New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 3D13018
Client Project: Dewatered Sludge

Report Date: 26-April-2023

Prepared for:

Accounts Payable
Lowell Regional Wastewater
451 First St. Blvd
Lowell, MA 01852

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Samples Submitted:

The samples listed below were submitted to New England Testing Laboratory on 04/13/23. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 3D13018. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled
3D13018-01	Lowell-WTP-Lagoon-1-#1	Soil	04/10/2023
3D13018-02	Lowell-WTP-Lagoon-2-#12	Soil	04/10/2023
3D13018-03	Lowell-WTP-Lagoon-3-#3	Soil	04/10/2023
3D13018-04	Lowell-WTP-Lagoon-4-#4	Soil	04/10/2023
3D13018-05	Lowell-WTP-Lagoon-5-#5	Soil	04/10/2023
3D13018-06	Lowell-WTP-Lagoon-6-#6	Soil	04/10/2023
3D13018-07	Lowell-WTP_Lagoon-7-#7	Soil	04/10/2023
3D13018-08	Lowell-WTP-Lagoon-8-#8	Soil	04/10/2023

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

Lowell-WTP_Lagoon-7-#7

TCLP Cadmium	EPA 6010C
SPLP Silver	EPA 6010C
TCLP Selenium	EPA 6010C
TCLP Lead	EPA 6010C
TCLP Chromium	EPA 6010C
TCLP Barium	EPA 6010C
TCLP Arsenic	EPA 6010C
TCLP Silver	EPA 6010C
SPLP Barium	EPA 6010C
TCLP Mercury	EPA 7470A
SPLP Arsenic	EPA 6010C
SPLP Selenium	EPA 6010C
SPLP Cadmium	EPA 6010C
SPLP Chromium	EPA 6010C
SPLP Mercury	EPA 7470A
SPLP Lead	EPA 6010C

Lowell-WTP-Lagoon-1-#1

Selenium	EPA 6010C
Arsenic	EPA 6010C
Percent Total Solids	Gravimetric
Volatile Organic Compounds	EPA 8260C
PCBs	EPA 8082A
MADEP EPH	MADEP EPH
Semivolatile Organic Compounds	EPA 8270D
Free liquids	EPA 9095B
% Solids	Gravimetric

Lowell-WTP-Lagoon-1-#1

	(continued)
Chromium	EPA 6010C
Barium	EPA 6010C
Specific Conductance	EPA 9010A--modified
Silver	EPA 6010C
Mercury	EPA 7471B
Lead	EPA 6010C
Cadmium	EPA 6010C

Lowell-WTP-Lagoon-2-#12

Semivolatile Organic Compounds	EPA 8270D
MADEP EPH	MADEP EPH
PCBs	EPA 8082A
Volatile Organic Compounds	EPA 8260C
Percent Total Solids	Gravimetric
Specific Conductance	EPA 9010A--modified
Selenium	EPA 6010C
Free liquids	EPA 9095B
% Solids	Gravimetric
Chromium	EPA 6010C
Cadmium	EPA 6010C
Barium	EPA 6010C
Arsenic	EPA 6010C
Silver	EPA 6010C
Mercury	EPA 7471B
Lead	EPA 6010C

Lowell-WTP-Lagoon-3-#3

Semivolatile Organic Compounds	EPA 8270D
MADEP EPH	MADEP EPH
PCBs	EPA 8082A
Selenium	EPA 6010C
Percent Total Solids	Gravimetric
Arsenic	EPA 6010C
Specific Conductance	EPA 9010A--modified
Volatile Organic Compounds	EPA 8260C
Lead	EPA 6010C
Chromium	EPA 6010C
Barium	EPA 6010C
Silver	EPA 6010C
Mercury	EPA 7471B
% Solids	Gravimetric
Free liquids	EPA 9095B
Cadmium	EPA 6010C

Lowell-WTP-Lagoon-4-#4

PCBs	EPA 8082A
% Solids	Gravimetric
Specific Conductance	EPA 9010A--modified
Free liquids	EPA 9095B
Volatile Organic Compounds	EPA 8260C
MADEP EPH	MADEP EPH
Semivolatile Organic Compounds	EPA 8270D
Selenium	EPA 6010C
Silver	EPA 6010C
Percent Total Solids	Gravimetric
Mercury	EPA 7471B
Lead	EPA 6010C
Arsenic	EPA 6010C
Barium	EPA 6010C
Cadmium	EPA 6010C

Lowell-WTP-Lagoon-4-#4

	(continued)
Chromium	EPA 6010C

Lowell-WTP-Lagoon-5-#5

Selenium	EPA 6010C
Arsenic	EPA 6010C
Percent Total Solids	Gravimetric
Volatile Organic Compounds	EPA 8260C
PCBs	EPA 8082A
MADEP EPH	MADEP EPH
Semivolatile Organic Compounds	EPA 8270D
Free liquids	EPA 9095B
% Solids	Gravimetric
Chromium	EPA 6010C
Barium	EPA 6010C
Specific Conductance	EPA 9010A--modified
Silver	EPA 6010C
Mercury	EPA 7471B
Lead	EPA 6010C
Cadmium	EPA 6010C

Lowell-WTP-Lagoon-6-#6

Semivolatile Organic Compounds	EPA 8270D
MADEP EPH	MADEP EPH
PCBs	EPA 8082A
Volatile Organic Compounds	EPA 8260C
Percent Total Solids	Gravimetric
Specific Conductance	EPA 9010A--modified
Selenium	EPA 6010C
Free liquids	EPA 9095B
Chromium	EPA 6010C
Cadmium	EPA 6010C
Barium	EPA 6010C
Arsenic	EPA 6010C
Silver	EPA 6010C
% Solids	Gravimetric
Mercury	EPA 7471B
Lead	EPA 6010C

Lowell-WTP-Lagoon-8-#8

TCLP Lead	EPA 6010C
TCLP Arsenic	EPA 6010C
TCLP Barium	EPA 6010C
TCLP Cadmium	EPA 6010C
TCLP Silver	EPA 6010C
TCLP Mercury	EPA 7470A
SPLP Cadmium	EPA 6010C
TCLP Chromium	EPA 6010C
SPLP Selenium	EPA 6010C
SPLP Lead	EPA 6010C
SPLP Chromium	EPA 6010C
SPLP Barium	EPA 6010C
SPLP Arsenic	EPA 6010C
SPLP Silver	EPA 6010C
TCLP Selenium	EPA 6010C
SPLP Mercury	EPA 7470A

The analytical methods provided are documented in the following references:

Manual of Methods for Chemical Analysis of Water and Water Wastes, EPA-600/4-79-020 (Revised 1983), USEPA/EMSL.
Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998, APHA, AWWA-WPCF.
40 CFR 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act*, Office of Federal Register National Archives and Records Administration.

Results:

Sample: Lowell-WTP-Lagoon-1-#1
3D13018-01 (Soil)

General Chemistry

	Result	Reporting Limit	Units	Date Analyzed
Solids, Percent	**16.8**	0.05	Percent	04/14/23
Free liquids	ABSENT		P/A	04/17/23
Specific Conductance	**8.1**	2.0	uS/cm	04/17/23

Total Metals

	Result	Reporting Limit	Units	Date Analyzed
Mercury	ND	0.850	mg/kg	04/19/23
Silver	ND	6.10	mg/kg	04/21/23
Arsenic	**20.6**	6.10	mg/kg	04/21/23
Barium	**51.5**	2.01	mg/kg	04/21/23
Cadmium	ND	3.05	mg/kg	04/21/23
Chromium	**11.2**	3.05	mg/kg	04/21/23
Lead	ND	3.05	mg/kg	04/21/23
Selenium	ND	6.10	mg/kg	04/21/23

Volatile Organic Compounds

	Result	Reporting Limit	Units	Date Analyzed
Acetone	ND	2710	ug/kg	04/14/23
Benzene	ND	542	ug/kg	04/14/23
Bromobenzene	ND	542	ug/kg	04/14/23
Bromochloromethane	ND	542	ug/kg	04/14/23
Bromodichloromethane	ND	542	ug/kg	04/14/23
Bromoform	ND	542	ug/kg	04/14/23
Bromomethane	ND	542	ug/kg	04/14/23
2-Butanone	ND	2710	ug/kg	04/14/23
tert-Butyl alcohol	ND	2710	ug/kg	04/14/23
sec-Butylbenzene	ND	542	ug/kg	04/14/23
n-Butylbenzene	ND	542	ug/kg	04/14/23
tert-Butylbenzene	ND	542	ug/kg	04/14/23
Methyl t-butyl ether (MTBE)	ND	542	ug/kg	04/14/23
Carbon Disulfide	ND	542	ug/kg	04/14/23
Carbon Tetrachloride	ND	542	ug/kg	04/14/23
Chlorobenzene	ND	542	ug/kg	04/14/23
Chloroethane	ND	542	ug/kg	04/14/23
Chloroform	ND	542	ug/kg	04/14/23

Sample: Lowell-WTP-Lagoon-1-#1 (Continued)
3D13018-01 (Soil)

Volatile Organic Compounds (Continued)

	Result	Reporting Limit	Units	Date Analyzed
Chloromethane	ND	542	ug/kg	04/14/23
4-Chlorotoluene	ND	542	ug/kg	04/14/23
2-Chlorotoluene	ND	542	ug/kg	04/14/23
1,2-Dibromo-3-chloropropane (DBCP)	ND	542	ug/kg	04/14/23
Dibromochloromethane	ND	542	ug/kg	04/14/23
1,2-Dibromoethane (EDB)	ND	542	ug/kg	04/14/23
Dibromomethane	ND	542	ug/kg	04/14/23
1,2-Dichlorobenzene	ND	542	ug/kg	04/14/23
1,3-Dichlorobenzene	ND	542	ug/kg	04/14/23
1,4-Dichlorobenzene	ND	542	ug/kg	04/14/23
1,1-Dichloroethane	ND	542	ug/kg	04/14/23
1,2-Dichloroethane	ND	542	ug/kg	04/14/23
trans-1,2-Dichloroethene	ND	542	ug/kg	04/14/23
cis-1,2-Dichloroethene	ND	542	ug/kg	04/14/23
1,1-Dichloroethene	ND	542	ug/kg	04/14/23
1,2-Dichloropropane	ND	542	ug/kg	04/14/23
2,2-Dichloropropane	ND	542	ug/kg	04/14/23
cis-1,3-Dichloropropene	ND	542	ug/kg	04/14/23
trans-1,3-Dichloropropene	ND	542	ug/kg	04/14/23
1,1-Dichloropropene	ND	542	ug/kg	04/14/23
1,3-Dichloropropene (cis + trans)	ND	1080	ug/kg	04/14/23
Diethyl ether	ND	2710	ug/kg	04/14/23
1,4-Dioxane	ND	54200	ug/kg	04/14/23
Ethylbenzene	ND	542	ug/kg	04/14/23
Hexachlorobutadiene	ND	542	ug/kg	04/14/23
2-Hexanone	ND	2710	ug/kg	04/14/23
Isopropylbenzene	ND	542	ug/kg	04/14/23
p-Isopropyltoluene	ND	542	ug/kg	04/14/23
Methylene Chloride	ND	5420	ug/kg	04/14/23
4-Methyl-2-pentanone	ND	2710	ug/kg	04/14/23
Naphthalene	ND	542	ug/kg	04/14/23
n-Propylbenzene	ND	542	ug/kg	04/14/23
Styrene	ND	542	ug/kg	04/14/23
1,1,1,2-Tetrachloroethane	ND	542	ug/kg	04/14/23
Tetrachloroethene	ND	542	ug/kg	04/14/23
Tetrahydrofuran	ND	2710	ug/kg	04/14/23
Toluene	ND	542	ug/kg	04/14/23
1,2,4-Trichlorobenzene	ND	542	ug/kg	04/14/23
1,2,3-Trichlorobenzene	ND	542	ug/kg	04/14/23
1,1,2-Trichloroethane	ND	542	ug/kg	04/14/23
1,1,1-Trichloroethane	ND	542	ug/kg	04/14/23

Sample: Lowell-WTP-Lagoon-1-#1 (Continued)
3D13018-01 (Soil)

Volatile Organic Compounds (Continued)

	Result	Reporting Limit	Units	Date Analyzed
Trichloroethene	ND	542	ug/kg	04/14/23
1,2,3-Trichloropropane	ND	542	ug/kg	04/14/23
1,3,5-Trimethylbenzene	ND	542	ug/kg	04/14/23
1,2,4-Trimethylbenzene	ND	542	ug/kg	04/14/23
Vinyl Chloride	ND	542	ug/kg	04/14/23
o-Xylene	ND	542	ug/kg	04/14/23
m&p-Xylene	ND	1080	ug/kg	04/14/23
Total xylenes	ND	542	ug/kg	04/14/23
1,1,2,2-Tetrachloroethane	ND	542	ug/kg	04/14/23
tert-Amyl methyl ether	ND	542	ug/kg	04/14/23
1,3-Dichloropropane	ND	542	ug/kg	04/14/23
Ethyl tert-butyl ether	ND	542	ug/kg	04/14/23
Diisopropyl ether	ND	542	ug/kg	04/14/23
Trichlorofluoromethane	ND	542	ug/kg	04/14/23
Dichlorodifluoromethane	ND	542	ug/kg	04/14/23

Surrogate(s)	Recovery%	Limits	
4-Bromofluorobenzene	*91.8%*	*70-130*	04/14/23
1,2-Dichloroethane-d4	*111%*	*70-130*	04/14/23
Toluene-d8	*97.0%*	*70-130*	04/14/23

Sample: Lowell-WTP-Lagoon-1-#1 (Continued)
3D13018-01 (Soil)

Semivolatile organic compounds

	Result	Reporting Limit	Units	Date Analyzed
1,2,4-Trichlorobenzene	ND	767	ug/kg	04/25/23
1,2-Dichlorobenzene	ND	767	ug/kg	04/25/23
1,3-Dichlorobenzene	ND	767	ug/kg	04/25/23
1,4-Dichlorobenzene	ND	767	ug/kg	04/25/23
Phenol	ND	767	ug/kg	04/25/23
2,4,5-Trichlorophenol	ND	767	ug/kg	04/25/23
2,4,6-Trichlorophenol	ND	767	ug/kg	04/25/23
2,4-Dichlorophenol	ND	767	ug/kg	04/25/23
2,4-Dimethylphenol	ND	1950	ug/kg	04/25/23
2,4-Dinitrophenol	ND	1950	ug/kg	04/25/23
2,4-Dinitrotoluene	ND	767	ug/kg	04/25/23
2,6-Dinitrotoluene	ND	767	ug/kg	04/25/23
2-Chloronaphthalene	ND	767	ug/kg	04/25/23
2-Chlorophenol	ND	767	ug/kg	04/25/23
2-Methylnaphthalene	ND	767	ug/kg	04/25/23
Nitrobenzene	ND	767	ug/kg	04/25/23
2-Methylphenol	ND	767	ug/kg	04/25/23
2-Nitroaniline	ND	767	ug/kg	04/25/23
2-Nitrophenol	ND	1950	ug/kg	04/25/23
3,3'-Dichlorobenzidine	ND	1950	ug/kg	04/25/23
3-Nitroaniline	ND	767	ug/kg	04/25/23
4,6-Dinitro-2-methylphenol	ND	1950	ug/kg	04/25/23
4-Bromophenyl phenyl ether	ND	767	ug/kg	04/25/23
4-Chloro-3-methylphenol	ND	767	ug/kg	04/25/23
4-Chloroaniline	ND	767	ug/kg	04/25/23
4-Chlorophenyl phenyl ether	ND	767	ug/kg	04/25/23
4-Nitroaniline	ND	767	ug/kg	04/25/23
4-Nitrophenol	ND	1950	ug/kg	04/25/23
Acenaphthene	ND	767	ug/kg	04/25/23
Acenaphthylene	ND	767	ug/kg	04/25/23
Aniline	ND	767	ug/kg	04/25/23
Anthracene	ND	767	ug/kg	04/25/23
Benzo(a)anthracene	ND	767	ug/kg	04/25/23
Benzo(a)pyrene	ND	767	ug/kg	04/25/23
Benzo(b)fluoranthene	ND	767	ug/kg	04/25/23
Benzo(g,h,i)perylene	ND	767	ug/kg	04/25/23
Benzo(k)fluoranthene	ND	767	ug/kg	04/25/23
Benzoic acid	ND	5900	ug/kg	04/25/23
Biphenyl	ND	236	ug/kg	04/25/23
Bis(2-chloroethoxy)methane	ND	767	ug/kg	04/25/23
Bis(2-chloroethyl)ether	ND	767	ug/kg	04/25/23

Sample: Lowell-WTP-Lagoon-1-#1 (Continued)
3D13018-01 (Soil)

Semivolatile organic compounds (Continued)

	Result	Reporting Limit	Units	Date Analyzed
Bis(2-chloroisopropyl)ether	ND	767	ug/kg	04/25/23
Bis(2-ethylhexyl)phthalate	ND	2360	ug/kg	04/25/23
Butyl benzyl phthalate	ND	767	ug/kg	04/25/23
Chrysene	ND	767	ug/kg	04/25/23
Di-n-octyl phthalate	ND	1180	ug/kg	04/25/23
Dibenz(a,h)anthracene	ND	767	ug/kg	04/25/23
Dibenzofuran	ND	767	ug/kg	04/25/23
Diethyl phthalate	ND	767	ug/kg	04/25/23
Dimethyl phthalate	ND	1950	ug/kg	04/25/23
Di-n-butyl phthalate	ND	1180	ug/kg	04/25/23
Fluoranthene	ND	767	ug/kg	04/25/23
Fluorene	ND	767	ug/kg	04/25/23
Hexachlorobenzene	ND	767	ug/kg	04/25/23
Hexachlorobutadiene	ND	767	ug/kg	04/25/23
Hexachlorocyclopentadiene	ND	1950	ug/kg	04/25/23
Hexachloroethane	ND	767	ug/kg	04/25/23
Indeno(1,2,3-cd)pyrene	ND	767	ug/kg	04/25/23
Isophorone	ND	767	ug/kg	04/25/23
Naphthalene	ND	767	ug/kg	04/25/23
N-Nitrosodimethylamine	ND	767	ug/kg	04/25/23
N-Nitrosodi-n-propylamine	ND	767	ug/kg	04/25/23
N-Nitrosodiphenylamine	ND	767	ug/kg	04/25/23
Pentachlorophenol	ND	1950	ug/kg	04/25/23
Phenanthrene	ND	767	ug/kg	04/25/23
Pyrene	ND	767	ug/kg	04/25/23
m&p-Cresol	ND	1530	ug/kg	04/25/23
Pyridine	ND	767	ug/kg	04/25/23
Azobenzene	ND	767	ug/kg	04/25/23
Total Dichlorobenzene	ND	767	ug/kg	04/25/23

Surrogate(s)	Recovery%	Limits	
Nitrobenzene-d5	*77.2%*	*30-126*	04/25/23
p-Terphenyl-d14	*124%*	*47-130*	04/25/23
2-Fluorobiphenyl	*89.4%*	*34-130*	04/25/23
Phenol-d6	*77.4%*	*30-130*	04/25/23
2,4,6-Tribromophenol	*127%*	*30-130*	04/25/23
2-Fluorophenol	*82.4%*	*30-130*	04/25/23

Sample: Lowell-WTP-Lagoon-1-#1 (Continued)
3D13018-01 (Soil)

Polychlorinated Biphenyls (PCBs)

	Result	Reporting Limit	Units	Date Analyzed
Aroclor-1016	ND	392	ug/kg	04/24/23
Aroclor-1221	ND	392	ug/kg	04/24/23
Aroclor-1232	ND	392	ug/kg	04/24/23
Aroclor-1242	ND	392	ug/kg	04/24/23
Aroclor-1248	ND	392	ug/kg	04/24/23
Aroclor-1254	ND	392	ug/kg	04/24/23
Aroclor-1260	ND	392	ug/kg	04/24/23
Aroclor-1262	ND	392	ug/kg	04/24/23
Aroclor-1268	ND	392	ug/kg	04/24/23
PCBs (Total)	ND	392	ug/kg	04/24/23

Surrogate(s)	Recovery%	Limits	
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*79.9%*	*36.2-130*	04/24/23
Decachlorobiphenyl (DCBP)	*68.4%*	*43.3-130*	04/24/23

Sample: Lowell-WTP-Lagoon-1-#1 (Continued)
3D13018-01 (Soil)

Extractable Petroleum Hydrocarbons (MADEP-EPH)

	Result	Reporting Limit	Units	Date Analyzed
Unadjusted C11-C22 Aromatic Hydrocarbons	ND	39.4	mg/kg	04/25/23
Naphthalene	ND	1.95	mg/kg	04/25/23
2-Methylnaphthalene	ND	1.95	mg/kg	04/25/23
Phenanthrene	ND	1.95	mg/kg	04/25/23
Acenaphthene	ND	1.95	mg/kg	04/25/23
Acenaphthylene	ND	1.95	mg/kg	04/25/23
Fluorene	ND	1.95	mg/kg	04/25/23
Anthracene	ND	1.95	mg/kg	04/25/23
Fluoranthene	ND	1.95	mg/kg	04/25/23
Pyrene	ND	1.95	mg/kg	04/25/23
Benzo(a)anthracene	ND	1.95	mg/kg	04/25/23
Chrysene	ND	1.95	mg/kg	04/25/23
Benzo(b)fluoranthene	ND	1.95	mg/kg	04/25/23
Benzo(k)fluoranthene	ND	1.95	mg/kg	04/25/23
Benzo(a)pyrene	ND	1.95	mg/kg	04/25/23
Indeno(1,2,3-cd)pyrene	ND	1.95	mg/kg	04/25/23
Dibenz(a,h)anthracene	ND	1.95	mg/kg	04/25/23
Benzo(g,h,i)perylene	ND	1.95	mg/kg	04/25/23
C9-C18 Aliphatic Hydrocarbons	ND	78.5	mg/kg	04/25/23
C19-C36 Aliphatic Hydrocarbons	ND	78.5	mg/kg	04/25/23
C11-C22 Aromatic Hydrocarbons	ND	39.4	mg/kg	04/25/23

Surrogate(s)	Recovery%	Limits	
Chlorooctadecane	*87.6%*	*40-140*	04/25/23
o-Terphenyl	*75.9%*	*40-140*	04/25/23
2-Fluorobiphenyl	*111%*	*40-140*	04/25/23
2-Bromonaphthalene	*91.6%*	*40-140*	04/25/23

Sample: Lowell-WTP-Lagoon-2-#12
3D13018-02 (Soil)

General Chemistry

	Result	Reporting Limit	Units	Date Analyzed
Solids, Percent	**9.35**	0.05	Percent	04/14/23
Free liquids	ABSENT		P/A	04/17/23
Specific Conductance	**3.8**	2.0	uS/cm	04/17/23

Total Metals

	Result	Reporting Limit	Units	Date Analyzed
Mercury	ND	1.59	mg/kg	04/19/23
Silver	ND	10.9	mg/kg	04/21/23
Arsenic	**32.5**	10.9	mg/kg	04/21/23
Barium	**46.5**	3.60	mg/kg	04/21/23
Cadmium	ND	5.46	mg/kg	04/21/23
Chromium	**31.0**	5.46	mg/kg	04/21/23
Lead	ND	5.46	mg/kg	04/21/23
Selenium	ND	10.9	mg/kg	04/21/23

Sample: Lowell-WTP-Lagoon-2-#12 (Continued)
3D13018-02 (Soil)

Volatile Organic Compounds

	Result	Reporting Limit	Units	Date Analyzed
Acetone	ND	5000	ug/kg	04/14/23
Benzene	ND	1000	ug/kg	04/14/23
Bromobenzene	ND	1000	ug/kg	04/14/23
Bromochloromethane	ND	1000	ug/kg	04/14/23
Bromodichloromethane	ND	1000	ug/kg	04/14/23
Bromoform	ND	1000	ug/kg	04/14/23
Bromomethane	ND	1000	ug/kg	04/14/23
2-Butanone	ND	5000	ug/kg	04/14/23
tert-Butyl alcohol	ND	5000	ug/kg	04/14/23
sec-Butylbenzene	ND	1000	ug/kg	04/14/23
n-Butylbenzene	ND	1000	ug/kg	04/14/23
tert-Butylbenzene	ND	1000	ug/kg	04/14/23
Methyl t-butyl ether (MTBE)	ND	1000	ug/kg	04/14/23
Carbon Disulfide	ND	1000	ug/kg	04/14/23
Carbon Tetrachloride	ND	1000	ug/kg	04/14/23
Chlorobenzene	ND	1000	ug/kg	04/14/23
Chloroethane	ND	1000	ug/kg	04/14/23
Chloroform	ND	1000	ug/kg	04/14/23
Chloromethane	ND	1000	ug/kg	04/14/23
4-Chlorotoluene	ND	1000	ug/kg	04/14/23
2-Chlorotoluene	ND	1000	ug/kg	04/14/23
1,2-Dibromo-3-chloropropane (DBCP)	ND	1000	ug/kg	04/14/23
Dibromochloromethane	ND	1000	ug/kg	04/14/23
1,2-Dibromoethane (EDB)	ND	1000	ug/kg	04/14/23
Dibromomethane	ND	1000	ug/kg	04/14/23
1,2-Dichlorobenzene	ND	1000	ug/kg	04/14/23
1,3-Dichlorobenzene	ND	1000	ug/kg	04/14/23
1,4-Dichlorobenzene	ND	1000	ug/kg	04/14/23
1,1-Dichloroethane	ND	1000	ug/kg	04/14/23
1,2-Dichloroethane	ND	1000	ug/kg	04/14/23
trans-1,2-Dichloroethene	ND	1000	ug/kg	04/14/23
cis-1,2-Dichloroethene	ND	1000	ug/kg	04/14/23
1,1-Dichloroethene	ND	1000	ug/kg	04/14/23
1,2-Dichloropropane	ND	1000	ug/kg	04/14/23
2,2-Dichloropropane	ND	1000	ug/kg	04/14/23
cis-1,3-Dichloropropene	ND	1000	ug/kg	04/14/23
trans-1,3-Dichloropropene	ND	1000	ug/kg	04/14/23
1,1-Dichloropropene	ND	1000	ug/kg	04/14/23
1,3-Dichloropropene (cis + trans)	ND	2000	ug/kg	04/14/23
Diethyl ether	ND	5000	ug/kg	04/14/23
1,4-Dioxane	ND	100000	ug/kg	04/14/23

Sample: Lowell-WTP-Lagoon-2-#12 (Continued)
3D13018-02 (Soil)

Volatile Organic Compounds (Continued)

	Result	Reporting Limit	Units	Date Analyzed
Ethylbenzene	ND	1000	ug/kg	04/14/23
Hexachlorobutadiene	ND	1000	ug/kg	04/14/23
2-Hexanone	ND	5000	ug/kg	04/14/23
Isopropylbenzene	ND	1000	ug/kg	04/14/23
p-Isopropyltoluene	ND	1000	ug/kg	04/14/23
Methylene Chloride	ND	10000	ug/kg	04/14/23
4-Methyl-2-pentanone	ND	5000	ug/kg	04/14/23
Naphthalene	ND	1000	ug/kg	04/14/23
n-Propylbenzene	ND	1000	ug/kg	04/14/23
Styrene	ND	1000	ug/kg	04/14/23
1,1,1,2-Tetrachloroethane	ND	1000	ug/kg	04/14/23
Tetrachloroethene	ND	1000	ug/kg	04/14/23
Tetrahydrofuran	ND	5000	ug/kg	04/14/23
Toluene	ND	1000	ug/kg	04/14/23
1,2,4-Trichlorobenzene	ND	1000	ug/kg	04/14/23
1,2,3-Trichlorobenzene	ND	1000	ug/kg	04/14/23
1,1,2-Trichloroethane	ND	1000	ug/kg	04/14/23
1,1,1-Trichloroethane	ND	1000	ug/kg	04/14/23
Trichloroethene	ND	1000	ug/kg	04/14/23
1,2,3-Trichloropropane	ND	1000	ug/kg	04/14/23
1,3,5-Trimethylbenzene	ND	1000	ug/kg	04/14/23
1,2,4-Trimethylbenzene	ND	1000	ug/kg	04/14/23
Vinyl Chloride	ND	1000	ug/kg	04/14/23
o-Xylene	ND	1000	ug/kg	04/14/23
m&p-Xylene	ND	2000	ug/kg	04/14/23
Total xylenes	ND	1000	ug/kg	04/14/23
1,1,2,2-Tetrachloroethane	ND	1000	ug/kg	04/14/23
tert-Amyl methyl ether	ND	1000	ug/kg	04/14/23
1,3-Dichloropropane	ND	1000	ug/kg	04/14/23
Ethyl tert-butyl ether	ND	1000	ug/kg	04/14/23
Diisopropyl ether	ND	1000	ug/kg	04/14/23
Trichlorofluoromethane	ND	1000	ug/kg	04/14/23
Dichlorodifluoromethane	ND	1000	ug/kg	04/14/23

Surrogate(s)	Recovery%	Limits	
4-Bromofluorobenzene	*92.6%*	*70-130*	04/14/23
1,2-Dichloroethane-d4	*110%*	*70-130*	04/14/23
Toluene-d8	*97.9%*	*70-130*	04/14/23

Sample: Lowell-WTP-Lagoon-2-#12 (Continued)
3D13018-02 (Soil)

Semivolatile organic compounds

	Result	Reporting Limit	Units	Date Analyzed
1,2,4-Trichlorobenzene	ND	1380	ug/kg	04/25/23
1,2-Dichlorobenzene	ND	1380	ug/kg	04/25/23
1,3-Dichlorobenzene	ND	1380	ug/kg	04/25/23
1,4-Dichlorobenzene	ND	1380	ug/kg	04/25/23
Phenol	ND	1380	ug/kg	04/25/23
2,4,5-Trichlorophenol	ND	1380	ug/kg	04/25/23
2,4,6-Trichlorophenol	ND	1380	ug/kg	04/25/23
2,4-Dichlorophenol	ND	1380	ug/kg	04/25/23
2,4-Dimethylphenol	ND	3510	ug/kg	04/25/23
2,4-Dinitrophenol	ND	3510	ug/kg	04/25/23
2,4-Dinitrotoluene	ND	1380	ug/kg	04/25/23
2,6-Dinitrotoluene	ND	1380	ug/kg	04/25/23
2-Chloronaphthalene	ND	1380	ug/kg	04/25/23
2-Chlorophenol	ND	1380	ug/kg	04/25/23
2-Methylnaphthalene	ND	1380	ug/kg	04/25/23
Nitrobenzene	ND	1380	ug/kg	04/25/23
2-Methylphenol	ND	1380	ug/kg	04/25/23
2-Nitroaniline	ND	1380	ug/kg	04/25/23
2-Nitrophenol	ND	3510	ug/kg	04/25/23
3,3'-Dichlorobenzidine	ND	3510	ug/kg	04/25/23
3-Nitroaniline	ND	1380	ug/kg	04/25/23
4,6-Dinitro-2-methylphenol	ND	3510	ug/kg	04/25/23
4-Bromophenyl phenyl ether	ND	1380	ug/kg	04/25/23
4-Chloro-3-methylphenol	ND	1380	ug/kg	04/25/23
4-Chloroaniline	ND	1380	ug/kg	04/25/23
4-Chlorophenyl phenyl ether	ND	1380	ug/kg	04/25/23
4-Nitroaniline	ND	1380	ug/kg	04/25/23
4-Nitrophenol	ND	3510	ug/kg	04/25/23
Acenaphthene	ND	1380	ug/kg	04/25/23
Acenaphthylene	ND	1380	ug/kg	04/25/23
Aniline	ND	1380	ug/kg	04/25/23
Anthracene	ND	1380	ug/kg	04/25/23
Benzo(a)anthracene	ND	1380	ug/kg	04/25/23
Benzo(a)pyrene	ND	1380	ug/kg	04/25/23
Benzo(b)fluoranthene	ND	1380	ug/kg	04/25/23
Benzo(g,h,i)perylene	ND	1380	ug/kg	04/25/23
Benzo(k)fluoranthene	ND	1380	ug/kg	04/25/23
Benzoic acid	ND	10600	ug/kg	04/25/23
Biphenyl	ND	425	ug/kg	04/25/23
Bis(2-chloroethoxy)methane	ND	1380	ug/kg	04/25/23
Bis(2-chloroethyl)ether	ND	1380	ug/kg	04/25/23

Sample: Lowell-WTP-Lagoon-2-#12 (Continued)
3D13018-02 (Soil)

Semivolatile organic compounds (Continued)

	Result	Reporting Limit	Units	Date Analyzed
Bis(2-chloroisopropyl)ether	ND	1380	ug/kg	04/25/23
Bis(2-ethylhexyl)phthalate	ND	4250	ug/kg	04/25/23
Butyl benzyl phthalate	ND	1380	ug/kg	04/25/23
Chrysene	ND	1380	ug/kg	04/25/23
Di-n-octyl phthalate	ND	2120	ug/kg	04/25/23
Dibenz(a,h)anthracene	ND	1380	ug/kg	04/25/23
Dibenzofuran	ND	1380	ug/kg	04/25/23
Diethyl phthalate	ND	1380	ug/kg	04/25/23
Dimethyl phthalate	ND	3510	ug/kg	04/25/23
Di-n-butyl phthalate	ND	2120	ug/kg	04/25/23
Fluoranthene	ND	1380	ug/kg	04/25/23
Fluorene	ND	1380	ug/kg	04/25/23
Hexachlorobenzene	ND	1380	ug/kg	04/25/23
Hexachlorobutadiene	ND	1380	ug/kg	04/25/23
Hexachlorocyclopentadiene	ND	3510	ug/kg	04/25/23
Hexachloroethane	ND	1380	ug/kg	04/25/23
Indeno(1,2,3-cd)pyrene	ND	1380	ug/kg	04/25/23
Isophorone	ND	1380	ug/kg	04/25/23
Naphthalene	ND	1380	ug/kg	04/25/23
N-Nitrosodimethylamine	ND	1380	ug/kg	04/25/23
N-Nitrosodi-n-propylamine	ND	1380	ug/kg	04/25/23
N-Nitrosodiphenylamine	ND	1380	ug/kg	04/25/23
Pentachlorophenol	ND	3510	ug/kg	04/25/23
Phenanthrene	ND	1380	ug/kg	04/25/23
Pyrene	ND	1380	ug/kg	04/25/23
m&p-Cresol	ND	2760	ug/kg	04/25/23
Pyridine	ND	1380	ug/kg	04/25/23
Azobenzene	ND	1380	ug/kg	04/25/23
Total Dichlorobenzene	ND	1380	ug/kg	04/25/23

Surrogate(s)	Recovery%	Limits	
Nitrobenzene-d5	*59.7%*	*30-126*	04/25/23
p-Terphenyl-d14	*111%*	*47-130*	04/25/23
2-Fluorobiphenyl	*72.6%*	*34-130*	04/25/23
Phenol-d6	*60.4%*	*30-130*	04/25/23
2,4,6-Tribromophenol	*112%*	*30-130*	04/25/23
2-Fluorophenol	*63.2%*	*30-130*	04/25/23

Sample: Lowell-WTP-Lagoon-2-#12 (Continued)
3D13018-02 (Soil)

Polychlorinated Biphenyls (PCBs)

	Result	Reporting Limit	Units	Date Analyzed
Aroclor-1016	ND	706	ug/kg	04/24/23
Aroclor-1221	ND	706	ug/kg	04/24/23
Aroclor-1232	ND	706	ug/kg	04/24/23
Aroclor-1242	ND	706	ug/kg	04/24/23
Aroclor-1248	ND	706	ug/kg	04/24/23
Aroclor-1254	ND	706	ug/kg	04/24/23
Aroclor-1260	ND	706	ug/kg	04/24/23
Aroclor-1262	ND	706	ug/kg	04/24/23
Aroclor-1268	ND	706	ug/kg	04/24/23
PCBs (Total)	ND	706	ug/kg	04/24/23

Surrogate(s)	Recovery%	Limits	
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*69.5%*	*36.2-130*	04/24/23
Decachlorobiphenyl (DCBP)	*75.8%*	*43.3-130*	04/24/23

Sample: Lowell-WTP-Lagoon-2-#12 (Continued)
3D13018-02 (Soil)

Extractable Petroleum Hydrocarbons (MADEP-EPH)

	Result	Reporting Limit	Units	Date Analyzed
Unadjusted C11-C22 Aromatic Hydrocarbons	ND	70.9	mg/kg	04/25/23
Naphthalene	ND	3.51	mg/kg	04/25/23
2-Methylnaphthalene	ND	3.51	mg/kg	04/25/23
Phenanthrene	ND	3.51	mg/kg	04/25/23
Acenaphthene	ND	3.51	mg/kg	04/25/23
Acenaphthylene	ND	3.51	mg/kg	04/25/23
Fluorene	ND	3.51	mg/kg	04/25/23
Anthracene	ND	3.51	mg/kg	04/25/23
Fluoranthene	ND	3.51	mg/kg	04/25/23
Pyrene	ND	3.51	mg/kg	04/25/23
Benzo(a)anthracene	ND	3.51	mg/kg	04/25/23
Chrysene	ND	3.51	mg/kg	04/25/23
Benzo(b)fluoranthene	ND	3.51	mg/kg	04/25/23
Benzo(k)fluoranthene	ND	3.51	mg/kg	04/25/23
Benzo(a)pyrene	ND	3.51	mg/kg	04/25/23
Indeno(1,2,3-cd)pyrene	ND	3.51	mg/kg	04/25/23
Dibenz(a,h)anthracene	ND	3.51	mg/kg	04/25/23
Benzo(g,h,i)perylene	ND	3.51	mg/kg	04/25/23
C9-C18 Aliphatic Hydrocarbons	ND	141	mg/kg	04/25/23
C19-C36 Aliphatic Hydrocarbons	ND	141	mg/kg	04/25/23
C11-C22 Aromatic Hydrocarbons	ND	70.9	mg/kg	04/25/23

Surrogate(s)	Recovery%	Limits	
Chlorooctadecane	*80.9%*	*40-140*	04/25/23
o-Terphenyl	*75.5%*	*40-140*	04/25/23
2-Fluorobiphenyl	*116%*	*40-140*	04/25/23
2-Bromonaphthalene	*112%*	*40-140*	04/25/23

Sample: Lowell-WTP-Lagoon-3-#3
3D13018-03 (Soil)

General Chemistry

	Result	Reporting Limit	Units	Date Analyzed
Solids, Percent	**11.8**	0.05	Percent	04/14/23
Free liquids	ABSENT		P/A	04/17/23
Specific Conductance	**4.4**	2.0	uS/cm	04/17/23

Total Metals

	Result	Reporting Limit	Units	Date Analyzed
Mercury	ND	1.24	mg/kg	04/19/23
Silver	ND	8.84	mg/kg	04/21/23
Arsenic	**33.0**	8.84	mg/kg	04/21/23
Barium	**68.9**	2.92	mg/kg	04/21/23
Cadmium	ND	4.42	mg/kg	04/21/23
Chromium	**14.3**	4.42	mg/kg	04/21/23
Lead	ND	4.42	mg/kg	04/21/23
Selenium	ND	8.84	mg/kg	04/21/23

Sample: Lowell-WTP-Lagoon-3-#3 (Continued)
3D13018-03 (Soil)

Volatile Organic Compounds

	Result	Reporting Limit	Units	Date Analyzed
Acetone	ND	4040	ug/kg	04/14/23
Benzene	ND	809	ug/kg	04/14/23
Bromobenzene	ND	809	ug/kg	04/14/23
Bromochloromethane	ND	809	ug/kg	04/14/23
Bromodichloromethane	ND	809	ug/kg	04/14/23
Bromoform	ND	809	ug/kg	04/14/23
Bromomethane	ND	809	ug/kg	04/14/23
2-Butanone	ND	4040	ug/kg	04/14/23
tert-Butyl alcohol	ND	4040	ug/kg	04/14/23
sec-Butylbenzene	ND	809	ug/kg	04/14/23
n-Butylbenzene	ND	809	ug/kg	04/14/23
tert-Butylbenzene	ND	809	ug/kg	04/14/23
Methyl t-butyl ether (MTBE)	ND	809	ug/kg	04/14/23
Carbon Disulfide	ND	809	ug/kg	04/14/23
Carbon Tetrachloride	ND	809	ug/kg	04/14/23
Chlorobenzene	ND	809	ug/kg	04/14/23
Chloroethane	ND	809	ug/kg	04/14/23
Chloroform	ND	809	ug/kg	04/14/23
Chloromethane	ND	809	ug/kg	04/14/23
4-Chlorotoluene	ND	809	ug/kg	04/14/23
2-Chlorotoluene	ND	809	ug/kg	04/14/23
1,2-Dibromo-3-chloropropane (DBCP)	ND	809	ug/kg	04/14/23
Dibromochloromethane	ND	809	ug/kg	04/14/23
1,2-Dibromoethane (EDB)	ND	809	ug/kg	04/14/23
Dibromomethane	ND	809	ug/kg	04/14/23
1,2-Dichlorobenzene	ND	809	ug/kg	04/14/23
1,3-Dichlorobenzene	ND	809	ug/kg	04/14/23
1,4-Dichlorobenzene	ND	809	ug/kg	04/14/23
1,1-Dichloroethane	ND	809	ug/kg	04/14/23
1,2-Dichloroethane	ND	809	ug/kg	04/14/23
trans-1,2-Dichloroethene	ND	809	ug/kg	04/14/23
cis-1,2-Dichloroethene	ND	809	ug/kg	04/14/23
1,1-Dichloroethene	ND	809	ug/kg	04/14/23
1,2-Dichloropropane	ND	809	ug/kg	04/14/23
2,2-Dichloropropane	ND	809	ug/kg	04/14/23
cis-1,3-Dichloropropene	ND	809	ug/kg	04/14/23
trans-1,3-Dichloropropene	ND	809	ug/kg	04/14/23
1,1-Dichloropropene	ND	809	ug/kg	04/14/23
1,3-Dichloropropene (cis + trans)	ND	1620	ug/kg	04/14/23
Diethyl ether	ND	4040	ug/kg	04/14/23
1,4-Dioxane	ND	80900	ug/kg	04/14/23

Sample: Lowell-WTP-Lagoon-3-#3 (Continued)
3D13018-03 (Soil)

Volatile Organic Compounds (Continued)

	Result	Reporting Limit	Units	Date Analyzed
Ethylbenzene	ND	809	ug/kg	04/14/23
Hexachlorobutadiene	ND	809	ug/kg	04/14/23
2-Hexanone	ND	4040	ug/kg	04/14/23
Isopropylbenzene	ND	809	ug/kg	04/14/23
p-Isopropyltoluene	ND	809	ug/kg	04/14/23
Methylene Chloride	ND	8090	ug/kg	04/14/23
4-Methyl-2-pentanone	ND	4040	ug/kg	04/14/23
Naphthalene	ND	809	ug/kg	04/14/23
n-Propylbenzene	ND	809	ug/kg	04/14/23
Styrene	ND	809	ug/kg	04/14/23
1,1,1,2-Tetrachloroethane	ND	809	ug/kg	04/14/23
Tetrachloroethene	ND	809	ug/kg	04/14/23
Tetrahydrofuran	ND	4040	ug/kg	04/14/23
Toluene	ND	809	ug/kg	04/14/23
1,2,4-Trichlorobenzene	ND	809	ug/kg	04/14/23
1,2,3-Trichlorobenzene	ND	809	ug/kg	04/14/23
1,1,2-Trichloroethane	ND	809	ug/kg	04/14/23
1,1,1-Trichloroethane	ND	809	ug/kg	04/14/23
Trichloroethene	ND	809	ug/kg	04/14/23
1,2,3-Trichloropropane	ND	809	ug/kg	04/14/23
1,3,5-Trimethylbenzene	ND	809	ug/kg	04/14/23
1,2,4-Trimethylbenzene	ND	809	ug/kg	04/14/23
Vinyl Chloride	ND	809	ug/kg	04/14/23
o-Xylene	ND	809	ug/kg	04/14/23
m&p-Xylene	ND	1620	ug/kg	04/14/23
Total xylenes	ND	809	ug/kg	04/14/23
1,1,2,2-Tetrachloroethane	ND	809	ug/kg	04/14/23
tert-Amyl methyl ether	ND	809	ug/kg	04/14/23
1,3-Dichloropropane	ND	809	ug/kg	04/14/23
Ethyl tert-butyl ether	ND	809	ug/kg	04/14/23
Diisopropyl ether	ND	809	ug/kg	04/14/23
Trichlorofluoromethane	ND	809	ug/kg	04/14/23
Dichlorodifluoromethane	ND	809	ug/kg	04/14/23

Surrogate(s)	Recovery%	Limits	
4-Bromofluorobenzene	*96.6%*	*70-130*	04/14/23
1,2-Dichloroethane-d4	*107%*	*70-130*	04/14/23
Toluene-d8	*95.0%*	*70-130*	04/14/23

Sample: Lowell-WTP-Lagoon-3-#3 (Continued)
3D13018-03 (Soil)

Semivolatile organic compounds

	Result	Reporting Limit	Units	Date Analyzed
1,2,4-Trichlorobenzene	ND	1100	ug/kg	04/25/23
1,2-Dichlorobenzene	ND	1100	ug/kg	04/25/23
1,3-Dichlorobenzene	ND	1100	ug/kg	04/25/23
1,4-Dichlorobenzene	ND	1100	ug/kg	04/25/23
Phenol	ND	1100	ug/kg	04/25/23
2,4,5-Trichlorophenol	ND	1100	ug/kg	04/25/23
2,4,6-Trichlorophenol	ND	1100	ug/kg	04/25/23
2,4-Dichlorophenol	ND	1100	ug/kg	04/25/23
2,4-Dimethylphenol	ND	2790	ug/kg	04/25/23
2,4-Dinitrophenol	ND	2790	ug/kg	04/25/23
2,4-Dinitrotoluene	ND	1100	ug/kg	04/25/23
2,6-Dinitrotoluene	ND	1100	ug/kg	04/25/23
2-Chloronaphthalene	ND	1100	ug/kg	04/25/23
2-Chlorophenol	ND	1100	ug/kg	04/25/23
2-Methylnaphthalene	ND	1100	ug/kg	04/25/23
Nitrobenzene	ND	1100	ug/kg	04/25/23
2-Methylphenol	ND	1100	ug/kg	04/25/23
2-Nitroaniline	ND	1100	ug/kg	04/25/23
2-Nitrophenol	ND	2790	ug/kg	04/25/23
3,3'-Dichlorobenzidine	ND	2790	ug/kg	04/25/23
3-Nitroaniline	ND	1100	ug/kg	04/25/23
4,6-Dinitro-2-methylphenol	ND	2790	ug/kg	04/25/23
4-Bromophenyl phenyl ether	ND	1100	ug/kg	04/25/23
4-Chloro-3-methylphenol	ND	1100	ug/kg	04/25/23
4-Chloroaniline	ND	1100	ug/kg	04/25/23
4-Chlorophenyl phenyl ether	ND	1100	ug/kg	04/25/23
4-Nitroaniline	ND	1100	ug/kg	04/25/23
4-Nitrophenol	ND	2790	ug/kg	04/25/23
Acenaphthene	ND	1100	ug/kg	04/25/23
Acenaphthylene	ND	1100	ug/kg	04/25/23
Aniline	ND	1100	ug/kg	04/25/23
Anthracene	ND	1100	ug/kg	04/25/23
Benzo(a)anthracene	ND	1100	ug/kg	04/25/23
Benzo(a)pyrene	ND	1100	ug/kg	04/25/23
Benzo(b)fluoranthene	ND	1100	ug/kg	04/25/23
Benzo(g,h,i)perylene	ND	1100	ug/kg	04/25/23
Benzo(k)fluoranthene	ND	1100	ug/kg	04/25/23
Benzoic acid	ND	8450	ug/kg	04/25/23
Biphenyl	ND	338	ug/kg	04/25/23
Bis(2-chloroethoxy)methane	ND	1100	ug/kg	04/25/23
Bis(2-chloroethyl)ether	ND	1100	ug/kg	04/25/23

Sample: Lowell-WTP-Lagoon-3-#3 (Continued)
3D13018-03 (Soil)

Semivolatile organic compounds (Continued)

	Result	Reporting Limit	Units	Date Analyzed
Bis(2-chloroisopropyl)ether	ND	1100	ug/kg	04/25/23
Bis(2-ethylhexyl)phthalate	ND	3380	ug/kg	04/25/23
Butyl benzyl phthalate	ND	1100	ug/kg	04/25/23
Chrysene	ND	1100	ug/kg	04/25/23
Di-n-octyl phthalate	ND	1690	ug/kg	04/25/23
Dibenz(a,h)anthracene	ND	1100	ug/kg	04/25/23
Dibenzofuran	ND	1100	ug/kg	04/25/23
Diethyl phthalate	ND	1100	ug/kg	04/25/23
Dimethyl phthalate	ND	2790	ug/kg	04/25/23
Di-n-butyl phthalate	ND	1690	ug/kg	04/25/23
Fluoranthene	ND	1100	ug/kg	04/25/23
Fluorene	ND	1100	ug/kg	04/25/23
Hexachlorobenzene	ND	1100	ug/kg	04/25/23
Hexachlorobutadiene	ND	1100	ug/kg	04/25/23
Hexachlorocyclopentadiene	ND	2790	ug/kg	04/25/23
Hexachloroethane	ND	1100	ug/kg	04/25/23
Indeno(1,2,3-cd)pyrene	ND	1100	ug/kg	04/25/23
Isophorone	ND	1100	ug/kg	04/25/23
Naphthalene	ND	1100	ug/kg	04/25/23
N-Nitrosodimethylamine	ND	1100	ug/kg	04/25/23
N-Nitrosodi-n-propylamine	ND	1100	ug/kg	04/25/23
N-Nitrosodiphenylamine	ND	1100	ug/kg	04/25/23
Pentachlorophenol	ND	2790	ug/kg	04/25/23
Phenanthrene	ND	1100	ug/kg	04/25/23
Pyrene	ND	1100	ug/kg	04/25/23
m&p-Cresol	ND	2200	ug/kg	04/25/23
Pyridine	ND	1100	ug/kg	04/25/23
Azobenzene	ND	1100	ug/kg	04/25/23
Total Dichlorobenzene	ND	1100	ug/kg	04/25/23

Surrogate(s)	Recovery%	Limits	
Nitrobenzene-d5	*49.6%*	*30-126*	04/25/23
p-Terphenyl-d14	*100%*	*47-130*	04/25/23
2-Fluorobiphenyl	*62.5%*	*34-130*	04/25/23
Phenol-d6	*50.0%*	*30-130*	04/25/23
2,4,6-Tribromophenol	*98.8%*	*30-130*	04/25/23
2-Fluorophenol	*51.7%*	*30-130*	04/25/23

Sample: Lowell-WTP-Lagoon-3-#3 (Continued)
3D13018-03 (Soil)

Polychlorinated Biphenyls (PCBs)

	Result	Reporting Limit	Units	Date Analyzed
Aroclor-1016	ND	561	ug/kg	04/24/23
Aroclor-1221	ND	561	ug/kg	04/24/23
Aroclor-1232	ND	561	ug/kg	04/24/23
Aroclor-1242	ND	561	ug/kg	04/24/23
Aroclor-1248	ND	561	ug/kg	04/24/23
Aroclor-1254	ND	561	ug/kg	04/24/23
Aroclor-1260	ND	561	ug/kg	04/24/23
Aroclor-1262	ND	561	ug/kg	04/24/23
Aroclor-1268	ND	561	ug/kg	04/24/23
PCBs (Total)	ND	561	ug/kg	04/24/23

Surrogate(s)	Recovery%	Limits	
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*89.9%*	*36.2-130*	04/24/23
Decachlorobiphenyl (DCBP)	*98.6%*	*43.3-130*	04/24/23

Sample: Lowell-WTP-Lagoon-3-#3 (Continued)
3D13018-03 (Soil)

Extractable Petroleum Hydrocarbons (MADEP-EPH)

	Result	Reporting Limit	Units	Date Analyzed
Unadjusted C11-C22 Aromatic Hydrocarbons	ND	56.4	mg/kg	04/25/23
Naphthalene	ND	2.79	mg/kg	04/25/23
2-Methylnaphthalene	ND	2.79	mg/kg	04/25/23
Phenanthrene	ND	2.79	mg/kg	04/25/23
Acenaphthene	ND	2.79	mg/kg	04/25/23
Acenaphthylene	ND	2.79	mg/kg	04/25/23
Fluorene	ND	2.79	mg/kg	04/25/23
Anthracene	ND	2.79	mg/kg	04/25/23
Fluoranthene	ND	2.79	mg/kg	04/25/23
Pyrene	ND	2.79	mg/kg	04/25/23
Benzo(a)anthracene	ND	2.79	mg/kg	04/25/23
Chrysene	ND	2.79	mg/kg	04/25/23
Benzo(b)fluoranthene	ND	2.79	mg/kg	04/25/23
Benzo(k)fluoranthene	ND	2.79	mg/kg	04/25/23
Benzo(a)pyrene	ND	2.79	mg/kg	04/25/23
Indeno(1,2,3-cd)pyrene	ND	2.79	mg/kg	04/25/23
Dibenz(a,h)anthracene	ND	2.79	mg/kg	04/25/23
Benzo(g,h,i)perylene	ND	2.79	mg/kg	04/25/23
C9-C18 Aliphatic Hydrocarbons	ND	112	mg/kg	04/25/23
C19-C36 Aliphatic Hydrocarbons	ND	112	mg/kg	04/25/23
C11-C22 Aromatic Hydrocarbons	ND	56.4	mg/kg	04/25/23

Surrogate(s)	Recovery%	Limits	
Chlorooctadecane	*85.9%*	*40-140*	04/25/23
o-Terphenyl	*75.0%*	*40-140*	04/25/23
2-Fluorobiphenyl	*106%*	*40-140*	04/25/23
2-Bromonaphthalene	*104%*	*40-140*	04/25/23

Sample: Lowell-WTP-Lagoon-4-#4
3D13018-04 (Soil)

General Chemistry

	Result	Reporting Limit	Units	Date Analyzed
Solids, Percent	**9.33**	0.05	Percent	04/14/23
Free liquids	ABSENT		P/A	04/17/23
Specific Conductance	**3.7**	2.0	uS/cm	04/17/23

Total Metals

	Result	Reporting Limit	Units	Date Analyzed
Mercury	ND	1.55	mg/kg	04/19/23
Silver	ND	10.7	mg/kg	04/21/23
Arsenic	**31.9**	10.7	mg/kg	04/21/23
Barium	**44.5**	3.54	mg/kg	04/21/23
Cadmium	ND	5.37	mg/kg	04/21/23
Chromium	**10.9**	5.37	mg/kg	04/21/23
Lead	ND	5.37	mg/kg	04/21/23
Selenium	ND	10.7	mg/kg	04/21/23

Sample: Lowell-WTP-Lagoon-4-#4 (Continued)
3D13018-04 (Soil)

Volatile Organic Compounds

	Result	Reporting Limit	Units	Date Analyzed
Acetone	ND	5090	ug/kg	04/14/23
Benzene	ND	1020	ug/kg	04/14/23
Bromobenzene	ND	1020	ug/kg	04/14/23
Bromochloromethane	ND	1020	ug/kg	04/14/23
Bromodichloromethane	ND	1020	ug/kg	04/14/23
Bromoform	ND	1020	ug/kg	04/14/23
Bromomethane	ND	1020	ug/kg	04/14/23
2-Butanone	ND	5090	ug/kg	04/14/23
tert-Butyl alcohol	ND	5090	ug/kg	04/14/23
sec-Butylbenzene	ND	1020	ug/kg	04/14/23
n-Butylbenzene	ND	1020	ug/kg	04/14/23
tert-Butylbenzene	ND	1020	ug/kg	04/14/23
Methyl t-butyl ether (MTBE)	ND	1020	ug/kg	04/14/23
Carbon Disulfide	ND	1020	ug/kg	04/14/23
Carbon Tetrachloride	ND	1020	ug/kg	04/14/23
Chlorobenzene	ND	1020	ug/kg	04/14/23
Chloroethane	ND	1020	ug/kg	04/14/23
Chloroform	ND	1020	ug/kg	04/14/23
Chloromethane	ND	1020	ug/kg	04/14/23
4-Chlorotoluene	ND	1020	ug/kg	04/14/23
2-Chlorotoluene	ND	1020	ug/kg	04/14/23
1,2-Dibromo-3-chloropropane (DBCP)	ND	1020	ug/kg	04/14/23
Dibromochloromethane	ND	1020	ug/kg	04/14/23
1,2-Dibromoethane (EDB)	ND	1020	ug/kg	04/14/23
Dibromomethane	ND	1020	ug/kg	04/14/23
1,2-Dichlorobenzene	ND	1020	ug/kg	04/14/23
1,3-Dichlorobenzene	ND	1020	ug/kg	04/14/23
1,4-Dichlorobenzene	ND	1020	ug/kg	04/14/23
1,1-Dichloroethane	ND	1020	ug/kg	04/14/23
1,2-Dichloroethane	ND	1020	ug/kg	04/14/23
trans-1,2-Dichloroethene	ND	1020	ug/kg	04/14/23
cis-1,2-Dichloroethene	ND	1020	ug/kg	04/14/23
1,1-Dichloroethene	ND	1020	ug/kg	04/14/23
1,2-Dichloropropane	ND	1020	ug/kg	04/14/23
2,2-Dichloropropane	ND	1020	ug/kg	04/14/23
cis-1,3-Dichloropropene	ND	1020	ug/kg	04/14/23
trans-1,3-Dichloropropene	ND	1020	ug/kg	04/14/23
1,1-Dichloropropene	ND	1020	ug/kg	04/14/23
1,3-Dichloropropene (cis + trans)	ND	2040	ug/kg	04/14/23
Diethyl ether	ND	5090	ug/kg	04/14/23
1,4-Dioxane	ND	102000	ug/kg	04/14/23

Sample: Lowell-WTP-Lagoon-4-#4 (Continued)
3D13018-04 (Soil)

Volatile Organic Compounds (Continued)

	Result	Reporting Limit	Units	Date Analyzed
Ethylbenzene	ND	1020	ug/kg	04/14/23
Hexachlorobutadiene	ND	1020	ug/kg	04/14/23
2-Hexanone	ND	5090	ug/kg	04/14/23
Isopropylbenzene	ND	1020	ug/kg	04/14/23
p-Isopropyltoluene	ND	1020	ug/kg	04/14/23
Methylene Chloride	ND	10200	ug/kg	04/14/23
4-Methyl-2-pentanone	ND	5090	ug/kg	04/14/23
Naphthalene	ND	1020	ug/kg	04/14/23
n-Propylbenzene	ND	1020	ug/kg	04/14/23
Styrene	ND	1020	ug/kg	04/14/23
1,1,1,2-Tetrachloroethane	ND	1020	ug/kg	04/14/23
Tetrachloroethene	ND	1020	ug/kg	04/14/23
Tetrahydrofuran	ND	5090	ug/kg	04/14/23
Toluene	ND	1020	ug/kg	04/14/23
1,2,4-Trichlorobenzene	ND	1020	ug/kg	04/14/23
1,2,3-Trichlorobenzene	ND	1020	ug/kg	04/14/23
1,1,2-Trichloroethane	ND	1020	ug/kg	04/14/23
1,1,1-Trichloroethane	ND	1020	ug/kg	04/14/23
Trichloroethene	ND	1020	ug/kg	04/14/23
1,2,3-Trichloropropane	ND	1020	ug/kg	04/14/23
1,3,5-Trimethylbenzene	ND	1020	ug/kg	04/14/23
1,2,4-Trimethylbenzene	ND	1020	ug/kg	04/14/23
Vinyl Chloride	ND	1020	ug/kg	04/14/23
o-Xylene	ND	1020	ug/kg	04/14/23
m&p-Xylene	ND	2040	ug/kg	04/14/23
Total xylenes	ND	1020	ug/kg	04/14/23
1,1,2,2-Tetrachloroethane	ND	1020	ug/kg	04/14/23
tert-Amyl methyl ether	ND	1020	ug/kg	04/14/23
1,3-Dichloropropane	ND	1020	ug/kg	04/14/23
Ethyl tert-butyl ether	ND	1020	ug/kg	04/14/23
Diisopropyl ether	ND	1020	ug/kg	04/14/23
Trichlorofluoromethane	ND	1020	ug/kg	04/14/23
Dichlorodifluoromethane	ND	1020	ug/kg	04/14/23

Surrogate(s)	Recovery%	Limits	
4-Bromofluorobenzene	*97.4%*	*70-130*	04/14/23
1,2-Dichloroethane-d4	*114%*	*70-130*	04/14/23
Toluene-d8	*94.8%*	*70-130*	04/14/23

Sample: Lowell-WTP-Lagoon-4-#4 (Continued)
3D13018-04 (Soil)

Semivolatile organic compounds

	Result	Reporting Limit	Units	Date Analyzed
1,2,4-Trichlorobenzene	ND	1380	ug/kg	04/25/23
1,2-Dichlorobenzene	ND	1380	ug/kg	04/25/23
1,3-Dichlorobenzene	ND	1380	ug/kg	04/25/23
1,4-Dichlorobenzene	ND	1380	ug/kg	04/25/23
Phenol	ND	1380	ug/kg	04/25/23
2,4,5-Trichlorophenol	ND	1380	ug/kg	04/25/23
2,4,6-Trichlorophenol	ND	1380	ug/kg	04/25/23
2,4-Dichlorophenol	ND	1380	ug/kg	04/25/23
2,4-Dimethylphenol	ND	3510	ug/kg	04/25/23
2,4-Dinitrophenol	ND	3510	ug/kg	04/25/23
2,4-Dinitrotoluene	ND	1380	ug/kg	04/25/23
2,6-Dinitrotoluene	ND	1380	ug/kg	04/25/23
2-Chloronaphthalene	ND	1380	ug/kg	04/25/23
2-Chlorophenol	ND	1380	ug/kg	04/25/23
2-Methylnaphthalene	ND	1380	ug/kg	04/25/23
Nitrobenzene	ND	1380	ug/kg	04/25/23
2-Methylphenol	ND	1380	ug/kg	04/25/23
2-Nitroaniline	ND	1380	ug/kg	04/25/23
2-Nitrophenol	ND	3510	ug/kg	04/25/23
3,3'-Dichlorobenzidine	ND	3510	ug/kg	04/25/23
3-Nitroaniline	ND	1380	ug/kg	04/25/23
4,6-Dinitro-2-methylphenol	ND	3510	ug/kg	04/25/23
4-Bromophenyl phenyl ether	ND	1380	ug/kg	04/25/23
4-Chloro-3-methylphenol	ND	1380	ug/kg	04/25/23
4-Chloroaniline	ND	1380	ug/kg	04/25/23
4-Chlorophenyl phenyl ether	ND	1380	ug/kg	04/25/23
4-Nitroaniline	ND	1380	ug/kg	04/25/23
4-Nitrophenol	ND	3510	ug/kg	04/25/23
Acenaphthene	ND	1380	ug/kg	04/25/23
Acenaphthylene	ND	1380	ug/kg	04/25/23
Aniline	ND	1380	ug/kg	04/25/23
Anthracene	ND	1380	ug/kg	04/25/23
Benzo(a)anthracene	ND	1380	ug/kg	04/25/23
Benzo(a)pyrene	ND	1380	ug/kg	04/25/23
Benzo(b)fluoranthene	ND	1380	ug/kg	04/25/23
Benzo(g,h,i)perylene	ND	1380	ug/kg	04/25/23
Benzo(k)fluoranthene	ND	1380	ug/kg	04/25/23
Benzoic acid	ND	10600	ug/kg	04/25/23
Biphenyl	ND	426	ug/kg	04/25/23
Bis(2-chloroethoxy)methane	ND	1380	ug/kg	04/25/23
Bis(2-chloroethyl)ether	ND	1380	ug/kg	04/25/23

Sample: Lowell-WTP-Lagoon-4-#4 (Continued)
3D13018-04 (Soil)

Semivolatile organic compounds (Continued)

	Result	Reporting Limit	Units	Date Analyzed
Bis(2-chloroisopropyl)ether	ND	1380	ug/kg	04/25/23
Bis(2-ethylhexyl)phthalate	ND	4260	ug/kg	04/25/23
Butyl benzyl phthalate	ND	1380	ug/kg	04/25/23
Chrysene	ND	1380	ug/kg	04/25/23
Di-n-octyl phthalate	ND	2130	ug/kg	04/25/23
Dibenz(a,h)anthracene	ND	1380	ug/kg	04/25/23
Dibenzofuran	ND	1380	ug/kg	04/25/23
Diethyl phthalate	ND	1380	ug/kg	04/25/23
Dimethyl phthalate	ND	3510	ug/kg	04/25/23
Di-n-butyl phthalate	ND	2130	ug/kg	04/25/23
Fluoranthene	ND	1380	ug/kg	04/25/23
Fluorene	ND	1380	ug/kg	04/25/23
Hexachlorobenzene	ND	1380	ug/kg	04/25/23
Hexachlorobutadiene	ND	1380	ug/kg	04/25/23
Hexachlorocyclopentadiene	ND	3510	ug/kg	04/25/23
Hexachloroethane	ND	1380	ug/kg	04/25/23
Indeno(1,2,3-cd)pyrene	ND	1380	ug/kg	04/25/23
Isophorone	ND	1380	ug/kg	04/25/23
Naphthalene	ND	1380	ug/kg	04/25/23
N-Nitrosodimethylamine	ND	1380	ug/kg	04/25/23
N-Nitrosodi-n-propylamine	ND	1380	ug/kg	04/25/23
N-Nitrosodiphenylamine	ND	1380	ug/kg	04/25/23
Pentachlorophenol	ND	3510	ug/kg	04/25/23
Phenanthrene	ND	1380	ug/kg	04/25/23
Pyrene	ND	1380	ug/kg	04/25/23
m&p-Cresol	ND	2770	ug/kg	04/25/23
Pyridine	ND	1380	ug/kg	04/25/23
Azobenzene	ND	1380	ug/kg	04/25/23
Total Dichlorobenzene	ND	1380	ug/kg	04/25/23

Surrogate(s)	Recovery%	Limits	
Nitrobenzene-d5	*65.1%*	*30-126*	04/25/23
p-Terphenyl-d14	*120%*	*47-130*	04/25/23
2-Fluorobiphenyl	*78.2%*	*34-130*	04/25/23
Phenol-d6	*64.0%*	*30-130*	04/25/23
2,4,6-Tribromophenol	*120%*	*30-130*	04/25/23
2-Fluorophenol	*67.1%*	*30-130*	04/25/23

Sample: Lowell-WTP-Lagoon-4-#4 (Continued)
3D13018-04 (Soil)

Polychlorinated Biphenyls (PCBs)

	Result	Reporting Limit	Units	Date Analyzed
Aroclor-1016	ND	707	ug/kg	04/24/23
Aroclor-1221	ND	707	ug/kg	04/24/23
Aroclor-1232	ND	707	ug/kg	04/24/23
Aroclor-1242	ND	707	ug/kg	04/24/23
Aroclor-1248	ND	707	ug/kg	04/24/23
Aroclor-1254	ND	707	ug/kg	04/24/23
Aroclor-1260	ND	707	ug/kg	04/24/23
Aroclor-1262	ND	707	ug/kg	04/24/23
Aroclor-1268	ND	707	ug/kg	04/24/23
PCBs (Total)	ND	707	ug/kg	04/24/23

Surrogate(s)	Recovery%	Limits	
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*100%*	*36.2-130*	04/24/23
Decachlorobiphenyl (DCBP)	*92.9%*	*43.3-130*	04/24/23

Sample: Lowell-WTP-Lagoon-4-#4 (Continued)
3D13018-04 (Soil)

Extractable Petroleum Hydrocarbons (MADEP-EPH)

	Result	Reporting Limit	Units	Date Analyzed
Unadjusted C11-C22 Aromatic Hydrocarbons	ND	71.0	mg/kg	04/25/23
Naphthalene	ND	3.51	mg/kg	04/25/23
2-Methylnaphthalene	ND	3.51	mg/kg	04/25/23
Phenanthrene	ND	3.51	mg/kg	04/25/23
Acenaphthene	ND	3.51	mg/kg	04/25/23
Acenaphthylene	ND	3.51	mg/kg	04/25/23
Fluorene	ND	3.51	mg/kg	04/25/23
Anthracene	ND	3.51	mg/kg	04/25/23
Fluoranthene	ND	3.51	mg/kg	04/25/23
Pyrene	ND	3.51	mg/kg	04/25/23
Benzo(a)anthracene	ND	3.51	mg/kg	04/25/23
Chrysene	ND	3.51	mg/kg	04/25/23
Benzo(b)fluoranthene	ND	3.51	mg/kg	04/25/23
Benzo(k)fluoranthene	ND	3.51	mg/kg	04/25/23
Benzo(a)pyrene	ND	3.51	mg/kg	04/25/23
Indeno(1,2,3-cd)pyrene	ND	3.51	mg/kg	04/25/23
Dibenz(a,h)anthracene	ND	3.51	mg/kg	04/25/23
Benzo(g,h,i)perylene	ND	3.51	mg/kg	04/25/23
C9-C18 Aliphatic Hydrocarbons	ND	142	mg/kg	04/25/23
C19-C36 Aliphatic Hydrocarbons	ND	142	mg/kg	04/25/23
C11-C22 Aromatic Hydrocarbons	ND	71.0	mg/kg	04/25/23

Surrogate(s)	Recovery%	Limits	
Chlorooctadecane	*108%*	*40-140*	04/25/23
o-Terphenyl	*81.0%*	*40-140*	04/25/23
2-Fluorobiphenyl	*110%*	*40-140*	04/25/23
2-Bromonaphthalene	*107%*	*40-140*	04/25/23

Sample: Lowell-WTP-Lagoon-5-#5
3D13018-05 (Soil)

General Chemistry

	Result	Reporting Limit	Units	Date Analyzed
Solids, Percent	**7.93**	0.05	Percent	04/14/23
Free liquids	ABSENT		P/A	04/17/23
Specific Conductance	**9.7**	2.0	uS/cm	04/17/23

Total Metals

	Result	Reporting Limit	Units	Date Analyzed
Mercury	ND	1.81	mg/kg	04/19/23
Silver	ND	12.7	mg/kg	04/21/23
Arsenic	**55.7**	12.7	mg/kg	04/21/23
Barium	**82.7**	4.18	mg/kg	04/21/23
Cadmium	ND	6.33	mg/kg	04/21/23
Chromium	**20.0**	6.33	mg/kg	04/21/23
Lead	ND	6.33	mg/kg	04/21/23
Selenium	ND	12.7	mg/kg	04/21/23

Sample: Lowell-WTP-Lagoon-5-#5 (Continued)
3D13018-05 (Soil)

Volatile Organic Compounds

	Result	Reporting Limit	Units	Date Analyzed
Acetone	ND	5660	ug/kg	04/14/23
Benzene	ND	1130	ug/kg	04/14/23
Bromobenzene	ND	1130	ug/kg	04/14/23
Bromochloromethane	ND	1130	ug/kg	04/14/23
Bromodichloromethane	ND	1130	ug/kg	04/14/23
Bromoform	ND	1130	ug/kg	04/14/23
Bromomethane	ND	1130	ug/kg	04/14/23
2-Butanone	ND	5660	ug/kg	04/14/23
tert-Butyl alcohol	ND	5660	ug/kg	04/14/23
sec-Butylbenzene	ND	1130	ug/kg	04/14/23
n-Butylbenzene	ND	1130	ug/kg	04/14/23
tert-Butylbenzene	ND	1130	ug/kg	04/14/23
Methyl t-butyl ether (MTBE)	ND	1130	ug/kg	04/14/23
Carbon Disulfide	ND	1130	ug/kg	04/14/23
Carbon Tetrachloride	ND	1130	ug/kg	04/14/23
Chlorobenzene	ND	1130	ug/kg	04/14/23
Chloroethane	ND	1130	ug/kg	04/14/23
Chloroform	ND	1130	ug/kg	04/14/23
Chloromethane	ND	1130	ug/kg	04/14/23
4-Chlorotoluene	ND	1130	ug/kg	04/14/23
2-Chlorotoluene	ND	1130	ug/kg	04/14/23
1,2-Dibromo-3-chloropropane (DBCP)	ND	1130	ug/kg	04/14/23
Dibromochloromethane	ND	1130	ug/kg	04/14/23
1,2-Dibromoethane (EDB)	ND	1130	ug/kg	04/14/23
Dibromomethane	ND	1130	ug/kg	04/14/23
1,2-Dichlorobenzene	ND	1130	ug/kg	04/14/23
1,3-Dichlorobenzene	ND	1130	ug/kg	04/14/23
1,4-Dichlorobenzene	ND	1130	ug/kg	04/14/23
1,1-Dichloroethane	ND	1130	ug/kg	04/14/23
1,2-Dichloroethane	ND	1130	ug/kg	04/14/23
trans-1,2-Dichloroethene	ND	1130	ug/kg	04/14/23
cis-1,2-Dichloroethene	ND	1130	ug/kg	04/14/23
1,1-Dichloroethene	ND	1130	ug/kg	04/14/23
1,2-Dichloropropane	ND	1130	ug/kg	04/14/23
2,2-Dichloropropane	ND	1130	ug/kg	04/14/23
cis-1,3-Dichloropropene	ND	1130	ug/kg	04/14/23
trans-1,3-Dichloropropene	ND	1130	ug/kg	04/14/23
1,1-Dichloropropene	ND	1130	ug/kg	04/14/23
1,3-Dichloropropene (cis + trans)	ND	2260	ug/kg	04/14/23
Diethyl ether	ND	5660	ug/kg	04/14/23
1,4-Dioxane	ND	113000	ug/kg	04/14/23

Sample: Lowell-WTP-Lagoon-5-#5 (Continued)
3D13018-05 (Soil)

Volatile Organic Compounds (Continued)

	Result	Reporting Limit	Units	Date Analyzed
Ethylbenzene	ND	1130	ug/kg	04/14/23
Hexachlorobutadiene	ND	1130	ug/kg	04/14/23
2-Hexanone	ND	5660	ug/kg	04/14/23
Isopropylbenzene	ND	1130	ug/kg	04/14/23
p-Isopropyltoluene	ND	1130	ug/kg	04/14/23
Methylene Chloride	ND	11300	ug/kg	04/14/23
4-Methyl-2-pentanone	ND	5660	ug/kg	04/14/23
Naphthalene	ND	1130	ug/kg	04/14/23
n-Propylbenzene	ND	1130	ug/kg	04/14/23
Styrene	ND	1130	ug/kg	04/14/23
1,1,1,2-Tetrachloroethane	ND	1130	ug/kg	04/14/23
Tetrachloroethene	ND	1130	ug/kg	04/14/23
Tetrahydrofuran	ND	5660	ug/kg	04/14/23
Toluene	ND	1130	ug/kg	04/14/23
1,2,4-Trichlorobenzene	ND	1130	ug/kg	04/14/23
1,2,3-Trichlorobenzene	ND	1130	ug/kg	04/14/23
1,1,2-Trichloroethane	ND	1130	ug/kg	04/14/23
1,1,1-Trichloroethane	ND	1130	ug/kg	04/14/23
Trichloroethene	ND	1130	ug/kg	04/14/23
1,2,3-Trichloropropane	ND	1130	ug/kg	04/14/23
1,3,5-Trimethylbenzene	ND	1130	ug/kg	04/14/23
1,2,4-Trimethylbenzene	ND	1130	ug/kg	04/14/23
Vinyl Chloride	ND	1130	ug/kg	04/14/23
o-Xylene	ND	1130	ug/kg	04/14/23
m&p-Xylene	ND	2260	ug/kg	04/14/23
Total xylenes	ND	1130	ug/kg	04/14/23
1,1,2,2-Tetrachloroethane	ND	1130	ug/kg	04/14/23
tert-Amyl methyl ether	ND	1130	ug/kg	04/14/23
1,3-Dichloropropane	ND	1130	ug/kg	04/14/23
Ethyl tert-butyl ether	ND	1130	ug/kg	04/14/23
Diisopropyl ether	ND	1130	ug/kg	04/14/23
Trichlorofluoromethane	ND	1130	ug/kg	04/14/23
Dichlorodifluoromethane	ND	1130	ug/kg	04/14/23

Surrogate(s)	Recovery%	Limits	
4-Bromofluorobenzene	*91.9%*	*70-130*	04/14/23
1,2-Dichloroethane-d4	*109%*	*70-130*	04/14/23
Toluene-d8	*92.7%*	*70-130*	04/14/23

Sample: Lowell-WTP-Lagoon-5-#5 (Continued)
3D13018-05 (Soil)

Semivolatile organic compounds

	Result	Reporting Limit	Units	Date Analyzed
1,2,4-Trichlorobenzene	ND	1630	ug/kg	04/25/23
1,2-Dichlorobenzene	ND	1630	ug/kg	04/25/23
1,3-Dichlorobenzene	ND	1630	ug/kg	04/25/23
1,4-Dichlorobenzene	ND	1630	ug/kg	04/25/23
Phenol	ND	1630	ug/kg	04/25/23
2,4,5-Trichlorophenol	ND	1630	ug/kg	04/25/23
2,4,6-Trichlorophenol	ND	1630	ug/kg	04/25/23
2,4-Dichlorophenol	ND	1630	ug/kg	04/25/23
2,4-Dimethylphenol	ND	4130	ug/kg	04/25/23
2,4-Dinitrophenol	ND	4130	ug/kg	04/25/23
2,4-Dinitrotoluene	ND	1630	ug/kg	04/25/23
2,6-Dinitrotoluene	ND	1630	ug/kg	04/25/23
2-Chloronaphthalene	ND	1630	ug/kg	04/25/23
2-Chlorophenol	ND	1630	ug/kg	04/25/23
2-Methylnaphthalene	ND	1630	ug/kg	04/25/23
Nitrobenzene	ND	1630	ug/kg	04/25/23
2-Methylphenol	ND	1630	ug/kg	04/25/23
2-Nitroaniline	ND	1630	ug/kg	04/25/23
2-Nitrophenol	ND	4130	ug/kg	04/25/23
3,3'-Dichlorobenzidine	ND	4130	ug/kg	04/25/23
3-Nitroaniline	ND	1630	ug/kg	04/25/23
4,6-Dinitro-2-methylphenol	ND	4130	ug/kg	04/25/23
4-Bromophenyl phenyl ether	ND	1630	ug/kg	04/25/23
4-Chloro-3-methylphenol	ND	1630	ug/kg	04/25/23
4-Chloroaniline	ND	1630	ug/kg	04/25/23
4-Chlorophenyl phenyl ether	ND	1630	ug/kg	04/25/23
4-Nitroaniline	ND	1630	ug/kg	04/25/23
4-Nitrophenol	ND	4130	ug/kg	04/25/23
Acenaphthene	ND	1630	ug/kg	04/25/23
Acenaphthylene	ND	1630	ug/kg	04/25/23
Aniline	ND	1630	ug/kg	04/25/23
Anthracene	ND	1630	ug/kg	04/25/23
Benzo(a)anthracene	ND	1630	ug/kg	04/25/23
Benzo(a)pyrene	ND	1630	ug/kg	04/25/23
Benzo(b)fluoranthene	ND	1630	ug/kg	04/25/23
Benzo(g,h,i)perylene	ND	1630	ug/kg	04/25/23
Benzo(k)fluoranthene	ND	1630	ug/kg	04/25/23
Benzoic acid	ND	12500	ug/kg	04/25/23
Biphenyl	ND	501	ug/kg	04/25/23
Bis(2-chloroethoxy)methane	ND	1630	ug/kg	04/25/23
Bis(2-chloroethyl)ether	ND	1630	ug/kg	04/25/23

Sample: Lowell-WTP-Lagoon-5-#5 (Continued)
3D13018-05 (Soil)

Semivolatile organic compounds (Continued)

	Result	Reporting Limit	Units	Date Analyzed
Bis(2-chloroisopropyl)ether	ND	1630	ug/kg	04/25/23
Bis(2-ethylhexyl)phthalate	ND	5010	ug/kg	04/25/23
Butyl benzyl phthalate	ND	1630	ug/kg	04/25/23
Chrysene	ND	1630	ug/kg	04/25/23
Di-n-octyl phthalate	ND	2510	ug/kg	04/25/23
Dibenz(a,h)anthracene	ND	1630	ug/kg	04/25/23
Dibenzofuran	ND	1630	ug/kg	04/25/23
Diethyl phthalate	ND	1630	ug/kg	04/25/23
Dimethyl phthalate	ND	4130	ug/kg	04/25/23
Di-n-butyl phthalate	ND	2510	ug/kg	04/25/23
Fluoranthene	ND	1630	ug/kg	04/25/23
Fluorene	ND	1630	ug/kg	04/25/23
Hexachlorobenzene	ND	1630	ug/kg	04/25/23
Hexachlorobutadiene	ND	1630	ug/kg	04/25/23
Hexachlorocyclopentadiene	ND	4130	ug/kg	04/25/23
Hexachloroethane	ND	1630	ug/kg	04/25/23
Indeno(1,2,3-cd)pyrene	ND	1630	ug/kg	04/25/23
Isophorone	ND	1630	ug/kg	04/25/23
Naphthalene	ND	1630	ug/kg	04/25/23
N-Nitrosodimethylamine	ND	1630	ug/kg	04/25/23
N-Nitrosodi-n-propylamine	ND	1630	ug/kg	04/25/23
N-Nitrosodiphenylamine	ND	1630	ug/kg	04/25/23
Pentachlorophenol	ND	4130	ug/kg	04/25/23
Phenanthrene	ND	1630	ug/kg	04/25/23
Pyrene	ND	1630	ug/kg	04/25/23
m&p-Cresol	ND	3260	ug/kg	04/25/23
Pyridine	ND	1630	ug/kg	04/25/23
Azobenzene	ND	1630	ug/kg	04/25/23
Total Dichlorobenzene	ND	1630	ug/kg	04/25/23

Surrogate(s)	Recovery%	Limits	
Nitrobenzene-d5	*61.7%*	*30-126*	04/25/23
p-Terphenyl-d14	*98.7%*	*47-130*	04/25/23
2-Fluorobiphenyl	*72.2%*	*34-130*	04/25/23
Phenol-d6	*62.2%*	*30-130*	04/25/23
2,4,6-Tribromophenol	*94.1%*	*30-130*	04/25/23
2-Fluorophenol	*64.9%*	*30-130*	04/25/23

Sample: Lowell-WTP-Lagoon-5-#5 (Continued)
3D13018-05 (Soil)

Polychlorinated Biphenyls (PCBs)

	Result	Reporting Limit	Units	Date Analyzed
Aroclor-1016	ND	832	ug/kg	04/24/23
Aroclor-1221	ND	832	ug/kg	04/24/23
Aroclor-1232	ND	832	ug/kg	04/24/23
Aroclor-1242	ND	832	ug/kg	04/24/23
Aroclor-1248	ND	832	ug/kg	04/24/23
Aroclor-1254	ND	832	ug/kg	04/24/23
Aroclor-1260	ND	832	ug/kg	04/24/23
Aroclor-1262	ND	832	ug/kg	04/24/23
Aroclor-1268	ND	832	ug/kg	04/24/23
PCBs (Total)	ND	832	ug/kg	04/24/23

Surrogate(s)	Recovery%	Limits	
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*84.5%*	*36.2-130*	04/24/23
Decachlorobiphenyl (DCBP)	*97.0%*	*43.3-130*	04/24/23

Sample: Lowell-WTP-Lagoon-5-#5 (Continued)
3D13018-05 (Soil)

Extractable Petroleum Hydrocarbons (MADEP-EPH)

	Result	Reporting Limit	Units	Date Analyzed
Unadjusted C11-C22 Aromatic Hydrocarbons	ND	83.6	mg/kg	04/25/23
Naphthalene	ND	4.13	mg/kg	04/25/23
2-Methylnaphthalene	ND	4.13	mg/kg	04/25/23
Phenanthrene	ND	4.13	mg/kg	04/25/23
Acenaphthene	ND	4.13	mg/kg	04/25/23
Acenaphthylene	ND	4.13	mg/kg	04/25/23
Fluorene	ND	4.13	mg/kg	04/25/23
Anthracene	ND	4.13	mg/kg	04/25/23
Fluoranthene	ND	4.13	mg/kg	04/25/23
Pyrene	ND	4.13	mg/kg	04/25/23
Benzo(a)anthracene	ND	4.13	mg/kg	04/25/23
Chrysene	ND	4.13	mg/kg	04/25/23
Benzo(b)fluoranthene	ND	4.13	mg/kg	04/25/23
Benzo(k)fluoranthene	ND	4.13	mg/kg	04/25/23
Benzo(a)pyrene	ND	4.13	mg/kg	04/25/23
Indeno(1,2,3-cd)pyrene	ND	4.13	mg/kg	04/25/23
Dibenz(a,h)anthracene	ND	4.13	mg/kg	04/25/23
Benzo(g,h,i)perylene	ND	4.13	mg/kg	04/25/23
C9-C18 Aliphatic Hydrocarbons	ND	167	mg/kg	04/25/23
C19-C36 Aliphatic Hydrocarbons	ND	167	mg/kg	04/25/23
C11-C22 Aromatic Hydrocarbons	ND	83.6	mg/kg	04/25/23

Surrogate(s)	Recovery%	Limits	
Chlorooctadecane	*104%*	*40-140*	04/25/23
o-Terphenyl	*88.1%*	*40-140*	04/25/23
2-Fluorobiphenyl	*114%*	*40-140*	04/25/23
2-Bromonaphthalene	*114%*	*40-140*	04/25/23

Sample: Lowell-WTP-Lagoon-6-#6
3D13018-06 (Soil)

General Chemistry

	Result	Reporting Limit	Units	Date Analyzed
Solids, Percent	**11.7**	0.05	Percent	04/14/23
Free liquids	ABSENT		P/A	04/17/23
Specific Conductance	**3.4**	2.0	uS/cm	04/17/23

Total Metals

	Result	Reporting Limit	Units	Date Analyzed
Mercury	ND	1.27	mg/kg	04/19/23
Silver	ND	8.63	mg/kg	04/21/23
Arsenic	**35.0**	8.63	mg/kg	04/21/23
Barium	**51.5**	2.85	mg/kg	04/21/23
Cadmium	ND	4.31	mg/kg	04/21/23
Chromium	**11.6**	4.31	mg/kg	04/21/23
Lead	ND	4.31	mg/kg	04/21/23
Selenium	**14.5**	8.63	mg/kg	04/21/23

Sample: Lowell-WTP-Lagoon-6-#6 (Continued)
3D13018-06 (Soil)

Volatile Organic Compounds

	Result	Reporting Limit	Units	Date Analyzed
Acetone	ND	3580	ug/kg	04/14/23
Benzene	ND	717	ug/kg	04/14/23
Bromobenzene	ND	717	ug/kg	04/14/23
Bromochloromethane	ND	717	ug/kg	04/14/23
Bromodichloromethane	ND	717	ug/kg	04/14/23
Bromoform	ND	717	ug/kg	04/14/23
Bromomethane	ND	717	ug/kg	04/14/23
2-Butanone	ND	3580	ug/kg	04/14/23
tert-Butyl alcohol	ND	3580	ug/kg	04/14/23
sec-Butylbenzene	ND	717	ug/kg	04/14/23
n-Butylbenzene	ND	717	ug/kg	04/14/23
tert-Butylbenzene	ND	717	ug/kg	04/14/23
Methyl t-butyl ether (MTBE)	ND	717	ug/kg	04/14/23
Carbon Disulfide	ND	717	ug/kg	04/14/23
Carbon Tetrachloride	ND	717	ug/kg	04/14/23
Chlorobenzene	ND	717	ug/kg	04/14/23
Chloroethane	ND	717	ug/kg	04/14/23
Chloroform	ND	717	ug/kg	04/14/23
Chloromethane	ND	717	ug/kg	04/14/23
4-Chlorotoluene	ND	717	ug/kg	04/14/23
2-Chlorotoluene	ND	717	ug/kg	04/14/23
1,2-Dibromo-3-chloropropane (DBCP)	ND	717	ug/kg	04/14/23
Dibromochloromethane	ND	717	ug/kg	04/14/23
1,2-Dibromoethane (EDB)	ND	717	ug/kg	04/14/23
Dibromomethane	ND	717	ug/kg	04/14/23
1,2-Dichlorobenzene	ND	717	ug/kg	04/14/23
1,3-Dichlorobenzene	ND	717	ug/kg	04/14/23
1,4-Dichlorobenzene	ND	717	ug/kg	04/14/23
1,1-Dichloroethane	ND	717	ug/kg	04/14/23
1,2-Dichloroethane	ND	717	ug/kg	04/14/23
trans-1,2-Dichloroethene	ND	717	ug/kg	04/14/23
cis-1,2-Dichloroethene	ND	717	ug/kg	04/14/23
1,1-Dichloroethene	ND	717	ug/kg	04/14/23
1,2-Dichloropropane	ND	717	ug/kg	04/14/23
2,2-Dichloropropane	ND	717	ug/kg	04/14/23
cis-1,3-Dichloropropene	ND	717	ug/kg	04/14/23
trans-1,3-Dichloropropene	ND	717	ug/kg	04/14/23
1,1-Dichloropropene	ND	717	ug/kg	04/14/23
1,3-Dichloropropene (cis + trans)	ND	1430	ug/kg	04/14/23
Diethyl ether	ND	3580	ug/kg	04/14/23
1,4-Dioxane	ND	71700	ug/kg	04/14/23

Sample: Lowell-WTP-Lagoon-6-#6 (Continued)
3D13018-06 (Soil)

Volatile Organic Compounds (Continued)

	Result	Reporting Limit	Units	Date Analyzed
Ethylbenzene	ND	717	ug/kg	04/14/23
Hexachlorobutadiene	ND	717	ug/kg	04/14/23
2-Hexanone	ND	3580	ug/kg	04/14/23
Isopropylbenzene	ND	717	ug/kg	04/14/23
p-Isopropyltoluene	ND	717	ug/kg	04/14/23
Methylene Chloride	ND	7170	ug/kg	04/14/23
4-Methyl-2-pentanone	ND	3580	ug/kg	04/14/23
Naphthalene	ND	717	ug/kg	04/14/23
n-Propylbenzene	ND	717	ug/kg	04/14/23
Styrene	ND	717	ug/kg	04/14/23
1,1,1,2-Tetrachloroethane	ND	717	ug/kg	04/14/23
Tetrachloroethene	ND	717	ug/kg	04/14/23
Tetrahydrofuran	ND	3580	ug/kg	04/14/23
Toluene	ND	717	ug/kg	04/14/23
1,2,4-Trichlorobenzene	ND	717	ug/kg	04/14/23
1,2,3-Trichlorobenzene	ND	717	ug/kg	04/14/23
1,1,2-Trichloroethane	ND	717	ug/kg	04/14/23
1,1,1-Trichloroethane	ND	717	ug/kg	04/14/23
Trichloroethene	ND	717	ug/kg	04/14/23
1,2,3-Trichloropropane	ND	717	ug/kg	04/14/23
1,3,5-Trimethylbenzene	ND	717	ug/kg	04/14/23
1,2,4-Trimethylbenzene	ND	717	ug/kg	04/14/23
Vinyl Chloride	ND	717	ug/kg	04/14/23
o-Xylene	ND	717	ug/kg	04/14/23
m&p-Xylene	ND	1430	ug/kg	04/14/23
Total xylenes	ND	717	ug/kg	04/14/23
1,1,2,2-Tetrachloroethane	ND	717	ug/kg	04/14/23
tert-Amyl methyl ether	ND	717	ug/kg	04/14/23
1,3-Dichloropropane	ND	717	ug/kg	04/14/23
Ethyl tert-butyl ether	ND	717	ug/kg	04/14/23
Diisopropyl ether	ND	717	ug/kg	04/14/23
Trichlorofluoromethane	ND	717	ug/kg	04/14/23
Dichlorodifluoromethane	ND	717	ug/kg	04/14/23

Surrogate(s)	Recovery%	Limits	
4-Bromofluorobenzene	*92.1%*	*70-130*	04/14/23
1,2-Dichloroethane-d4	*105%*	*70-130*	04/14/23
Toluene-d8	*97.6%*	*70-130*	04/14/23

Sample: Lowell-WTP-Lagoon-6-#6 (Continued)
3D13018-06 (Soil)

Semivolatile organic compounds

	Result	Reporting Limit	Units	Date Analyzed
1,2,4-Trichlorobenzene	ND	1110	ug/kg	04/25/23
1,2-Dichlorobenzene	ND	1110	ug/kg	04/25/23
1,3-Dichlorobenzene	ND	1110	ug/kg	04/25/23
1,4-Dichlorobenzene	ND	1110	ug/kg	04/25/23
Phenol	ND	1110	ug/kg	04/25/23
2,4,5-Trichlorophenol	ND	1110	ug/kg	04/25/23
2,4,6-Trichlorophenol	ND	1110	ug/kg	04/25/23
2,4-Dichlorophenol	ND	1110	ug/kg	04/25/23
2,4-Dimethylphenol	ND	2810	ug/kg	04/25/23
2,4-Dinitrophenol	ND	2810	ug/kg	04/25/23
2,4-Dinitrotoluene	ND	1110	ug/kg	04/25/23
2,6-Dinitrotoluene	ND	1110	ug/kg	04/25/23
2-Chloronaphthalene	ND	1110	ug/kg	04/25/23
2-Chlorophenol	ND	1110	ug/kg	04/25/23
2-Methylnaphthalene	ND	1110	ug/kg	04/25/23
Nitrobenzene	ND	1110	ug/kg	04/25/23
2-Methylphenol	ND	1110	ug/kg	04/25/23
2-Nitroaniline	ND	1110	ug/kg	04/25/23
2-Nitrophenol	ND	2810	ug/kg	04/25/23
3,3'-Dichlorobenzidine	ND	2810	ug/kg	04/25/23
3-Nitroaniline	ND	1110	ug/kg	04/25/23
4,6-Dinitro-2-methylphenol	ND	2810	ug/kg	04/25/23
4-Bromophenyl phenyl ether	ND	1110	ug/kg	04/25/23
4-Chloro-3-methylphenol	ND	1110	ug/kg	04/25/23
4-Chloroaniline	ND	1110	ug/kg	04/25/23
4-Chlorophenyl phenyl ether	ND	1110	ug/kg	04/25/23
4-Nitroaniline	ND	1110	ug/kg	04/25/23
4-Nitrophenol	ND	2810	ug/kg	04/25/23
Acenaphthene	ND	1110	ug/kg	04/25/23
Acenaphthylene	ND	1110	ug/kg	04/25/23
Aniline	ND	1110	ug/kg	04/25/23
Anthracene	ND	1110	ug/kg	04/25/23
Benzo(a)anthracene	ND	1110	ug/kg	04/25/23
Benzo(a)pyrene	ND	1110	ug/kg	04/25/23
Benzo(b)fluoranthene	ND	1110	ug/kg	04/25/23
Benzo(g,h,i)perylene	ND	1110	ug/kg	04/25/23
Benzo(k)fluoranthene	ND	1110	ug/kg	04/25/23
Benzoic acid	ND	8520	ug/kg	04/25/23
Biphenyl	ND	341	ug/kg	04/25/23
Bis(2-chloroethoxy)methane	ND	1110	ug/kg	04/25/23
Bis(2-chloroethyl)ether	ND	1110	ug/kg	04/25/23

Sample: Lowell-WTP-Lagoon-6-#6 (Continued)
3D13018-06 (Soil)

Semivolatile organic compounds (Continued)

	Result	Reporting Limit	Units	Date Analyzed
Bis(2-chloroisopropyl)ether	ND	1110	ug/kg	04/25/23
Bis(2-ethylhexyl)phthalate	ND	3410	ug/kg	04/25/23
Butyl benzyl phthalate	ND	1110	ug/kg	04/25/23
Chrysene	ND	1110	ug/kg	04/25/23
Di-n-octyl phthalate	ND	1700	ug/kg	04/25/23
Dibenz(a,h)anthracene	ND	1110	ug/kg	04/25/23
Dibenzofuran	ND	1110	ug/kg	04/25/23
Diethyl phthalate	ND	1110	ug/kg	04/25/23
Dimethyl phthalate	ND	2810	ug/kg	04/25/23
Di-n-butyl phthalate	ND	1700	ug/kg	04/25/23
Fluoranthene	ND	1110	ug/kg	04/25/23
Fluorene	ND	1110	ug/kg	04/25/23
Hexachlorobenzene	ND	1110	ug/kg	04/25/23
Hexachlorobutadiene	ND	1110	ug/kg	04/25/23
Hexachlorocyclopentadiene	ND	2810	ug/kg	04/25/23
Hexachloroethane	ND	1110	ug/kg	04/25/23
Indeno(1,2,3-cd)pyrene	ND	1110	ug/kg	04/25/23
Isophorone	ND	1110	ug/kg	04/25/23
Naphthalene	ND	1110	ug/kg	04/25/23
N-Nitrosodimethylamine	ND	1110	ug/kg	04/25/23
N-Nitrosodi-n-propylamine	ND	1110	ug/kg	04/25/23
N-Nitrosodiphenylamine	ND	1110	ug/kg	04/25/23
Pentachlorophenol	ND	2810	ug/kg	04/25/23
Phenanthrene	ND	1110	ug/kg	04/25/23
Pyrene	ND	1110	ug/kg	04/25/23
m&p-Cresol	ND	2210	ug/kg	04/25/23
Pyridine	ND	1110	ug/kg	04/25/23
Azobenzene	ND	1110	ug/kg	04/25/23
Total Dichlorobenzene	ND	1110	ug/kg	04/25/23

Surrogate(s)	Recovery%	Limits	
Nitrobenzene-d5	*40.3%*	*30-126*	04/25/23
p-Terphenyl-d14	*109%*	*47-130*	04/25/23
2-Fluorobiphenyl	*54.6%*	*34-130*	04/25/23
Phenol-d6	*44.3%*	*30-130*	04/25/23
2,4,6-Tribromophenol	*102%*	*30-130*	04/25/23
2-Fluorophenol	*44.8%*	*30-130*	04/25/23

Sample: Lowell-WTP-Lagoon-6-#6 (Continued)
3D13018-06 (Soil)

Polychlorinated Biphenyls (PCBs)

	Result	Reporting Limit	Units	Date Analyzed
Aroclor-1016	ND	566	ug/kg	04/24/23
Aroclor-1221	ND	566	ug/kg	04/24/23
Aroclor-1232	ND	566	ug/kg	04/24/23
Aroclor-1242	ND	566	ug/kg	04/24/23
Aroclor-1248	ND	566	ug/kg	04/24/23
Aroclor-1254	ND	566	ug/kg	04/24/23
Aroclor-1260	ND	566	ug/kg	04/24/23
Aroclor-1262	ND	566	ug/kg	04/24/23
Aroclor-1268	ND	566	ug/kg	04/24/23
PCBs (Total)	ND	566	ug/kg	04/24/23

Surrogate(s)	Recovery%	Limits	
2,4,5,6-Tetrachloro-m-xylene (TCMX)	*66.6%*	*36.2-130*	04/24/23
Decachlorobiphenyl (DCBP)	*91.5%*	*43.3-130*	04/24/23

Sample: Lowell-WTP-Lagoon-6-#6 (Continued)
3D13018-06 (Soil)

Extractable Petroleum Hydrocarbons (MADEP-EPH)

	Result	Reporting Limit	Units	Date Analyzed
Unadjusted C11-C22 Aromatic Hydrocarbons	ND	56.8	mg/kg	04/25/23
Naphthalene	ND	2.81	mg/kg	04/25/23
2-Methylnaphthalene	ND	2.81	mg/kg	04/25/23
Phenanthrene	ND	2.81	mg/kg	04/25/23
Acenaphthene	ND	2.81	mg/kg	04/25/23
Acenaphthylene	ND	2.81	mg/kg	04/25/23
Fluorene	ND	2.81	mg/kg	04/25/23
Anthracene	ND	2.81	mg/kg	04/25/23
Fluoranthene	ND	2.81	mg/kg	04/25/23
Pyrene	ND	2.81	mg/kg	04/25/23
Benzo(a)anthracene	ND	2.81	mg/kg	04/25/23
Chrysene	ND	2.81	mg/kg	04/25/23
Benzo(b)fluoranthene	ND	2.81	mg/kg	04/25/23
Benzo(k)fluoranthene	ND	2.81	mg/kg	04/25/23
Benzo(a)pyrene	ND	2.81	mg/kg	04/25/23
Indeno(1,2,3-cd)pyrene	ND	2.81	mg/kg	04/25/23
Dibenz(a,h)anthracene	ND	2.81	mg/kg	04/25/23
Benzo(g,h,i)perylene	ND	2.81	mg/kg	04/25/23
C9-C18 Aliphatic Hydrocarbons	ND	113	mg/kg	04/25/23
C19-C36 Aliphatic Hydrocarbons	ND	113	mg/kg	04/25/23
C11-C22 Aromatic Hydrocarbons	ND	56.8	mg/kg	04/25/23

Surrogate(s)	Recovery%	Limits	
Chlorooctadecane	*108%*	*40-140*	04/25/23
o-Terphenyl	*65.2%*	*40-140*	04/25/23
2-Fluorobiphenyl	*80.7%*	*40-140*	04/25/23
2-Bromonaphthalene	*81.2%*	*40-140*	04/25/23

Sample: Lowell-WTP_Lagoon-7-#7
3D13018-07 (Soil)

TCLP Metals

	Result	Reporting Limit	Units	Date Analyzed
Silver	ND	0.025	mg/L	04/21/23
Arsenic	ND	0.05	mg/L	04/21/23
Barium	**0.404**	0.025	mg/L	04/21/23
Cadmium	ND	0.025	mg/L	04/21/23
Chromium	ND	0.025	mg/L	04/21/23
Mercury	ND	0.0006	mg/L	04/20/23
Lead	ND	0.025	mg/L	04/21/23
Selenium	ND	0.05	mg/L	04/21/23

SPLP Metals

	Result	Reporting Limit	Units	Date Analyzed
Silver	ND	0.005	mg/L	04/21/23
Arsenic	ND	0.01	mg/L	04/21/23
Barium	**0.081**	0.005	mg/L	04/21/23
Cadmium	ND	0.005	mg/L	04/21/23
Chromium	ND	0.005	mg/L	04/21/23
Mercury	ND	0.0005	mg/L	04/20/23
Lead	ND	0.005	mg/L	04/21/23
Selenium	ND	0.01	mg/L	04/21/23

Sample: Lowell-WTP-Lagoon-8-#8
3D13018-08 (Soil)

TCLP Metals

	Result	Reporting Limit	Units	Date Analyzed
Silver	ND	0.025	mg/L	04/21/23
Arsenic	ND	0.05	mg/L	04/21/23
Barium	**0.316**	0.025	mg/L	04/21/23
Cadmium	ND	0.025	mg/L	04/21/23
Chromium	ND	0.025	mg/L	04/21/23
Mercury	ND	0.0006	mg/L	04/20/23
Lead	ND	0.025	mg/L	04/21/23
Selenium	ND	0.05	mg/L	04/21/23

SPLP Metals

	Result	Reporting Limit	Units	Date Analyzed
Silver	ND	0.005	mg/L	04/21/23
Arsenic	ND	0.01	mg/L	04/21/23
Barium	**0.072**	0.005	mg/L	04/21/23
Cadmium	ND	0.005	mg/L	04/21/23
Chromium	ND	0.005	mg/L	04/21/23
Mercury	ND	0.0005	mg/L	04/20/23
Lead	ND	0.005	mg/L	04/21/23
Selenium	**0.02**	0.01	mg/L	04/21/23

Case Narrative

The samples were all appropriately cooled and preserved upon receipt. The samples were received in the appropriate containers. The chain of custody was adequately completed and corresponded to the samples submitted.

All samples were analyzed in accordance with 40 CFR 136 approved methodologies when applicable.

Quality Control

General Chemistry

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0592 - Conductivity										
Blank (B3D0592-BLK1)					Date Analyzed: 04/17/23					
Specific Conductance	ND		2.0	uS/cm						
Duplicate (B3D0592-DUP1)			**Source: 3D12055-01**		Date Analyzed: 04/17/23					
Specific Conductance	46.2		2.0	uS/cm		48.1			4.03	200

Quality Control
(Continued)

Total Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0530 - Metals Digestion Soils										
Blank (B3D0530-BLK1)					Date Analyzed: 04/20/23					
Chromium	ND		0.50	mg/kg						
Selenium	ND		1.00	mg/kg						
Lead	ND		0.50	mg/kg						
Cadmium	ND		0.50	mg/kg						
Barium	ND		0.33	mg/kg						
Arsenic	ND		1.00	mg/kg						
Silver	ND		1.00	mg/kg						
LCS (B3D0530-BS1)					Date Analyzed: 04/20/23					
Barium	99.9		0.33	mg/kg	100		99.9	85-115		
Cadmium	95.0		0.50	mg/kg	100		95.0	85-115		
Arsenic	19.7		1.00	mg/kg	20.0		98.6	85-115		
Lead	92.3		0.50	mg/kg	100		92.3	85-115		
Selenium	17.1		1.00	mg/kg	20.0		85.7	85-115		
Silver	41.5		1.00	mg/kg	40.0		104	85-115		
Chromium	95.2		0.50	mg/kg	100		95.2	85-115		
Batch: B3D0667 - Metals Cold-Vapor Mercury										
Blank (B3D0667-BLK1)					Date Analyzed: 04/19/23					
Mercury	ND		0.140	mg/kg						
Blank (B3D0667-BLK2)					Date Analyzed: 04/19/23					
Mercury	ND		0.140	mg/kg						
LCS (B3D0667-BS1)					Date Analyzed: 04/19/23					
Mercury	0.531		0.140	mg/kg	0.500		106	93-114		
LCS (B3D0667-BS2)					Date Analyzed: 04/19/23					
Mercury	0.531		0.140	mg/kg	0.500		106	93-114		
LCS Dup (B3D0667-BSD1)					Date Analyzed: 04/19/23					
Mercury	0.519		0.140	mg/kg	0.500		104	93-114	2.17	200
LCS Dup (B3D0667-BSD2)					Date Analyzed: 04/19/23					
Mercury	0.519		0.140	mg/kg	0.500		104	93-114	2.17	200
Matrix Spike (B3D0667-MS1)			**Source: 3D13001-01**		Date Analyzed: 04/19/23					
Mercury	0.779		0.162	mg/kg dry	0.577	0.229	95.3	80-120		

Quality Control
(Continued)

Total Metals (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0667 - Metals Cold-Vapor Mercury (Continued)										
Matrix Spike Dup (B3D0667-MSD1)			**Source: 3D13001-01**		Date Analyzed: 04/19/23					
Mercury	0.758		0.159	mg/kg dry	0.567	0.229	93.4	80-120	2.72	20

Quality Control
(Continued)

Volatile Organic Compounds

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0595 - Purge-Trap										
Blank (B3D0595-BLK1)					Date Analyzed: 04/14/23					
Acetone	ND		5	ug/kg						
Benzene	ND		1	ug/kg						
Bromobenzene	ND		1	ug/kg						
Bromochloromethane	ND		1	ug/kg						
Bromodichloromethane	ND		1	ug/kg						
Bromoform	ND		1	ug/kg						
Bromomethane	ND		1	ug/kg						
2-Butanone	ND		5	ug/kg						
tert-Butyl alcohol	ND		5	ug/kg						
sec-Butylbenzene	ND		1	ug/kg						
n-Butylbenzene	ND		1	ug/kg						
tert-Butylbenzene	ND		1	ug/kg						
Methyl t-butyl ether (MTBE)	ND		1	ug/kg						
Carbon Disulfide	ND		1	ug/kg						
Carbon Tetrachloride	ND		1	ug/kg						
Chlorobenzene	ND		1	ug/kg						
Chloroethane	ND		1	ug/kg						
Chloroform	ND		1	ug/kg						
Chloromethane	ND		1	ug/kg						
4-Chlorotoluene	ND		1	ug/kg						
2-Chlorotoluene	ND		1	ug/kg						
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	ug/kg						
Dibromochloromethane	ND		1	ug/kg						
1,2-Dibromoethane (EDB)	ND		1	ug/kg						
Dibromomethane	ND		1	ug/kg						
1,2-Dichlorobenzene	ND		1	ug/kg						
1,3-Dichlorobenzene	ND		1	ug/kg						
1,4-Dichlorobenzene	ND		1	ug/kg						
1,1-Dichloroethane	ND		1	ug/kg						
1,2-Dichloroethane	ND		1	ug/kg						
trans-1,2-Dichloroethene	ND		1	ug/kg						
cis-1,2-Dichloroethene	ND		1	ug/kg						
1,1-Dichloroethene	ND		1	ug/kg						
1,2-Dichloropropane	ND		1	ug/kg						
2,2-Dichloropropane	ND		1	ug/kg						
cis-1,3-Dichloropropene	ND		1	ug/kg						
trans-1,3-Dichloropropene	ND		1	ug/kg						
1,1-Dichloropropene	ND		1	ug/kg						
1,3-Dichloropropene (cis + trans)	ND		2	ug/kg						
Diethyl ether	ND		5	ug/kg						
1,4-Dioxane	ND		100	ug/kg						
Ethylbenzene	ND		1	ug/kg						
Hexachlorobutadiene	ND		1	ug/kg						
2-Hexanone	ND		5	ug/kg						
Isopropylbenzene	ND		1	ug/kg						
p-Isopropyltoluene	ND		1	ug/kg						
Methylene Chloride	ND		10	ug/kg						
4-Methyl-2-pentanone	ND		5	ug/kg						
Naphthalene	ND		1	ug/kg						
n-Propylbenzene	ND		1	ug/kg						
Styrene	ND		1	ug/kg						
1,1,1,2-Tetrachloroethane	ND		1	ug/kg						

Quality Control
(Continued)

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0595 - Purge-Trap (Continued)										
Blank (B3D0595-BLK1)					Date Analyzed: 04/14/23					
Tetrachloroethene	ND		1	ug/kg						
Tetrahydrofuran	ND		5	ug/kg						
Toluene	ND		1	ug/kg						
1,2,4-Trichlorobenzene	ND		1	ug/kg						
1,2,3-Trichlorobenzene	ND		1	ug/kg						
1,1,2-Trichloroethane	ND		1	ug/kg						
1,1,1-Trichloroethane	ND		1	ug/kg						
Trichloroethene	ND		1	ug/kg						
1,2,3-Trichloropropane	ND		1	ug/kg						
1,3,5-Trimethylbenzene	ND		1	ug/kg						
1,2,4-Trimethylbenzene	ND		1	ug/kg						
Vinyl Chloride	ND		1	ug/kg						
o-Xylene	ND		1	ug/kg						
m&p-Xylene	ND		2	ug/kg						
Total xylenes	ND		1	ug/kg						
1,1,2,2-Tetrachloroethane	ND		1	ug/kg						
tert-Amyl methyl ether	ND		1	ug/kg						
1,3-Dichloropropane	ND		1	ug/kg						
Ethyl tert-butyl ether	ND		1	ug/kg						
Diisopropyl ether	ND		1	ug/kg						
Trichlorofluoromethane	ND		1	ug/kg						
Dichlorodifluoromethane	ND		1	ug/kg						
Surrogate: 4-Bromofluorobenzene			*46.3*	ug/l	*50.0*		*92.6*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*53.2*	ug/l	*50.0*		*106*	*70-130*		
Surrogate: Toluene-d8			*48.5*	ug/l	*50.0*		*96.9*	*70-130*		
LCS (B3D0595-BS1)					Date Analyzed: 04/14/23					
Acetone	40			ug/l	50.0		80.8	70-130		
Benzene	45			ug/l	50.0		90.3	70-130		
Bromobenzene	47			ug/l	50.0		94.9	70-130		
Bromochloromethane	46			ug/l	50.0		92.9	70-130		
Bromodichloromethane	44			ug/l	50.0		88.1	70-130		
Bromoform	54			ug/l	50.0		108	70-130		
Bromomethane	27			ug/l	50.0		53.4	70-130		
2-Butanone	48			ug/l	50.0		95.3	70-130		
tert-Butyl alcohol	43			ug/l	50.0		86.5	70-130		
sec-Butylbenzene	46			ug/l	50.0		91.7	70-130		
n-Butylbenzene	47			ug/l	50.0		94.9	70-130		
tert-Butylbenzene	45			ug/l	50.0		90.7	70-130		
Methyl t-butyl ether (MTBE)	55			ug/l	50.0		110	70-130		
Carbon Disulfide	42			ug/l	50.0		84.5	70-130		
Carbon Tetrachloride	48			ug/l	50.0		96.8	70-130		
Chlorobenzene	42			ug/l	50.0		83.5	70-130		
Chloroethane	26			ug/l	50.0		51.1	70-130		
Chloroform	43			ug/l	50.0		86.9	70-130		
Chloromethane	43			ug/l	50.0		85.8	70-130		
4-Chlorotoluene	46			ug/l	50.0		92.4	70-130		
2-Chlorotoluene	43			ug/l	50.0		85.9	70-130		
1,2-Dibromo-3-chloropropane (DBCP)	56			ug/l	50.0		112	70-130		

Quality Control
(Continued)

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0595 - Purge-Trap (Continued)										
LCS (B3D0595-BS1)					Date Analyzed: 04/14/23					
Dibromochloromethane	48			ug/l	50.0		95.3	70-130		
1,2-Dibromoethane (EDB)	49			ug/l	50.0		97.9	70-130		
Dibromomethane	45			ug/l	50.0		89.4	70-130		
1,2-Dichlorobenzene	46			ug/l	50.0		91.8	70-130		
1,3-Dichlorobenzene	47			ug/l	50.0		94.8	70-130		
1,4-Dichlorobenzene	41			ug/l	50.0		81.4	70-130		
1,1-Dichloroethane	43			ug/l	50.0		86.5	70-130		
1,2-Dichloroethane	48			ug/l	50.0		96.3	70-130		
trans-1,2-Dichloroethene	40			ug/l	50.0		80.8	70-130		
cis-1,2-Dichloroethene	46			ug/l	50.0		92.4	70-130		
1,1-Dichloroethene	43			ug/l	50.0		85.6	70-130		
1,2-Dichloropropane	43			ug/l	50.0		85.0	70-130		
2,2-Dichloropropane	57			ug/l	50.0		113	70-130		
cis-1,3-Dichloropropene	45			ug/l	50.0		89.6	70-130		
trans-1,3-Dichloropropene	49			ug/l	50.0		98.4	70-130		
1,1-Dichloropropene	45			ug/l	50.0		89.5	70-130		
Diethyl ether	40			ug/l	50.0		80.1	70-130		
1,4-Dioxane	300			ug/l	250		120	0-200		
Ethylbenzene	45			ug/l	50.0		90.8	70-130		
Hexachlorobutadiene	54			ug/l	50.0		109	70-130		
2-Hexanone	46			ug/l	50.0		92.7	70-130		
Isopropylbenzene	46			ug/l	50.0		92.8	70-130		
p-Isopropyltoluene	48			ug/l	50.0		95.6	70-130		
Methylene Chloride	44			ug/l	50.0		87.3	60-140		
4-Methyl-2-pentanone	54			ug/l	50.0		108	70-130		
Naphthalene	55			ug/l	50.0		111	70-130		
n-Propylbenzene	47			ug/l	50.0		93.9	70-130		
Styrene	46			ug/l	50.0		91.5	70-130		
1,1,1,2-Tetrachloroethane	47			ug/l	50.0		94.0	70-130		
Tetrachloroethene	48			ug/l	50.0		95.9	70-130		
Tetrahydrofuran	56			ug/l	50.0		113	70-130		
Toluene	45			ug/l	50.0		90.6	70-130		
1,2,4-Trichlorobenzene	51			ug/l	50.0		102	70-130		
1,2,3-Trichlorobenzene	59			ug/l	50.0		118	70-130		
1,1,2-Trichloroethane	46			ug/l	50.0		91.6	70-130		
1,1,1-Trichloroethane	48			ug/l	50.0		96.2	70-130		
Trichloroethene	42			ug/l	50.0		83.3	70-130		
1,2,3-Trichloropropane	47			ug/l	50.0		94.5	70-130		
1,3,5-Trimethylbenzene	48			ug/l	50.0		96.2	70-130		
1,2,4-Trimethylbenzene	46			ug/l	50.0		93.0	70-130		
Vinyl Chloride	50			ug/l	50.0		100	70-130		
o-Xylene	46			ug/l	50.0		92.9	70-130		
m&p-Xylene	91			ug/l	100		91.1	70-130		
1,1,2,2-Tetrachloroethane	51			ug/l	50.0		101	70-130		
tert-Amyl methyl ether	128			ug/l	50.0		255	70-130		
1,3-Dichloropropane	44			ug/l	50.0		88.4	70-130		
Ethyl tert-butyl ether	92			ug/l	50.0		184	70-130		
Diisopropyl ether	44			ug/l	50.0		87.4	70-130		
Trichlorofluoromethane	41			ug/l	50.0		82.1	70-130		
Dichlorodifluoromethane	43			ug/l	50.0		85.3	70-130		
Surrogate: 4-Bromofluorobenzene			*52.5*	ug/l	*50.0*		*105*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*45.5*	ug/l	*50.0*		*91.0*	*70-130*		

Quality Control
(Continued)

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0595 - Purge-Trap (Continued)										
LCS (B3D0595-BS1)					Date Analyzed: 04/14/23					
Surrogate: Toluene-d8			*48.8*	ug/l	*50.0*		*97.6*	*70-130*		
LCS Dup (B3D0595-BSD1)					Date Analyzed: 04/14/23					
Acetone	42			ug/l	50.0		83.7	70-130	3.48	30
Benzene	41			ug/l	50.0		82.2	70-130	9.37	30
Bromobenzene	42			ug/l	50.0		83.3	70-130	13.0	30
Bromochloromethane	42			ug/l	50.0		83.3	70-130	10.9	30
Bromodichloromethane	42			ug/l	50.0		84.1	70-130	4.71	30
Bromoform	49			ug/l	50.0		98.0	70-130	9.89	30
Bromomethane	29			ug/l	50.0		58.0	70-130	8.23	30
2-Butanone	50			ug/l	50.0		99.6	70-130	4.41	30
tert-Butyl alcohol	40			ug/l	50.0		80.0	70-130	7.78	30
sec-Butylbenzene	40			ug/l	50.0		80.6	70-130	12.9	30
n-Butylbenzene	40			ug/l	50.0		80.7	70-130	16.2	30
tert-Butylbenzene	47			ug/l	50.0		93.3	70-130	2.74	30
Methyl t-butyl ether (MTBE)	49			ug/l	50.0		97.2	70-130	12.4	30
Carbon Disulfide	38			ug/l	50.0		76.7	70-130	9.75	30
Carbon Tetrachloride	40			ug/l	50.0		80.9	70-130	17.9	30
Chlorobenzene	37			ug/l	50.0		74.4	70-130	11.4	30
Chloroethane	28			ug/l	50.0		56.9	70-130	10.9	30
Chloroform	41			ug/l	50.0		82.0	70-130	5.82	30
Chloromethane	43			ug/l	50.0		86.9	70-130	1.27	30
4-Chlorotoluene	41			ug/l	50.0		81.3	70-130	12.8	30
2-Chlorotoluene	39			ug/l	50.0		77.4	70-130	10.4	30
1,2-Dibromo-3-chloropropane (DBCP)	63			ug/l	50.0		127	70-130	12.2	30
Dibromochloromethane	43			ug/l	50.0		85.6	70-130	10.7	30
1,2-Dibromoethane (EDB)	46			ug/l	50.0		92.6	70-130	5.55	30
Dibromomethane	43			ug/l	50.0		86.5	70-130	3.30	30
1,2-Dichlorobenzene	41			ug/l	50.0		81.4	70-130	12.0	30
1,3-Dichlorobenzene	43			ug/l	50.0		85.1	70-130	10.8	30
1,4-Dichlorobenzene	36			ug/l	50.0		72.2	70-130	12.0	30
1,1-Dichloroethane	40			ug/l	50.0		80.7	70-130	6.99	30
1,2-Dichloroethane	46			ug/l	50.0		91.9	70-130	4.72	30
trans-1,2-Dichloroethene	41			ug/l	50.0		81.7	70-130	1.16	30
cis-1,2-Dichloroethene	41			ug/l	50.0		82.3	70-130	11.6	30
1,1-Dichloroethene	42			ug/l	50.0		83.9	70-130	2.03	30
1,2-Dichloropropane	38			ug/l	50.0		76.9	70-130	10.0	30
2,2-Dichloropropane	51			ug/l	50.0		102	70-130	10.3	30
cis-1,3-Dichloropropene	40			ug/l	50.0		80.4	70-130	10.8	30
trans-1,3-Dichloropropene	41			ug/l	50.0		82.4	70-130	17.6	30
1,1-Dichloropropene	40			ug/l	50.0		80.2	70-130	10.9	30
Diethyl ether	41			ug/l	50.0		82.0	70-130	2.39	30
1,4-Dioxane	297			ug/l	250		119	0-200	0.987	40
Ethylbenzene	40			ug/l	50.0		80.8	70-130	11.7	30
Hexachlorobutadiene	53			ug/l	50.0		106	70-130	2.53	30
2-Hexanone	45			ug/l	50.0		89.4	70-130	3.56	30
Isopropylbenzene	40			ug/l	50.0		80.7	70-130	14.0	30
p-Isopropyltoluene	41			ug/l	50.0		82.8	70-130	14.4	30
Methylene Chloride	41			ug/l	50.0		81.1	60-140	7.36	30
4-Methyl-2-pentanone	58			ug/l	50.0		115	70-130	6.65	30

Quality Control
(Continued)

Volatile Organic Compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0595 - Purge-Trap (Continued)										
LCS Dup (B3D0595-BSD1)					Date Analyzed: 04/14/23					
Naphthalene	64			ug/l	50.0		128	70-130	14.8	30
n-Propylbenzene	41			ug/l	50.0		82.0	70-130	13.5	30
Styrene	41			ug/l	50.0		82.4	70-130	10.5	30
1,1,1,2-Tetrachloroethane	42			ug/l	50.0		83.4	70-130	11.9	30
Tetrachloroethene	42			ug/l	50.0		84.7	70-130	12.3	30
Tetrahydrofuran	58			ug/l	50.0		115	70-130	2.40	30
Toluene	42			ug/l	50.0		83.1	70-130	8.63	30
1,2,4-Trichlorobenzene	57			ug/l	50.0		113	70-130	10.4	30
1,2,3-Trichlorobenzene	64			ug/l	50.0		127	70-130	7.74	30
1,1,2-Trichloroethane	40			ug/l	50.0		80.3	70-130	13.2	30
1,1,1-Trichloroethane	43			ug/l	50.0		86.8	70-130	10.2	30
Trichloroethene	39			ug/l	50.0		78.2	70-130	6.36	30
1,2,3-Trichloropropane	44			ug/l	50.0		88.5	70-130	6.52	30
1,3,5-Trimethylbenzene	41			ug/l	50.0		82.5	70-130	15.3	30
1,2,4-Trimethylbenzene	41			ug/l	50.0		82.5	70-130	11.9	30
Vinyl Chloride	47			ug/l	50.0		93.9	70-130	6.71	30
o-Xylene	41			ug/l	50.0		82.0	70-130	12.4	30
m&p-Xylene	81			ug/l	100		80.7	70-130	12.1	30
1,1,2,2-Tetrachloroethane	47			ug/l	50.0		93.0	70-130	8.58	30
tert-Amyl methyl ether	119			ug/l	50.0		239	70-130	6.74	30
1,3-Dichloropropane	41			ug/l	50.0		81.2	70-130	8.54	30
Ethyl tert-butyl ether	83			ug/l	50.0		165	70-130	11.1	30
Diisopropyl ether	40			ug/l	50.0		80.1	70-130	8.72	30
Trichlorofluoromethane	42			ug/l	50.0		84.3	70-130	2.55	30
Dichlorodifluoromethane	44			ug/l	50.0		87.3	70-130	2.27	30
Surrogate: 4-Bromofluorobenzene			*51.2*	ug/l	*50.0*		*102*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*48.9*	ug/l	*50.0*		*97.9*	*70-130*		
Surrogate: Toluene-d8			*47.6*	ug/l	*50.0*		*95.1*	*70-130*		

Quality Control
(Continued)

Semivolatile organic compounds

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0870 - EPA 3546										
Blank (B3D0870-BLK1)					Date Analyzed: 04/24/23					
1,2,4-Trichlorobenzene	ND		129	ug/kg						
1,2-Dichlorobenzene	ND		129	ug/kg						
1,3-Dichlorobenzene	ND		129	ug/kg						
1,4-Dichlorobenzene	ND		129	ug/kg						
Phenol	ND		129	ug/kg						
2,4,5-Trichlorophenol	ND		129	ug/kg						
2,4,6-Trichlorophenol	ND		129	ug/kg						
2,4-Dichlorophenol	ND		129	ug/kg						
2,4-Dimethylphenol	ND		328	ug/kg						
2,4-Dinitrophenol	ND		328	ug/kg						
2,4-Dinitrotoluene	ND		129	ug/kg						
2,6-Dinitrotoluene	ND		129	ug/kg						
2-Chloronaphthalene	ND		129	ug/kg						
2-Chlorophenol	ND		129	ug/kg						
2-Methylnaphthalene	ND		129	ug/kg						
Nitrobenzene	ND		129	ug/kg						
2-Methylphenol	ND		129	ug/kg						
2-Nitroaniline	ND		129	ug/kg						
2-Nitrophenol	ND		328	ug/kg						
3,3'-Dichlorobenzidine	ND		328	ug/kg						
3-Nitroaniline	ND		129	ug/kg						
4,6-Dinitro-2-methylphenol	ND		328	ug/kg						
4-Bromophenyl phenyl ether	ND		129	ug/kg						
4-Chloro-3-methylphenol	ND		129	ug/kg						
4-Chloroaniline	ND		129	ug/kg						
4-Chlorophenyl phenyl ether	ND		129	ug/kg						
4-Nitroaniline	ND		129	ug/kg						
4-Nitrophenol	ND		328	ug/kg						
Acenaphthene	ND		129	ug/kg						
Acenaphthylene	ND		129	ug/kg						
Aniline	ND		129	ug/kg						
Anthracene	ND		129	ug/kg						
Benzo(a)anthracene	ND		129	ug/kg						
Benzo(a)pyrene	ND		129	ug/kg						
Benzo(b)fluoranthene	ND		129	ug/kg						
Benzo(g,h,i)perylene	ND		129	ug/kg						
Benzo(k)fluoranthene	ND		129	ug/kg						
Benzoic acid	ND		993	ug/kg						
Biphenyl	ND		40	ug/kg						
Bis(2-chloroethoxy)methane	ND		129	ug/kg						
Bis(2-chloroethyl)ether	ND		129	ug/kg						
Bis(2-chloroisopropyl)ether	ND		129	ug/kg						
Bis(2-ethylhexyl)phthalate	ND		397	ug/kg						
Butyl benzyl phthalate	ND		129	ug/kg						
Chrysene	ND		129	ug/kg						
Di-n-octyl phthalate	ND		199	ug/kg						
Dibenz(a,h)anthracene	ND		129	ug/kg						
Dibenzofuran	ND		129	ug/kg						
Diethyl phthalate	ND		129	ug/kg						
Dimethyl phthalate	ND		328	ug/kg						
Di-n-butyl phthalate	ND		199	ug/kg						
Fluoranthene	ND		129	ug/kg						
Fluorene	ND		129	ug/kg						

Quality Control
(Continued)

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0870 - EPA 3546 (Continued)										
Blank (B3D0870-BLK1)					Date Analyzed: 04/24/23					
Hexachlorobenzene	ND		129	ug/kg						
Hexachlorobutadiene	ND		129	ug/kg						
Hexachlorocyclopentadiene	ND		328	ug/kg						
Hexachloroethane	ND		129	ug/kg						
Indeno(1,2,3-cd)pyrene	ND		129	ug/kg						
Isophorone	ND		129	ug/kg						
Naphthalene	ND		129	ug/kg						
N-Nitrosodimethylamine	ND		129	ug/kg						
N-Nitrosodi-n-propylamine	ND		129	ug/kg						
N-Nitrosodiphenylamine	ND		129	ug/kg						
Pentachlorophenol	ND		328	ug/kg						
Phenanthrene	ND		129	ug/kg						
Pyrene	ND		129	ug/kg						
m&p-Cresol	ND		258	ug/kg						
Pyridine	ND		129	ug/kg						
Azobenzene	ND		129	ug/kg						
Total Dichlorobenzene	ND		129	ug/kg						
Surrogate: Nitrobenzene-d5			*2240*	ug/kg	*3310*		*67.6*	*30-126*		
Surrogate: p-Terphenyl-d14			*3190*	ug/kg	*3310*		*96.4*	*47-130*		
Surrogate: 2-Fluorobiphenyl			*2540*	ug/kg	*3310*		*76.6*	*34-130*		
Surrogate: Phenol-d6			*2230*	ug/kg	*3310*		*67.5*	*30-130*		
Surrogate: 2,4,6-Tribromophenol			*2430*	ug/kg	*3310*		*73.2*	*30-130*		
Surrogate: 2-Fluorophenol			*2190*	ug/kg	*3310*		*66.3*	*30-130*		
LCS (B3D0870-BS1)					Date Analyzed: 04/24/23					
1,2,4-Trichlorobenzene	2260		129	ug/kg	3310		68.3	40-130		
1,2-Dichlorobenzene	2280		129	ug/kg	3310		68.8	40-130		
1,3-Dichlorobenzene	2170		129	ug/kg	3310		65.4	40-130		
1,4-Dichlorobenzene	2090		129	ug/kg	3310		63.3	40-130		
Phenol	2270		129	ug/kg	3310		68.6	40-130		
2,4,5-Trichlorophenol	2380		129	ug/kg	3310		71.7	40-130		
2,4,6-Trichlorophenol	2620		129	ug/kg	3310		79.1	40-130		
2,4-Dichlorophenol	2270		129	ug/kg	3310		68.4	40-130		
2,4-Dimethylphenol	2110		328	ug/kg	3310		63.7	40-130		
2,4-Dinitrophenol	383		328	ug/kg	3310		11.6	15-140		
2,4-Dinitrotoluene	3260		129	ug/kg	3310		98.5	40-130		
2,6-Dinitrotoluene	2990		129	ug/kg	3310		90.2	40-130		
2-Chloronaphthalene	2420		129	ug/kg	3310		73.1	40-130		
2-Chlorophenol	2370		129	ug/kg	3310		71.6	40-130		
2-Methylnaphthalene	2200		129	ug/kg	3310		66.5	40-130		
Nitrobenzene	1950		129	ug/kg	3310		58.7	40-130		
2-Methylphenol	2370		129	ug/kg	3310		71.6	40-130		
2-Nitroaniline	2400		129	ug/kg	3310		72.5	40-130		
2-Nitrophenol	2500		328	ug/kg	3310		75.6	40-130		
3-Nitroaniline	2880		129	ug/kg	3310		87.0	40-130		
4,6-Dinitro-2-methylphenol	2420		328	ug/kg	3310		73.1	30-130		
4-Bromophenyl phenyl ether	2690		129	ug/kg	3310		81.3	40-130		
4-Chloro-3-methylphenol	2420		129	ug/kg	3310		73.1	40-130		
4-Chlorophenyl phenyl ether	2660		129	ug/kg	3310		80.5	40-130		
4-Nitroaniline	2860		129	ug/kg	3310		86.5	40-130		

Quality Control
(Continued)

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0870 - EPA 3546 (Continued)										
LCS (B3D0870-BS1)					Date Analyzed: 04/24/23					
4-Nitrophenol	2670		328	ug/kg	3310		80.6	40-130		
Acenaphthene	2360		129	ug/kg	3310		71.1	40-130		
Acenaphthylene	2520		129	ug/kg	3310		76.0	40-130		
Anthracene	2600		129	ug/kg	3310		78.5	40-130		
Benzo(a)anthracene	2910		129	ug/kg	3310		87.8	40-130		
Benzo(a)pyrene	3030		129	ug/kg	3310		91.4	40-130		
Benzo(b)fluoranthene	3080		129	ug/kg	3310		92.9	40-130		
Benzo(g,h,i)perylene	2820		129	ug/kg	3310		85.0	40-130		
Benzo(k)fluoranthene	3220		129	ug/kg	3310		97.1	40-130		
Biphenyl	635		40	ug/kg	828		76.7	40-130		
Bis(2-chloroethoxy)methane	2290		129	ug/kg	3310		69.1	40-130		
Bis(2-chloroethyl)ether	2320		129	ug/kg	3310		70.2	40-130		
Bis(2-chloroisopropyl)ether	2030		129	ug/kg	3310		61.4	40-130		
Bis(2-ethylhexyl)phthalate	3280		397	ug/kg	3310		99.0	40-130		
Butyl benzyl phthalate	3150		129	ug/kg	3310		95.2	40-130		
Chrysene	2970		129	ug/kg	3310		89.7	40-130		
Di-n-octyl phthalate	3310		199	ug/kg	3310		99.9	40-130		
Dibenz(a,h)anthracene	2950		129	ug/kg	3310		89.2	40-130		
Dibenzofuran	2580		129	ug/kg	3310		78.0	40-130		
Diethyl phthalate	2760		129	ug/kg	3310		83.4	40-130		
Dimethyl phthalate	2650		328	ug/kg	3310		80.1	40-130		
Di-n-butyl phthalate	2840		199	ug/kg	3310		85.9	40-130		
Fluoranthene	2840		129	ug/kg	3310		85.8	40-130		
Fluorene	2640		129	ug/kg	3310		79.7	40-130		
Hexachlorobenzene	2770		129	ug/kg	3310		83.8	40-130		
Hexachlorobutadiene	2360		129	ug/kg	3310		71.3	40-130		
Hexachlorocyclopentadiene	2050		328	ug/kg	3310		61.9	40-130		
Hexachloroethane	2170		129	ug/kg	3310		65.6	40-130		
Indeno(1,2,3-cd)pyrene	2770		129	ug/kg	3310		83.7	40-130		
Isophorone	2150		129	ug/kg	3310		65.0	40-130		
Naphthalene	2270		129	ug/kg	3310		68.5	40-130		
N-Nitrosodimethylamine	1710		129	ug/kg	3310		51.6	40-130		
N-Nitrosodi-n-propylamine	2200		129	ug/kg	3310		66.4	40-130		
N-Nitrosodiphenylamine	3040		129	ug/kg	3310		91.8	40-130		
Pentachlorophenol	2360		328	ug/kg	3310		71.3	15-140		
Phenanthrene	2670		129	ug/kg	3310		80.7	40-130		
Pyrene	2810		129	ug/kg	3310		84.7	40-130		
m&p-Cresol	2500		258	ug/kg	3310		75.4	40-130		
Surrogate: Nitrobenzene-d5			*2220*	ug/kg	*3310*		*67.0*	*30-126*		
Surrogate: p-Terphenyl-d14			*3460*	ug/kg	*3310*		*104*	*47-130*		
Surrogate: 2-Fluorobiphenyl			*2660*	ug/kg	*3310*		*80.3*	*34-130*		
Surrogate: Phenol-d6			*2480*	ug/kg	*3310*		*74.9*	*30-130*		
Surrogate: 2,4,6-Tribromophenol			*3660*	ug/kg	*3310*		*110*	*30-130*		
Surrogate: 2-Fluorophenol			*2420*	ug/kg	*3310*		*73.1*	*30-130*		
LCS Dup (B3D0870-BSD1)					Date Analyzed: 04/24/23					
1,2,4-Trichlorobenzene	2230		129	ug/kg	3310		67.5	40-130	1.27	30
1,2-Dichlorobenzene	2190		129	ug/kg	3310		66.1	40-130	3.94	30
1,3-Dichlorobenzene	2090		129	ug/kg	3310		63.1	40-130	3.70	30
1,4-Dichlorobenzene	2000		129	ug/kg	3310		60.4	40-130	4.69	30

Quality Control
(Continued)

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0870 - EPA 3546 (Continued)										
LCS Dup (B3D0870-BSD1)					Date Analyzed: 04/24/23					
Phenol	2160		129	ug/kg	3310		65.2	40-130	4.96	30
2,4,5-Trichlorophenol	2410		129	ug/kg	3310		72.8	40-130	1.47	30
2,4,6-Trichlorophenol	2570		129	ug/kg	3310		77.6	40-130	1.91	30
2,4-Dichlorophenol	2300		129	ug/kg	3310		69.4	40-130	1.39	30
2,4-Dimethylphenol	2100		328	ug/kg	3310		63.4	40-130	0.472	30
2,4-Dinitrophenol	683		328	ug/kg	3310		20.6	15-140	56.3	30
2,4-Dinitrotoluene	3380		129	ug/kg	3310		102	40-130	3.53	30
2,6-Dinitrotoluene	2980		129	ug/kg	3310		90.0	40-130	0.266	30
2-Chloronaphthalene	2390		129	ug/kg	3310		72.1	40-130	1.38	30
2-Chlorophenol	2280		129	ug/kg	3310		68.8	40-130	3.90	30
2-Methylnaphthalene	2240		129	ug/kg	3310		67.7	40-130	1.88	30
Nitrobenzene	1980		129	ug/kg	3310		59.7	40-130	1.62	30
2-Methylphenol	2240		129	ug/kg	3310		67.7	40-130	5.66	30
2-Nitroaniline	2400		129	ug/kg	3310		72.6	40-130	0.0276	30
2-Nitrophenol	2490		328	ug/kg	3310		75.1	40-130	0.690	30
3-Nitroaniline	2930		129	ug/kg	3310		88.4	40-130	1.66	30
4,6-Dinitro-2-methylphenol	2790		328	ug/kg	3310		84.3	30-130	14.3	30
4-Bromophenyl phenyl ether	2780		129	ug/kg	3310		83.9	40-130	3.08	30
4-Chloro-3-methylphenol	2520		129	ug/kg	3310		76.1	40-130	3.94	30
4-Chlorophenyl phenyl ether	2670		129	ug/kg	3310		80.6	40-130	0.199	30
4-Nitroaniline	3040		129	ug/kg	3310		91.7	40-130	5.88	30
4-Nitrophenol	2790		328	ug/kg	3310		84.2	40-130	4.35	30
Acenaphthene	2370		129	ug/kg	3310		71.7	40-130	0.756	30
Acenaphthylene	2490		129	ug/kg	3310		75.2	40-130	1.06	30
Anthracene	2650		129	ug/kg	3310		79.9	40-130	1.69	30
Benzo(a)anthracene	2950		129	ug/kg	3310		88.9	40-130	1.24	30
Benzo(a)pyrene	3030		129	ug/kg	3310		91.4	40-130	0.0875	30
Benzo(b)fluoranthene	3110		129	ug/kg	3310		94.0	40-130	1.22	30
Benzo(g,h,i)perylene	2690		129	ug/kg	3310		81.2	40-130	4.67	30
Benzo(k)fluoranthene	3310		129	ug/kg	3310		100	40-130	2.94	30
Biphenyl	642		40	ug/kg	828		77.6	40-130	1.14	30
Bis(2-chloroethoxy)methane	2270		129	ug/kg	3310		68.7	40-130	0.581	30
Bis(2-chloroethyl)ether	2290		129	ug/kg	3310		69.1	40-130	1.58	30
Bis(2-chloroisopropyl)ether	1940		129	ug/kg	3310		58.4	40-130	4.94	30
Bis(2-ethylhexyl)phthalate	3380		397	ug/kg	3310		102	40-130	3.05	30
Butyl benzyl phthalate	3230		129	ug/kg	3310		97.4	40-130	2.35	30
Chrysene	2980		129	ug/kg	3310		90.0	40-130	0.334	30
Di-n-octyl phthalate	3520		199	ug/kg	3310		106	40-130	6.04	30
Dibenz(a,h)anthracene	2870		129	ug/kg	3310		86.5	40-130	3.07	30
Dibenzofuran	2570		129	ug/kg	3310		77.5	40-130	0.643	30
Diethyl phthalate	2740		129	ug/kg	3310		82.7	40-130	0.842	30
Dimethyl phthalate	2650		328	ug/kg	3310		80.0	40-130	0.125	30
Di-n-butyl phthalate	2800		199	ug/kg	3310		84.4	40-130	1.74	30
Fluoranthene	2810		129	ug/kg	3310		85.0	40-130	0.960	30
Fluorene	2620		129	ug/kg	3310		79.0	40-130	0.832	30
Hexachlorobenzene	2890		129	ug/kg	3310		87.4	40-130	4.18	30
Hexachlorobutadiene	2370		129	ug/kg	3310		71.6	40-130	0.420	30
Hexachlorocyclopentadiene	2160		328	ug/kg	3310		65.4	40-130	5.44	30
Hexachloroethane	2040		129	ug/kg	3310		61.7	40-130	6.00	30
Indeno(1,2,3-cd)pyrene	2670		129	ug/kg	3310		80.6	40-130	3.85	30
Isophorone	2170		129	ug/kg	3310		65.7	40-130	1.01	30
Naphthalene	2260		129	ug/kg	3310		68.2	40-130	0.439	30
N-Nitrosodimethylamine	1630		129	ug/kg	3310		49.3	40-130	4.48	30

Quality Control
(Continued)

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0870 - EPA 3546 (Continued)										
LCS Dup (B3D0870-BSD1)					Date Analyzed: 04/24/23					
N-Nitrosodi-n-propylamine	2110		129	ug/kg	3310		63.7	40-130	4.12	30
N-Nitrosodiphenylamine	3170		129	ug/kg	3310		95.6	40-130	4.01	30
Pentachlorophenol	2610		328	ug/kg	3310		78.7	15-140	9.84	30
Phenanthrene	2700		129	ug/kg	3310		81.4	40-130	0.938	30
Pyrene	2820		129	ug/kg	3310		85.1	40-130	0.448	30
m&p-Cresol	2380		258	ug/kg	3310		71.9	40-130	4.75	30
Surrogate: Nitrobenzene-d5			*2240*	ug/kg	*3310*		*67.6*	*30-126*		
Surrogate: p-Terphenyl-d14			*3420*	ug/kg	*3310*		*103*	*47-130*		
Surrogate: 2-Fluorobiphenyl			*2550*	ug/kg	*3310*		*76.9*	*34-130*		
Surrogate: Phenol-d6			*2340*	ug/kg	*3310*		*70.7*	*30-130*		
Surrogate: 2,4,6-Tribromophenol			*3640*	ug/kg	*3310*		*110*	*30-130*		
Surrogate: 2-Fluorophenol			*2320*	ug/kg	*3310*		*70.1*	*30-130*		

Quality Control
(Continued)

Polychlorinated Biphenyls (PCBs)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0818 - EPA 3546										
Blank (B3D0818-BLK1)					Date Analyzed: 04/21/23					
Aroclor-1016	ND		66	ug/kg						
Aroclor-1221	ND		66	ug/kg						
Aroclor-1232	ND		66	ug/kg						
Aroclor-1242	ND		66	ug/kg						
Aroclor-1248	ND		66	ug/kg						
Aroclor-1254	ND		66	ug/kg						
Aroclor-1260	ND		66	ug/kg						
Aroclor-1262	ND		66	ug/kg						
Aroclor-1268	ND		66	ug/kg						
PCBs (Total)	ND		66	ug/kg						
Surrogate: 2,4,5,6-Tetrachloro-m-xylene			*10.4*	ug/kg	*13.3*		*77.9*	*36.2-130*		
Surrogate: Decachlorobiphenyl (DCBP)			*11.1*	ug/kg	*13.3*		*83.0*	*43.3-130*		
LCS (B3D0818-BS1)					Date Analyzed: 04/21/23					
Aroclor-1016	126		66	ug/kg	167		75.4	58.2-125		
Aroclor-1260	140		66	ug/kg	167		83.8	65.5-130		
Surrogate: 2,4,5,6-Tetrachloro-m-xylene			*11.5*	ug/kg	*13.3*		*85.9*	*36.2-130*		
Surrogate: Decachlorobiphenyl (DCBP)			*12.6*	ug/kg	*13.3*		*94.5*	*43.3-130*		
LCS Dup (B3D0818-BSD1)					Date Analyzed: 04/21/23					
Aroclor-1016	147		66	ug/kg	167		88.0	58.2-125	15.4	20
Aroclor-1260	157		66	ug/kg	167		93.9	65.5-130	11.4	20
Surrogate: 2,4,5,6-Tetrachloro-m-xylene			*12.7*	ug/kg	*13.3*		*95.0*	*36.2-130*		
Surrogate: Decachlorobiphenyl (DCBP)			*13.9*	ug/kg	*13.3*		*104*	*43.3-130*		

Quality Control
(Continued)

Extractable Petroleum Hydrocarbons (MADEP-EPH)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0817 - EPA 3546										
Blank (B3D0817-BLK1)					Date Analyzed: 04/21/23					
Unadjusted C11-C22 Aromatic Hydrocarbons	ND		6.63	mg/kg						
Naphthalene	ND		0.33	mg/kg						
2-Methylnaphthalene	ND		0.33	mg/kg						
Phenanthrene	ND		0.33	mg/kg						
Acenaphthene	ND		0.33	mg/kg						
Acenaphthylene	ND		0.33	mg/kg						
Fluorene	ND		0.33	mg/kg						
Anthracene	ND		0.33	mg/kg						
Fluoranthene	ND		0.33	mg/kg						
Pyrene	ND		0.33	mg/kg						
Benzo(a)anthracene	ND		0.33	mg/kg						
Chrysene	ND		0.33	mg/kg						
Benzo(b)fluoranthene	ND		0.33	mg/kg						
Benzo(k)fluoranthene	ND		0.33	mg/kg						
Benzo(a)pyrene	ND		0.33	mg/kg						
Indeno(1,2,3-cd)pyrene	ND		0.33	mg/kg						
Dibenz(a,h)anthracene	ND		0.33	mg/kg						
Benzo(g,h,i)perylene	ND		0.33	mg/kg						
C9-C18 Aliphatic Hydrocarbons	ND		13.2	mg/kg						
C19-C36 Aliphatic Hydrocarbons	ND		13.2	mg/kg						
C11-C22 Aromatic Hydrocarbons	ND		6.63	mg/kg						
Surrogate: Chlorooctadecane			*7.20*	mg/kg	*8.28*		*87.0*	*40-140*		
Surrogate: o-Terphenyl			*5.33*	mg/kg	*8.28*		*64.4*	*40-140*		
Surrogate: 2-Fluorobiphenyl			*3.27*	mg/kg	*3.31*		*98.8*	*40-140*		
Surrogate: 2-Bromonaphthalene			*3.26*	mg/kg	*3.31*		*98.5*	*40-140*		
LCS (B3D0817-BS1)					Date Analyzed: 04/21/23					
Naphthalene	1.67		0.33	mg/kg	2.65		63.1	40-140		
2-Methylnaphthalene	1.65		0.33	mg/kg	2.65		62.4	40-140		
Phenanthrene	2.00		0.33	mg/kg	2.65		75.4	40-140		
Acenaphthene	1.65		0.33	mg/kg	2.65		62.2	40-140		
Acenaphthylene	1.65		0.33	mg/kg	2.65		62.4	40-140		
Fluorene	1.93		0.33	mg/kg	2.65		72.7	40-140		
Anthracene	1.71		0.33	mg/kg	2.65		64.6	40-140		
Fluoranthene	1.85		0.33	mg/kg	2.65		69.7	40-140		
Pyrene	1.81		0.33	mg/kg	2.65		68.3	40-140		
Benzo(a)anthracene	1.86		0.33	mg/kg	2.65		70.2	40-140		
Chrysene	1.88		0.33	mg/kg	2.65		71.1	40-140		
Benzo(b)fluoranthene	1.94		0.33	mg/kg	2.65		73.1	40-140		
Benzo(k)fluoranthene	1.87		0.33	mg/kg	2.65		70.7	40-140		
Benzo(a)pyrene	1.82		0.33	mg/kg	2.65		68.7	40-140		
Indeno(1,2,3-cd)pyrene	1.90		0.33	mg/kg	2.65		71.8	40-140		
Dibenz(a,h)anthracene	1.84		0.33	mg/kg	2.65		69.4	40-140		
Benzo(g,h,i)perylene	1.92		0.33	mg/kg	2.65		72.6	40-140		
EPH_LCS_Aliphatic_C19-C36	14.7		0.00	mg/kg	21.2		69.4	40-140		
EPH_LCS_Aliphatic_C9-C18	8.50		0.00	mg/kg	15.9		53.5	40-140		
EPH_LCS_Aromatic_C11-C22	30.9		0.00	mg/kg	45.0		68.7	40-140		
Nonane	1.00		0.33	mg/kg	2.65		37.7	30-140		
Decane	1.29		0.33	mg/kg	2.65		48.6	40-140		

Quality Control
(Continued)

Extractable Petroleum Hydrocarbons (MADEP-EPH) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0817 - EPA 3546 (Continued)										
LCS (B3D0817-BS1)					Date Analyzed: 04/24/23					
Dodecane	1.49		0.33	mg/kg	2.65		56.3	40-140		
Tetradecane	1.45		0.33	mg/kg	2.65		54.8	40-140		
Hexadecane	1.55		0.33	mg/kg	2.65		58.3	40-140		
Octadecane	1.72		0.33	mg/kg	2.65		65.0	40-140		
Nonadecane	1.80		0.33	mg/kg	2.65		67.9	40-140		
Eicosane	1.84		0.33	mg/kg	2.65		69.5	40-140		
Docosane	1.92		0.33	mg/kg	2.65		72.4	40-140		
Tetracosane	1.95		0.33	mg/kg	2.65		73.6	40-140		
Hexacosane	1.96		0.33	mg/kg	2.65		73.9	40-140		
Octacosane	1.96		0.33	mg/kg	2.65		73.9	40-140		
Triacontane	1.93		0.33	mg/kg	2.65		73.0	40-140		
Hexatriacontane	1.34		0.33	mg/kg	2.65		50.4	40-140		
Surrogate: Chlorooctadecane			*6.23*	mg/kg	*8.28*		*75.2*	*40-140*		
Surrogate: o-Terphenyl			*5.73*	mg/kg	*8.28*		*69.2*	*40-140*		
Surrogate: 2-Fluorobiphenyl			*2.95*	mg/kg	*3.31*		*89.2*	*40-140*		
Surrogate: 2-Bromonaphthalene			*2.95*	mg/kg	*3.31*		*89.1*	*40-140*		
LCS Dup (B3D0817-BSD1)					Date Analyzed: 04/21/23					
Naphthalene	1.52		0.33	mg/kg	2.65		57.5	40-140	9.37	25
2-Methylnaphthalene	1.51		0.33	mg/kg	2.65		57.2	40-140	8.66	25
Phenanthrene	1.82		0.33	mg/kg	2.65		68.7	40-140	9.26	25
Acenaphthene	1.52		0.33	mg/kg	2.65		57.5	40-140	7.82	25
Acenaphthylene	1.53		0.33	mg/kg	2.65		57.6	40-140	7.96	25
Fluorene	1.76		0.33	mg/kg	2.65		66.3	40-140	9.17	25
Anthracene	1.59		0.33	mg/kg	2.65		59.9	40-140	7.43	25
Fluoranthene	1.68		0.33	mg/kg	2.65		63.4	40-140	9.43	25
Pyrene	1.66		0.33	mg/kg	2.65		62.8	40-140	8.54	25
Benzo(a)anthracene	1.70		0.33	mg/kg	2.65		64.1	40-140	9.16	25
Chrysene	1.72		0.33	mg/kg	2.65		64.9	40-140	9.15	25
Benzo(b)fluoranthene	1.76		0.33	mg/kg	2.65		66.4	40-140	9.61	25
Benzo(k)fluoranthene	1.71		0.33	mg/kg	2.65		64.4	40-140	9.29	25
Benzo(a)pyrene	1.66		0.33	mg/kg	2.65		62.7	40-140	9.14	25
Indeno(1,2,3-cd)pyrene	1.72		0.33	mg/kg	2.65		65.0	40-140	9.87	25
Dibenz(a,h)anthracene	1.62		0.33	mg/kg	2.65		61.2	40-140	12.5	25
Benzo(g,h,i)perylene	1.75		0.33	mg/kg	2.65		66.1	40-140	9.34	25
EPH_LCS_Aliphatic_C19-C36	13.9		0.00	mg/kg	21.2		65.6	40-140	5.53	25
EPH_LCS_Aliphatic_C9-C18	8.35		0.00	mg/kg	15.9		52.5	40-140	1.80	25
EPH_LCS_Aromatic_C11-C22	28.2		0.00	mg/kg	45.0		62.7	40-140	9.18	25
Nonane	0.97		0.33	mg/kg	2.65		36.5	30-140	3.30	25
Decane	1.27		0.33	mg/kg	2.65		47.9	40-140	1.35	25
Dodecane	1.47		0.33	mg/kg	2.65		55.4	40-140	1.48	25
Tetradecane	1.44		0.33	mg/kg	2.65		54.2	40-140	1.10	25
Hexadecane	1.54		0.33	mg/kg	2.65		57.9	40-140	0.645	25
Octadecane	1.67		0.33	mg/kg	2.65		63.0	40-140	3.20	25
Nonadecane	1.72		0.33	mg/kg	2.65		64.9	40-140	4.55	25
Eicosane	1.75		0.33	mg/kg	2.65		66.2	40-140	4.90	25
Docosane	1.81		0.33	mg/kg	2.65		68.5	40-140	5.60	25
Tetracosane	1.85		0.33	mg/kg	2.65		69.9	40-140	5.15	25
Hexacosane	1.87		0.33	mg/kg	2.65		70.6	40-140	4.60	25
Octacosane	1.87		0.33	mg/kg	2.65		70.6	40-140	4.57	25

Quality Control
(Continued)

Extractable Petroleum Hydrocarbons (MADEP-EPH) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0817 - EPA 3546 (Continued)										
LCS Dup (B3D0817-BSD1)					Date Analyzed: 04/24/23					
Triacontane	1.84		0.33	mg/kg	2.65		69.3	40-140	5.20	25
Hexatriacontane	1.19		0.33	mg/kg	2.65		44.8	40-140	11.7	25
Surrogate: Chlorooctadecane			*5.80*	mg/kg	*8.28*		*70.1*	*40-140*		
Surrogate: o-Terphenyl			*5.11*	mg/kg	*8.28*		*61.7*	*40-140*		
Surrogate: 2-Fluorobiphenyl			*3.02*	mg/kg	*3.31*		*91.3*	*40-140*		
Surrogate: 2-Bromonaphthalene			*3.02*	mg/kg	*3.31*		*91.3*	*40-140*		

Quality Control
(Continued)

TCLP Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0733 - Metals Cold-Vapor Mercury										
Blank (B3D0733-BLK1)					Date Analyzed: 04/19/23					
Mercury	ND		0.0002	mg/L						

Quality Control
(Continued)

TCLP Metals (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0733 - Metals Cold-Vapor Mercury (Continued)										
LCS (B3D0733-BS1)					Date Analyzed: 04/19/23					
Mercury	0.005		0.0002	mg/L	0.00500		106	85-115		

Quality Control
(Continued)

TCLP Metals (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0733 - Metals Cold-Vapor Mercury (Continued)										
LCS Dup (B3D0733-BSD1)					Date Analyzed: 04/19/23					
Mercury	0.005		0.0002	mg/L	0.00500		106	85-115	0.543	20

Quality Control
(Continued)

TCLP Metals (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0733 - Metals Cold-Vapor Mercury (Continued)										
Matrix Spike (B3D0733-MS1)			**Source: 3D14014-01**		Date Analyzed: 04/19/23					
Mercury	0.004		0.0002	mg/L	0.00500	ND	84.2	80-120		

Quality Control
(Continued)

TCLP Metals (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0733 - Metals Cold-Vapor Mercury (Continued)										
Matrix Spike (B3D0733-MS2)			**Source: 3D13018-07**		Date Analyzed: 04/19/23					
Mercury	0.028		0.001	mg/L	0.0250	ND	113	80-120		

Quality Control
(Continued)

TCLP Metals (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0733 - Metals Cold-Vapor Mercury (Continued)										
Matrix Spike Dup (B3D0733-MSD1)			**Source: 3D14014-01**		Date Analyzed: 04/19/23					
Mercury	0.005		0.0002	mg/L	0.00500	ND	91.4	80-120	8.18	20

Quality Control
(Continued)

TCLP Metals (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0776 - Metals Digestion Waters										
LCS (B3D0776-BS1)					Date Analyzed: 04/20/23					
Arsenic	0.99		0.05	mg/L	1.00		98.6	85-115		
Silver	2.08		0.025	mg/L	2.00		104	85-115		
Barium	4.99		0.025	mg/L	5.00		99.9	85-115		
Cadmium	4.75		0.025	mg/L	5.00		95.0	85-115		
Chromium	4.76		0.025	mg/L	5.00		95.2	85-115		
Lead	4.61		0.025	mg/L	5.00		92.3	85-115		
Selenium	0.86		0.05	mg/L	1.00		85.7	85-115		

Quality Control
(Continued)

TCLP Metals (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0776 - Metals Digestion Waters (Continued)										
Leach Fluid Blank (B3D0776-LBK1)					Date Analyzed: 04/20/23					
Arsenic	ND		0.05	mg/L						
Silver	ND		0.025	mg/L						
Barium	ND		0.025	mg/L						
Cadmium	ND		0.025	mg/L						
Chromium	ND		0.025	mg/L						
Lead	ND		0.025	mg/L						
Selenium	ND		0.05	mg/L						

Quality Control
(Continued)

SPLP Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0733 - Metals Cold-Vapor Mercury										
Blank (B3D0733-BLK1)					Date Analyzed: 04/19/23					
Mercury	ND		0.0005	mg/L						

Quality Control
(Continued)

SPLP Metals (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0733 - Metals Cold-Vapor Mercury (Continued)										
LCS (B3D0733-BS1)					Date Analyzed: 04/19/23					
Mercury	0.005		0.0005	mg/L	0.00500		106	85-115		

Quality Control
(Continued)

SPLP Metals (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0733 - Metals Cold-Vapor Mercury (Continued)										
LCS Dup (B3D0733-BSD1)					Date Analyzed: 04/19/23					
Mercury	0.005		0.0005	mg/L	0.00500		106	85-115	0.543	20

Quality Control
(Continued)

SPLP Metals (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0771 - Metals Digestion Waters										
Blank (B3D0771-BLK1)					Date Analyzed: 04/21/23					
Silver	ND		0.005	mg/L						
Arsenic	ND		0.01	mg/L						
Barium	ND		0.005	mg/L						
Cadmium	ND		0.005	mg/L						
Chromium	ND		0.005	mg/L						
Lead	ND		0.005	mg/L						
Selenium	ND		0.01	mg/L						

Quality Control
(Continued)

SPLP Metals (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B3D0771 - Metals Digestion Waters (Continued)										
LCS (B3D0771-BS1)					Date Analyzed: 04/21/23					
Arsenic	0.18		0.01	mg/L	0.200		90.8	85-115		
Silver	0.405		0.005	mg/L	0.400		101	85-115		
Barium	1.06		0.005	mg/L	1.00		106	85-115		
Cadmium	0.87		0.005	mg/L	1.00		87.0	85-115		
Chromium	0.887		0.005	mg/L	1.00		88.7	85-115		
Lead	0.933		0.005	mg/L	1.00		93.3	85-115		
Selenium	0.17		0.01	mg/L	0.200		85.9	85-115		

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New England Testing Laboratory
59 Greenhill Street
West Warwick, RI 02893
(401) 353-3420

Chain of Custody Record

Project No. | **Project Name/Location: Sludge Lagoons-Quality of solids**

Client: Lowell Regional Water Utility

Report To: Tim Cronin

Invoice To: Tim Cronin

Date	Time	Comp	Grab	Sample I.D.	Matrix: Aqueous	Matrix: Soil	Matrix: Other	No. of Containers	Preservative	Tests**								
4/10/2023	10:00		x	Lowell -WTP-Lagoon -1-#1		x		1		x								
4/10/2023	10:10		x	Lowell -WTP-Lagoon -2-#2		x		1		x								
4/10/2023	10:20		x	Lowell -WTP-Lagoon -3-#3		x		1		x								
4/10/2023	10:30		x	Lowell -WTP-Lagoon -4-#4		x		1		x								
4/10/2023	10:40		x	Lowell -WTP-Lagoon -5-#5		x		1		x								
4/10/2023	10:50		x	Lowell -WTP-Lagoon -6-#6		x		1		x								
4/10/2023	11:00		x	Lowell -WTP-Lagoon -7-#7		x		1			x							
4/10/2023	11:10		x	Lowell -WTP-Lagoon -8#8		x		1			x							

Sampled By:	Date/Time	Received By:	Date/Time	Laboratory Remarks:	Special Instructions:
Tim Cronin Tim E Cron	4/10/23				Sample1-6 each= //*Paint Filter Test//*Percent Solids(Total Solids)//*Conductivity(Specific Conduction)//* Volatile Organic Compounds(VOCs)//Semi Volatile Organic Compound(SVOCs)//* Extractable petroleum hydrocarbons(EPH)//Polychlorinated byphenyls (PCBs)//* Total RCRA 8 Metals Samples 7,8 (Each)= //*TCLP Metals:Toxicity Charactersitic Leaching Procedure//SPLP Metals:Synthetic Precipitation Leaching Procedure
Relinquished By:	Date/Time	Received By:	Date/Time	Temp. Received:	
			4/12		

**Netlab Subcontracts the following tests: Radiologicals, Radon, TOC, Asbestos, UCMRs, Perchlorate, Bromate, Bromide, Sieve, Salmonella, Carbamates

Turnaround Time [Business Days]: **5 Days**