_4, E = NaOH, F = MeOH, G = $NaHSO_4$, H = $Na_2S_2O_3$, I = Ascorbic Acid, J = NH_4Cl, K = Zn Acetate, O = Other

	Location	Sample Depth Start	Stop	Unit (m./ft. or in.)	Collection Date (mm/dd/yyyy)	Collection Time (hh:mm)	Matrix Code	Perform MS/MSD Y / N	Total Number Of Containers	Analysis Requested: Water	Soil: RCRA metals + Cu	cPAHs (stormwater pond list)	Pesticides by MDA List 1	wT DRO w/silica gel cleanup	VOCs by 8260	% Solids	Preservative Code	Field Filtered Y/N	Comments
											A	A	A	A	F	A			
1.	LE-SED-04				10/18/19	14:20	SD		6		X	X	X	X		X			oil
2.	LE-SED-04-VOC				10/18/19	14:20	SD		6						X				extra sample containers collected ab2
3.	DUP-01				10/18/19	—	SD		6		X	X	X	X		X			ab3
4.	DUP-01-VOC				10/18/19	—	SD		2						X				ab4
5.	LF-SED-01				10/17/19	14:15	SD		6		X	X	X	X		X			ab5
6.	LF-SED-02				10/17/19	13:55	SD		6		X	X	X	X		X			ab6
7.	Trip Blank 1						SD								X				ab7
8.	Trip Blank 2														X				ab8
9.																			
10.																			

BARR USE ONLY

Sampled by: Kevin Menken

Barr Proj. Manager: Patrick Brokamp

Barr PQ Manager: Terri Olson

Lab Name: Pace

Lab Location: Mpls

Relinquished by:	On Ice? Y / N	Date	Time	Received by:	Date	Time
Kevin Menken	Y	10/18/19	13:45	Pace	10/18/19	1893
Relinquished by:	On Ice? Y / N	Date	Time	Received by:	Date	Time

Samples Shipped VIA: ☐ Courier ☐ Federal Express ☐ Sampler ☐ Other: ____

Air Bill Number:

Requested Due Date: ☒ Standard Turn Around Time ☐ Rush ____ (Number of Days)

Lab WO: Temperature on Receipt (°C): Custody Seal Intact? ☐ Y ☐ N ☐ None

Distribution - White-Original: Accompanies Shipment to Laboratory; Yellow Copy: Include in Field Documents; Pink Copy: Send to Data Management Administrators.

2.5, 2.9

H:\RLG\STDFORMS\Chain Of Custody Form 2015 RLG Rev. 01/02/18

Pace Analytical®	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 23Aug2019 Page 1 of 1
	Document No.: **F-MN-L-213-rev.29**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: Barr Eng.

Project #: **WO# : 10496207**

PM: AA1 **Due Date: 11/01/19**

CLIENT: BARR

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client ☐ Pace ☐ SpeeDee ☐ Commercial See Exceptions ☐

Tracking Number:

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☒ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other: **Temp Blank?** ☒ Yes ☐ No

Thermometer: ☐ T1(0461) ☐ T2(1336) ☐ T3(0459) ☐ T4(0254) ☒ T5(0489) **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☐ Dry ☐ Melted

Note: Each West Virginia Sample must have temp taken (no temp blanks)

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** 2.4, 2.8 °C

Correction Factor: +0.1 **Cooler Temp Corrected w/temp blank :** 2.5, 2.9 °C

Average Corrected Temp (no temp blank only): ☐ See Exceptions ☐ 1 Container ____ °C

USDA Regulated Soil: (☐ N/A, water sample/Other:)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☒ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

Date/Initials of Person Examining Contents: MKZ 10-18-19

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present and Filled Out?	☒ Yes	☐ No		1.
Chain of Custody Relinquished?	☒ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	3.
Samples Arrived within Hold Time?	☒ Yes	☐ No		4.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E coli ☐ BOD/cBOD ☐ Hex Chrome ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other
Rush Turn Around Time Requested?	☐ Yes	☒ No		6.
Sufficient Volume?	☒ Yes	☐ No		7.
Correct Containers Used?	☒ Yes	☐ No		8.
-Pace Containers Used?	☒ Yes	☐ No		
Containers Intact?	☒ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC?	☒ Yes	☐ No		11. **If no, write ID/ Date/Time on Container Below:** **See Exception** ☐
Matrix: ☐ Water ☒ Soil ☐ Oil ☐ Other				
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☒ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	☐ Yes	☐ No	☒ N/A	☐ NaOH ☐ HNO_3 ☐ H_2SO_4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☐ Yes	☐ No	☒ N/A	Positive for Res. Chlorine? ☐ Yes ☐ No **pH Paper Lot#** **See Exception** ☐
				Res. Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☒ N/A	13. **See Exception** ☐
Trip Blank Present?	☒ Yes	☐ No	☐ N/A	14. 1 Soil trip blank
Trip Blank Custody Seals Present?	☒ Yes	☐ No	☐ N/A	Pace Trip Blank Lot # (if purchased): 091619-3

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: Amanda J Albrecht **Date:** 10/22/19

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled by:

A194305

Chain of Custody

WO# : 10496207

10496207

☐ Samples were sent directly to the Subcontracting Laboratory.

State Of Origin: MN

Cert. Needed: ☑ Yes ☐ No

Workorder: 10496207 **Workorder Name:** 23270051.46 200 205 Bassett Po

Owner Received Date: 10/18/2019 Results Requested By: 11/1/2019

Report To	Subcontract To
Amanda Albrecht Pace Analytical Minnesota 1700 Elm Street Suite 200 Minneapolis, MN 55414 Phone (612)607-6382	Pace Analytical Madison 2525 Advance Road Madison, WI 53718 Phone (608)221-8700

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: JGFU Unpreserved	Requested Analysis: MDA List 1 (Pace-Madison)	LAB USE ONLY	
1	LD-SED-01	PS	10/18/2019 13:20	10496207001	Solid	1	X	01	001
2	LD-SED-02	PS	10/18/2019 13:40	10496207002	Solid	1	X	02	002
3	LE-SED-01	PS	10/18/2019 10:00	10496207005	Solid	1	X	03	005
4	LE-SED-02	PS	10/18/2019 10:20	10496207007	Solid	1	X	04	
5	LE-SED-03	PS	10/18/2019 14:00	10496207009	Solid	1	X	05	009
6	LE-SED-04	PS	10/18/2019 14:20	10496207011	Solid	1	X	06	
7	DUP-01	PS	10/18/2019 00:00	10496207013	Solid	1	X	07	
8	LF-SED-01	PS	10/17/2019 14:15	10496207015	Solid	1	X	08	
9	LF-SED-02	PS	10/17/2019 13:55	10496207016	Solid	1	X	09	

Transfers	Released By	Date/Time	Received By	Date/Time
1	42e Pace	10/22/19 1910		10/23/19 1330
2		02.14.20 1200	Pace	2/7/20
3				2/7/20 9:15

Comments: Dry weight too.

Cooler Temperature on Receipt	°C	Custody Seal	Received on Ice	Samples Intact
4.0		Y or N	Y or N	Y or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.

This chain of custody is considered complete as is since this information is available in the owner laboratory.

S/N 160142274
EXP 12/20/19

T = 4.7

Pace Analytical®	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 14Nov2019 Page 1 of 1
	Document No.: **F-MN-L-213-rev.30**	Pace Analytical Services - **Minneapolis**

Sample Condition Upon Receipt

Client Name: Pace Madison

Project #: **WO# : 10496207**

PM: AA1 **Due Date: 02/25/20**

CLIENT: BARR

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☐ Commercial **See Exceptions** ☐

Tracking Number: 1456 1350 6522

Custody Seal on Cooler/Box Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☑ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☑ N/A

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other:_____ **Temp Blank?** ☐ Yes ☑ No

Thermometer: ☐ T1(0461) ☑ T2(1336) ☐ T3(0459) ☐ T4(0254) ☐ T5(0489) **Type of Ice:** ☐ Wet ☐ Blue ☑ None ☐ Dry ☐ Melted

Note: Each West Virginia Sample must have temp taken (no temp blanks)

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:**_____ °C

Correction Factor: +0.1 **Cooler Temp Corrected w/temp blank :**_____ °C

Average Corrected Temp (no temp blank only): ☒ See Exceptions 4.7 °C ☐ 1 Container

USDA Regulated Soil: (☐ N/A, water sample/Other:_____)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☑ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☑ No

Date/Initials of Person Examining Contents: TR 2/17/20

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present and Filled Out?	☑ Yes	☐ No		1.
Chain of Custody Relinquished?	☑ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☐ Yes	☑ No	☐ N/A	3.
Samples Arrived within Hold Time?	☑ Yes	☐ No		4.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E coli ☐ BOD/cBOD ☐ Hex Chrome ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other_____
Rush Turn Around Time Requested?	☐ Yes	☑ No		6.
Sufficient Volume?	☑ Yes	☐ No		7.
Correct Containers Used?	☑ Yes	☐ No		8.
-Pace Containers Used?	☑ Yes	☐ No		
Containers Intact?	☑ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC? Matrix: ☐ Water ☑ Soil ☐ Oil ☐ Other_____	☑ Yes	☐ No		11. **If no, write ID/ Date/Time on Container Below:** **See Exception** ☐
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☑ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>12 Cyanide)	☐ Yes	☐ No	☑ N/A	☐ NaOH ☐ HNO_3 ☐ H_2SO_4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☐ Yes	☐ No	☑ N/A	Positive for Res. Chlorine? ☐ Yes ☐ No **pH Paper Lot#** **See Exception** ☐
				Res. Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☑ N/A	13. **See Exception** ☐
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☑ N/A	
Trip Blank Present?	☐ Yes	☐ No	☑ N/A	14.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☑ N/A	Pace Trip Blank Lot # (if purchased):_____

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted:_____ Date/Time:_____

Comments/Resolution:_____

Project Manager Review: Jina Soltani **Date:** 2/17/20

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled by: AA (2)

Pace Analytical	Document Name: SCUR Exception Form – Coolers Above 6°C	Document Revised: 08Apr2019 Page 1 of 1
	Document No.: F-MN-C-298-Rev.02	Issuing Authority: Pace Minnesota Quality Office

During sample triage, this form is to be placed in each cooler that arrives above 6.0 degrees Celsius

SCUR Exceptions: **Workorder #:**

Out of Temp Sample IDs	Container Type	# of Containers

PM Notified? ☐Yes ☐No

If yes, indicate who was contacted/date/time.
If no, indicate reason why.

Multiple Cooler Project? ☐Yes ☐No
If you answered yes, fill out information to the left.

No Temp Blank

Read Temp	Corrected Temp	Average Temp
4.3	4.4	4.7
4.4	4.5	
4.3	4.4	
5.3	5.1	

Other Issues

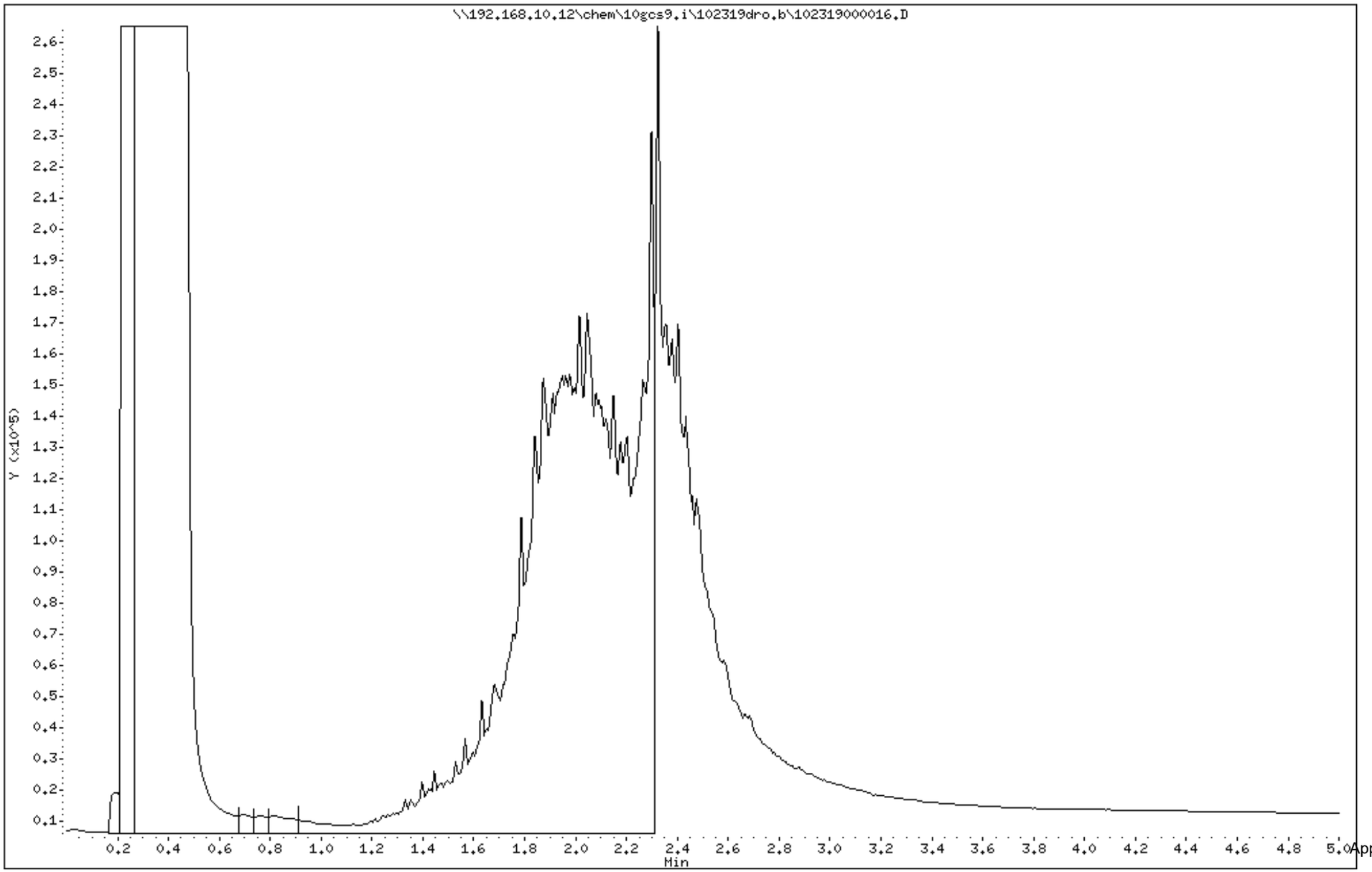
Issue Type: Sample ID	Container Type	# of Containers

Tracking Number/Temperature	

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preserv.	pH Upon Receipt	Date Adjusted	Time Adjusted	Amount Added (mL)	Lot # Added	pH After	In Compliance after addition?	Initials
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	
								☐Yes ☐No	

Data File: \\192.168.10.12\chem\10gcs9.i\102319dro.b\102319000016.D
Page 3
Date : 23-OCT-2019 13:01
Client ID: LD-SED-01
Instrument: 10gcs9.i
Sample Info: 10496207001X10
Volume Injected (uL): 1.0
Operator: EC2
Column phase: DB-5-US19150005
Column diameter: 0.32



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Date : 23-OCT-2019 13:08

Client ID: LD-SED-02

Instrument: 10gcs9.i

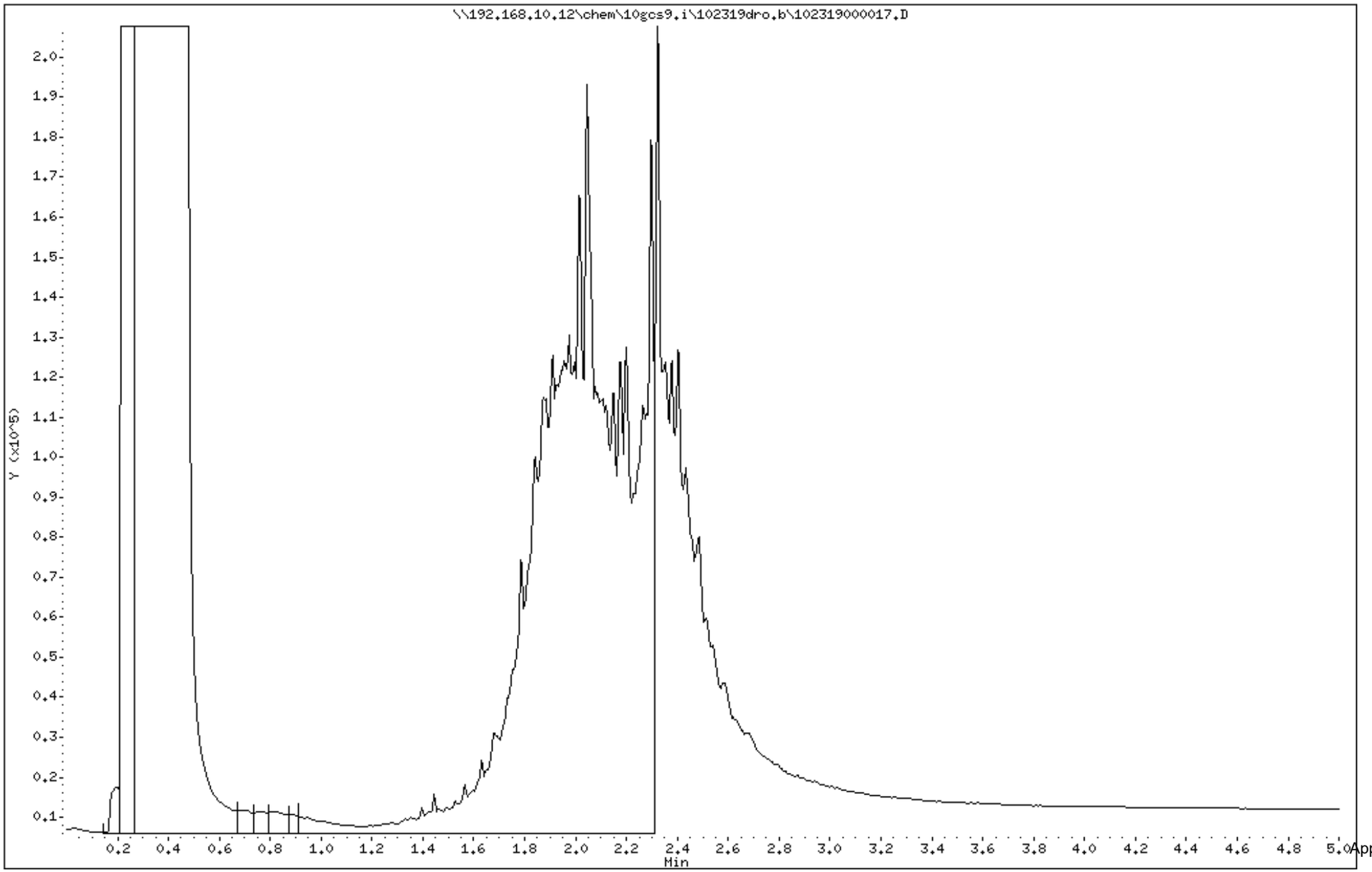
Sample Info: 10496207002X10

Volume Injected (uL): 1.0

Operator: EC2

Column phase: DB-5-US19150005

Column diameter: 0.32



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Date : 23-OCT-2019 13:15

Client ID: LE-SED-01

Instrument: 10gcs9.i

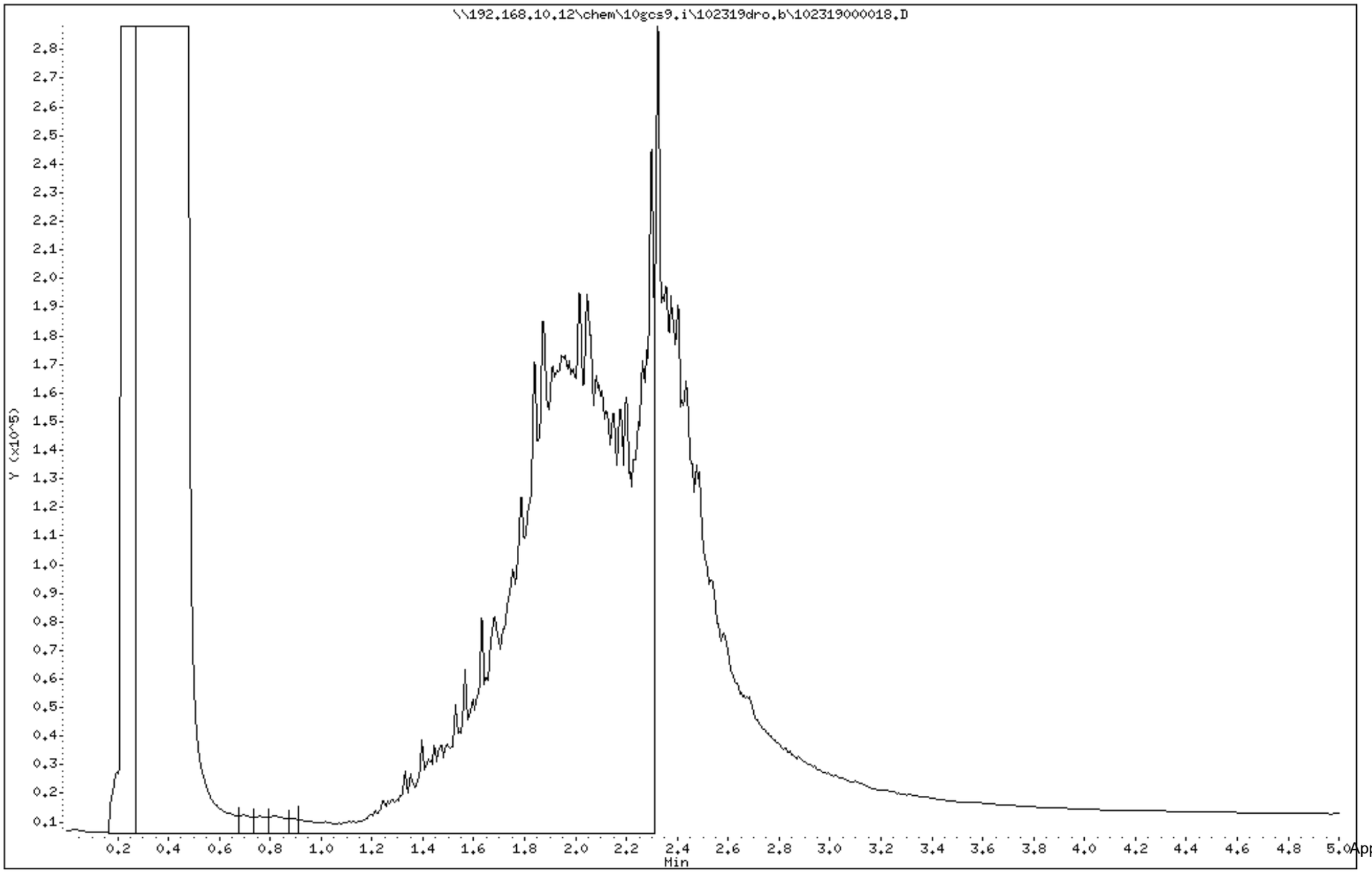
Sample Info: 10496207005X10

Volume Injected (uL): 1.0

Operator: EC2

Column phase: DB-5-US19150005

Column diameter: 0.32



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Date : 23-OCT-2019 13:22

Client ID: LE-SED-02

Instrument: 10gcs9.i

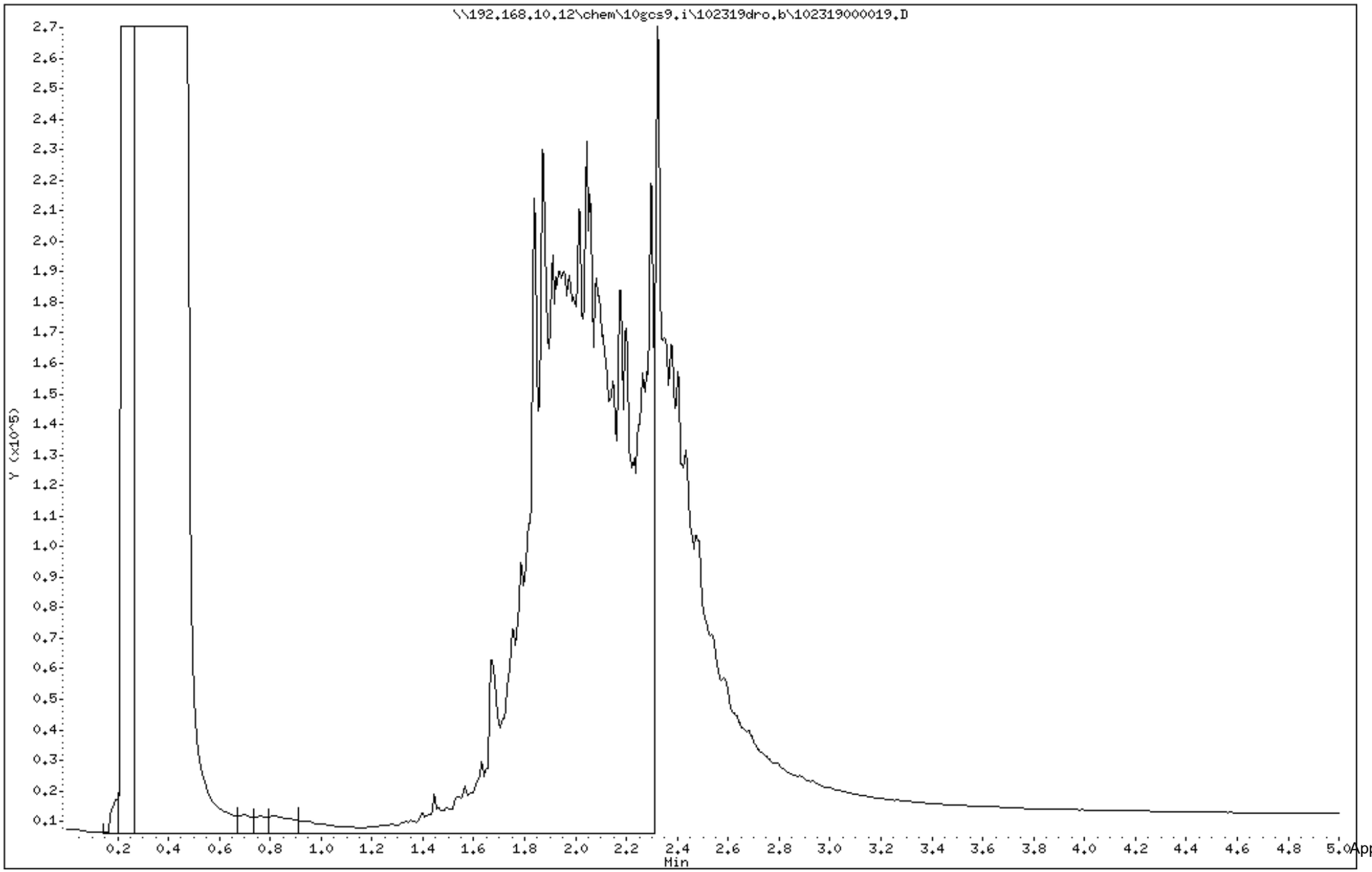
Sample Info: 10496207007X10

Volume Injected (uL): 1.0

Operator: EC2

Column phase: DB-5-US19150005

Column diameter: 0.32



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Date : 23-OCT-2019 13:29

Client ID: LE-SED-03

Instrument: 10gcs9.i

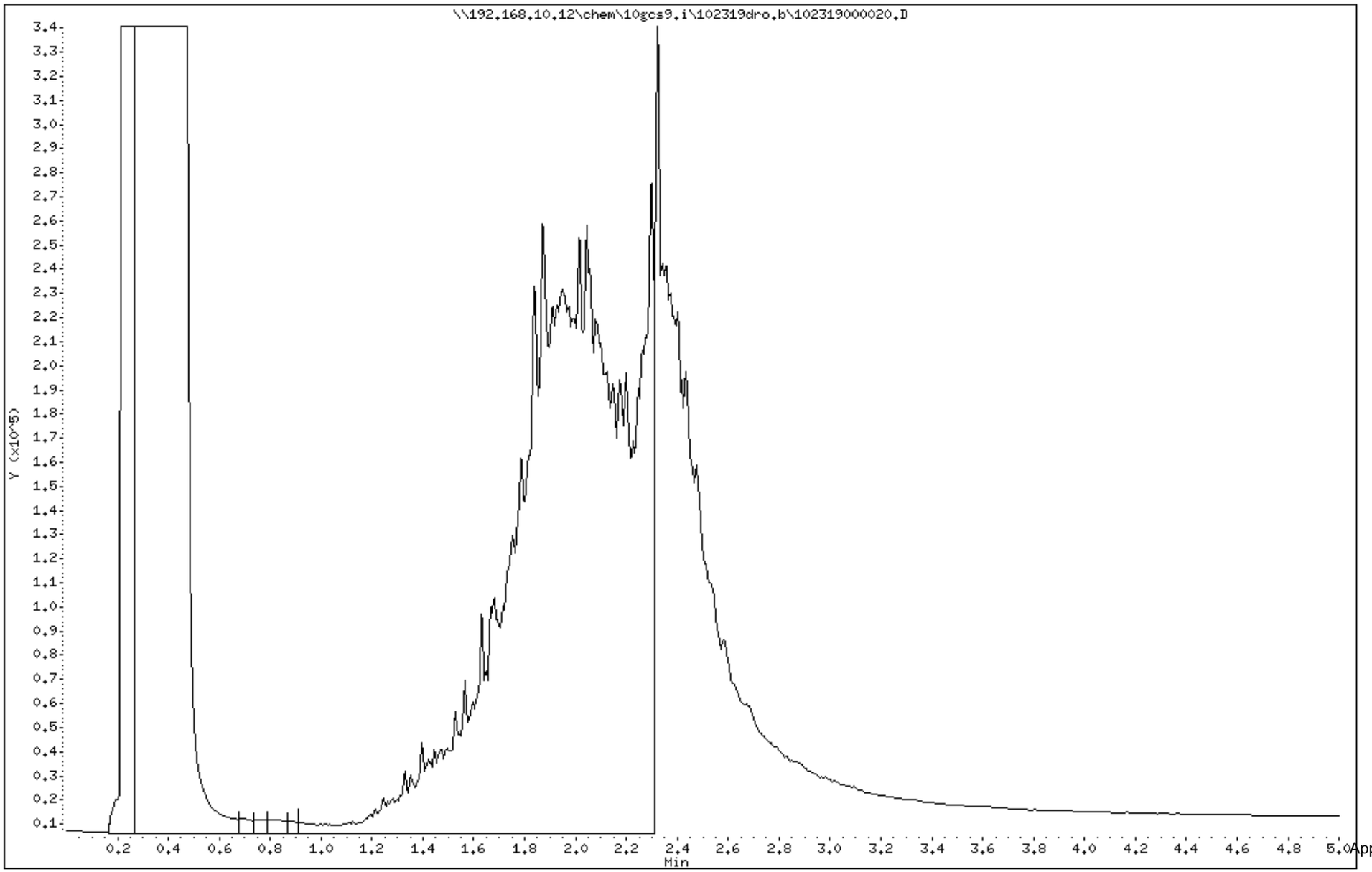
Sample Info: 10496207009X10

Volume Injected (uL): 1.0

Operator: EC2

Column phase: DB-5-US19150005

Column diameter: 0.32



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Date : 23-OCT-2019 13:36

Client ID: LE-SED-04

Instrument: 10gcs9.i

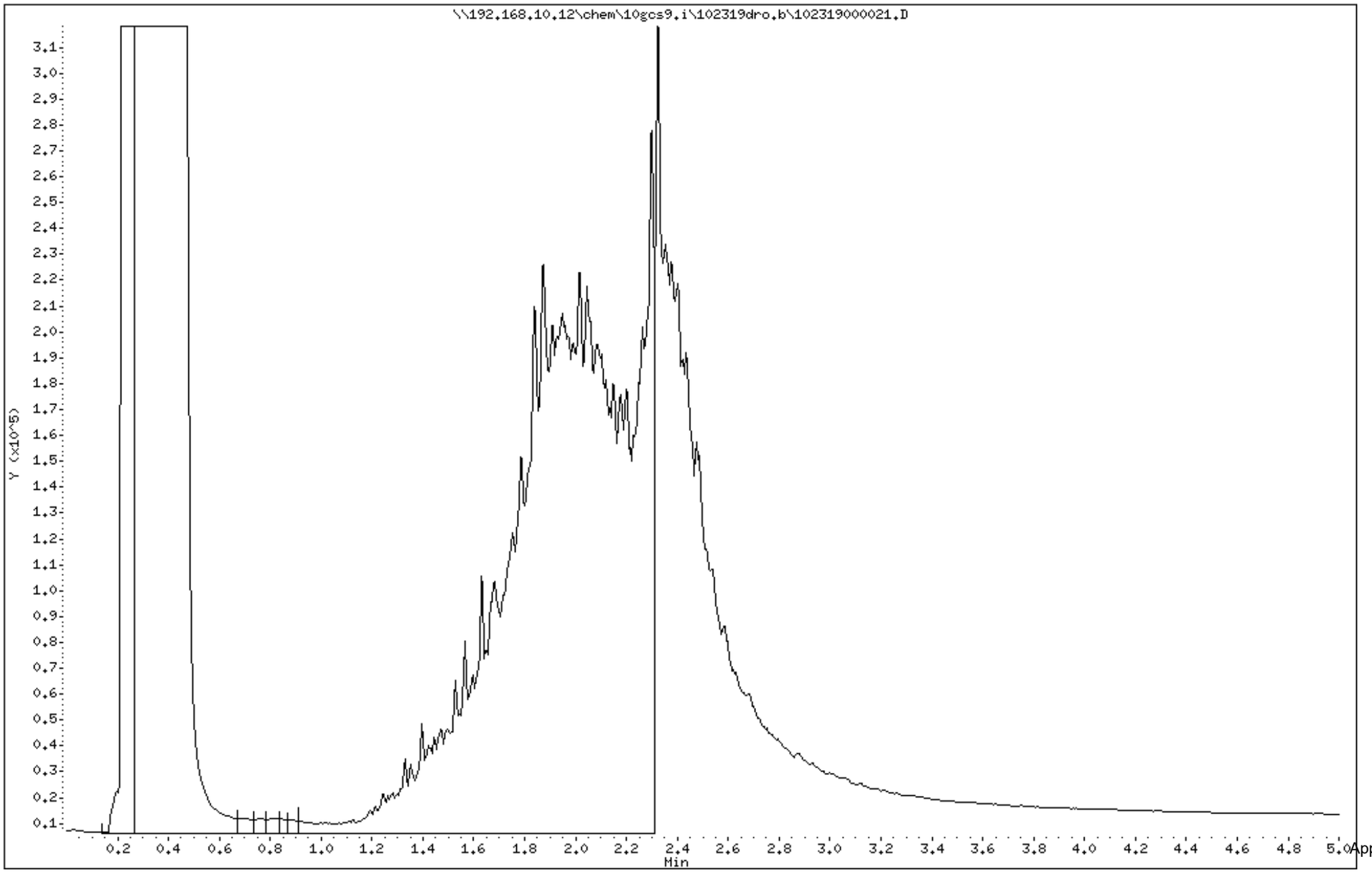
Sample Info: 10496207011X10

Volume Injected (uL): 1.0

Operator: EC2

Column phase: DB-5-US19150005

Column diameter: 0.32



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Date : 23-OCT-2019 13:43

Client ID: DUP-01

Instrument: 10gcs9.i

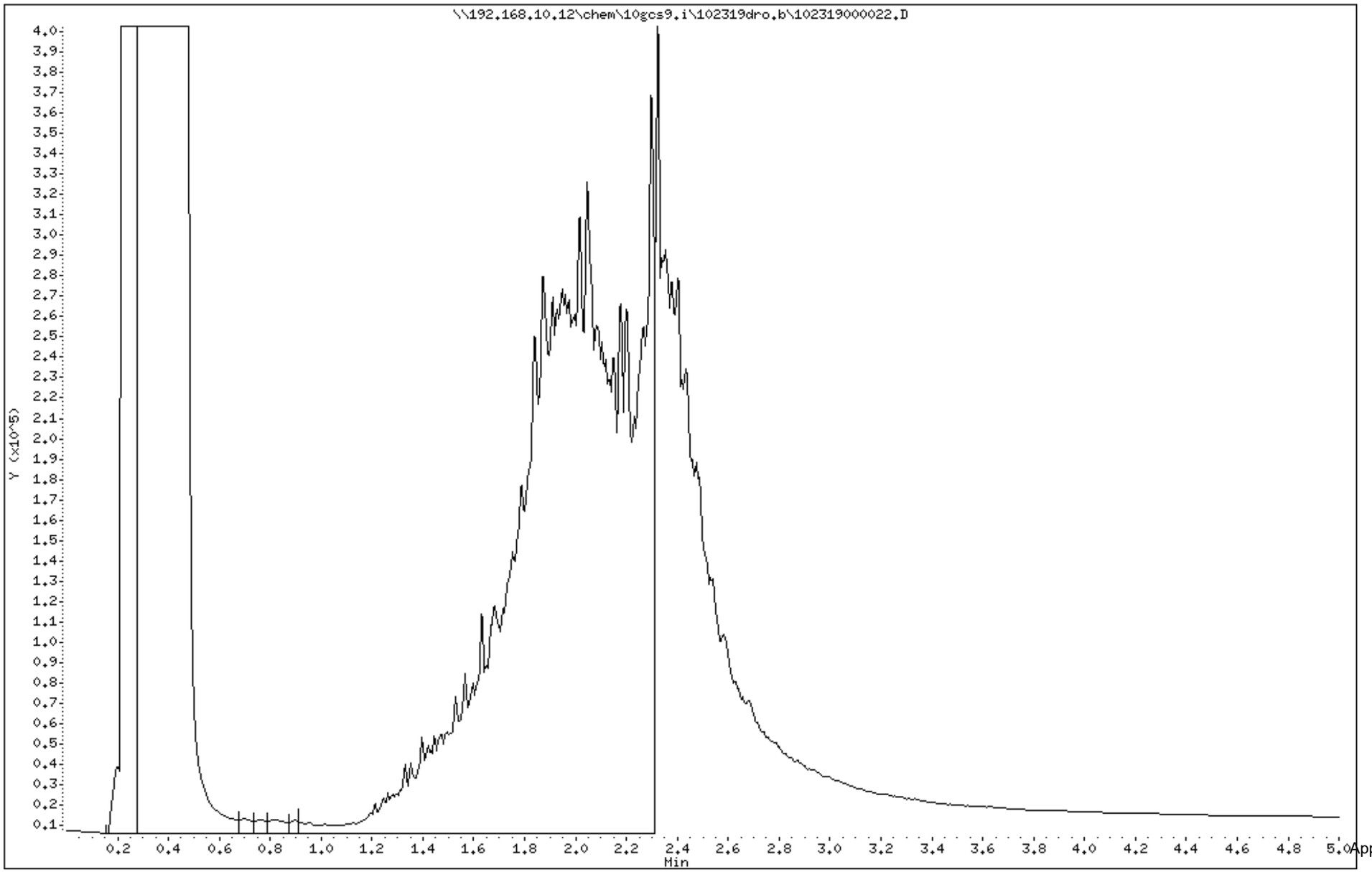
Sample Info: 10496207013X10

Volume Injected (uL): 1.0

Operator: EC2

Column phase: DB-5-US19150005

Column diameter: 0.32



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Date : 23-OCT-2019 18:34

Client ID: LF-SED-02

Instrument: 10gcs9.i

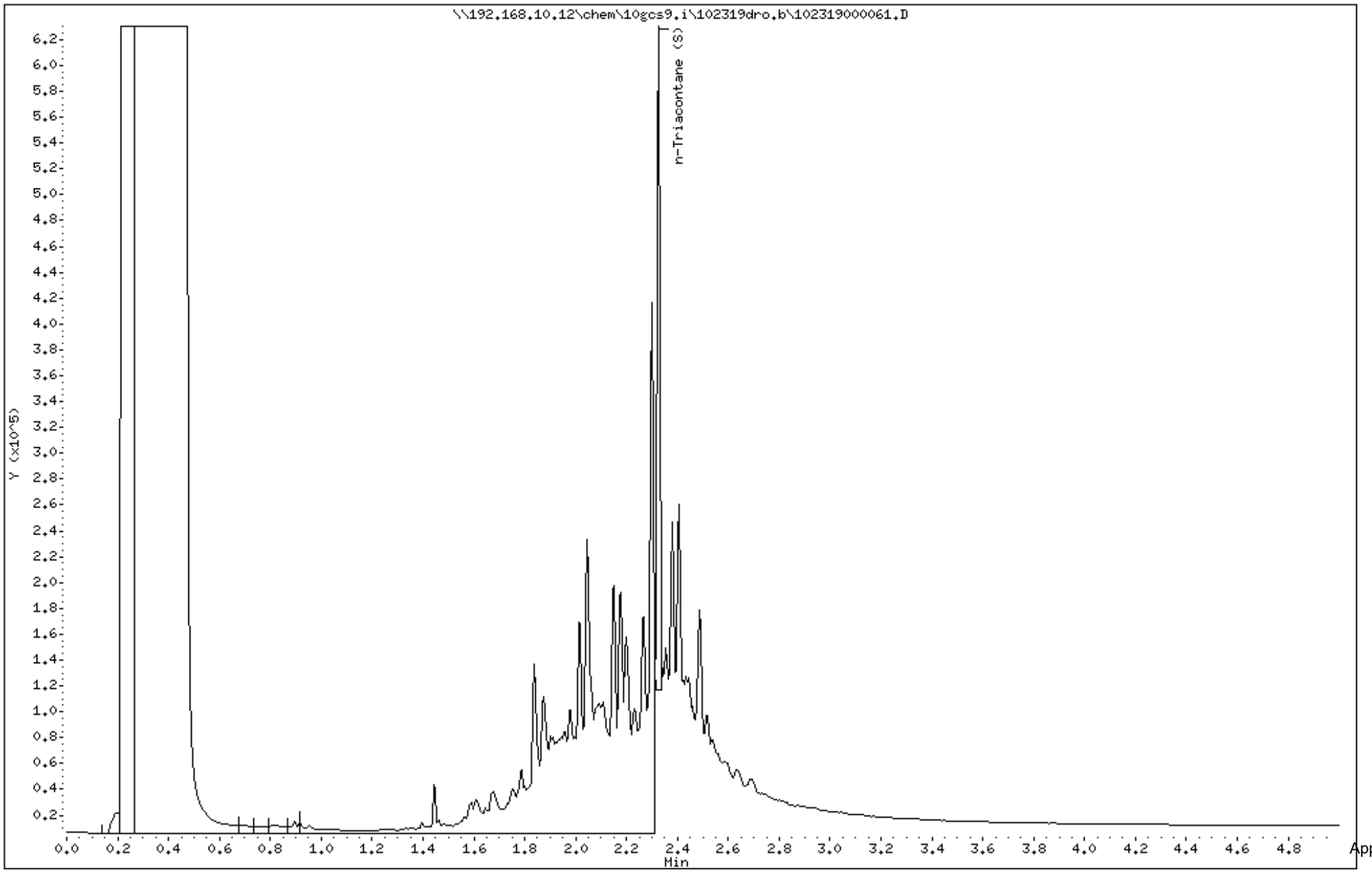
Sample Info: 10496207015X2

Volume Injected (uL): 1.0

Operator: EC2

Column phase: DB-5-US19150005

Column diameter: 0.32



Data File: \\192.168.10.12\chem\10gcs9.i\102319dro.b\102319000060.D

Page 2

Date : 23-OCT-2019 18:27

Client ID: LF-SED-02

Instrument: 10gcs9.i

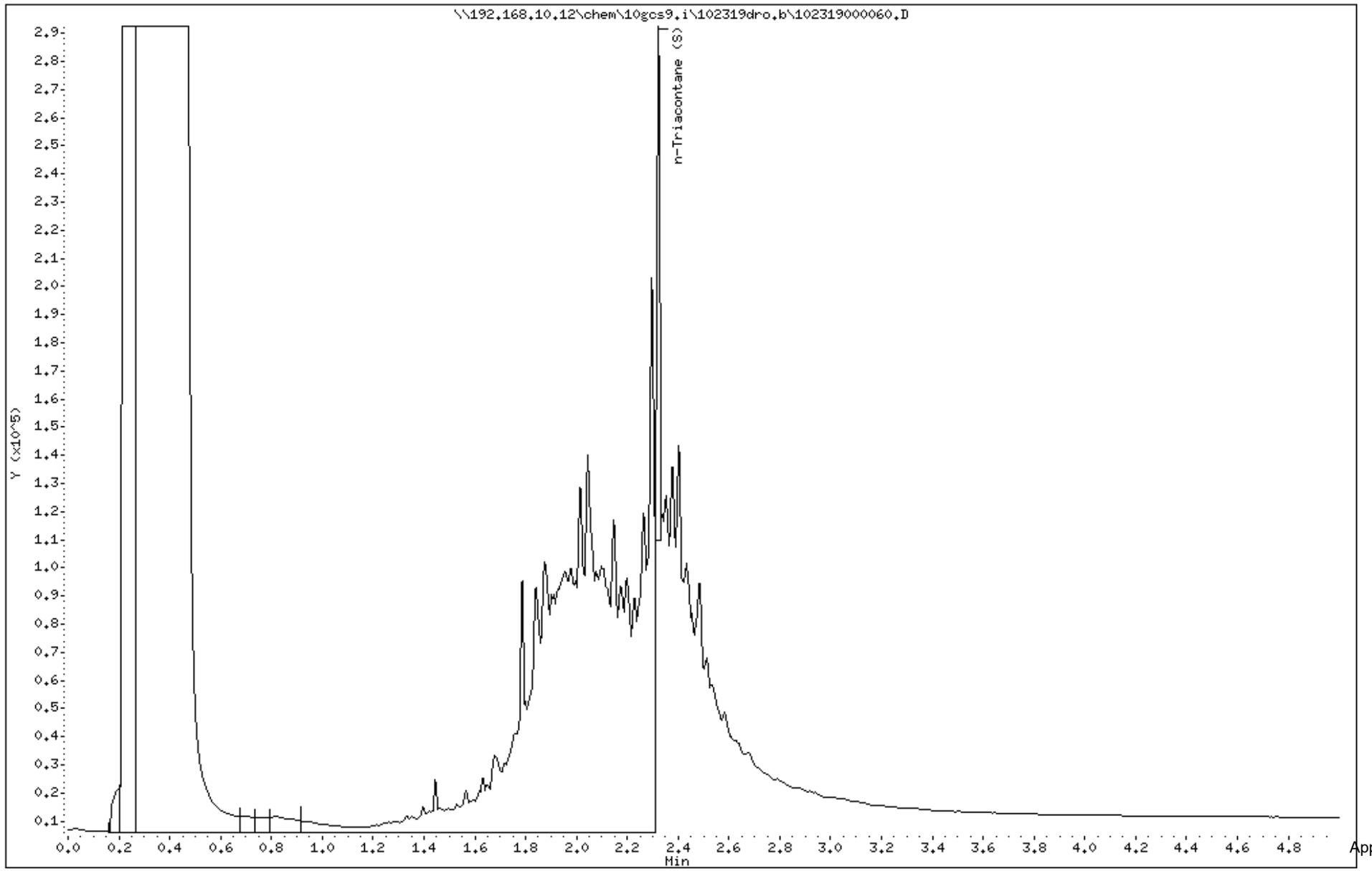
Sample Info: 10496207016X5

Volume Injected (uL): 1.0

Operator: EC2

Column phase: DB-5-US19150005

Column diameter: 0.32



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October 29, 2019

Amanda Albrecht
Pace Analytical
1700 Elm Street, Suite 200
Minneapolis, MN 55414

RE: 23270051.46 200 205 Bassett Po

Enclosed are the analytical results for the samples received by the laboratory on 10/23/2019.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. These results are in compliance with the 2009 NELAC Standards and the appropriate agencies listed below, unless otherwise noted in the case narrative. This analytical report should be reproduced in its entirety.

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

Sincerely,

Jessica Esser

Project Manager

Certification List			Expires
DODELAP	DOD ELAP Accreditation (A2LA)	3269.01	03/31/2020
ILEPA	Illinois Secondary NELAP Accreditation	004366	04/30/2020
KDHE	Kansas Secondary NELAP Accreditation	E-10384	04/30/2020
LELAP	Louisiana Primary NELAP Accreditation	04165	06/30/2020
NCDEQ	North Carolina Dept. of Environmental Quality Accreditation	688	12/31/2019
NJDEP	New Jersey Secondary NELAP Accreditation	WI004	06/30/2020
TCEQ	Texas Secondary NELAP Accreditation	T104704504-16-7	11/30/2019
WDNR	Wisconsin Certification under NR 149	113289110	08/31/2020

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Pace Analytical	Project: 23270051.46 200 205 Bassett Po
1700 Elm Street, Suite 200	Project Number: 10496207
Minneapolis MN, 55414	Project Manager: Amanda Albrecht

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LD-SED-01	A194305-01	Soil	10/18/2019	10/23/2019
LD-SED-02	A194305-02	Soil	10/18/2019	10/23/2019
LE-SED-01	A194305-03	Soil	10/18/2019	10/23/2019
LE-SED-02	A194305-04	Soil	10/18/2019	10/23/2019
LE-SED-03	A194305-05	Soil	10/18/2019	10/23/2019
LE-SED-04	A194305-06	Soil	10/18/2019	10/23/2019
DUP-01	A194305-07	Soil	10/18/2019	10/23/2019
LF-SED-01	A194305-08	Soil	10/17/2019	10/23/2019
LF-SED-02	A194305-09	Soil	10/17/2019	10/23/2019

CASE NARRATIVE

Sample Receipt Information:
9 samples were received on 10/23/2019. Samples were received at 1.6 degrees Celsius. Samples were received in acceptable condition.

Please see the chain of custody (COC) document at the end of this report for additional information.

Continuing Calibration Verification (CCV):
CCV indicates a potential high bias for deisopropylatrazine, ethalfluralin, pendimethalin and trifluralin for samples A194305-01 through A194305-09. Samples were less than the reporting limit for these analytes so no further action is required.

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Pace Analytical	Project: 23270051.46 200 205 Bassett Po
1700 Elm Street, Suite 200	Project Number: 10496207
Minneapolis MN, 55414	Project Manager: Amanda Albrecht

LD-SED-01

A194305-01 (Soil)

Date Sampled
10/18/2019 13:20

Pace Analytical - Madison

Base Neutral Pesticides by Gas Chromatography/Mass Spectrometry — **Preparation Batch: A910281**

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Acetochlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 01:43	EPA 8270D	
Alachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 01:43	EPA 8270D	
Atrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 01:43	EPA 8270D	
Chlorpyrifos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 01:43	EPA 8270D	
Cyanazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 01:43	EPA 8270D	
Desethylatrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 01:43	EPA 8270D	
Deisopropylatrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 01:43	EPA 8270D	
Dimethenamid	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 01:43	EPA 8270D	
EPTC	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 01:43	EPA 8270D	
Ethalfluralin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 01:43	EPA 8270D	
Fonofos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 01:43	EPA 8270D	
Metolachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 01:43	EPA 8270D	
Metribuzin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 01:43	EPA 8270D	
Pendimethalin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 01:43	EPA 8270D	
Phorate	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 01:43	EPA 8270D	
Prometon	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 01:43	EPA 8270D	
Propachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 01:43	EPA 8270D	
Propazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 01:43	EPA 8270D	
Simazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 01:43	EPA 8270D	
Terbufos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 01:43	EPA 8270D	
Triallate	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 01:43	EPA 8270D	
Trifluralin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 01:43	EPA 8270D	
Surrogate: Atrazine-d5		*68.0 %*		*52.6-121*	*10/24/2019*	*10/26/2019 01:43*	*EPA 8270D*	
Surrogate: Parathion-d10		*143 %*		*13.8-148*	*10/24/2019*	*10/26/2019 01:43*	*EPA 8270D*	
Surrogate: Triphenyl phosphate		*92.3 %*		*29.9-166*	*10/24/2019*	*10/26/2019 01:43*	*EPA 8270D*	

Classical Chemistry Parameters — **Preparation Batch: A910282**

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
% Solids	**45.7**	0.00	% by Weight	1	10/24/2019	10/25/2019 08:27	SM 2540B	

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Pace Analytical	Project: 23270051.46 200 205 Bassett Po
1700 Elm Street, Suite 200	Project Number: 10496207
Minneapolis MN, 55414	Project Manager: Amanda Albrecht

LD-SED-02

A194305-02 (Soil)

Date Sampled
10/18/2019 13:40

Pace Analytical - Madison

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Base Neutral Pesticides by Gas Chromatography/Mass Spectrometry					**Preparation Batch: A910281**			
Acetochlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:09	EPA 8270D	
Alachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:09	EPA 8270D	
Atrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:09	EPA 8270D	
Chlorpyrifos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:09	EPA 8270D	
Cyanazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:09	EPA 8270D	
Desethylatrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:09	EPA 8270D	
Deisopropylatrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:09	EPA 8270D	
Dimethenamid	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:09	EPA 8270D	
EPTC	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:09	EPA 8270D	
Ethalfluralin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:09	EPA 8270D	
Fonofos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:09	EPA 8270D	
Metolachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:09	EPA 8270D	
Metribuzin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:09	EPA 8270D	
Pendimethalin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:09	EPA 8270D	
Phorate	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:09	EPA 8270D	
Prometon	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:09	EPA 8270D	
Propachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:09	EPA 8270D	
Propazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:09	EPA 8270D	
Simazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:09	EPA 8270D	
Terbufos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:09	EPA 8270D	
Triallate	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:09	EPA 8270D	
Trifluralin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:09	EPA 8270D	
Surrogate: Atrazine-d5		*70.7 %*		*52.6-121*	*10/24/2019*	*10/26/2019 02:09*	*EPA 8270D*	
Surrogate: Parathion-d10		*140 %*		*13.8-148*	*10/24/2019*	*10/26/2019 02:09*	*EPA 8270D*	
Surrogate: Triphenyl phosphate		*116 %*		*29.9-166*	*10/24/2019*	*10/26/2019 02:09*	*EPA 8270D*	
Classical Chemistry Parameters					**Preparation Batch: A910282**			
% Solids	**46.1**	0.00	% by Weight	1	10/24/2019	10/25/2019 08:27	SM 2540B	

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Minneapolis MN, 55414	Project Manager: Amanda Albrecht

LE-SED-01

A194305-03 (Soil)

Date Sampled
10/18/2019 10:00

Pace Analytical - Madison

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Base Neutral Pesticides by Gas Chromatography/Mass Spectrometry					**Preparation Batch: A910281**			
Acetochlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:35	EPA 8270D	
Alachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:35	EPA 8270D	
Atrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:35	EPA 8270D	
Chlorpyrifos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:35	EPA 8270D	
Cyanazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:35	EPA 8270D	
Desethylatrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:35	EPA 8270D	
Deisopropylatrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:35	EPA 8270D	
Dimethenamid	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:35	EPA 8270D	
EPTC	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:35	EPA 8270D	
Ethalfluralin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:35	EPA 8270D	
Fonofos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:35	EPA 8270D	
Metolachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:35	EPA 8270D	
Metribuzin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:35	EPA 8270D	
Pendimethalin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:35	EPA 8270D	
Phorate	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:35	EPA 8270D	
Prometon	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:35	EPA 8270D	
Propachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:35	EPA 8270D	
Propazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:35	EPA 8270D	
Simazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:35	EPA 8270D	
Terbufos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:35	EPA 8270D	
Triallate	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:35	EPA 8270D	
Trifluralin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 02:35	EPA 8270D	
Surrogate: Atrazine-d5		*82.0 %*		*52.6-121*	*10/24/2019*	*10/26/2019 02:35*	*EPA 8270D*	
Surrogate: Parathion-d10		*113 %*		*13.8-148*	*10/24/2019*	*10/26/2019 02:35*	*EPA 8270D*	
Surrogate: Triphenyl phosphate		*93.8 %*		*29.9-166*	*10/24/2019*	*10/26/2019 02:35*	*EPA 8270D*	
Classical Chemistry Parameters					**Preparation Batch: A910282**			
% Solids	**59.6**	0.00	% by Weight	1	10/24/2019	10/25/2019 08:27	SM 2540B	

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Minneapolis MN, 55414	Project Manager: Amanda Albrecht

LE-SED-02

A194305-04 (Soil)

Date Sampled
10/18/2019 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Pace Analytical - Madison								
Base Neutral Pesticides by Gas Chromatography/Mass Spectrometry					**Preparation Batch: A910281**			
Acetochlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:01	EPA 8270D	
Alachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:01	EPA 8270D	
Atrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:01	EPA 8270D	
Chlorpyrifos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:01	EPA 8270D	
Cyanazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:01	EPA 8270D	
Desethylatrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:01	EPA 8270D	
Deisopropylatrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:01	EPA 8270D	
Dimethenamid	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:01	EPA 8270D	
EPTC	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:01	EPA 8270D	
Ethalfluralin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:01	EPA 8270D	
Fonofos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:01	EPA 8270D	
Metolachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:01	EPA 8270D	
Metribuzin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:01	EPA 8270D	
Pendimethalin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:01	EPA 8270D	
Phorate	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:01	EPA 8270D	
Prometon	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:01	EPA 8270D	
Propachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:01	EPA 8270D	
Propazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:01	EPA 8270D	
Simazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:01	EPA 8270D	
Terbufos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:01	EPA 8270D	
Triallate	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:01	EPA 8270D	
Trifluralin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:01	EPA 8270D	
Surrogate: Atrazine-d5		*84.5 %*		*52.6-121*	*10/24/2019*	*10/26/2019 03:01*	*EPA 8270D*	
Surrogate: Parathion-d10		*132 %*		*13.8-148*	*10/24/2019*	*10/26/2019 03:01*	*EPA 8270D*	
Surrogate: Triphenyl phosphate		*115 %*		*29.9-166*	*10/24/2019*	*10/26/2019 03:01*	*EPA 8270D*	
Classical Chemistry Parameters					**Preparation Batch: A910282**			
% Solids	**70.5**	0.00	% by Weight	1	10/24/2019	10/25/2019 08:27	SM 2540B	

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1700 Elm Street, Suite 200	Project Number: 10496207
Minneapolis MN, 55414	Project Manager: Amanda Albrecht

LE-SED-03

A194305-05 (Soil)

Date Sampled
10/18/2019 14:00

Pace Analytical - Madison

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Base Neutral Pesticides by Gas Chromatography/Mass Spectrometry					**Preparation Batch: A910281**			
Acetochlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:28	EPA 8270D	
Alachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:28	EPA 8270D	
Atrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:28	EPA 8270D	
Chlorpyrifos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:28	EPA 8270D	
Cyanazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:28	EPA 8270D	
Desethylatrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:28	EPA 8270D	
Deisopropylatrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:28	EPA 8270D	
Dimethenamid	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:28	EPA 8270D	
EPTC	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:28	EPA 8270D	
Ethalfluralin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:28	EPA 8270D	
Fonofos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:28	EPA 8270D	
Metolachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:28	EPA 8270D	
Metribuzin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:28	EPA 8270D	
Pendimethalin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:28	EPA 8270D	
Phorate	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:28	EPA 8270D	
Prometon	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:28	EPA 8270D	
Propachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:28	EPA 8270D	
Propazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:28	EPA 8270D	
Simazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:28	EPA 8270D	
Terbufos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:28	EPA 8270D	
Triallate	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:28	EPA 8270D	
Trifluralin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:28	EPA 8270D	
Surrogate: Atrazine-d5		*62.1 %*		*52.6-121*	*10/24/2019*	*10/26/2019 03:28*	*EPA 8270D*	
Surrogate: Parathion-d10		*91.5 %*		*13.8-148*	*10/24/2019*	*10/26/2019 03:28*	*EPA 8270D*	
Surrogate: Triphenyl phosphate		*84.0 %*		*29.9-166*	*10/24/2019*	*10/26/2019 03:28*	*EPA 8270D*	
Classical Chemistry Parameters					**Preparation Batch: A910282**			
% Solids	**52.5**	0.00	% by Weight	1	10/24/2019	10/25/2019 08:27	SM 2540B	

Pace Analytical
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Pace Analytical	Project: 23270051.46 200 205 Bassett Po
1700 Elm Street, Suite 200	Project Number: 10496207
Minneapolis MN, 55414	Project Manager: Amanda Albrecht

LE-SED-04

A194305-06 (Soil)

Date Sampled
10/18/2019 14:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Pace Analytical - Madison								
Base Neutral Pesticides by Gas Chromatography/Mass Spectrometry					**Preparation Batch: A910281**			
Acetochlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:54	EPA 8270D	
Alachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:54	EPA 8270D	
Atrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:54	EPA 8270D	
Chlorpyrifos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:54	EPA 8270D	
Cyanazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:54	EPA 8270D	
Desethylatrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:54	EPA 8270D	
Deisopropylatrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:54	EPA 8270D	
Dimethenamid	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:54	EPA 8270D	
EPTC	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:54	EPA 8270D	
Ethalfluralin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:54	EPA 8270D	
Fonofos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:54	EPA 8270D	
Metolachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:54	EPA 8270D	
Metribuzin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:54	EPA 8270D	
Pendimethalin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:54	EPA 8270D	
Phorate	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:54	EPA 8270D	
Prometon	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:54	EPA 8270D	
Propachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:54	EPA 8270D	
Propazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:54	EPA 8270D	
Simazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:54	EPA 8270D	
Terbufos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:54	EPA 8270D	
Triallate	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:54	EPA 8270D	
Trifluralin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 03:54	EPA 8270D	
Surrogate: Atrazine-d5		*82.3 %*		*52.6-121*	*10/24/2019*	*10/26/2019 03:54*	*EPA 8270D*	
Surrogate: Parathion-d10		*115 %*		*13.8-148*	*10/24/2019*	*10/26/2019 03:54*	*EPA 8270D*	
Surrogate: Triphenyl phosphate		*94.0 %*		*29.9-166*	*10/24/2019*	*10/26/2019 03:54*	*EPA 8270D*	
Classical Chemistry Parameters					**Preparation Batch: A910282**			
% Solids	**54.3**	0.00	% by Weight	1	10/24/2019	10/25/2019 08:27	SM 2540B	

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Pace Analytical	Project: 23270051.46 200 205 Bassett Po
1700 Elm Street, Suite 200	Project Number: 10496207
Minneapolis MN, 55414	Project Manager: Amanda Albrecht

DUP-01

A194305-07 (Soil)

Date Sampled
10/18/2019 00:00

Pace Analytical - Madison

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Base Neutral Pesticides by Gas Chromatography/Mass Spectrometry					**Preparation Batch: A910281**			
Acetochlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:20	EPA 8270D	
Alachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:20	EPA 8270D	
Atrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:20	EPA 8270D	
Chlorpyrifos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:20	EPA 8270D	
Cyanazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:20	EPA 8270D	
Desethylatrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:20	EPA 8270D	
Deisopropylatrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:20	EPA 8270D	
Dimethenamid	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:20	EPA 8270D	
EPTC	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:20	EPA 8270D	
Ethalfluralin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:20	EPA 8270D	
Fonofos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:20	EPA 8270D	
Metolachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:20	EPA 8270D	
Metribuzin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:20	EPA 8270D	
Pendimethalin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:20	EPA 8270D	
Phorate	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:20	EPA 8270D	
Prometon	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:20	EPA 8270D	
Propachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:20	EPA 8270D	
Propazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:20	EPA 8270D	
Simazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:20	EPA 8270D	
Terbufos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:20	EPA 8270D	
Triallate	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:20	EPA 8270D	
Trifluralin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:20	EPA 8270D	
Surrogate: Atrazine-d5		*68.6 %*		*52.6-121*	*10/24/2019*	*10/26/2019 04:20*	*EPA 8270D*	
Surrogate: Parathion-d10		*124 %*		*13.8-148*	*10/24/2019*	*10/26/2019 04:20*	*EPA 8270D*	
Surrogate: Triphenyl phosphate		*92.6 %*		*29.9-166*	*10/24/2019*	*10/26/2019 04:20*	*EPA 8270D*	
Classical Chemistry Parameters					**Preparation Batch: A910282**			
% Solids	**55.5**	0.00	% by Weight	1	10/24/2019	10/25/2019 08:27	SM 2540B	

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Pace Analytical	Project: 23270051.46 200 205 Bassett Po
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Minneapolis MN, 55414	Project Manager: Amanda Albrecht

LF-SED-01

A194305-08 (Soil)

Date Sampled
10/17/2019 14:15

Pace Analytical - Madison

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Base Neutral Pesticides by Gas Chromatography/Mass Spectrometry					**Preparation Batch: A910281**			
Acetochlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:46	EPA 8270D	
Alachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:46	EPA 8270D	
Atrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:46	EPA 8270D	
Chlorpyrifos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:46	EPA 8270D	
Cyanazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:46	EPA 8270D	
Desethylatrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:46	EPA 8270D	
Deisopropylatrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:46	EPA 8270D	
Dimethenamid	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:46	EPA 8270D	
EPTC	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:46	EPA 8270D	
Ethalfluralin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:46	EPA 8270D	
Fonofos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:46	EPA 8270D	
Metolachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:46	EPA 8270D	
Metribuzin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:46	EPA 8270D	
Pendimethalin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:46	EPA 8270D	
Phorate	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:46	EPA 8270D	
Prometon	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:46	EPA 8270D	
Propachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:46	EPA 8270D	
Propazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:46	EPA 8270D	
Simazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:46	EPA 8270D	
Terbufos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:46	EPA 8270D	
Triallate	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:46	EPA 8270D	
Trifluralin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 04:46	EPA 8270D	
Surrogate: Atrazine-d5		*80.4 %*		*52.6-121*	*10/24/2019*	*10/26/2019 04:46*	*EPA 8270D*	
Surrogate: Parathion-d10		*145 %*		*13.8-148*	*10/24/2019*	*10/26/2019 04:46*	*EPA 8270D*	
Surrogate: Triphenyl phosphate		*117 %*		*29.9-166*	*10/24/2019*	*10/26/2019 04:46*	*EPA 8270D*	
Classical Chemistry Parameters					**Preparation Batch: A910282**			
% Solids	**52.1**	0.00	% by Weight	1	10/24/2019	10/25/2019 08:27	SM 2540B	

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Pace Analytical	Project: 23270051.46 200 205 Bassett Po
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Minneapolis MN, 55414	Project Manager: Amanda Albrecht

LF-SED-02

A194305-09 (Soil)

Date Sampled
10/17/2019 13:55

Pace Analytical - Madison

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Base Neutral Pesticides by Gas Chromatography/Mass Spectrometry					**Preparation Batch: A910281**			
Acetochlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 05:12	EPA 8270D	
Alachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 05:12	EPA 8270D	
Atrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 05:12	EPA 8270D	
Chlorpyrifos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 05:12	EPA 8270D	
Cyanazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 05:12	EPA 8270D	
Desethylatrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 05:12	EPA 8270D	
Deisopropylatrazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 05:12	EPA 8270D	
Dimethenamid	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 05:12	EPA 8270D	
EPTC	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 05:12	EPA 8270D	
Ethalfluralin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 05:12	EPA 8270D	
Fonofos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 05:12	EPA 8270D	
Metolachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 05:12	EPA 8270D	
Metribuzin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 05:12	EPA 8270D	
Pendimethalin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 05:12	EPA 8270D	
Phorate	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 05:12	EPA 8270D	
Prometon	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 05:12	EPA 8270D	
Propachlor	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 05:12	EPA 8270D	
Propazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 05:12	EPA 8270D	
Simazine	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 05:12	EPA 8270D	
Terbufos	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 05:12	EPA 8270D	
Triallate	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 05:12	EPA 8270D	
Trifluralin	ND	0.050	mg/kg dry	1	10/24/2019	10/26/2019 05:12	EPA 8270D	
Surrogate: Atrazine-d5		*69.9 %*		*52.6-121*	*10/24/2019*	*10/26/2019 05:12*	*EPA 8270D*	
Surrogate: Parathion-d10		*138 %*		*13.8-148*	*10/24/2019*	*10/26/2019 05:12*	*EPA 8270D*	
Surrogate: Triphenyl phosphate		*94.7 %*		*29.9-166*	*10/24/2019*	*10/26/2019 05:12*	*EPA 8270D*	
Classical Chemistry Parameters					**Preparation Batch: A910282**			
% Solids	**47.0**	0.00	% by Weight	1	10/24/2019	10/25/2019 08:27	SM 2540B	

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1700 Elm Street, Suite 200	Project Number: 10496207
Minneapolis MN, 55414	Project Manager: Amanda Albrecht

Base Neutral Pesticides by Gas Chromatography/Mass Spectrometry - Quality Control

Pace Analytical - Madison

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A910281 - EPA 3570										
Blank (A910281-BLK1)				Prepared: 10/24/2019 Analyzed: 10/25/2019 18:46						
Acetochlor	ND	0.050	mg/kg wet							
Alachlor	ND	0.050	mg/kg wet							
Atrazine	ND	0.050	mg/kg wet							
Chlorpyrifos	ND	0.050	mg/kg wet							
Cyanazine	ND	0.050	mg/kg wet							
Desethylatrazine	ND	0.050	mg/kg wet							
Deisopropylatrazine	ND	0.050	mg/kg wet							
Dimethenamid	ND	0.050	mg/kg wet							
EPTC	ND	0.050	mg/kg wet							
Ethalfluralin	ND	0.050	mg/kg wet							
Fonofos	ND	0.050	mg/kg wet							
Metolachlor	ND	0.050	mg/kg wet							
Metribuzin	ND	0.050	mg/kg wet							
Pendimethalin	ND	0.050	mg/kg wet							
Phorate	ND	0.050	mg/kg wet							
Prometon	ND	0.050	mg/kg wet							
Propachlor	ND	0.050	mg/kg wet							
Propazine	ND	0.050	mg/kg wet							
Simazine	ND	0.050	mg/kg wet							
Terbufos	ND	0.050	mg/kg wet							
Triallate	ND	0.050	mg/kg wet							
Trifluralin	ND	0.050	mg/kg wet							
Surrogate: Atrazine-d5	*0.194*		*mg/kg wet*	*0.2100*		*92.4*	*52.6-121*			
Surrogate: Parathion-d10	*0.192*		*mg/kg wet*	*0.2178*		*88.0*	*13.8-148*			
Surrogate: Triphenyl phosphate	*0.190*		*mg/kg wet*	*0.2000*		*94.8*	*29.9-166*			
LCS (A910281-BS1)				Prepared: 10/24/2019 Analyzed: 10/25/2019 23:07						
Acetochlor	0.343	0.050	mg/kg wet	0.4000		85.9	76.4-119			
Alachlor	0.343	0.050	mg/kg wet	0.4000		85.8	76.2-119			
Atrazine	0.363	0.050	mg/kg wet	0.4000		90.9	78.6-115			
Chlorpyrifos	0.378	0.050	mg/kg wet	0.4000		94.5	74.8-121			
Cyanazine	0.346	0.050	mg/kg wet	0.4000		86.6	55.2-143			
Desethylatrazine	0.374	0.050	mg/kg wet	0.4000		93.4	77-118			
Deisopropylatrazine	0.381	0.050	mg/kg wet	0.4000		95.2	69.5-121			
Dimethenamid	0.342	0.050	mg/kg wet	0.4000		85.6	78.8-119			
EPTC	0.356	0.050	mg/kg wet	0.4000		89.1	76.8-113			
Ethalfluralin	0.457	0.050	mg/kg wet	0.4000		114	61.6-130			
Fonofos	0.392	0.050	mg/kg wet	0.4000		98.1	72.5-117			
Metolachlor	0.327	0.050	mg/kg wet	0.4000		81.7	76.9-121			
Metribuzin	0.394	0.050	mg/kg wet	0.4000		98.6	75.1-118			
Pendimethalin	0.413	0.050	mg/kg wet	0.4000		103	60.2-136			
Phorate	0.371	0.050	mg/kg wet	0.4000		92.6	77.8-115			
Prometon	0.373	0.050	mg/kg wet	0.4000		93.3	69.1-120			
Propachlor	0.377	0.050	mg/kg wet	0.4000		94.2	78.2-116			
Propazine	0.364	0.050	mg/kg wet	0.4000		91.1	75.6-119			
Simazine	0.366	0.050	mg/kg wet	0.4000		91.5	77.7-115			

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1700 Elm Street, Suite 200	Project Number: 10496207
Minneapolis MN, 55414	Project Manager: Amanda Albrecht

Base Neutral Pesticides by Gas Chromatography/Mass Spectrometry - Quality Control

Pace Analytical - Madison

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A910281 - EPA 3570										
LCS (A910281-BS1)				Prepared: 10/24/2019 Analyzed: 10/25/2019 23:07						
Terbufos	0.340	0.050	mg/kg wet	0.4000		84.9	74.5-113			
Triallate	0.406	0.050	mg/kg wet	0.4000		101	72.5-117			
Trifluralin	0.419	0.050	mg/kg wet	0.4000		105	67.2-128			
Surrogate: Atrazine-d5	*0.197*		*mg/kg wet*	*0.2100*		*93.8*	*52.6-121*			
Surrogate: Parathion-d10	*0.268*		*mg/kg wet*	*0.2178*		*123*	*13.8-148*			
Surrogate: Triphenyl phosphate	*0.191*		*mg/kg wet*	*0.2000*		*95.7*	*29.9-166*			
Matrix Spike (A910281-MS1)		**Source: A194304-07**		Prepared: 10/24/2019 Analyzed: 10/25/2019 22:15						
Acetochlor	0.372	0.050	mg/kg dry	0.4470	ND	83.2	68.6-127			
Alachlor	0.357	0.050	mg/kg dry	0.4470	ND	80.0	69.7-125			
Atrazine	0.359	0.050	mg/kg dry	0.4470	ND	80.3	65.5-117			
Chlorpyrifos	0.410	0.050	mg/kg dry	0.4470	ND	91.7	75.8-124			
Cyanazine	0.316	0.050	mg/kg dry	0.4470	ND	70.7	25.1-148			
Desethylatrazine	0.299	0.050	mg/kg dry	0.4470	ND	66.8	24.2-130			
Deisopropylatrazine	0.262	0.050	mg/kg dry	0.4470	ND	58.6	12.4-126			
Dimethenamid	0.340	0.050	mg/kg dry	0.4470	ND	76.0	69.3-125			
EPTC	0.384	0.050	mg/kg dry	0.4470	ND	86.0	74.1-118			
Ethalfluralin	0.494	0.050	mg/kg dry	0.4470	ND	110	62.9-137			
Fonofos	0.435	0.050	mg/kg dry	0.4470	ND	97.3	68.1-117			
Metolachlor	0.337	0.050	mg/kg dry	0.4470	ND	75.3	62-137			
Metribuzin	0.392	0.050	mg/kg dry	0.4470	ND	87.7	55.6-127			
Pendimethalin	0.438	0.050	mg/kg dry	0.4470	ND	98.1	47.5-164			
Phorate	0.412	0.050	mg/kg dry	0.4470	ND	92.1	73.6-118			
Prometon	0.354	0.050	mg/kg dry	0.4470	ND	79.3	54.7-125			
Propachlor	0.365	0.050	mg/kg dry	0.4470	ND	81.7	67.2-119			
Propazine	0.379	0.050	mg/kg dry	0.4470	ND	84.8	70.1-120			
Simazine	0.363	0.050	mg/kg dry	0.4470	ND	81.2	55.2-120			
Terbufos	0.349	0.050	mg/kg dry	0.4470	ND	78.0	71.8-117			
Triallate	0.455	0.050	mg/kg dry	0.4470	ND	102	67.9-125			
Trifluralin	0.455	0.050	mg/kg dry	0.4470	ND	102	65.4-139			
Surrogate: Atrazine-d5	*0.185*		*mg/kg dry*	*0.2347*		*78.7*	*52.6-121*			
Surrogate: Parathion-d10	*0.273*		*mg/kg dry*	*0.2434*		*112*	*13.8-148*			
Surrogate: Triphenyl phosphate	*0.185*		*mg/kg dry*	*0.2235*		*82.7*	*29.9-166*			
Matrix Spike Dup (A910281-MSD1)		**Source: A194304-07**		Prepared: 10/24/2019 Analyzed: 10/25/2019 22:41						
Acetochlor	0.350	0.050	mg/kg dry	0.4470	ND	78.3	68.6-127	6.15	20	
Alachlor	0.346	0.050	mg/kg dry	0.4470	ND	77.5	69.7-125	3.20	20	
Atrazine	0.352	0.050	mg/kg dry	0.4470	ND	78.7	65.5-117	1.97	20	
Chlorpyrifos	0.409	0.050	mg/kg dry	0.4470	ND	91.4	75.8-124	0.300	20	
Cyanazine	0.317	0.050	mg/kg dry	0.4470	ND	71.0	25.1-148	0.529	20	
Desethylatrazine	0.303	0.050	mg/kg dry	0.4470	ND	67.9	24.2-130	1.58	20	
Deisopropylatrazine	0.289	0.050	mg/kg dry	0.4470	ND	64.6	12.4-126	9.67	20	
Dimethenamid	0.336	0.050	mg/kg dry	0.4470	ND	75.3	69.3-125	0.912	20	
EPTC	0.381	0.050	mg/kg dry	0.4470	ND	85.2	74.1-118	0.894	20	
Ethalfluralin	0.519	0.050	mg/kg dry	0.4470	ND	116	62.9-137	4.95	20	
Fonofos	0.412	0.050	mg/kg dry	0.4470	ND	92.2	68.1-117	5.38	20	

2525 Advance Road
Madison, WI 53718
608.221.8700 Phone
608.221.4889 Fax

Pace Analytical	Project: 23270051.46 200 205 Bassett Po
1700 Elm Street, Suite 200	Project Number: 10496207
Minneapolis MN, 55414	Project Manager: Amanda Albrecht

Base Neutral Pesticides by Gas Chromatography/Mass Spectrometry - Quality Control

Pace Analytical - Madison

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A910281 - EPA 3570										
Matrix Spike Dup (A910281-MSD1)		**Source: A194304-07**		Prepared: 10/24/2019 Analyzed: 10/25/2019 22:41						
Metolachlor	0.326	0.050	mg/kg dry	0.4470	ND	72.8	62-137	3.31	20	
Metribuzin	0.382	0.050	mg/kg dry	0.4470	ND	85.5	55.6-127	2.46	20	
Pendimethalin	0.438	0.050	mg/kg dry	0.4470	ND	98.0	47.5-164	0.0102	20	
Phorate	0.366	0.050	mg/kg dry	0.4470	ND	81.9	73.6-118	11.8	20	
Prometon	0.358	0.050	mg/kg dry	0.4470	ND	80.1	54.7-125	1.05	20	
Propachlor	0.378	0.050	mg/kg dry	0.4470	ND	84.5	67.2-119	3.34	20	
Propazine	0.356	0.050	mg/kg dry	0.4470	ND	79.6	70.1-120	6.29	20	
Simazine	0.344	0.050	mg/kg dry	0.4470	ND	77.1	55.2-120	5.16	20	
Terbufos	0.337	0.050	mg/kg dry	0.4470	ND	75.4	71.8-117	3.42	20	
Triallate	0.453	0.050	mg/kg dry	0.4470	ND	101	67.9-125	0.443	20	
Trifluralin	0.422	0.050	mg/kg dry	0.4470	ND	94.3	65.4-139	7.72	20	
Surrogate: Atrazine-d5	*0.160*		*mg/kg dry*	*0.2347*		*68.2*	*52.6-121*			
Surrogate: Parathion-d10	*0.270*		*mg/kg dry*	*0.2434*		*111*	*13.8-148*			
Surrogate: Triphenyl phosphate	*0.179*		*mg/kg dry*	*0.2235*		*79.9*	*29.9-166*			

2525 Advance Road
Madison, WI 53718
608.221.8700 Phone
608.221.4889 Fax

Pace Analytical	Project: 23270051.46 200 205 Bassett Po
1700 Elm Street, Suite 200	Project Number: 10496207
Minneapolis MN, 55414	Project Manager: Amanda Albrecht

Classical Chemistry Parameters - Quality Control

Pace Analytical - Madison

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch A910282 - % Solids										
Duplicate (A910282-DUP1)		**Source: A194305-09**		Prepared: 10/24/2019 Analyzed: 10/25/2019 08:27						
% Solids	47.3	0.00	% by Weight		47.0			0.521	20	

Pace Analytical
ECCS Mobile Lab Services

2525 Advance Road
Madison, WI 53718
608.221.8700 Phone
608.221.4889 Fax

Pace Analytical	Project: 23270051.46 200 205 Bassett Po
1700 Elm Street, Suite 200	Project Number: 10496207
Minneapolis MN, 55414	Project Manager: Amanda Albrecht

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit or limit of detection (if listed).
NR	Not Reported
dry	Sample results reported on a dry weight basis. If the word 'dry' does not appear after the units, results are reported on an as-is basis.
RPD	Relative Percent Difference

A194305

Chain of Custody

Pace Analytical®
www.pacelabs.com

☐ Samples were sent directly to the Subcontracting Laboratory.

State Of Origin: MN
Cert. Needed: ☑ Yes ☐ No
Owner Received Date: 10/18/2019 Results Requested By: 11/1/2019

Workorder: 10496207 **Workorder Name:** 23270051.46 200 205 Bassett Po

Report To	Subcontract To
Amanda Albrecht Pace Analytical Minnesota 1700 Elm Street Suite 200 Minneapolis, MN 55414 Phone (612)607-6382	Pace Analytical Madison 2525 Advance Road Madison, WI 53718 Phone (608)221-8700

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: JGFU Unpreserved	Requested Analysis: MDA List 1 (Pace-Madison)	LAB USE ONLY
1	LD-SED-01	PS	10/18/2019 13:20	10496207001	Solid	1	X	01
2	LD-SED-02	PS	10/18/2019 13:40	10496207002	Solid	1	X	02
3	LE-SED-01	PS	10/18/2019 10:00	10496207005	Solid	1	X	03
4	LE-SED-02	PS	10/18/2019 10:20	10496207007	Solid	1	X	04
5	LE-SED-03	PS	10/18/2019 14:00	10496207009	Solid	1	X	05
6	LE-SED-04	PS	10/18/2019 14:20	10496207011	Solid	1	X	06
7	DUP-01	PS	10/18/2019 00:00	10496207013	Solid	1	X	07
8	LF-SED-01	PS	10/17/2019 14:15	10496207015	Solid	1	X	08
9	LF-SED-02	PS	10/17/2019 13:55	10496207016	Solid	1	X	09

Transfers	Released By	Date/Time	Received By	Date/Time
1	Pace	10/22/19 1410		10/23/19 1330
2				
3				

Comments: Dry weight too.

Cooler Temperature on Receipt 1.0 °C | Custody Seal (Y) or N | Received on Ice (Y) or N | Samples Intact (Y) or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.*
This chain of custody is considered complete as is since this information is available in the owner laboratory.

S/N 160142274
EXP 12/20/19

Page 17 of 17 A194305 FINAL 10 29 2019 1335

Appendix B

Wetland Delineation Report

resourceful. naturally.
engineering and environmental consultants

BARR

Technical Memorandum

To: Eric Eckman at Golden Valley; USACE Project Manager
From: Barr Engineering Company
Subject: Desktop Wetland Delineation Study for Project to Dredge Accumulated Sediment in the Main Stem of Bassett Creek in Wirth Park
Date: December 9, 2019

On behalf of Bassett Creek Watershed Management Commission (BCWMC), Barr Engineering Company (Barr) completed a Level I Desktop Wetland Determination Review of the Main Stem of Bassett Creek In Theodore Wirth Park. The BCWMC is proposing to remove sediment from three of the seven lagoons created along the Main Stem of Bassett Creek. The sedimentation of the lagoons has resulted in the creation of new "islands" in the creek/lagoons that reduce the flow capacity and floodplain storage of the creek. The project is located in Sections 17 and 20, Township 29W, Range 24N in Wirth Park, Between Golden Valley Road and Trunk Highway 55, Golden Valley, Hennepin County, Minnesota (**Figure 1**).

The proposed project would dredge accumulated sediment in lagoons D, E, and F along the Main Stem of Bassett Creek (**Figure 1**). The project would have a temporary impact to Bassett Creek and its surrounding wetlands, but no permanent impacts would occur in the wetlands or stream channel. The project area was partially delineated in 2011 by Barr for a creek restoration project and in 2016 by SEH, Inc for the Blue Line Light Rail Transit Extension project. The purpose of this desktop delineation was to utilize the two previously approved wetland delineations and use desktop wetland delineation methods to delineate the remaining area. Previous communication with the City of Golden Valley, the Local Government Unit (LGU) responsible for administration of the Minnesota Wetland Conservation Act (WCA) indicated a desktop wetland delineation would be sufficient in delineating the reaming areas (**Appendix A**).

This report includes general environmental information (Section 1.0), descriptions of the delineation results (Section 2.0), and a discussion of regulations and the administering authorities (Section 3.0). The Figures section includes the Project Location Map, Topography Map, National Wetland Inventory (NWI), Public Waters Inventory (PWI), Hydric Soils Map, Previously Delineated Wetland Map and the Wetland Boundary Map. **Appendix A** includes Communications with City of Golden Valley **Appendix B** includes the previous wetland delineation Notice of Decision for the Blue Line Light Rail.

1.0 General Environmental Information

1.1 Site Description

The wetland evaluation area is located within an urban recreational setting (**Figure 1**). The project area is centered on Basset Creek where the project work would occur. The majority of the project area consists of forested riparian area, idle grassland, open water, and wetland area. This area is predominantly used for recreation and includes walking and hiking trails. The western side of the project area is boarded by the

Theodore Wirth Golf Course and parking lot. The eastern side of the project area is bordered by the Blue Line Light Rail and residential neighborhood. The topography varies throughout the length of the project area as depicted on LiDAR topography (**Figure 2**). The highest elevation is 858 feet above MSL, the lowest elevation is 818 feet above MSL.

1.2 National Wetland Inventory

The Minnesota Department of Natural Resources (MNDNR) National Wetland Inventory (NWI) data for Minnesota identifies nine wetland communities within the project area (**Figure 3**). All of the NWI wetlands are associated with Bassett Creek. Two of the wetlands were classified as riverine, five were classified as freshwater forested/shrub wetland (PFO1A) and two were classified as freshwater emergent wetlands (PEM1C/PEM1A).

1.3 Water Resources

The MNDNR Public Water Inventory (PWI) identified one PWI basin, Ski Jump Pond (16987 P), and one PWI watercourse, Bassett Creek (47-49 PW) within the project area (**Figure 4**). Ski Jump Pond is Lagoon E. The project will require work within the PWI waterbody and watercourse as sediment will be removed from Bassett Creek and Ski Jump Pond.

1.4 Soil Resources

Soil information for the site was obtained from the Natural Resources Conservation Service (NRCS) Web Soil Survey. The soil map unit names and hydric classification are labeled in **Figure 5.** The majority of the project area is mapped within non-hydric soils (59.1% of the project area; **Table 1**).

Table 1, Soil Inventory

Map Unit Symbol	Soil Map Unit Name	Percent of Project Area	Hydric Rating
U2A	Udorthents, wet substratum, 0 to 2 percent slopes (L58B)	51.4%	0% - Non hydric
L58B	Koronis-Kingsley complex, 2 to 6 percent slopes	16.9%	10%57.4+
L42F	Kingsley-Gotham complex, 25 to 35 percent slopes	7.7%	0% - Non hydric
W	Water	24%	

2.0 Desktop Delineation

2.1 Methods

Barr conducted a wetland and waterbody desktop review by evaluating the topography, soil type, and previously mapped waterbodies and wetlands within the project area. As part of the desktop review, Barr staff reviewed the following information sources:

- Hennepin County aerial imagery;
- U.S. Geological Survey (USGS) topographic maps;
- Natural Resources Conservation Service (NRCS) Web Soil Survey
- MnDNR Public Water Inventory;
- USGS national hydrography dataset;
- Wetlands identified by the National Wetland Inventory (NWI);
- 2011 Barr wetland delineation;
- 2016 Blue Line light rail wetland delineation

The project area was partially delineated in 2011 by Barr and in 2016 by the Blue Line Light Rail Transit Extension project (**Figure 6**). Wetland boundaries from both of these delineations were used when assessing the project area for wetlands. Wetland classifications were also derived from the 2011 wetland delineation report and aerial imagery assessment.

The delineated wetland areas were classified using the Eggers and Reed plant community types (Eggers and Reed 1997), The U.S. Fish and Wildlife Service Circular 39 System (U.S. Fish and Wildlife 1956) and the U.S. Fish and Wildlife Service Cowardin System (Cowardin et al. 1979)

2.2 Findings

The desktop delineation identified 9.91 acres of wetland and stream channel (**Figure 7**). The entire wetland area was identified as Wetland 1 as all of the wetland area is hydrologically connected to Bassett Creek. The wetland boundaries were not delineated to their full extent as the boundaries extend beyond the project area. The wetland area contains a variety of vegetative community types including, floodplain forest, riverine, shallow marsh, shrub-carr, and wet meadow (**Table 2**).

Table 2, Wetland 1 Vegetation Community Types

Eggers and Reed Plant Community Type	USFWS Circular 39 Classification	Cowardin Classification	Acres
Riverine	Type 5	RUBG	5.04
Floodplain forest	Type 1L	PFOA	3.06
Shrub-carr	Type 6	PSSB/C	0.80
Shallow marsh	Type 3	PEMC	0.67
Wet meadow	Type 2	PEMB	0.34
Total			9.91

3.0 Regulatory Overview

The U.S. Army Corps of Engineers (USACE) regulates the dredge or placement of fill materials into wetlands that are located adjacent to or are hydrologically connected to interstate or navigable waters under the authority of Section 404 of the Clean Water Act. If the USACE has jurisdiction over any portion of a project, they may also review impacts to wetlands under the authority of the National Environmental Policy Act (NEPA).

Filling, excavating, and draining wetlands are also regulated by the Minnesota Wetland Conservation Act (WCA), and the Minnesota Public Waters Inventory Program, which are administered by the City of Golden Valley and the MNDNR. The City of Golden Valley, MNDNR, and the USACE, should be contacted before altering any wetlands in the Project area. Delineated wetland boundaries may be reviewed by a Technical Evaluation Panel (TEP) consisting of representatives from the Minnesota Board of Water and Soil Resources (BWSR), the City of Golden Valley, and Hennepin County along with the USACE.

4.0 References

Cowardin, L.M., V. Carter, F.C. Golet, and R.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States.* U.S. Fish and Wildlife Service, FWS/OBS079/31, 103 pp.

Eggers, S.D. and Reed, D.M. Version 3.2 - July 2015. *Wetland Plants and Plant Communities of Minnesota and Wisconsin.* U.S. Army Corps of Engineers, St. Paul District. St. Paul, Minnesota.

Minnesota State Climatology Office. 2019. Wetland Delineation Precipitation Data Retrieval from a Gridded Database. Accessed from: http://climateapps.dnr.state.mn.us/gridded_data/precip/wetland/wetland.asp

Natural Resources Conservation Service. 2019. United States Department of Agriculture. Web Soil Survey. Accessed from: https://websoilsurvey.sc.egov.usda.gov/.

U. S. Department of Agriculture, Natural Resources Conservation Service. 2018. *Field Indicators of Hydric Soils in the United States, Version 8.2*. G.W. Hurt and L.M. Vasilas (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

U.S. Army Corps of Engineers. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region*. August 2010. Wetlands Regulatory Assistance Program.

U.S. Army Corps of Engineers. 1987. *1987 U.S. Army Corps of Engineers Wetland Delineation Manual.* Wetlands Research Program Technical Report Y-87-1 (on-line edition). Waterways Experiment Station, Vicksburg, Mississippi.

U.S. Fish and Wildlife Service. 1956. *Wetlands of the United States Circular 39*. U.S. Government Printing Office, Washington, D.C.

Figures

Project Area

PLSS Boundary

Minnesota Rail Lines

N

0 300 600

Feet

Site Location Map
Bassett Creek
Watershed Managment Commission
Golden Valley, Minnesota

Figure 1

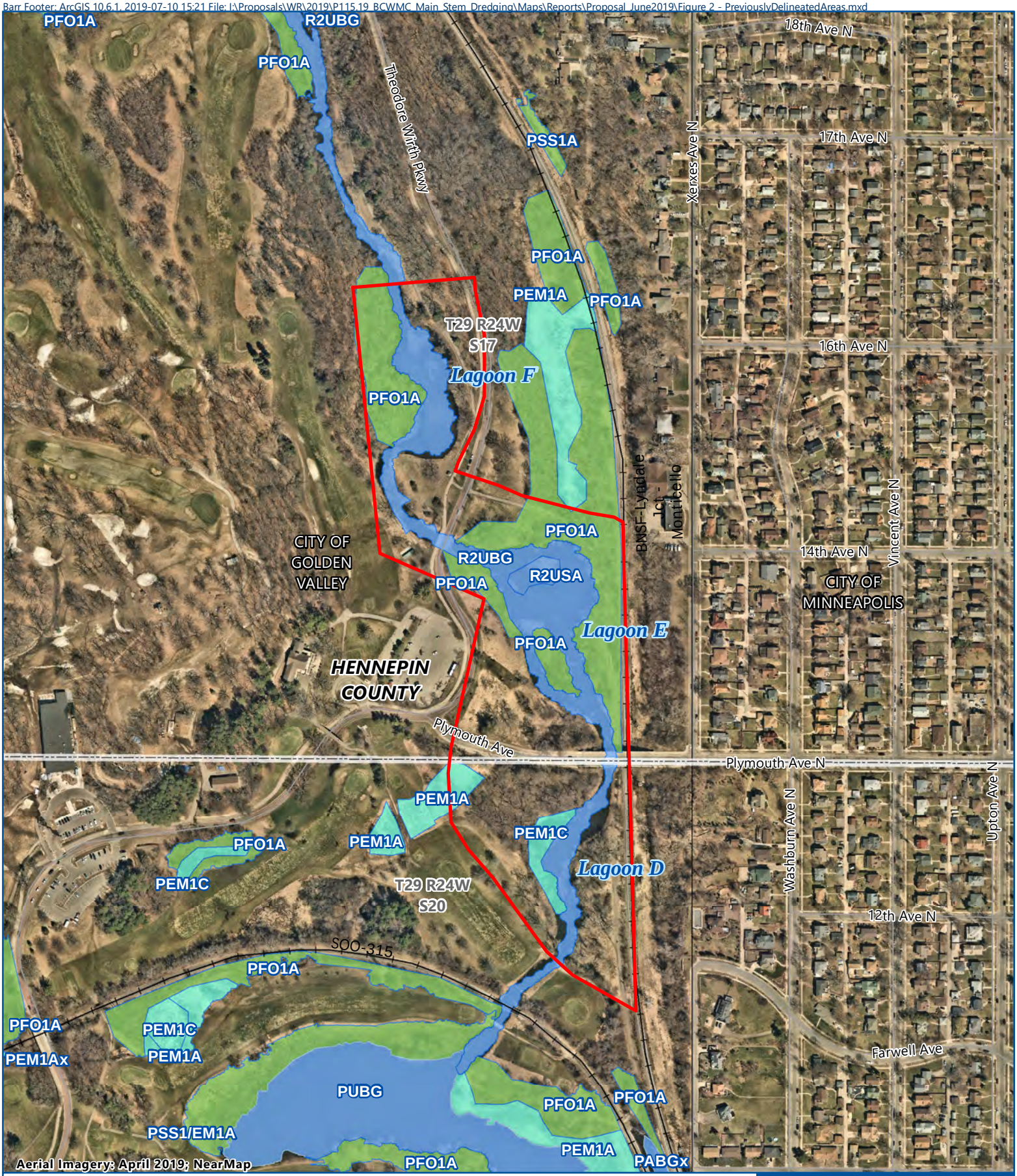
Project Area
PLSS Boundary
Minnesota Rail Lines
10-Foot Contour
2-Foot Contour

N

0 300 600
Feet

Topography Map
Bassett Creek
Watershed Managment Commission
Golden Valley, Minnesota

Figure 2



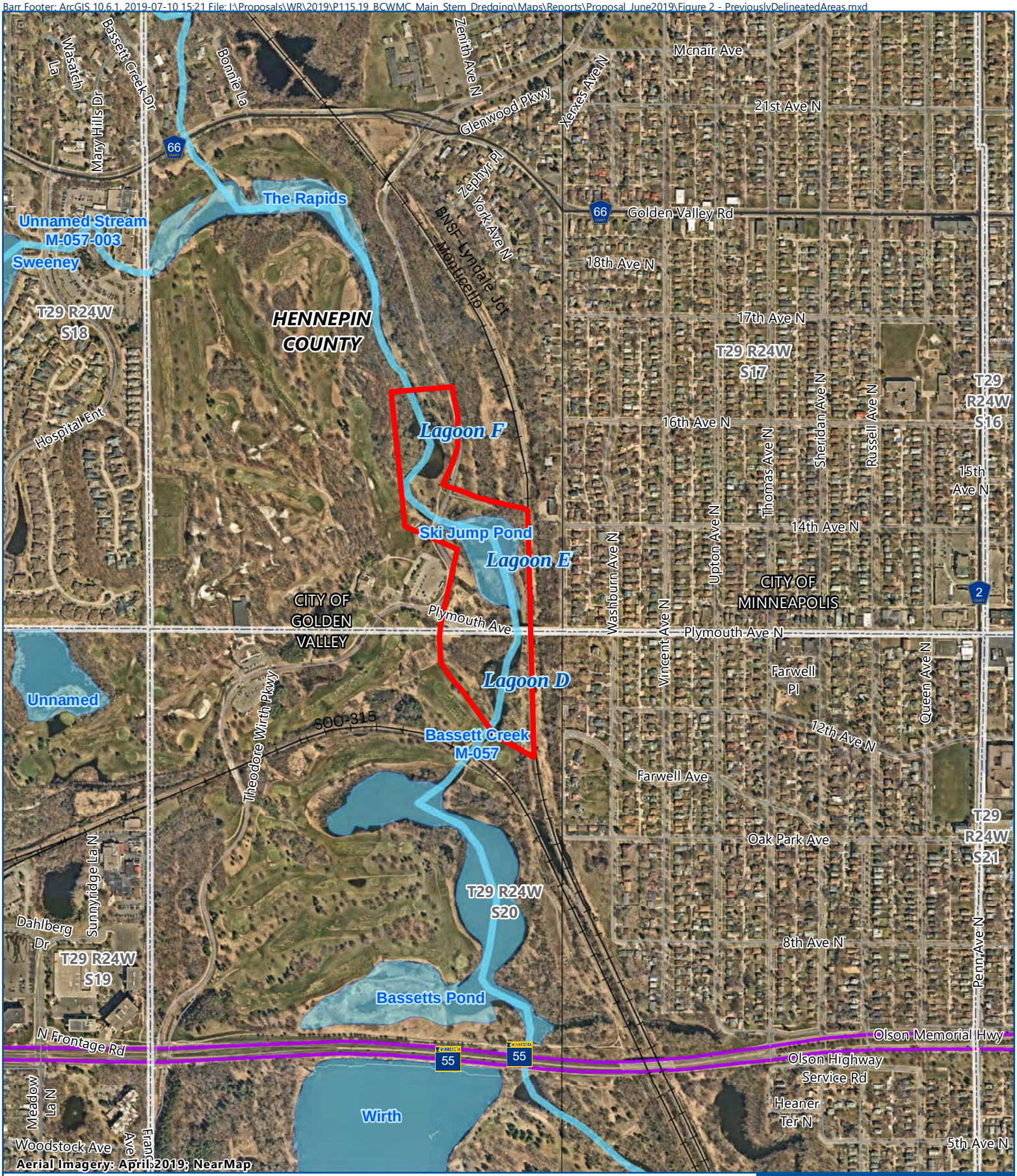
Project Area
PLSS Boundary
Minnesota Rail Lines
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Riverine

N

0 300 600
Feet

National Wetland Inventory Map
Bassett Creek
Watershed Managment Commission
Golden Valley, Minnesota

FIGURE 3



Project Area

Public Waters Inventory Watercourses

Public Water Inventory Basins

PLSS Boundary

Minnesota Rail Lines

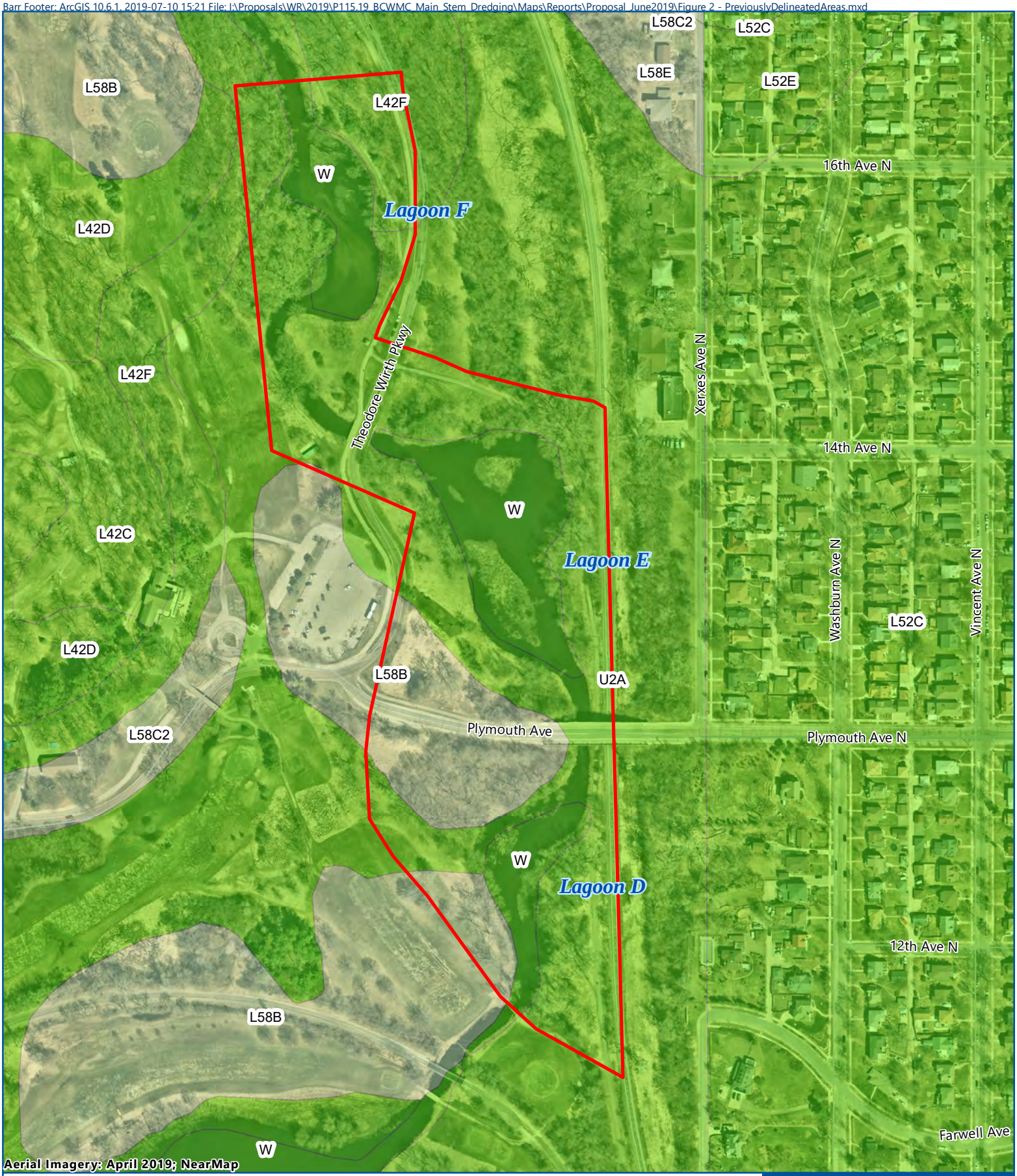
N

0 300 600

Feet

Public Water Inventory Map
Bassett Creek
Watershed Managment Commission
Golden Valley, Minnesota

Figure 4



Hydric Rating

- Not Hydric (0%)
- Predominantly non-hydric (1 to 32%)
- Partially hydric (33 to 65%)
- Predominantly hydric (66 to 99%)
- All hydric (100%)
- Project Area

N

0 300 600

Feet

Hydric Soil Map
Bassett Creek
Watershed Managment Commission
Golden Valley, Minnesota

Figure 5

Project Area
2011 Barr Delineated Wetlands
Blue Line Light Rail Extension Delineated Wetlands

2011 Barr Delineated Wetlands and Communities

floodplain forest
riverine
shallow marsh
shrub-carr
wet meadow

N

0 150 300 600
Feet

Previously Delineated Wetlands
Bassett Creek
Watershed Managment Commission
Golden Valley, Minnesota

Figure 6

2019 Desktop Wetland Delineation
Bassett Creek
Watershed Managment Commission
Golden Valley, Minnesota

Figure 7

Appendix A

Tyler A. Conley

From: Eckman, Eric <EEckman@goldenvalleymn.gov>
Sent: Wednesday, August 14, 2019 8:57 AM
To: Tyler A. Conley
Subject: RE: Bassett Creek Wetland Delineation

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Yes, the desktop delineation should be okay.

Eric Eckman | Development and Assets Supervisor | City of Golden Valley
7800 Golden Valley Road | Golden Valley, MN 55427 | 763-593-8084 (direct) | 763-593-3988 (Fax) | 763-593-3968 (TTY) |
eeckman@goldenvalleymn.gov

From: Tyler A. Conley [mailto:TConley@barr.com]
Sent: Wednesday, August 14, 2019 8:09 AM
To: Eckman, Eric <EEckman@goldenvalleymn.gov>
Subject: Bassett Creek Wetland Delineation

Hey Eric,

Barr is working on preparing a feasibility study for a project within Bassett Creek. The proposed project would dredge accumulated sediment in three of the seven lagoons (Lagoon D, E, and F) along the Main Stem of Bassett Creek in Theo Wirth Park (Figure 1). It is anticipated that the proposed project would have a temporary impact on the wetlands surround Bassett Creek, but no permanent impacts to the wetlands or stream channel would occur. The project area was partially delineated in 2011 by Barr and in 2016 by the Blue Line Lightrail Expansion Survey. Attached is a figure depicting the delineated wetlands from each survey. Given that the much of the Project area was previously delineated and that the wetland impacts would be temporary would a desktop delineation be sufficient for permitting purposes? Or would a full delineation of the project area be required?

Thanks,

Tyler A. Conley

Environmental Scientist
Minneapolis, MN office: 952.842.3632
TConley@barr.com
www.barr.com

resourceful. naturally. BARR

If you no longer wish to receive marketing e-mails from Barr, respond to communications@barr.com and we will be happy to honor your request.

Appendix B

Minnesota Wetland Conservation Act
Notice of Decision

Local Government Unit (LGU)	Address
City of Golden Valley	**7800 Golden VAlley Road Golden Valley, MN 55427**

1. PROJECT INFORMATION

Applicant Name	Project Name	Date of Application	Application Number
Metropolitan Council	**Blue Line Light Rail Extension (LRT)**	**12/11/15**	

☒ Attach site locator map.

Type of Decision:

☒ Wetland Boundary or Type ☐ No-Loss ☐ Exemption ☐ Sequencing
☐ Replacement Plan ☐ Banking Plan

2. LOCAL GOVERNMENT UNIT DECISION

Date of Decision: **1/21/16**

☒ Approved ☐ Approved with conditions (include below) ☐ Denied

LGU Findings and Conclusions (attach additional sheets as necessary):

On behalf of the Metropolitan Council, SEH Inc. submitted a wetland delineation for the Blue Line Light Rail Extension project located within Hennepin County in Brooklyn Park, Robbinsdale, Crystal, Golden Valley, and Minneapolis. The City of Golden Valley is the WCA LGU for the portion of the project within Golden Valley. Wetlands associated with this project within the City of Golden Valley are: W34, W37, W38, W39, W40, W41, W42, W46, W47, W49, W50. Note that W34 straddles both Robbinsdale and Golden Valley. For wetland delineation purposes, the Bassett Creek WMC has reviewed W34. In addition, W42 and W49 straddle both Golden Valley and Minneapolis. The City of Minneapolis has reviewed W42 and W49.

The preliminary wetland maps and wetland data forms were submitted on 6/22/15 in preparation for a site review of the wetland boundaries which took place on 6/29/15. Present at the site review were Ben Meyer with BWSR, Stacey Lijewski with Hennepin County, Melissa Jenny with the USACE, Adam Arvidson with the Minneapolis Park and Rec Board, Jeff Olson with SEH for the applicant, and Karen Wold with Barr for the City of Minneapolis, Bassett Creek WMC portion of Robbinsdale, and Golden Valley. Wetland edits were completed based on initial comments and a complete wetland delineation report was submitted on 12/11/15.

During a TEP meeting on 12/8/15, each LGU clarified that they would each retain jurisdiction for their portions of this project.

During the comment period, Karen Wold requested some minor wetland type revisions and wetland size designations. Based on these comments, SEH submitted a revised wetland summary table on 1/4/16, which was provided to the TEP on 1/5/16 and is also attached in this document. No other comments were received during the comment period.

The updated wetland summary table includes the following wetland types and sizes for wetlands within the City of Golden Valley jurisdiction:

Wetland ID	Field Verified Cowardin	Eggers & Reed Class.	Circ. 39 Class.	Basin Size (ac)
W37	PEM1A	Seas. flooded basin	Type 1	0.08
W38	PUBGx/PEMA	Open Water/wet (fresh) meadow	Type 5/2	3.08
W39	PUBGx	Open Water	Type 5	2.00
W40	PEM1A	Seas. flooded basin	Type 1	0.31
W41	PEM1A	Seas. flooded basin	Type 1	0.19
W46	PFO1A	Floodplain forest	Type 1	11.14
W47	PFO1A	Floodplain forest	Type 1	Part of W46
W50	PEM1A	Seas. flooded basin	Type 1	0.12

Note: Wetland Types per Circular 39 indicate the majority of wetland types within a delineated basin. Several other minor wetland types may also be present within the basin.

The wetland boundaries and updated wetland types were found to be accurate, based on the requirements of the 1987 USACE Wetland Delineation Manual, the 2010 Midwest Regional Supplement, and the 2015 Guidance for Submittal of Delineation Reports to the USACE and WCA LGU in Minnesota, Version 2.0. The City of Golden Valley approves the wetland boundaries and types.

For Replacement Plans using credits from the State Wetland Bank:

Bank Account #	Bank Service Area	County	Credits Approved for Withdrawal (sq. ft. or nearest .01 acre)

Replacement Plan Approval Conditions. In addition to any conditions specified by the LGU, the approval of a Wetland Replacement Plan is conditional upon the following:

☐ **Financial Assurance:** For project-specific replacement that is not in-advance, a financial assurance specified by the LGU must be submitted to the LGU in accordance with MN Rule 8420.0522, Subp. 9 (List amount and type in LGU Findings).

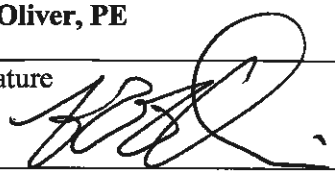
☐ **Deed Recording:** For project-specific replacement, evidence must be provided to the LGU that the BWSR "Declaration of Restrictions and Covenants" and "Consent to Replacement Wetland" forms have been filed with the county recorder's office in which the replacement wetland is located.

☐ **Credit Withdrawal:** For replacement consisting of wetland bank credits, confirmation that BWSR has withdrawn the credits from the state wetland bank as specified in the approved replacement plan.

Wetlands may not be impacted until all applicable conditions have been met!

LGU Authorized Signature:

Signing and mailing of this completed form to the appropriate recipients in accordance with 8420.0255, Subp. 5 provides notice that a decision was made by the LGU under the Wetland Conservation Act as specified above. If additional details on the decision exist, they have been provided to the landowner and are available from the LGU upon request.

Name	Title	
Jeff Oliver, PE	**City Engineer**	
Signature 	Date **January 21, 2016**	Phone Number and E-mail **763-593-8034** **joliver@goldenvalleymn.gov**

THIS DECISION ONLY APPLIES TO THE MINNESOTA WETLAND CONSERVATION ACT. Additional approvals or permits from local, state, and federal agencies may be required. Check with all appropriate authorities before commencing work in or near wetlands.

Applicants proceed at their own risk if work authorized by this decision is started before the time period for appeal (30 days) has expired. If this decision is reversed or revised under appeal, the applicant may be responsible for restoring or replacing all wetland impacts.

This decision is valid for five years from the date of decision unless a longer period is advised by the TEP and specified in this notice of decision.

3. APPEAL OF THIS DECISION

Pursuant to MN Rule 8420.0905, any appeal of this decision can only be commenced by mailing a petition for appeal, including applicable fee, within thirty (30) calendar days of the date of the mailing of this Notice to the following as indicated:

Check one:

☒ Appeal of an LGU staff decision. Send petition and $500 fee (if applicable) to:	☐ Appeal of LGU governing body decision. Send petition and $500 filing fee to: Executive Director Minnesota Board of Water and Soil Resources 520 Lafayette Road North St. Paul, MN 55155

4. LIST OF ADDRESSEES

- ☒ SWCD TEP member: **Stacey Lijewski**
- ☒ BWSR TEP member: **Ben Meyer**
- ☒ LGU TEP member (if different than LGU Contact): **Karen Wold (Barr)**
- ☒ DNR TEP member: **Leslie Parris, Kate Drewry**
- ☐ DNR Regional Office (if different than DNR TEP member)
- ☒ City of Golden Valley: **Eric Eckman and Jeff Oliver**
- ☒ WD or WMO (if applicable): **Laura Jester (BCWMC)**
- ☒ Applicant and Landowner (if different) **agent Jeff Olson (SEH)**
- ☐ Members of the public who requested notice:

- ☒ Corps of Engineers Project Manager **Melissa Jenny**
- ☐ BWSR Wetland Bank Coordinator (wetland bank plan decisions only)

5. MAILING INFORMATION

➢For a list of BWSR TEP representatives: www.bwsr.state.mn.us/aboutbwsr/workareas/WCA_areas.pdf

➢For a list of DNR TEP representatives: www.bwsr.state.mn.us/wetlands/wca/DNR_TEP_contacts.pdf

➢Department of Natural Resources Regional Offices:

NW Region:	NE Region:	Central Region:	Southern Region:
Reg. Env. Assess. Ecol. Div. Ecol. Resources 2115 Birchmont Beach Rd. NE Bemidji, MN 56601	Reg. Env. Assess. Ecol. Div. Ecol. Resources 1201 E. Hwy. 2 Grand Rapids, MN 55744	Reg. Env. Assess. Ecol. Div. Ecol. Resources 1200 Warner Road St. Paul, MN 55106	Reg. Env. Assess. Ecol. Div. Ecol. Resources 261 Hwy. 15 South New Ulm, MN 56073

For a map of DNR Administrative Regions, see: http://files.dnr.state.mn.us/aboutdnr/dnr_regions.pdf

➢For a list of Corps of Project Managers: www.mvp.usace.army.mil/regulatory/default.asp?pageid=687

or send to:

US Army Corps of Engineers
St. Paul District, ATTN: OP-R
180 Fifth St. East, Suite 700
St. Paul, MN 55101-1678

➢For Wetland Bank Plan applications, also send a copy of the application to:

Minnesota Board of Water and Soil Resources
Wetland Bank Coordinator
520 Lafayette Road North
St. Paul, MN 55155

6. ATTACHMENTS

In addition to the site locator map, list any other attachments:

- ☒ **Updated wetland summary table**
- ☒ **Wetland delineation maps**
- ☐
- ☐
- ☐

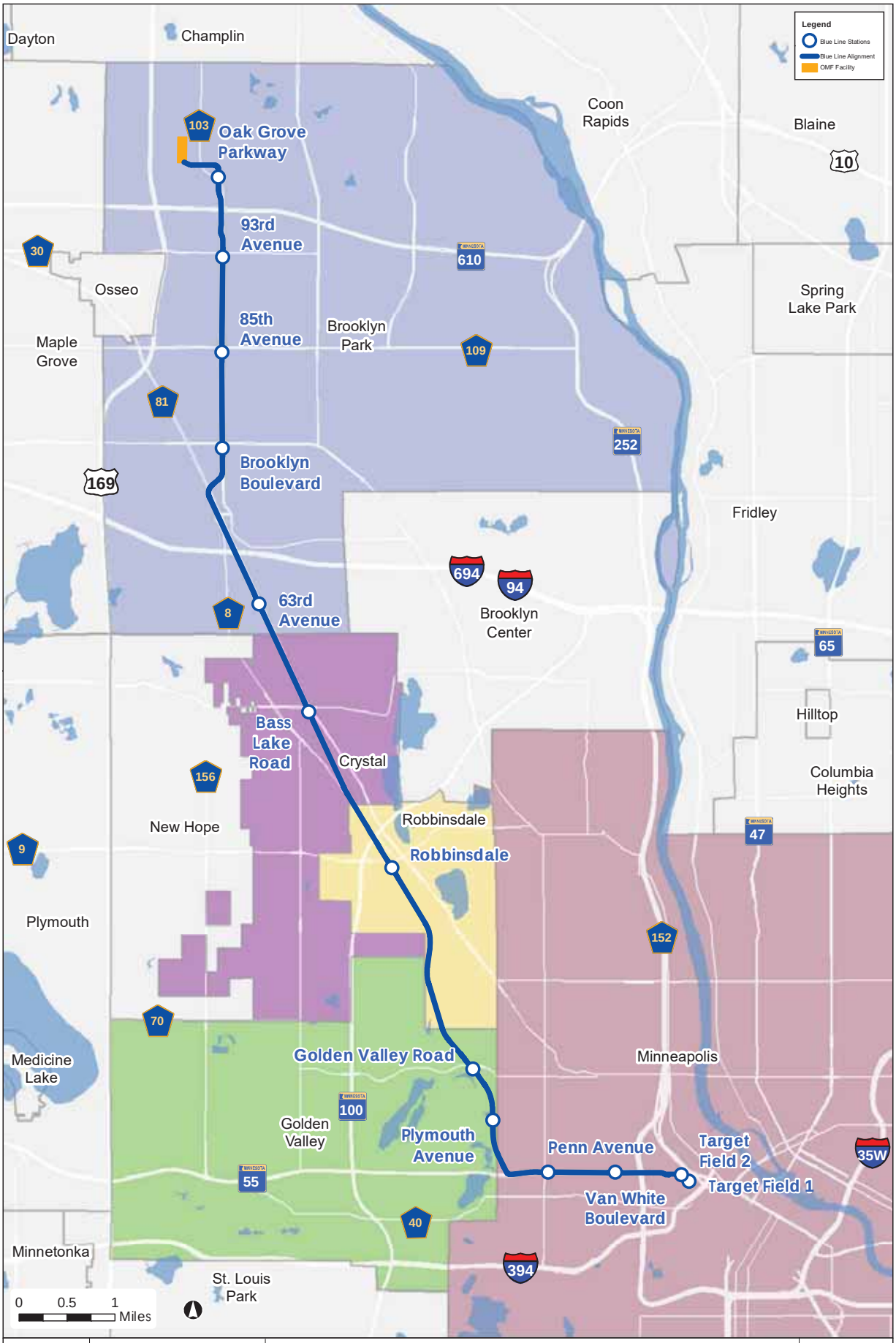
Table 1
Wetland Characteristics

Wetland ID	Updated NWI Mapping	Hydric Soil Mapping	Field Verified Cowardin	Eggers & Reed Class.	Circ. 39 Class. [1]	Basin Size (ac)	Notes
W1	PEM1A	Yes	PEM1A	Seas. flooded basin	Type 1	1.59	Natural basin
W2	PEM1C	Yes	PEM1A	Seas. flooded basin	Type 1	1.37	Natural basin
W3	PEM1A	Yes	PEM1A	Seas. flooded basin	Type 1	1.23	Natural basin
W4	Not mapped	Yes	PEM1A	Seas. flooded basin	Type 1	0.14	Natural basin
W5	PFO1A	Yes	PFO1A	Floodplain forest	Type 1	0.07	Natural basin
W6	PFO1A	Yes	PFO1A	Floodplain forest	Type 1	0.14	Natural basin
W7	PEM1A	Yes	PEM1A	Seas. flooded basin	Type 1	0.55	Natural basin
W8	PFO1A	Yes	PFO1A	Floodplain forest	Type 1	0.14	Natural basin
W9	Not mapped	Yes	PEM1A	Seas. flooded basin	Type 1	0.18	Natural basin
W10	Not mapped	Yes	PEM1A	Seas. flooded basin	Type 1	0.06	Roadside ditch
W11	PEM1A	Partially	PEM1A	Seas. flooded basin	Type 1	1.06	Natural basin
W12	Not mapped	Yes	PEM1A	Seas. flooded basin	Type 1	0.06	Natural basin
W13	PEM1A	Partially	PEM1A	Seas. flooded basin	Type 1	2.41	Natural basin
W14	PEM1A	Yes	PUBGx	Deep Marsh	Type 4	0.61	Excavated for stormwater management
W15	Not mapped	Yes	PSS1A	Shrub Carr	Type 6	0.79	Excavated for stormwater management
W16	PUBGx/ PEM1C	No	PUBGx	Deep Marsh	Type 4	0.82	Excavated for stormwater management
W17	Not mapped	No	PSS1A	Shrub Carr	Type 6	0.05	Excavated for stormwater management
W18 – W25 are part of the CSAH 103							

Wetland ID	Updated NWI Mapping	Hydric Soil Mapping	Field Verified Cowardin	Eggers & Reed Class.	Circ. 39 Class. [1]	Basin Size (ac)	Notes
Project							
W26	Not mapped	No	PEM1A	Seas. flooded basin	Type 1	0.01	Excavated for stormwater management
W27	PEM1C	No	PEM1A	Seas. flooded basin	Type 1	0.62	Excavated for stormwater management
W28	PABGx/ PEM1C	Yes	PFO1A	Floodplain forest	Type 1	2.57	Excavated for stormwater management
W29	PEM1C	Yes	PEM1C	Shallow Marsh	Type 3	1.02	Natural basin, likely excavated to augment stormwater management
W30	PUBG/ PEM1A	No	PUBGx	Open Water	Type 5	1.20	Excavated for stormwater management
W31	PSS1A	No	PSS1A	Shrub Carr	Type 6	Part of W #32	Excavated for stormwater management
W32	**PFO1A**	**No**	**PFO1A/ PEMC/ PSS1C**	**Floodplain forest/ Shallow Marsh/ Shrub Carr**	**Type 1/ Type 3/ Type 6**	**7.71**	**Excavated for stormwater management**
W33	PABG	No	PUBGx	Open Water	Type 5	7.41	Excavated for stormwater management
W34	PEM1F/ PABG	Yes	PEM1F	Deep Marsh	Type 4	17.01	Natural basin, perhaps excavated to augment stormwater management
W35	PEM1F	No	PFO1A	Floodplain forest	Type 1	0.85	Mostly a railroad ditch excavated for ballast
W36	PSS1A	No	PSS1A	Shrub Carr	Type 6	1.39	Mostly a wide railroad ditch excavated for ballast
W37	Not mapped	No	PEM1A	Seas. flooded basin	Type 1	0.08	Railroad ditch
W38	**PFO1A/ PABG**	**No**	**PUBGx/ PEMA**	**Open Water/ wet (fresh) meadow**	**Type 5/ Type 2**	**3.08**	**Excavated for stormwater management**
W39	PFO1A	No	PUBGx	Open Water	Type 5	2.00	Excavated for stormwater management
W40	PFO1A	No	PEM1A	Seas. flooded basin	Type 1	0.31	Railroad ditch
W41	Not mapped	No	PEM1A	Seas. flooded basin	Type 1	0.19	Railroad ditch
W42	Not mapped	No	PSS1A	Shrub Carr	Type 6	0.29	Railroad ditch
W43 is							

Wetland ID	Updated NWI Mapping	Hydric Soil Mapping	Field Verified Cowardin	Eggers & Reed Class.	Circ. 39 Class. [1]	Basin Size (ac)	Notes
part of the CSAH 103 Project							
W44	PABG	No	PUBGx	Open Water	Type 5	0.87	Railroad ditch
W45	Not mapped	No	PFO1A	Floodplain forest	Type 1	2.05	Excavated for stormwater management
W46	PFO1A	No	PFO1A	Floodplain forest	Type 1	11.14	Partially natural basin, partially excavated for stormwater management
W47	PEM1C	No	PFO1A	Floodplain forest	Type 1	Part of W#46	Partially natural basin, partially excavated for stormwater management
W48	R2UBG	No	R2UBGx	Riverine	Type 4	0.50	Old backwater of Bassett Creek, partially excavated to augment stormwater management
W49	PFO1A	No	PFO1A	Floodplain forest	Type 1	0.08	Railroad ditch
W50	PFO1A	No	PEM1A	Seas. flooded basin	Type 1	0.12	Railroad ditch
W51	PEMA	Yes	PEMA	Seas. flooded basin	Type 1	4.59	Wetland Mitigation Bank for Target Corporation

[1] **Note**: Wetland Types per Circular 39 indicate the majority of wetland types within a delineated basin. Se3veral other minor wetland types may also be present within the basin.



Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., SEH Inc., and USDA.

Figure 1 - Project Location

METRO Blue Line Extension

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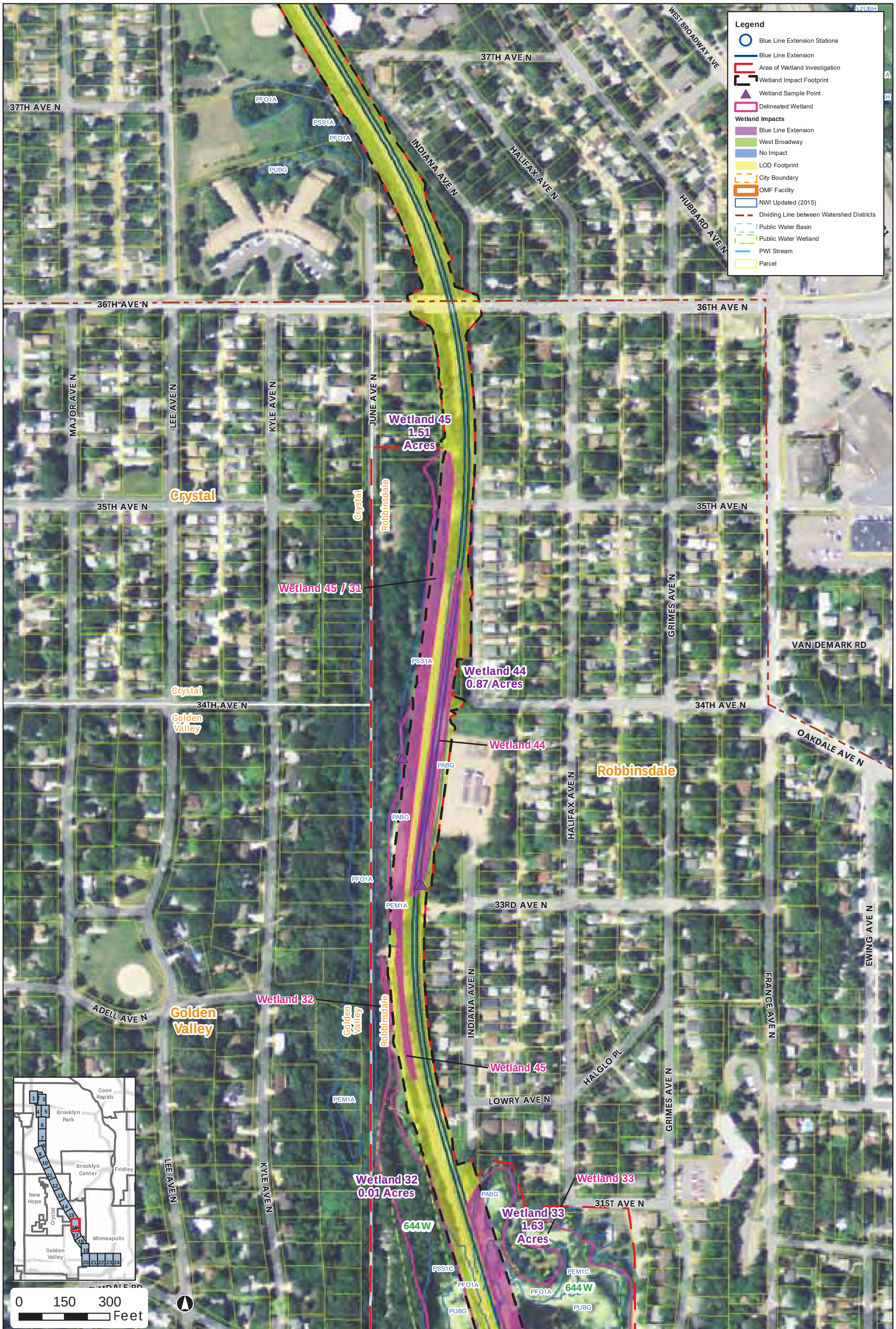

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Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Delineated Wetlands

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METRO Blue Line Extension

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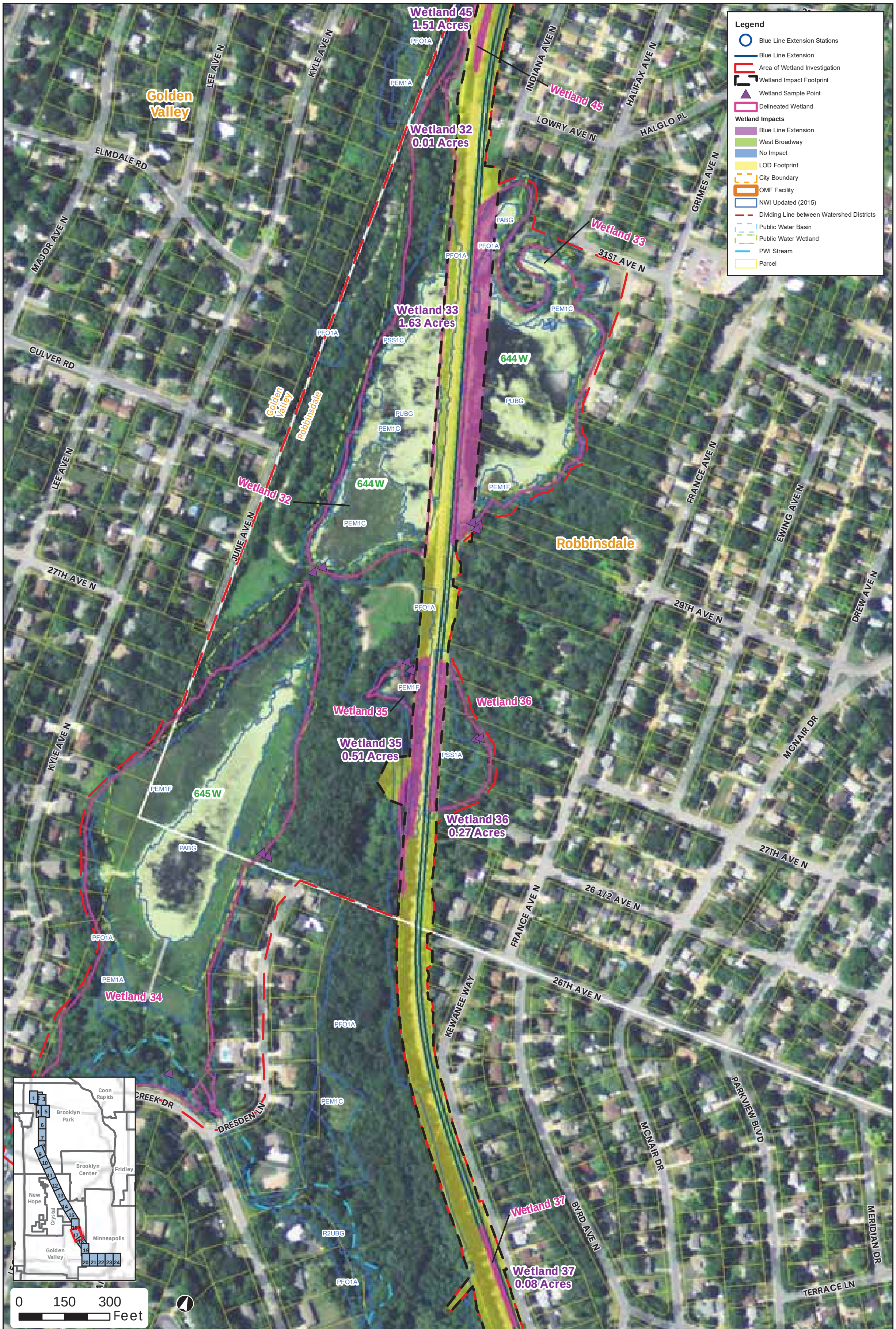

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Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Delineated Wetlands

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METRO Blue Line Extension

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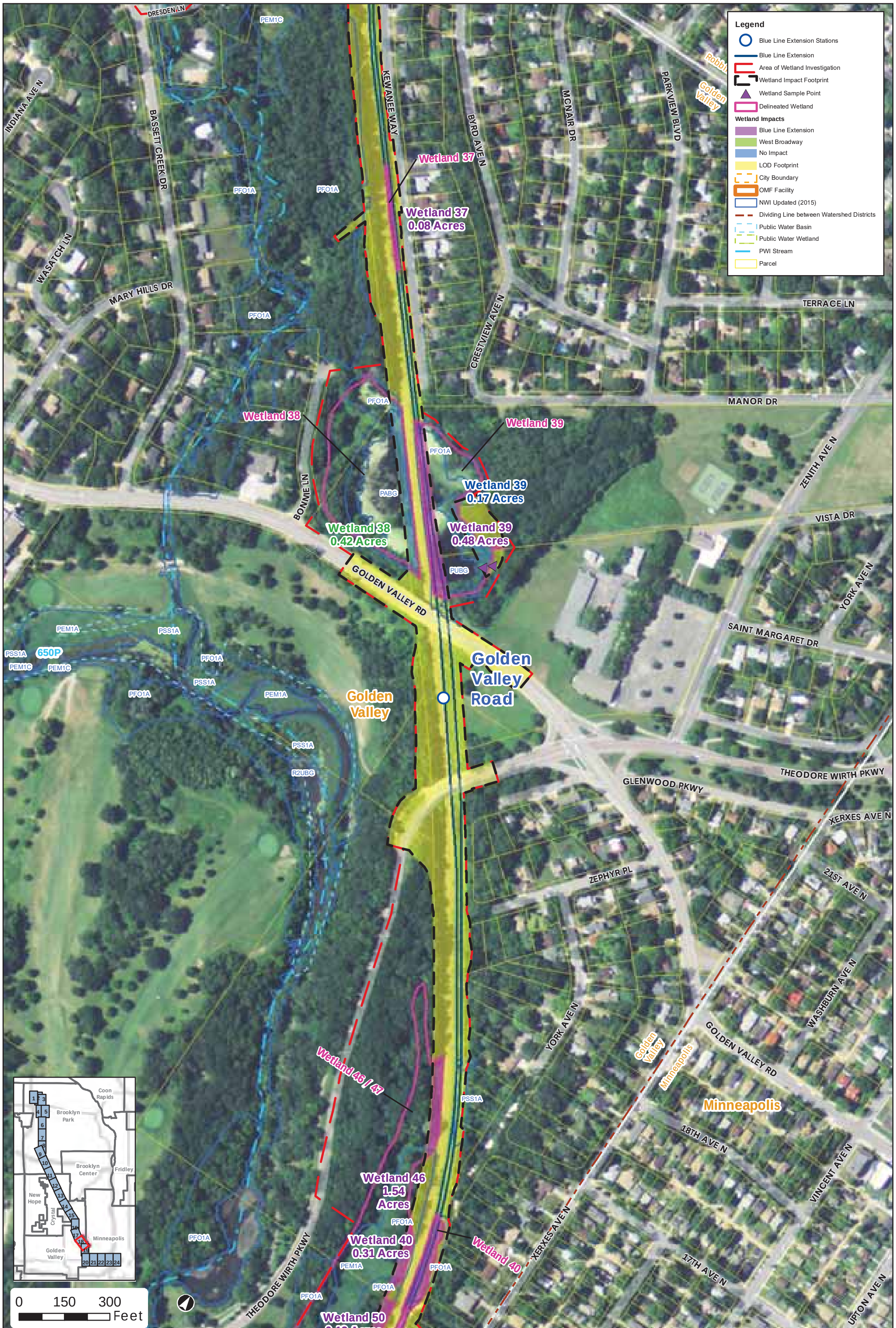

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Delineated Wetlands

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METRO Blue Line Extension

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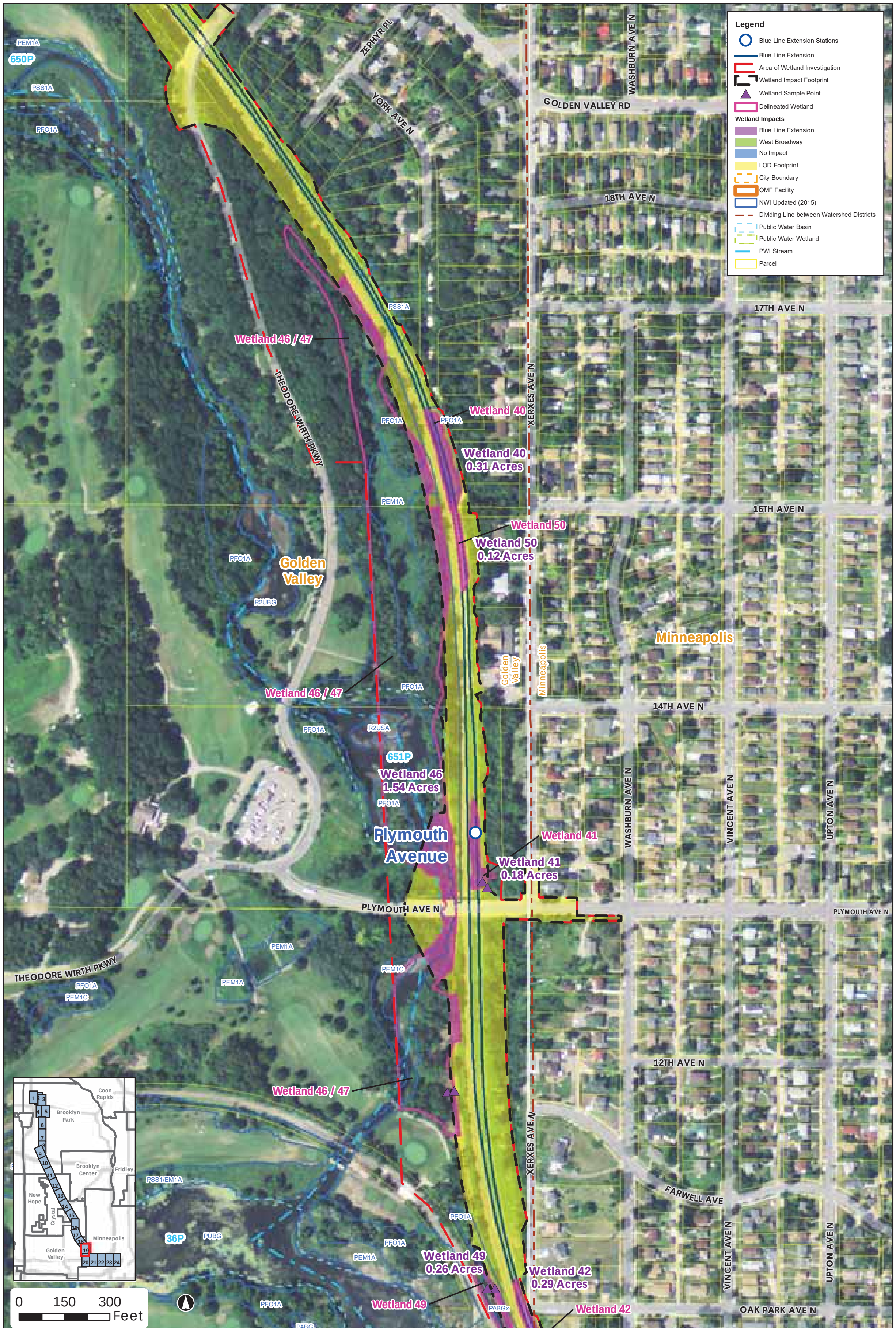

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Delineated Wetlands

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METRO Blue Line Extension

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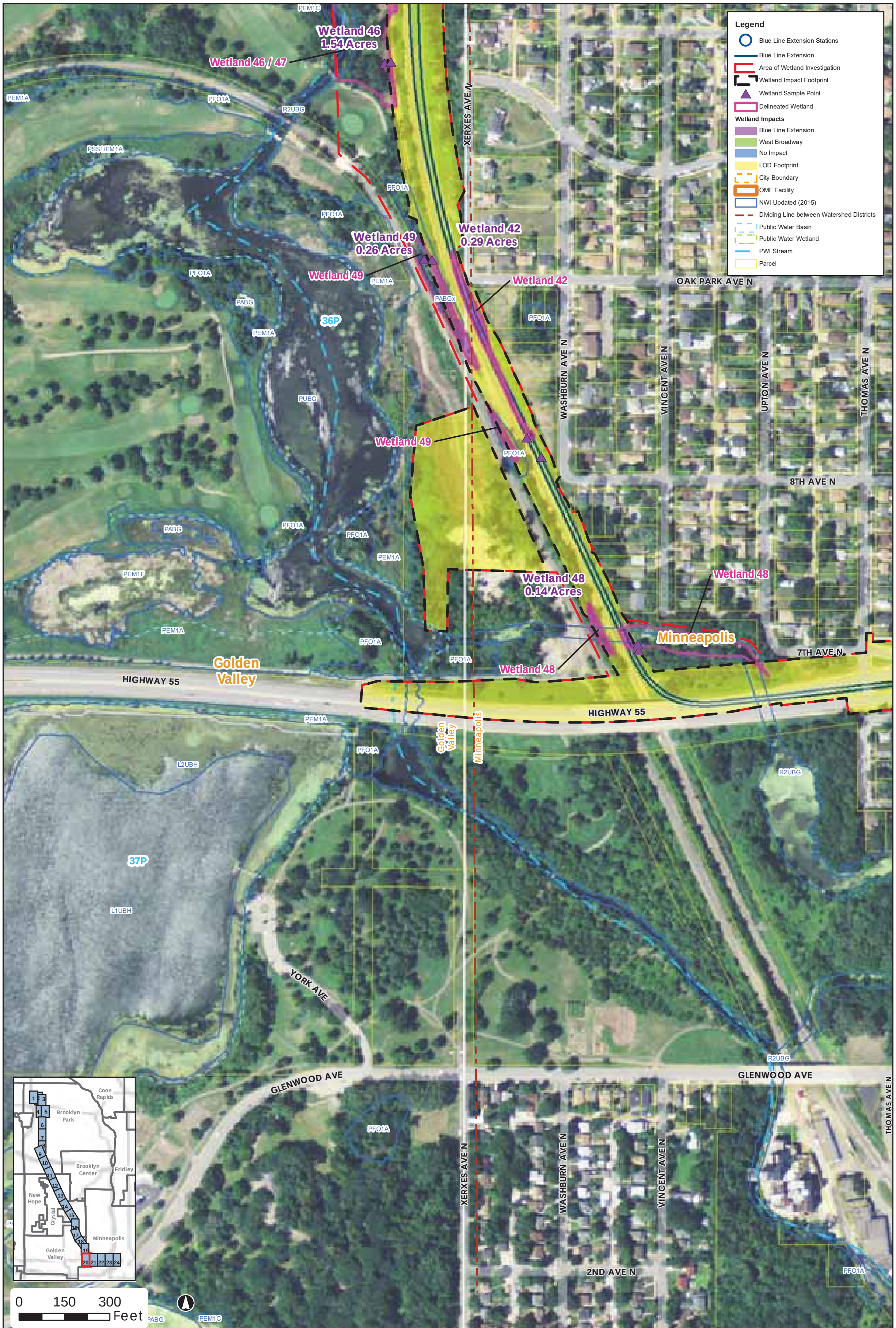

Projection: Hennepin County NAD83
Source: Hennepin County, Metro Transit, MnDOT, MnDNR, HDR Engineering Inc., and SEH Inc.

Figure 2 - Delineated Wetlands

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METRO Blue Line Extension

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Appendix C

Feasibility Study Engineer's Opinion of Probable Cost

Table C-1 Cost Estimate Alternative 1 - Deepen Lagoon D to 4 Feet

Description	Unit	Estimated Quantity	Unit Price	Extension	
Mobilization / Demobilization	LS	1	$ 34,000.00	$ 34,000.00	10% of subtotal
Erosion & Sediment Control	LS	1	$ 8,500.00	$ 8,500.00	
Control of Water / Dewatering	LS	1	$ 15,000.00	$ 15,000.00	
Remove and Dispose Dredged Material at Landfill	CY	6,100	$ 45.00	$ 274,500.00	Unit price per GGN 2/21/2020
Natural Bank Stabilization	LF	125	$ 56.00	$ 7,000.00	
Restoration	LS	1	$ 5,000.00	$ 5,000.00	
Subtotal				$ 344,000.00	
Construction Contingency (30%)				$ 103,000.00	
Total w/Construction Contingency				**$ 447,000.00**	
Engineering (30%)				$ 134,000.00	
Total w/ Engineering				**$ 581,000.00**	
ESTIMATED ACCURACY RANGE	**-20%**			**$ 464,800.00**	
	30%			**$ 755,300.00**	

Item	Unit	Estimated Quantity	Unit Price	Extension
Erosion Control Construction Entrance	Each	1	$ 1,500.00	$ 1,500.00
Street Sweeping	LS	1	$ 1,000.00	$ 1,000.00
Inlet Protection	Each	8	$ 250.00	$ 2,000.00
Erosion Control Siltation Logs	LF	500	$ 5.00	$ 2,500.00
Floatation Silt Curtain	LF	100	$ 15.00	$ 1,500.00
Total				**$ 8,500.00**

Table C-2 Cost Estimate Alternative 1 - Deepen Lagoon E to 4 Feet

Description	Unit	Estimated Quantity	Unit Price	Extension	
Mobilization / Demobilization	LS	1	$ 66,000.00	$ 66,000.00	10% of subtotal
Erosion & Sediment Control	LS	1	$ 8,500.00	$ 8,500.00	
Control of Water / Dewatering	LS	1	$ 15,000.00	$ 15,000.00	
Remove and Dispose Dredged Material at Landfill	CY	12,600	$ 45.00	$ 567,000.00	Unit price per GGN 2/21/2020
Riprap Bank Stabilization	CY	20	$ 150.00	$ 3,000.00	
Restoration	LS	1	$ 5,000.00	$ 5,000.00	
Subtotal				$ 664,500.00	
Construction Contingency (30%)				$ 199,000.00	
Total w/Construction Contingency				**$ 863,500.00**	
Engineering (30%)				$ 259,000.00	
Total w/ Engineering				**$1,123,000.00**	
ESTIMATED ACCURACY RANGE	**-20%**			**$ 898,400.00**	
	30%			**$1,459,900.00**	

Item	Unit	Estimated Quantity	Unit Price	Extension
Erosion Control Construction Entrance	Each	1	$ 1,500.00	$ 1,500.00
Street Sweeping	LS	1	$ 1,000.00	$ 1,000.00
Inlet Protection	Each	8	$ 250.00	$ 2,000.00
Erosion Control Siltation Logs	LF	500	$ 5.00	$ 2,500.00
Floatation Silt Curtain	LF	100	$ 15.00	$ 1,500.00
Total				**$ 8,500.00**

Table C-3 Cost Estimate Alternative 1 - Deepen Lagoon F to 4 Feet

Description	Unit	Estimated Quantity	Unit Price	Extension	
Mobilization / Demobilization	LS	1	$ 49,000.00	$ 49,000.00	10% of subtotal
Erosion & Sediment Control	LS	1	$ 8,500.00	$ 8,500.00	
Control of Water / Dewatering	LS	1	$ 15,000.00	$ 15,000.00	
Remove and Dispose Dredged Material at Landfill	CY	9,100	$ 45.00	$ 409,500.00	Unit price per GGN 2/21/2020
Restoration	LS	1	$ 5,000.00	$ 5,000.00	
Subtotal				$ 487,000.00	
Construction Contingency (30%)				$ 146,000.00	
Total w/Construction Contingency				**$ 633,000.00**	
Engineering (30%)				$ 190,000.00	
Total w/ Engineering				**$ 823,000.00**	
ESTIMATED ACCURACY RANGE	**-20%**			**$ 658,400.00**	
	30%			**$1,069,900.00**	

Item	Unit	Estimated Quantity	Unit Price	Extension
Erosion Control Construction Entrance	Each	1	$ 1,500.00	$ 1,500.00
Street Sweeping	LS	1	$ 1,000.00	$ 1,000.00
Inlet Protection	Each	8	$ 250.00	$ 2,000.00
Erosion Control Siltation Logs	LF	500	$ 5.00	$ 2,500.00
Floatation Silt Curtain	LF	100	$ 15.00	$ 1,500.00
Total				**$ 8,500.00**

Table C-4 Cost Estimate Alternative 1 - Deepen ALL Lagoons to 4 Feet

Description	Unit	Estimated Quantity	Unit Price	Extension	
Mobilization / Demobilization	LS	1	$ 147,000.00	$ 147,000.00	10% of subtotal
Erosion & Sediment Control	LS	1	$ 20,000.00	$ 20,000.00	
Control of Water / Dewatering	LS	1	$ 45,000.00	$ 45,000.00	3x individual lagoon cost
Remove and Dispose Dredged Material at Landfill	CY	27,800	$ 45.00	$ 1,251,000.00	Unit price per GGN 2/21/2020
Natural Bank Stabilization	LF	125	$ 56.00	$ 7,000.00	
Riprap Bank Stabilization	CY	20	$ 150.00	$ 3,000.00	
Restoration	LS	1	$ 5,000.00	$ 5,000.00	
Subtotal				$ 1,478,000.00	
Construction Contingency (30%)				$ 443,000.00	
Total w/Construction Contingency				**$1,921,000.00**	
Engineering (30%)				$ 576,000.00	
Total w/ Engineering				**$2,247,000.00**	10% cost savings for construction all at once
ESTIMATED ACCURACY RANGE	**-20%**			**$1,797,600.00**	
	30%			**$2,921,100.00**	

Item	Unit	Estimated Quantity	Unit Price	Extension
Erosion Control Construction Entrance	Each	3	$ 1,500.00	$ 4,500.00
Street Sweeping	LS	1	$ 1,500.00	$ 1,500.00
Inlet Protection	Each	8	$ 250.00	$ 2,000.00
Erosion Control Siltation Logs	LF	1500	$ 5.00	$ 7,500.00
Floatation Silt Curtain	LF	300	$ 15.00	$ 4,500.00
Total				**$ 20,000.00**

Table C-5 Cost Estimate Alternative 2 - Deepen Lagoon D to 6 Feet

Description	Unit	Estimated Quantity	Unit Price	Extension	
Mobilization / Demobilization	LS	1	$ 44,000.00	$ 44,000.00	10% of subtotal
Erosion & Sediment Control	LS	1	$ 8,500.00	$ 8,500.00	
Control of Water / Dewatering	LS	1	$ 15,000.00	$ 15,000.00	
Remove and Dispose Dredged Material at Landfill	CY	8,100	$ 45.00	$ 364,500.00	Unit price per GGN 2/21/2020
Natural Bank Stabilization	LF	125	$ 56.00	$ 7,000.00	
Restoration	LS	1	$ 5,000.00	$ 5,000.00	
Subtotal				$ 444,000.00	
Construction Contingency (30%)				$ 133,000.00	
Total w/Construction Contingency				**$ 577,000.00**	
Engineering (30%)				$ 173,000.00	
Total w/ Engineering				**$ 750,000.00**	
ESTIMATED ACCURACY RANGE	**-20%**			**$ 600,000.00**	
	30%			**$ 975,000.00**	

Item	Unit	Estimated Quantity	Unit Price	Extension
Erosion Control Construction Entrance	Each	1	$ 1,500.00	$ 1,500.00
Street Sweeping	LS	1	$ 1,000.00	$ 1,000.00
Inlet Protection	Each	8	$ 250.00	$ 2,000.00
Erosion Control Siltation Logs	LF	500	$ 5.00	$ 2,500.00
Floatation Silt Curtain	LF	100	$ 15.00	$ 1,500.00
Total				**$ 8,500.00**

Table C-6 Cost Estimate Alternative 2 - Deepen Lagoon E to 6 Feet

Description	Unit	Estimated Quantity	Unit Price	Extension	
Mobilization / Demobilization	LS	1	$ 100,000.00	$ 100,000.00	10% of subtotal
Erosion & Sediment Control	LS	1	$ 8,500.00	$ 8,500.00	
Control of Water / Dewatering	LS	1	$ 15,000.00	$ 15,000.00	
Remove and Dispose Dredged Material at Landfill	CY	19,300	$ 45.00	$ 868,500.00	Unit price per GGN 2/21/2020
Riprap Bank Stabilization	CY	20	$ 150.00	$ 3,000.00	
Restoration	LS	1	$ 5,000.00	$ 5,000.00	
Subtotal				$ 1,000,000.00	
Construction Contingency (30%)				$ 300,000.00	
Total w/Construction Contingency				**$1,300,000.00**	
Engineering (30%)				$ 390,000.00	
Total w/ Engineering				**$1,690,000.00**	
ESTIMATED ACCURACY RANGE	**-20%**			**$1,352,000.00**	
	30%			**$2,197,000.00**	

Item	Unit	Estimated Quantity	Unit Price	Extension
Erosion Control Construction Entrance	Each	1	$ 1,500.00	$ 1,500.00
Street Sweeping	LS	1	$ 1,000.00	$ 1,000.00
Inlet Protection	Each	8	$ 250.00	$ 2,000.00
Erosion Control Siltation Logs	LF	500	$ 5.00	$ 2,500.00
Floatation Silt Curtain	LF	100	$ 15.00	$ 1,500.00
Total				**$ 8,500.00**

Table C-7 Cost Estimate Alternative 2 - Deepen Lagoon F to 6 Feet

Description	Unit	Estimated Quantity	Unit Price	Extension	
Mobilization / Demobilization	LS	1	$ 64,000.00	$ 64,000.00	10% of subtotal
Erosion & Sediment Control	LS	1	$ 8,500.00	$ 8,500.00	
Control of Water / Dewatering	LS	1	$ 15,000.00	$ 15,000.00	
Remove and Dispose Dredged Material at Landfill	CY	12,200	$ 45.00	$ 549,000.00	Unit price per GGN 2/21/2020
Restoration	LS	1	$ 5,000.00	$ 5,000.00	
Subtotal				$ 641,500.00	
Construction Contingency (30%)				$ 192,000.00	
Total w/Construction Contingency				**$ 833,500.00**	
Engineering (30%)				$ 250,000.00	
Total w/ Engineering				**$1,084,000.00**	
ESTIMATED ACCURACY RANGE	**-20%**			**$ 867,200.00**	
	30%			**$1,409,200.00**	

Item	Unit	Estimated Quantity	Unit Price	Extension
Erosion Control Construction Entrance	Each	1	$ 1,500.00	$ 1,500.00
Street Sweeping	LS	1	$ 1,000.00	$ 1,000.00
Inlet Protection	Each	8	$ 250.00	$ 2,000.00
Erosion Control Siltation Logs	LF	500	$ 5.00	$ 2,500.00
Floatation Silt Curtain	LF	100	$ 15.00	$ 1,500.00
Total				**$ 8,500.00**

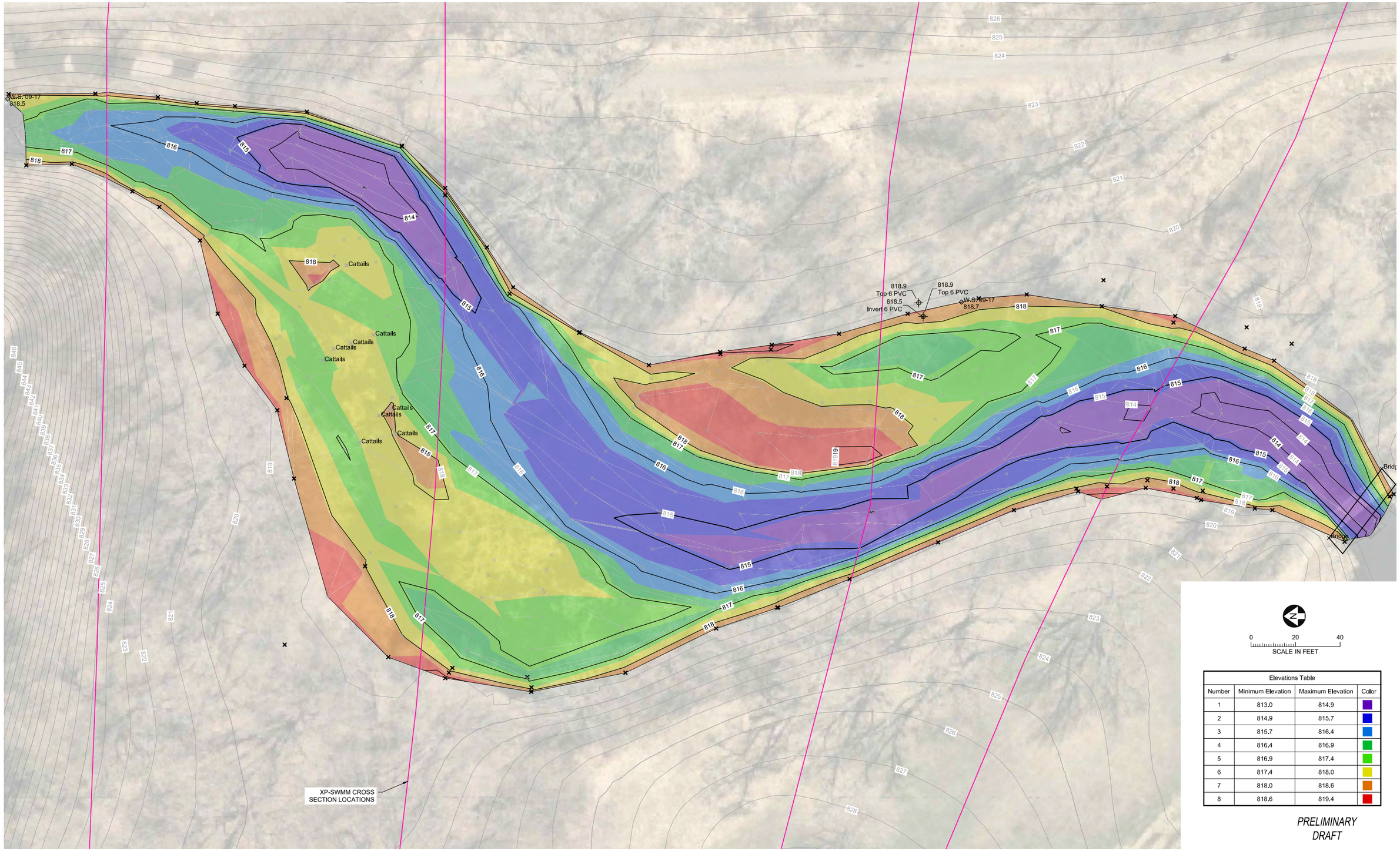
Table C-8 Cost Estimate Alternative 2 - Deepen ALL Lagoons to 6 Feet

Description	Unit	Estimated Quantity	Unit Price	Extension	
Mobilization / Demobilization	LS	1	$ 206,000.00	$ 206,000.00	10% of subtotal
Erosion & Sediment Control	LS	1	$ 20,000.00	$ 20,000.00	
Control of Water / Dewatering	LS	1	$ 45,000.00	$ 45,000.00	3x individual lagoon cost
Remove and Dispose Dredged Material at Landfill	CY	39,600	$ 45.00	$ 1,782,000.00	Unit price per GGN 2/21/2020
Natural Bank Stabilization	LF	125	$ 56.00	$ 7,000.00	
Riprap Bank Stabilization	CY	20	$ 150.00	$ 3,000.00	
Restoration	LS	1	$ 5,000.00	$ 5,000.00	
Subtotal				$ 2,068,000.00	
Construction Contingency (30%)				$ 620,000.00	
Total w/Construction Contingency				**$2,688,000.00**	
Engineering (30%)				$ 806,000.00	
Total w/ Engineering				**$3,145,000.00**	10% cost savings for construction all at once
ESTIMATED ACCURACY RANGE	**-20%**			**$2,516,000.00**	
	30%			**$4,088,500.00**	

Item	Unit	Estimated Quantity	Unit Price	Extension
Erosion Control Construction Entrance	Each	3	$ 1,500.00	$ 4,500.00
Street Sweeping	LS	1	$ 1,500.00	$ 1,500.00
Inlet Protection	Each	8	$ 250.00	$ 2,000.00
Erosion Control Siltation Logs	LF	1500	$ 5.00	$ 7,500.00
Floatation Silt Curtain	LF	300	$ 15.00	$ 4,500.00
Total				**$ 20,000.00**

Appendix D

Topographic, Bathymetric, and Utility Survey



Elevations Table			
Number	Minimum Elevation	Maximum Elevation	Color
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2	814.9	815.7	
3	815.7	816.4	
4	816.4	816.9	
5	816.9	817.4	
6	817.4	818.0	
7	818.0	818.6	
8	818.6	819.4	

PRELIMINARY
DRAFT

CADD USER: Patrick E. Brockamp FILE: P:\MPLS\23 MN\27\2327051\WORKFILES\CIP\CAPITAL PROJECTS\2021 MAIN STEM DREDGING PROJECT\FEASIBILITY STUDY\SURVEY\2327051148_BCWMC_LAGOON_SURVEY_2019.DWG PLOT SCALE: 1:2.5849 PLOT DATE: 3/18/2020 10:18 AM

NO.	BY	CHK.	APP.	DATE	REVISION DESCRIPTION

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PRINTED NAME _____

SIGNATURE _____

DATE _____ LICENSE # _____

RELEASED TO/FOR

DATE RELEASED

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Scale	AS SHOWN
Date	11/19/2019
Drawn	JHS
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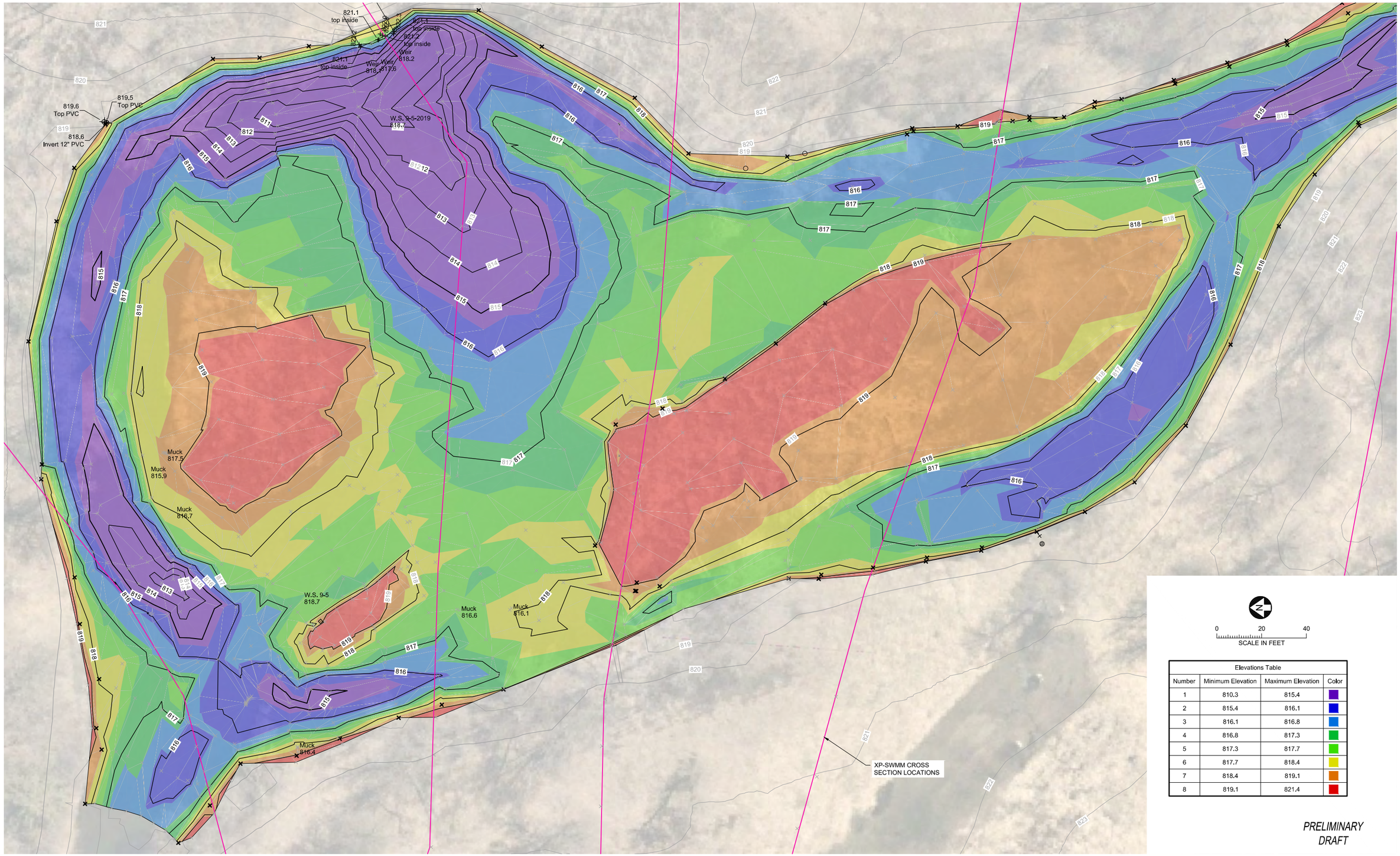
BCWMC
GOLDEN VALLEY, MINNESOTA

BASSET CREEK LAGOON SURVEY
GOLDEN VALLEY, MINNESOTA

LAGOON D
INITIAL TOPGRAPHIC SURVEY

BARR PROJECT No. 23/27-0051.46
CLIENT PROJECT No.
DWG. No.
REV. No.



0 20 40
SCALE IN FEET

Elevations Table			
Number	Minimum Elevation	Maximum Elevation	Color
1	810.3	815.4	
2	815.4	816.1	
3	816.1	816.8	
4	816.8	817.3	
5	817.3	817.7	
6	817.7	818.4	
7	818.4	819.1	
8	819.1	821.4	

PRELIMINARY
DRAFT

NO.	BY	CHK	APP.	DATE	REVISION DESCRIPTION

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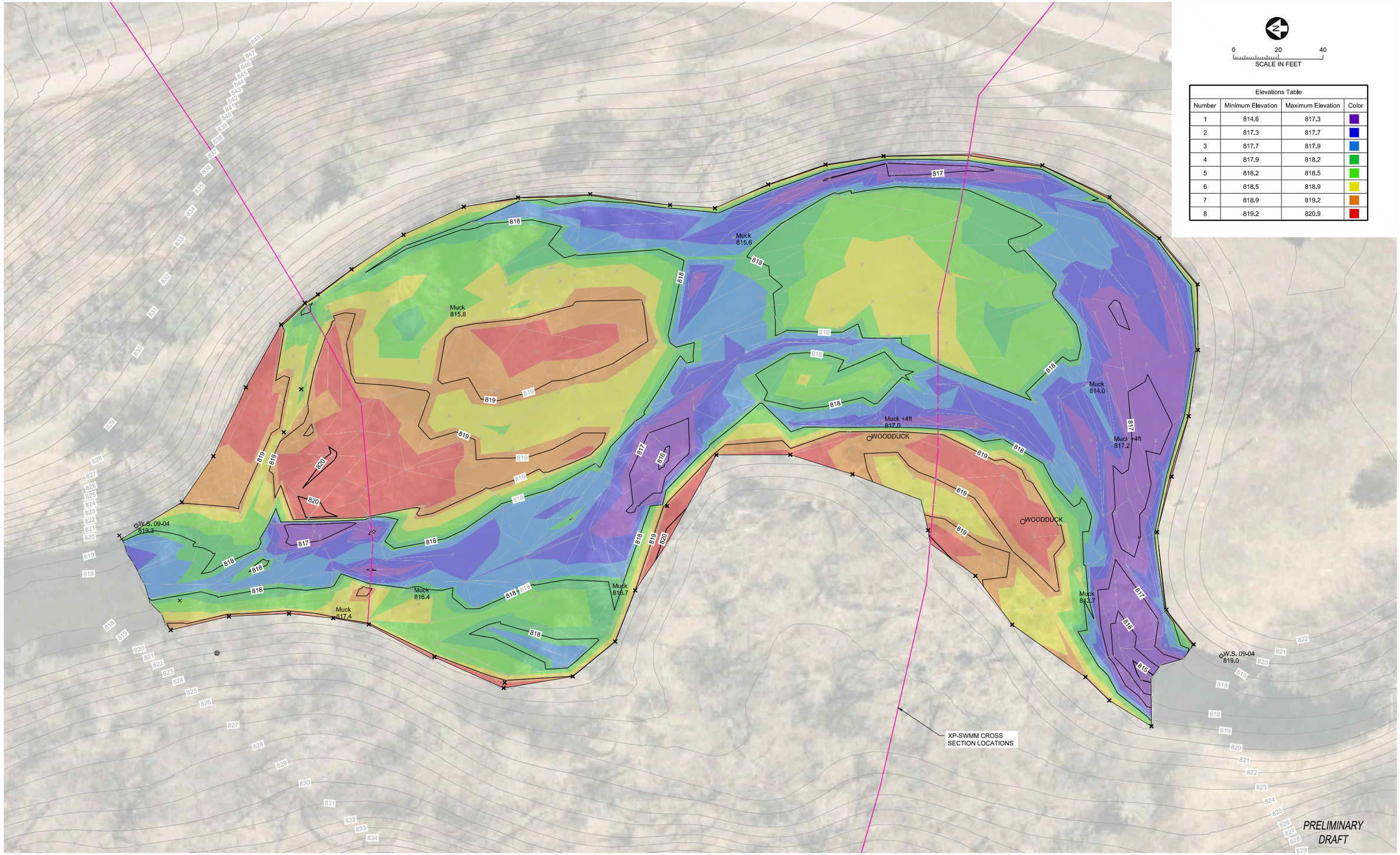
BCWMC
GOLDEN VALLEY, MINNESOTA

BASSET CREEK LAGOON SURVEY
GOLDEN VALLEY, MINNESOTA

LAGOON E
INITIAL TOPGRAPHIC SURVEY

BARR PROJECT No. 23/27-0051.46
CLIENT PROJECT No.
DWG. No.
REV. No.

CADD USER: Patrick E. Brockamp FILE: P:\MPLS\23 MN\27\23270051\WORKFILES\CIP\CAPITAL PROJECTS\2021 MAIN STEM DREDGING PROJECT\FEASIBILITY STUDY\SURVEY\23270051461_BCWMC_LAGOON_SURVEY_2019.DWG PLOT SCALE: 1:2.5849 PLOT DATE: 3/18/2020 10:19 AM



Elevations Table			
Number	Minimum Elevation	Maximum Elevation	Color
1	814.6	817.3	
2	817.3	817.7	
3	817.7	817.9	
4	817.9	818.2	
5	818.2	818.5	
6	818.5	818.9	
7	818.9	819.2	
8	819.2	820.9	

CADD USER: Patrick E. Brookamp FILE: P:\MPLS\23 MN\27\23270511\WORK\FILES\CIP\CAPITAL PROJECTS\2021 MAIN STEM DREDGING PROJECT\FEASIBILITY STUDY\SURVEY\23270051146_BCWMC_LAGOON_SURVEY_2019.DWG PLOT SCALE: 1:2.5849 PLOT DATE: 3/18/2020 10:19 AM

NO.	BY	CHK	APP.	DATE	REVISION DESCRIPTION

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BCWMC
GOLDEN VALLEY, MINNESOTA

BASSET CREEK LAGOON SURVEY
GOLDEN VALLEY, MINNESOTA

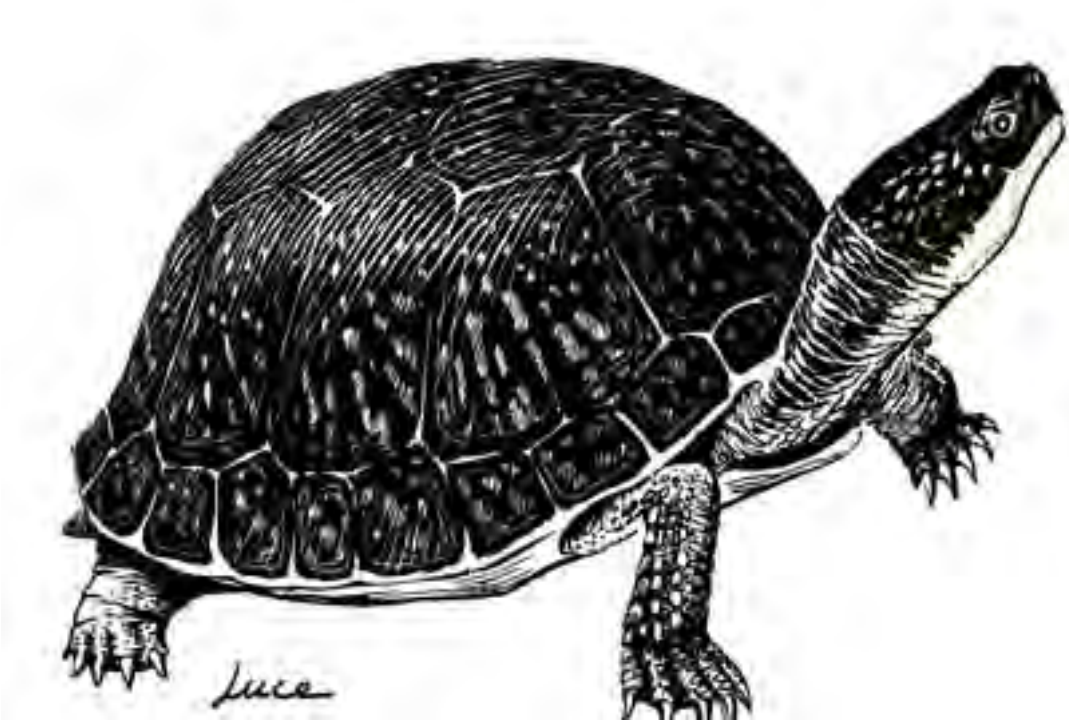
LAGOON F
INITIAL TOPGRAPHIC SURVEY

BARR PROJECT No.	23/27-0051.46
CLIENT PROJECT No.	
DWG. No.	REV. No.

Appendix E

Blanding's Turtle Flyer

CAUTION



BLANDING'S TURTLES

MAY BE ENCOUNTERED IN THIS AREA

The unique and rare Blanding's turtle has been found in this area. Blanding's turtles are a State Threatened species and are protected under Minnesota Statute 84.095, Protection of Threatened and Endangered Species. Please be careful of turtles on roads and in construction sites. For additional information on turtles, or to report a Blanding's turtle sighting, contact the DNR Nongame Specialist nearest you: Bemidji (218-308-2641); Grand Rapids (218-327-4518); New Ulm (507-359-6033); Rochester (507-280-5070); or St. Paul (651-259-5764).

DESCRIPTION: The Blanding's turtle is a medium to large turtle (5 to 10 inches) with a black or dark blue, dome-shaped shell with muted yellow spots and bars. The bottom of the shell is hinged across the front third, enabling the turtle to pull the front edge of the lower shell firmly against the top shell to provide additional protection when threatened. The head, legs, and tail are dark brown or blue-gray with small dots of light brown or yellow. A distinctive field mark is the bright yellow chin and neck.

Illustration by Don Luce, from Turtles in Minnesota, Natural History Leaflet No. 9, June 1989, James Ford Bell Museum of Natural History

SUMMARY OF RECOMMENDATIONS FOR AVOIDING AND MINIMIZING IMPACTS TO BLANDING'S TURTLE POPULATIONS

(see Environmental Review Fact Sheet Series for full recommendations)

- A flyer with an illustration of an adult Blanding's turtle should be given to all contractors working in the area. Homeowners should also be informed of the presence of Blanding's turtles in the area.
- Turtles which are in imminent danger should be moved, by hand, out of harms way. Turtles which are not in imminent danger should be left undisturbed to continue their travel among wetlands and/or nest sites.
- If a Blanding's turtle nests in your yard, do not disturb the nest, and do not allow pets near the nest.
- Blanding's turtles do not make good pets. It is illegal to keep this threatened species in captivity.
- Silt fencing should be set up to keep turtles out of construction areas. It is critical that silt fencing be removed after the area has been revegetated.
- Small, vegetated temporary wetlands should not be dredged, deepened, or filled.
- All wetlands should be protected from pollution; use of fertilizers and pesticides should be avoided, and run-off from lawns and streets should be controlled. Erosion should be prevented to keep sediment from reaching wetlands and lakes.
- Roads should be kept to minimum standards on widths and lanes.
- Roads should be ditched, not curbed or below grade. If curbs must be used, 4" high curbs at a 3:1 slope are preferred.
- Culverts under roads crossing wetland areas, between wetland areas, or between wetland and nesting areas should be at least 36 in. diameter and flat-bottomed or elliptical.
- Culverts under roads crossing streams should be oversized (at least twice as wide as the normal width of open water) and flat-bottomed or elliptical.
- Utility access and maintenance roads should be kept to a minimum.
- Because trenches can trap turtles, trenches should be checked for turtles prior to being backfilled and the sites should be returned to original grade.
- Terrain should be left with as much natural contour as possible.
- Graded areas should be revegetated with native grasses and forbs.
- Vegetation management in infrequently mowed areas -- such as in ditches, along utility access roads, and under power lines -- should be done mechanically (chemicals should not be used). Work should occur fall through spring (after October 1st and before June 1st).

Compiled by the Minnesota Department of Natural Resources Division of Ecological Resources, Updated March 2008
Endangered Species Environmental Review Coordinator, 500 Lafayette Rd., Box 25, St. Paul, MN 55155 / 651-259-5109