

APPENDIX E ANALYTICAL DATA VALIDATION REPORTS

**Data Validation Summary
2020 Sediment Sampling
Penobscot River 2020 Monitoring
Penobscot River, Maine**

1.0 INTRODUCTION

Sediment samples were collected in September 2020 from the Penobscot River located in Maine. Samples were analyzed by Eurofins Frontier Global Sciences, Inc. (Eurofins) located in Tacoma, Washington and included in sample delivery group (SDG) 0I00073. Samples were analyzed by Eurofins TestAmerica (TestAmerica) located in Pittsburg, Pennsylvania and are included in SDG J111287. Samples were analyzed by one or more of the following: Clean Water Act (CWA, 2012) and United States Environment Protection Agency (USEPA) Lloyd Kahn Method (USEPA, 1988):

Laboratory	Parameter	Analytical Method	Validation Level
Eurofins	Mercury, total	CWA 1631B	10% Stage III/ 90% Stage IIB
Eurofins	Methyl mercury, total	CWA 1630	10% Stage III/ 90% Stage IIB
TestAmerica	Total Organic Carbon (TOC)	Lloyd Kahn	10% Stage III/ 90% Stage IIB

A Stage IIb data validation was completed on all SDGs. A Stage III data validation was performed on ten percent of samples. Data validation was completed using National Functional Guidelines for Inorganic Superfund Data Review (USEPA, 2017) and EPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures (USEPA, 2013) where applicable. Data quality evaluations were completed using quality control (QC) limits specified in the Draft Quality Assurance Project Plan (QAPP) Penobscot River 2020 Monitoring [Wood, 2020]. The project laboratory reported results using a combination of two detection limits including the reporting limit (RL) and the method detection limit (MDL). Results for compounds that are not detected in samples are reported as U qualified results at the RL. Positive detections between the MDL and RL are qualified as estimated (J) by the laboratory.

Data validation review and qualification actions are discussed in the following subsections. It should be noted that only instances that result in an impact to data quality are presented in this report. There may be QC elements outside of QAPP and/or method control limits not presented in this report since there is no impact to data quality. Samples included in this data evaluation are presented in Table 1.

Data qualifications were completed if necessary, in accordance with the guidelines or the professional judgment of the project chemist. The following qualifiers as applied during data validation or reported by the laboratory are included in the final data set:

J = The reported concentration is considered an estimated value

U = The target compound was not detected above the method detection limit

UJ = The target compound was not detected above the method detection limit and is considered an estimated value.

Validation reason codes were applied to results associated with QC measurements outside project QC goals. The validation qualification actions, and associated validation reason codes applied to sample results are summarized on Table 2. The following data validation reason codes were applied to one or more sample results:

BL1 = Method blank detection

FD = Field duplicate relative percent difference (RPD) limit exceeded

HT = Holding time exceeded

LCS-L = Laboratory control sample (LCS) recovery low

LCS-RPD = LCS RPD limit exceeded

LR = Laboratory replicate RPD limit exceeded

MS-H = Matrix spike (MS) and/or MS duplicate (MSD) recovery high

MS-L = MS and/or MSD recovery low

MS-RPD = MS/MSD RPD limit exceeded

A complete summary of final sample results is provided in Table 3.

Data were evaluated based on the following parameters:

- * Data Completeness and Chain of Custody
 - Holding Times and Preservation
 - Blanks
- * Initial Calibration
- * Continuing Calibration
 - LCS and LCS Duplicate (LCSD)
 - MS/MSD
 - Laboratory Duplicates/ Replicates
 - Field Duplicates
- * Detection Limits
- * Sample Result Verification/Electronic Evaluation Verification (EDD)
- * Ongoing Precision Recovery

- * = indicates that criteria were met and/or no impact to data quality for this parameter

With the exception of the following items discussed below, results were determined to be usable as reported by the laboratory.

2.0 Mercury – 1631

Laboratory Control Sample

SDG 0100073 – The LCS recovery for total mercury (75.8%) was below the QC limit of 80-120%. Sample results for W-61-Intertidal_091820_SED_01-03, W-61-Intertidal_091820_SED_03-05, E-01-01_091920_SED_00-01, E-01-01_091920_SED_00-01_DUP, E-01-01_091920_SED_01-03, E-01-01_091920_SED_01-03_DUP, E-01-01_091920_SED_03-05, E-01-01_091920_SED_03-05_DUP, E-01-03_091920-SED-00-01, E-01-03_091920-SED-01-03, E-01-03_091920-SED-03-05, SVE-01_091820_SED_00-01, SVE-01_091820_SED_01-03, SVE-01_091820_SED_03-05, CJ-04_092020_SED_00-01, CJ-04_092020_SED_01-03, E-01-04_091920_SED_00-01, E-01-04_091920_SED_01-03, E-01-04_091920_SED_03-05, and ES-FP_091920_SED_00-01 were qualified as estimated due to the potential low bias. (J – LCS-L)

SDG 0100073 – The LCS recovery for total mercury (76.2%) was below the QC limit of 80-120%. Sample results for FRB-01_092120_SED_03-05, MM-T2-C3_092120_SED_01-03, MM-T2-C3_092120_SED_03-05, MM-T5-C3_092120_SED_00-01, MM-T5-C3_092120_SED_01-03, MM-T5-C3_092120_SED_03-05, W-17-HIGH_092120_SED_00-01, W-17-HIGH_092120_SED_01-03, W-17-HIGH_092120_SED_03-05, W-17-MID_092120_SED_00-01, MM-T1-C2_092120_SED_00-01, MM-T1-C2_092120_SED_01-03, MM-T1-C2_092120_SED_03-05, W-17-MID_092120_SED_01-03, W-17-Mid_092120_SED_03-05, VN-02-04_091620_SED_00-01, and VN-02-04_091620_SED_01-03 were qualified as estimated due to the potential low bias. (J – LCS-L)

Matrix Spike

SDG 0100073 – Sample OR-T1-C3_091620_SED_03-05 was used as the source for the MS/MSD analysis. The MSD recovery for total mercury (69.3%) was below the QC limit of 71%. Sample result for OR-T1-C3_091620_SED_03-05 was qualified as estimated (J) due to the potential low bias. (J – MS-L)

SDG 0100073 – Sample MM-T2-C1_091820_SED_03-05 was used as the source for the MS/MSD analysis. The MSD recovery for total mercury (55.3%) was below the QC limit of 71%. The MS/MSD RPD was elevated (58.4%) above the QC limit of 24%. Sample result for MM-T2-C1_091820_SED_03-05 was qualified as estimated (J) due to the potential low bias and imprecision. (J – MS-L, J – MS-RPD)

SDG 0100073 – Sample W-61-Intertidal_091820_SED_01-03 was used as the source for the MS/MSD analysis. The MS and MSD recovery for total mercury (58.3%/50.3%) was below the QC limit of 71%. Sample result for W-61-Intertidal_091820_SED_01-03 was qualified as estimated (J) due to the potential low bias. (J – MS-L)

SDG 0100073 – Sample W-61-Intertidal_091820_SED_03-05 was used as the source for the MS/MSD analysis. The MS and MSD recovery for total mercury (53.7%/56.6%) was below the QC limit of 71%. Sample result for W-61-Intertidal_091820_SED_03-05 was qualified as estimated (J) due to the potential low bias. (J – MS-L)

SDG 0100073 – Sample MM-T2-C3_092120_SED_03-05 was used as the source for the MS/MSD analysis. The MS and MSD recovery for mercury (51.7%/57.2%) was below the QC limit of 71%. Sample result for MM-T2-C3_092120_SED_03-05 was qualified as estimated (J) due to the potential low bias. (J – MS-L)

Field Duplicates

SDG 0100073– Sample E-01-01_091920_SED_00-01_DUP was submitted as a field duplicate of sample E-01-01_091920_SED_00-01. The RPD for total mercury (51.3%) exceeds the QC limit of 50%. Based on professional judgment, the mercury result for samples E-01-01_091920_SED_00-01_DUP and E-01-01_091920_SED_00-01 were qualified as estimated. (J-FD)

3.0 Methyl Mercury – 1630

Laboratory Control Sample

SDG 0100073 – The LCSD recovery for methyl mercury (55.7%) was below the QC limit of 70-130% and the RPD (26.4%) was above the QC limit of 25%. Sample results for ES-02_091620_SED_00-01, ES-02_091620_SED_01-03, FRB-02_091520_SED_00-01, FRB-02_091520_SED_01-03, VN-MU3-GC-1_091620_SED_00-01, VN-MU3-GC-1_091620_SED_01-03, ADD-01_091620_SED_00-01, ADD-01_091620_SED_01-03, ADD-02_091620_SED_00-01, ADD-02_091620_SED_01-03, OR-T1-C3_091620_SED_00-01, OR-T1-C3_091620_SED_01-03, OR-T1-C5_091620_SED_00-01, OR-T1-C5_091620_SED_01-03, BU-01-01_091720_SED_00-01, and BU-01-01_091720_SED_00-01_DUP were qualified as estimated due to the potential low bias. (UJ/J – LCS-L) The detected methyl mercury results were also qualified as estimated in samples ES-02_091620_SED_00-01, ES-02_091620_SED_01-03, VN-MU3-GC-1_091620_SED_00-01, VN-MU3-GC-1_091620_SED_01-03, OR-T1-C3_091620_SED_00-01, OR-T1-C3_091620_SED_01-03, OR-T1-C5_091620_SED_00-01, BU-01-01_091720_SED_00-01, and BU-01-01_091720_SED_00-01_DUP due to the non-directional bias. (J – LCS-RPD)

SDG 0100073 – The LCS and LCSD recovery for methyl mercury (69.5%/60.5%) was below the QC limit of 70-130%. Sample results for W-22-MID_091820_SED_00-01, W-22-Mid_091820_SED_01-03, MM-T2-C1_091820_SED_00-01, MM-T2-C1_091820_SED_01-03, MM-T5-C1_091820_SED_00-01, MM-T5-C1_091820_SED_01-03, OB-05_091820_SED_00-01, OB-05_091820_SED_01-03, W-17-Intertidal_091820_SED_00-01, W-17-Intertidal_091820_SED_01-03, FF-08-02_091820-SED-00-01, FF-08-02_091820-SED-00-01_DUP, FF-08-02_091820-SED-01-03, FF-08-02_091820-SED-01-03_DUP, W-17-LOW_091820_SED_00-01, W-17-LOW_091820_SED_01-03, W-61-Intertidal_091820_SED_00-01, W-61-Intertidal_091820_SED_01-03, E-01-01_091920_SED_00-01, and E-01-01_091920_SED_00-01_DUP were qualified as estimated due to the potential low bias. (UJ/J – LCS-L)

SDG 0100073 – The LCSD recovery for methyl mercury (61.8%) was below the QC limit of 70-130%. Sample results for E-01-01_091920_SED_01-03, E-01-01_091920_SED_01-03_DUP, E-01-03_091920-SED-00-01, E-01-03_091920-SED-01-03, SVE-01_091820_SED_00-01, SVE-01_091820_SED_01-03, CJ-04_092020_SED_00-01, CJ-04_092020_SED_01-03, E-01-04_091920_SED_00-01, E-01-04_091920_SED_01-

03, ES-FP_091920_SED_00-01, ES-FP_091920_SED_01-03, L9-45_092020_SED_00-01, L9-45_092020_SED_01-03, OL-01_091920_SED_00-03, BO-04_092120_SED_00-02, MM-T2-C3_092120_SED_00-01, W-61-HIGH_092020_SED_00-01, W-61-HIGH_092020_SED_01-03, and W-61-LOW_092020_SED_00-01 were qualified as estimated due to the potential low bias. . (UJ/J – LCS-L)

SDG 0100073 – The LCSD recovery for methyl mercury (53.6%) was below the QC limit of 70-130%. Sample results for W-61-LOW_092020_SED_01-03, W-61-MID_092020_SED_00-01, W-61-MID_092020_SED_01-03, FRB-01_092120_SED_00-01, FRB-01_092120_SED_01-03, MM-T2-C3_092120_SED_01-03, MM-T5-C3_092120_SED_00-01, MM-T5-C3_092120_SED_01-03, W-17-HIGH_092120_SED_00-01, W-17-HIGH_092120_SED_01-03, W-17-MID_092120_SED_00-01, MM-T1-C2_092120_SED_00-01, MM-T1-C2_092120_SED_01-03, and W-17-MID_092120_SED_01-03 were qualified as estimated due to the potential low bias. (UJ/J – LCS-L)

Matrix Spike

SDG 0100073 – Sample OR-T1-C3_091620_SED_01-03 was used as the source for the MS/MSD analysis. The MS/MSD RPD was elevated at (35.9%) above the QC limit of 35%. Sample result for OR-T1-C3_091620_SED_01-03 was qualified as estimated due to the non-direction bias. (J – MS-RPD)

SDG 0100073 – Samples BU-01-01_091720_SED_01-03 (134%/140%), OB-01_091720_SED_01-03 (131%/137%), W-22-MID_091820_SED_00-01 (146%/141%), OB-05_091820_SED_01-03 (131%/133%), E-01-01_091920_SED_01-03 (148%/137%) and E-01-01_091920_SED_01-03_DUP (142%/177%) were used as the sources for the MS/MSD analysis. The MS and MSD recoveries were above the upper QC limit of 130%. The methyl mercury results for samples BU-01-01_091720_SED_01-03, OB-01_091720_SED_01-03, W-22-MID_091820_SED_00-01, OB-05_091820_SED_01-03, E-01-01_091920_SED_01-03, and E-01-01_091920_SED_01-03_DUP were qualified as estimated due to the potential high bias. (J – MS-H)

4.0 Total Organic Carbon – Lloyd Kahn

Holding Times

SDG 180-111287-1 – The samples for TOC analysis were frozen in the field, shipped frozen and stored in the freezer upon receipt at the lab, until the analysis date to extend the holding time. The samples for TOC analysis were analyzed within the technical hold time and no qualifications were applied.

Method Blank

SDG 180-111287-1 – TOC was detected in a method blank at 783 mg/kg. An action level was established at 5X the blank concentration (3,915 mg/kg) and compared to sample results. TOC was detected below the AL in sample OV-01_091820_SED_03-05 and was U qualified as not detected at the detected concentration. (U-BL1)

Lab Replicate

SDG 180-111287-1 – Samples W-61-LOW_092020_SED_03-05 (44%), W-61-MID_092020_SED_01-03 (34%), MM-T1-C2_092120_SED_01-03 (36%), ADD-01_091620_SED_01-03 (34%), OR-T1-C3_091620_SED_01-03 (52%), OR-T1-C5_091620_SED_00-01 (32%), BU-01-01_091720_SED_01-03_DUP (36%), MM-T5-C1_091820_SED_01-03 (33%), VN-02-04_091620_SED_00-01 (32%), W-17-LOW_091820_SED_01-03 (35%), and SVE-01_091820_SED_01-03 (44%) replicate RPDs are above the QC acceptance criteria of 30%. The TOC results for the listed samples were qualified as estimated due to the imprecision. (J-LR)

Matrix Spike

SDG 180-111287-1 – Sample OB-01_091720_SED_03-05 was used for MS/MSD analysis. The MS and MSD recoveries for TOC were above the upper limit of 125% at 132% and 134%. Based on professional judgment, the TOC result for sample OB-01_091720_SED_03-05 was qualified as estimated due to the potential high bias. (J-MS-H)

SDG 180-111287-1 – Sample MM-T2-C3_092120_SED_01-03 was used for MS/MSD analysis. The MSD recovery for TOC was below the lower limit of 75% at 67%. Based on professional judgment, the TOC result for sample MM-T2-C3_092120_SED_01-03 was qualified as estimated due to the potential low bias. (J-MS-L)

5.0 Percent Solids – 2540G

Holding Times and Preservation

SDG 180-111287-1 – The samples for TOC analysis were frozen in the field, shipped frozen and stored in the freezer upon receipt at the lab, until preparation for percent solids determination to extend the holding time. The holding time for percent solids was not exceeded and no qualifications were applied.

SDG 0100073–

The samples for TOC analysis were frozen in the field, shipped frozen and stored in the freezer upon receipt at the lab, until preparation for percent solids determination to extend the holding time. The holding time for percent solids was not exceeded and no qualifications were applied.

Field Duplicates

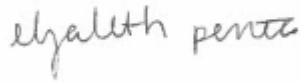
SDG 180-111287-1 – Sample BU-01-01_091720_SED_00-01_DUP was submitted as a field duplicate of sample BU-01-01_091720_SED_00-01. The RPD for total solids (10.7) exceeds the QC limit of 10. Based on professional judgment, total solids result for samples BU-01-01_091720_SED_00-01_DUP and BU-01-01_091720_SED_00-01 were qualified as estimated (J).

References:

- U.S. Environmental Protection Agency (USEPA), 2009. "Guidance for Labeling Externally Validated Laboratory Analytical data for Superfund Use"; Office of Solid Waste and Emergency Response; EPA 540-R-08-005; January 13, 2009.
- U.S. Environmental Protection Agency (USEPA), 2013. "EPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures"; Quality Assurance Unit Staff; Office of Environmental Measurement and Evaluation; April 22, 2013.
- U.S. Environmental Protection Agency (USEPA), 2017. "National Functional Guidelines for Inorganic Superfund Methods Data Review"; Office of Superfund Remediation and Technology Innovation; EPA-540-R-2017-001; January 2017.
- Wood, 2020. "Draft Quality Assurance Project Plan Penobscot River 2020 Monitoring", Penobscot River, Maine, June 2020.
- Eurofins, 2017. "AMEC Sediment Lab Homogenization and Subsampling Procedure." Work Instruction EFSR-P-SP-WI15953; August 8, 2017.
- U.S. Environmental Protection Agency (USEPA), 2004. "Final Update IIIB and Method 9071B of Final Update IIIA"; Test Methods for Evaluating Solid Waste Physical/Chemical Methods SW-846; Office of Solid Waste and Emergency Response, EPA-SW-846-03-03B; November 2004.
- U.S. Environment Protection Agency (USEPA), 1988. "Determination of Total Organic Carbon in Sediment", Lloyd Kahn, Quality Assurance Specialist; July 27, 1988.

Data Validator: Elizabeth Penta

November 23, 2020

Handwritten signature of Elizabeth Penta in cursive script.

Reviewer: Denise King

November 25, 2020

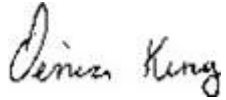
Handwritten signature of Denise King in cursive script.

TABLE 1
DATA VALIDATION REPORT
SAMPLE AND ANALYSIS SUMMARY
2020 SEDIMENT SAMPLING
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDGs 0I00073, 0I00080, and 180-111287-1

SDG	Media	Location	Field Sample ID	Lab Sample ID	Sample Date	QC Code	Method Class	% Solids	Mercury	Methyl Mercury	TOC
							Analysis Method	SM 2540G	EPA 1631	EPA 1630	Lloyd-Kahn
0I00073	SED	ADD-01	ADD-01_091620_SED_00-01	0I00073-11	9/16/2020	FS	1	1	1		
0I00073	SED	ADD-01	ADD-01_091620_SED_01-03	0I00073-12	9/16/2020	FS	1	1	1		
0I00073	SED	ADD-01	ADD-01_091620_SED_03-05	0I00073-13	9/16/2020	FS	1	1			
0I00073	SED	ADD-02	ADD-02_091620_SED_00-01	0I00073-14	9/16/2020	FS	1	1	1		
0I00073	SED	ADD-02	ADD-02_091620_SED_01-03	0I00073-15	9/16/2020	FS	1	1	1		
0I00073	SED	ADD-02	ADD-02_091620_SED_03-05	0I00073-16	9/16/2020	FS	1	1			
0I00073	SED	BO-04	BO-04_092120_SED_00-02	0I00073-AI	9/21/2020	FS	1	1	1		
0I00073	SED	BU-01-01	BU-01-01_091720_SED_00-01	0I00073-23	9/17/2020	FS	1	1	1		
0I00073	SED	BU-01-01	BU-01-01_091720_SED_00-01_DUP	0I00073-24	9/17/2020	FD	1	1	1		
0I00073	SED	BU-01-01	BU-01-01_091720_SED_01-03	0I00073-25	9/17/2020	FS	1	1	1		
0I00073	SED	BU-01-01	BU-01-01_091720_SED_01-03_DUP	0I00073-26	9/17/2020	FD	1	1	1		
0I00073	SED	BU-01-01	BU-01-01_091720_SED_03-05	0I00073-27	9/17/2020	FS	1	1			
0I00073	SED	BU-01-01	BU-01-01_091720_SED_03-05_DUP	0I00073-28	9/17/2020	FD	1	1			
0I00073	SED	CJ-04	CJ-04_092020_SED_00-01	0I00073-96	9/20/2020	FS	1	1	1		
0I00073	SED	CJ-04	CJ-04_092020_SED_01-03	0I00073-97	9/20/2020	FS	1	1	1		
0I00073	SED	CJ-04	CJ-04_092020_SED_03-05	0I00073-AJ	9/20/2020	FS	1	1			
0I00073	SED	E-01-01	E-01-01_091920_SED_00-01	0I00073-84	9/19/2020	FS	1	1	1		
0I00073	SED	E-01-01	E-01-01_091920_SED_00-01_DUP	0I00073-85	9/19/2020	FD	1	1	1		
0I00073	SED	E-01-01	E-01-01_091920_SED_01-03	0I00073-86	9/19/2020	FS	1	1	1		
0I00073	SED	E-01-01	E-01-01_091920_SED_01-03_DUP	0I00073-87	9/19/2020	FD	1	1	1		
0I00073	SED	E-01-01	E-01-01_091920_SED_03-05	0I00073-88	9/19/2020	FS	1	1			
0I00073	SED	E-01-01	E-01-01_091920_SED_03-05_DUP	0I00073-89	9/19/2020	FD	1	1			

**TABLE 1
DATA VALIDATION REPORT
SAMPLE AND ANALYSIS SUMMARY
2020 SEDIMENT SAMPLING
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDGs 0I00073, 0I00080, and 180-111287-1**

SDG	Media	Location	Field Sample ID	Lab Sample ID	Sample Date	QC Code	Method Class	% Solids	Mercury	Methyl Mercury	TOC
							Analysis Method	SM 2540G	EPA 1631	EPA 1630	Lloyd-Kahn
0I00073	SED	E-01-03	E-01-03_091920-SED-00-01	0I00073-90	9/19/2020	FS	1	1	1		
0I00073	SED	E-01-03	E-01-03_091920-SED-01-03	0I00073-91	9/19/2020	FS	1	1	1		
0I00073	SED	E-01-03	E-01-03_091920-SED-03-05	0I00073-92	9/19/2020	FS	1	1			
0I00073	SED	E-01-04	E-01-04_091920_SED_00-01	0I00073-98	9/19/2020	FS	1	1	1		
0I00073	SED	E-01-04	E-01-04_091920_SED_01-03	0I00073-99	9/19/2020	FS	1	1	1		
0I00073	SED	E-01-04	E-01-04_091920_SED_03-05	0I00073-AA	9/19/2020	FS	1	1			
0I00073	SED	ES-02	ES-02_091620_SED_00-01	0I00073-01	9/16/2020	FS	1	1	1		
0I00073	SED	ES-02	ES-02_091620_SED_01-03	0I00073-02	9/16/2020	FS	1	1	1		
0I00073	SED	ES-02	ES-02_091620_SED_03-05	0I00073-03	9/16/2020	FS	1	1			
0I00073	SED	ES-FP	ES-FP_091920_SED_00-01	0I00073-AB	9/19/2020	FS	1	1	1		
0I00073	SED	ES-FP	ES-FP_091920_SED_01-03	0I00073-AC	9/19/2020	FS	1	1	1		
0I00073	SED	ES-FP	ES-FP_091920_SED_030-036	0I00073-AD	9/19/2020	FS	1	1			
0I00073	SED	FF-08-02	FF-08-02_091820-SED-00-01	0I00073-72	9/18/2020	FS	1	1	1		
0I00073	SED	FF-08-02	FF-08-02_091820-SED-00-01_DUP	0I00073-73	9/18/2020	FD	1	1	1		
0I00073	SED	FF-08-02	FF-08-02_091820-SED-01-03	0I00073-74	9/18/2020	FS	1	1	1		
0I00073	SED	FF-08-02	FF-08-02_091820-SED-01-03_DUP	0I00073-75	9/18/2020	FD	1	1	1		
0I00073	SED	FF-08-02	FF-08-02_091820-SED-03-05	0I00073-76	9/18/2020	FS	1	1			
0I00073	SED	FF-08-02	FF-08-02_091820-SED-03-05_DUP	0I00073-77	9/18/2020	FD	1	1			
0I00073	SED	FRB-01	FRB-01_092120_SED_00-01	0I00073-AU	9/21/2020	FS	1	1	1		
0I00073	SED	FRB-01	FRB-01_092120_SED_01-03	0I00073-AV	9/21/2020	FS	1	1	1		
0I00073	SED	FRB-01	FRB-01_092120_SED_03-05	0I00073-AW	9/21/2020	FS	1	1			
0I00073	SED	FRB-02	FRB-02_091520_SED_00-01	0I00073-04	9/15/2020	FS	1	1	1		

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PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDGs 0I00073, 0I00080, and 180-111287-1

SDG	Media	Location	Field Sample ID	Lab Sample ID	Sample Date	QC Code	Method Class	% Solids	Mercury	Methyl Mercury	TOC
							Analysis Method	SM 2540G	EPA 1631	EPA 1630	Lloyd-Kahn
0I00073	SED	FRB-02	FRB-02_091520_SED_01-03	0I00073-05	9/15/2020	FS	1	1	1		
0I00073	SED	FRB-02	FRB-02_091520_SED_03-05	0I00073-06	9/15/2020	FS	1	1			
0I00073	SED	L9-45	L9-45_092020_SED_00-01	0I00073-AE	9/20/2020	FS	1	1	1		
0I00073	SED	L9-45	L9-45_092020_SED_01-03	0I00073-AF	9/20/2020	FS	1	1	1		
0I00073	SED	L9-45	L9-45_092020_SED_03-05	0I00073-AG	9/20/2020	FS	1	1			
0I00073	SED	MM-T1-C2	MM-T1-C2_092120_SED_00-01	0I00073-BG	9/21/2020	FS	1	1	1		
0I00073	SED	MM-T1-C2	MM-T1-C2_092120_SED_01-03	0I00073-BH	9/21/2020	FS	1	1	1		
0I00073	SED	MM-T1-C2	MM-T1-C2_092120_SED_03-05	0I00073-BI	9/21/2020	FS	1	1			
0I00073	SED	MM-T2-C1	MM-T2-C1_091820_SED_00-01	0I00073-59	9/18/2020	FS	1	1	1		
0I00073	SED	MM-T2-C1	MM-T2-C1_091820_SED_01-03	0I00073-60	9/18/2020	FS	1	1	1		
0I00073	SED	MM-T2-C1	MM-T2-C1_091820_SED_03-05	0I00073-61	9/18/2020	FS	1	1			
0I00073	SED	MM-T2-C3	MM-T2-C3_092120_SED_00-01	0I00073-AK	9/21/2020	FS	1	1	1		
0I00073	SED	MM-T2-C3	MM-T2-C3_092120_SED_01-03	0I00073-AX	9/21/2020	FS	1	1	1		
0I00073	SED	MM-T2-C3	MM-T2-C3_092120_SED_03-05	0I00073-AY	9/21/2020	FS	1	1			
0I00073	SED	MM-T5-C1	MM-T5-C1_091820_SED_00-01	0I00073-63	9/18/2020	FS	1	1	1		
0I00073	SED	MM-T5-C1	MM-T5-C1_091820_SED_01-03	0I00073-64	9/18/2020	FS	1	1	1		
0I00073	SED	MM-T5-C1	MM-T5-C1_091820_SED_03-05	0I00073-65	9/18/2020	FS	1	1			
0I00073	SED	MM-T5-C3	MM-T5-C3_092120_SED_00-01	0I00073-AZ	9/21/2020	FS	1	1	1		
0I00073	SED	MM-T5-C3	MM-T5-C3_092120_SED_01-03	0I00073-BA	9/21/2020	FS	1	1	1		
0I00073	SED	MM-T5-C3	MM-T5-C3_092120_SED_03-05	0I00073-BB	9/21/2020	FS	1	1			
0I00073	SED	MMSW-C	MMSW-C_091720_SED_00-01	0I00073-29	9/17/2020	FS	1	1	1		
0I00073	SED	MMSW-C	MMSW-C_091720_SED_01-03	0I00073-30	9/17/2020	FS	1	1	1		

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2020 SEDIMENT SAMPLING
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDGs 0I00073, 0I00080, and 180-111287-1**

SDG	Media	Location	Field Sample ID	Lab Sample ID	Sample Date	QC Code	Method Class	% Solids	Mercury	Methyl Mercury	TOC
							Analysis Method	SM 2540G	EPA 1631	EPA 1630	Lloyd-Kahn
0I00073	SED	MMSW-C	MMSW-C_091720_SED_03-05	0I00073-31	9/17/2020	FS	1	1			
0I00073	SED	OB-01	OB-01_091720_SED_00-01	0I00073-35	9/17/2020	FS	1	1	1		
0I00073	SED	OB-01	OB-01_091720_SED_01-03	0I00073-36	9/17/2020	FS	1	1	1		
0I00073	SED	OB-01	OB-01_091720_SED_03-05	0I00073-37	9/17/2020	FS	1	1			
0I00073	SED	OB-05	OB-05_091820_SED_00-01	0I00073-66	9/18/2020	FS	1	1	1		
0I00073	SED	OB-05	OB-05_091820_SED_01-03	0I00073-67	9/18/2020	FS	1	1	1		
0I00073	SED	OB-05	OB-05_091820_SED_03-05	0I00073-68	9/18/2020	FS	1	1			
0I00073	SED	OL-01	OL-01_091920_SED_00-03	0I00073-AH	9/20/2020	FS	1	1	1		
0I00073	SED	OR-T1-C1	OR-T1-C1_091720_SED_00-01	0I00073-38	9/17/2020	FS	1	1	1		
0I00073	SED	OR-T1-C1	OR-T1-C1_091720_SED_00-01_DUP	0I00073-39	9/17/2020	FD	1	1	1		
0I00073	SED	OR-T1-C1	OR-T1-C1_091720_SED_03-05	0I00073-42	9/17/2020	FS	1	1			
0I00073	SED	OR-T1-C1	OR-T1-C1_091720_SED_01-03	0I00073-40	9/17/2020	FS	1	1	1		
0I00073	SED	OR-T1-C1	OR-T1-C1_091720_SED_01-03_DUP	0I00073-41	9/17/2020	FD	1	1	1		
0I00073	SED	OR-T1-C1	OR-T1-C1_091720_SED_03-05_DUP	0I00073-47	9/17/2020	FD	1	1			
0I00073	SED	OR-T1-C3	OR-T1-C3_091620_SED_00-01	0I00073-17	9/16/2020	FS	1	1	1		
0I00073	SED	OR-T1-C3	OR-T1-C3_091620_SED_01-03	0I00073-18	9/16/2020	FS	1	1	1		
0I00073	SED	OR-T1-C3	OR-T1-C3_091620_SED_03-05	0I00073-19	9/16/2020	FS	1	1			
0I00073	SED	OR-T1-C5	OR-T1-C5_091620_SED_00-01	0I00073-20	9/16/2020	FS	1	1	1		
0I00073	SED	OR-T1-C5	OR-T1-C5_091620_SED_01-03	0I00073-21	9/16/2020	FS	1	1	1		
0I00073	SED	OR-T1-C5	OR-T1-C5_091620_SED_03-05	0I00073-22	9/16/2020	FS	1	1			
0I00073	SED	OV-01	OV-01_091820_SED_00-01	0I00073-48	9/18/2020	FS	1	1	1		
0I00073	SED	OV-01	OV-01_091820_SED_01-03	0I00073-49	9/18/2020	FS	1	1	1		

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2020 SEDIMENT SAMPLING
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDGs 0I00073, 0I00080, and 180-111287-1

SDG	Media	Location	Field Sample ID	Lab Sample ID	Sample Date	QC Code	Method Class	% Solids	Mercury	Methyl Mercury	TOC
							Analysis Method	SM 2540G	EPA 1631	EPA 1630	Lloyd-Kahn
0I00073	SED	OV-01	OV-01_091820_SED_03-05	0I00073-50	9/18/2020	FS	1	1			
0I00073	SED	OV-04	OV-04_091620_SED_00-01	0I00073-32	9/16/2020	FS	1	1	1		
0I00073	SED	OV-04	OV-04_091620_SED_01-03	0I00073-33	9/16/2020	FS	1	1	1		
0I00073	SED	OV-04	OV-04_091620_SED_03-05	0I00073-34	9/16/2020	FS	1	1			
0I00073	SED	PBR-28	PBR-28_091720_SED_00-01_DUP	0I00073-51	9/17/2020	FD	1	1	1		
0I00073	SED	PBR-28	PBR-28_091720_SED_01-03	0I00073-52	9/17/2020	FS	1	1	1		
0I00073	SED	PBR-28	PBR-28_091720_SED_01-03_DUP	0I00073-53	9/17/2020	FD	1	1	1		
0I00073	SED	PBR-28	PBR-28_091720_SED_03-05	0I00073-54	9/17/2020	FS	1	1			
0I00073	SED	PBR-28	PBR-28_091720_SED_03-05_DUP	0I00073-55	9/17/2020	FD	1	1			
0I00073	SED	PBR-28	PBR-28_091720_SED_00-01	0I00073-43	9/17/2020	FS	1	1	1		
0I00073	SED	SVE-01	SVE-01_091820_SED_00-01	0I00073-93	9/18/2020	FS	1	1	1		
0I00073	SED	SVE-01	SVE-01_091820_SED_01-03	0I00073-94	9/18/2020	FS	1	1	1		
0I00073	SED	SVE-01	SVE-01_091820_SED_03-05	0I00073-95	9/18/2020	FS	1	1			
0I00073	SED	VN-02-04	VN-02-04_091620_SED_00-01	0I00073-BL	9/16/2020	FS	1	1	1		
0I00073	SED	VN-02-04	VN-02-04_091620_SED_01-03	0I00073-BM	9/16/2020	FS	1	1	1		
0I00073	SED	VN-02-04	VN-02-04_091620_SED_03-05	0I00073-07	9/16/2020	FS	1	1			
0I00073	SED	VN-MU3-GC-1	VN-MU3-GC-1_091620_SED_00-01	0I00073-08	9/16/2020	FS	1	1	1		
0I00073	SED	VN-MU3-GC-1	VN-MU3-GC-1_091620_SED_01-03	0I00073-09	9/16/2020	FS	1	1	1		
0I00073	SED	VN-MU3-GC-1	VN-MU3-GC-1_091620_SED_03-05	0I00073-10	9/16/2020	FS	1	1			
0I00073	SED	W-17-High	W-17-HIGH_092120_SED_00-01	0I00073-BC	9/21/2020	FS	1	1	1		
0I00073	SED	W-17-High	W-17-HIGH_092120_SED_01-03	0I00073-BD	9/21/2020	FS	1	1	1		
0I00073	SED	W-17-High	W-17-HIGH_092120_SED_03-05	0I00073-BE	9/21/2020	FS	1	1			

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2020 SEDIMENT SAMPLING
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDGs 0I00073, 0I00080, and 180-111287-1

SDG	Media	Location	Field Sample ID	Lab Sample ID	Sample Date	QC Code	Method Class	% Solids	Mercury	Methyl Mercury	TOC
							Analysis Method	SM 2540G	EPA 1631	EPA 1630	Lloyd-Kahn
0I00073	SED	W-17-Intertidal	W-17-Intertidal_091820_SED_00-01	0I00073-69	9/18/2020	FS	1	1	1		
0I00073	SED	W-17-Intertidal	W-17-Intertidal_091820_SED_01-03	0I00073-70	9/18/2020	FS	1	1	1		
0I00073	SED	W-17-Intertidal	W-17-Intertidal_091820_SED_03-05	0I00073-71	9/18/2020	FS	1	1			
0I00073	SED	W-17-Low	W-17-LOW_091820_SED_00-01	0I00073-78	9/18/2020	FS	1	1	1		
0I00073	SED	W-17-Low	W-17-LOW_091820_SED_01-03	0I00073-79	9/18/2020	FS	1	1	1		
0I00073	SED	W-17-Low	W-17-LOW_091820_SED_03-05	0I00073-80	9/18/2020	FS	1	1			
0I00073	SED	W-17-Mid	W-17-MID_092120_SED_00-01	0I00073-BF	9/21/2020	FS	1	1	1		
0I00073	SED	W-17-Mid	W-17-MID_092120_SED_01-03	0I00073-BJ	9/21/2020	FS	1	1	1		
0I00073	SED	W-17-Mid	W-17-Mid_092120_SED_03-05	0I00073-BK	9/21/2020	FS	1	1			
0I00073	SED	W-17-N	W-17-N_091720_SED_00-01	0I00073-44	9/17/2020	FS	1	1	1		
0I00073	SED	W-17-N	W-17-N_091720_SED_01-03	0I00073-45	9/17/2020	FS	1	1	1		
0I00073	SED	W-17-N	W-17-N_091720_SED_03-05	0I00073-46	9/17/2020	FS	1	1			
0I00073	SED	W-22-Mid	W-22-MID_091820_SED_00-01	0I00073-56	9/18/2020	FS	1	1	1		
0I00073	SED	W-22-Mid	W-22-Mid_091820_SED_01-03	0I00073-57	9/18/2020	FS	1	1	1		
0I00073	SED	W-22-Mid	W-22-MID_091820_SED_03-05	0I00073-58	9/18/2020	FS	1	1			
0I00073	SED	W-61-High	W-61-HIGH_092020_SED_00-01	0I00073-AL	9/20/2020	FS	1	1	1		
0I00073	SED	W-61-High	W-61-HIGH_092020_SED_01-03	0I00073-AM	9/20/2020	FS	1	1	1		
0I00073	SED	W-61-High	W-61-HIGH_092020_SED_03-05	0I00073-AN	9/20/2020	FS	1	1			
0I00073	SED	W-61-Intertidal	W-61-Intertidal_091820_SED_00-01	0I00073-81	9/18/2020	FS	1	1	1		
0I00073	SED	W-61-Intertidal	W-61-Intertidal_091820_SED_01-03	0I00073-82	9/18/2020	FS	1	1	1		
0I00073	SED	W-61-Intertidal	W-61-Intertidal_091820_SED_03-05	0I00073-83	9/18/2020	FS	1	1			
0I00073	SED	W-61-Low	W-61-LOW_092020_SED_00-01	0I00073-AO	9/20/2020	FS	1	1	1		

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2020 SEDIMENT SAMPLING
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDGs 0I00073, 0I00080, and 180-111287-1

SDG	Media	Location	Field Sample ID	Lab Sample ID	Sample Date	QC Code	Method Class	% Solids	Mercury	Methyl Mercury	TOC
							Analysis Method	SM 2540G	EPA 1631	EPA 1630	Lloyd-Kahn
0I00073	SED	W-61-Low	W-61-LOW_092020_SED_01-03	0I00073-AP	9/20/2020	FS	1	1	1		
0I00073	SED	W-61-Low	W-61-LOW_092020_SED_03-05	0I00073-AQ	9/20/2020	FS	1	1			
0I00073	SED	W-61-Mid	W-61-MID_092020_SED_00-01	0I00073-AR	9/20/2020	FS	1	1	1		
0I00073	SED	W-61-Mid	W-61-MID_092020_SED_01-03	0I00073-AS	9/20/2020	FS	1	1	1		
0I00073	SED	W-61-Mid	W-61-MID_092020_SED_03-05	0I00073-AT	9/20/2020	FS	1	1			
0I00080	BW	QC	EB-DECONLINER_092220_SED_QC	0I00080-01	9/22/2020	EB		1	1		
0I00080	BW	QC	EB-HSBOWLASI_092220_SED_QC	0I00080-02	9/22/2020	EB		1	1		
0I00080	BW	QC	EB-HSBOWLWOOD_092220_SED_QC	0I00080-03	9/22/2020	EB		1	1		
0I00080	BW	QC	EB-NEWLINER_092220_SED_QC	0I00080-04	9/22/2020	EB		1	1		
180-111287-1	SED	ADD-01	ADD-01_091620_SED_00-01	180-111287-13	9/16/2020	FS	1			1	
180-111287-1	SED	ADD-01	ADD-01_091620_SED_01-03	180-111287-14	9/16/2020	FS	1			1	
180-111287-1	SED	ADD-01	ADD-01_091620_SED_03-05	180-111287-15	9/16/2020	FS	1			1	
180-111287-1	SED	ADD-02	ADD-02_091620_SED_00-01	180-111287-16	9/16/2020	FS	1			1	
180-111287-1	SED	ADD-02	ADD-02_091620_SED_01-03	180-111287-17	9/16/2020	FS	1			1	
180-111287-1	SED	ADD-02	ADD-02_091620_SED_03-05	180-111287-18	9/16/2020	FS	1			1	
180-111287-1	SED	BO-04	BO-04_092120_SED_00-02	180-111287-109	9/21/2020	FS	1			1	
180-111287-1	SED	BU-01-01	BU-01-01_091720_SED_00-01	180-111287-25	9/17/2020	FS	1			1	
180-111287-1	SED	BU-01-01	BU-01-01_091720_SED_00-01_DUP	180-111287-26	9/17/2020	FD	1			1	
180-111287-1	SED	BU-01-01	BU-01-01_091720_SED_01-03	180-111287-27	9/17/2020	FS	1			1	
180-111287-1	SED	BU-01-01	BU-01-01_091720_SED_01-03_DUP	180-111287-28	9/17/2020	FD	1			1	
180-111287-1	SED	BU-01-01	BU-01-01_091720_SED_03-05	180-111287-29	9/17/2020	FS	1			1	
180-111287-1	SED	BU-01-01	BU-01-01_091720_SED_03-05_DUP	180-111287-30	9/17/2020	FD	1			1	

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2020 SEDIMENT SAMPLING
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDGs 0100073, 0100080, and 180-111287-1

SDG	Media	Location	Field Sample ID	Lab Sample ID	Sample Date	QC Code	Method Class	% Solids	Mercury	Methyl Mercury	TOC
							Analysis Method	SM 2540G	EPA 1631	EPA 1630	Lloyd-Kahn
180-111287-1	SED	CJ-04	CJ-04_092020_SED_00-01	180-111287-97	9/20/2020	FS	1			1	
180-111287-1	SED	CJ-04	CJ-04_092020_SED_01-03	180-111287-98	9/20/2020	FS	1			1	
180-111287-1	SED	CJ-04	CJ-04_092020_SED_03-05	180-111287-110	9/20/2020	FS	1			1	
180-111287-1	SED	E-01-01	E-01-01_091920_SED_00-01	180-111287-85	9/19/2020	FS	1			1	
180-111287-1	SED	E-01-01	E-01-01_091920_SED_00-01_DUP	180-111287-86	9/19/2020	FD	1			1	
180-111287-1	SED	E-01-01	E-01-01_091920_SED_01-03	180-111287-87	9/19/2020	FS	1			1	
180-111287-1	SED	E-01-01	E-01-01_091920_SED_01-03_DUP	180-111287-88	9/19/2020	FD	1			1	
180-111287-1	SED	E-01-01	E-01-01_091920_SED_03-05	180-111287-89	9/19/2020	FS	1			1	
180-111287-1	SED	E-01-01	E-01-01_091920_SED_03-05_DUP	180-111287-90	9/19/2020	FD	1			1	
180-111287-1	SED	E-01-03	E-01-03_091920_SED_00-01	180-111287-91	9/19/2020	FS	1			1	
180-111287-1	SED	E-01-03	E-01-03_091920_SED_01-03	180-111287-92	9/19/2020	FS	1			1	
180-111287-1	SED	E-01-03	E-01-03_091920_SED_03-05	180-111287-93	9/19/2020	FS	1			1	
180-111287-1	SED	E-01-04	E-01-04_091920_SED_00-01	180-111287-99	9/19/2020	FS	1			1	
180-111287-1	SED	E-01-04	E-01-04_091920_SED_01-03	180-111287-100	9/19/2020	FS	1			1	
180-111287-1	SED	E-01-04	E-01-04_091920_SED_03-05	180-111287-101	9/19/2020	FS	1			1	
180-111287-1	SED	ES-02	ES-02_091620_SED_00-01	180-111287-1	9/16/2020	FS	1			1	
180-111287-1	SED	ES-02	ES-02_091620_SED_01-03	180-111287-2	9/16/2020	FS	1			1	
180-111287-1	SED	ES-02	ES-02_091620_SED_03-05	180-111287-3	9/16/2020	FS	1			1	
180-111287-1	SED	ES-FP	ES-FP_091920_SED_00-01	180-111287-102	9/19/2020	FS	1			1	
180-111287-1	SED	ES-FP	ES-FP_091920_SED_01-03	180-111287-103	9/19/2020	FS	1			1	
180-111287-1	SED	ES-FP	ES-FP_091920_SED_030-036	180-111287-104	9/19/2020	FS	1			1	
180-111287-1	SED	FF-08-02	FF-08-02_091820_SED_00-01	180-111287-73	9/18/2020	FS	1			1	

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PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDGs 0100073, 0100080, and 180-111287-1**

SDG	Media	Location	Field Sample ID	Lab Sample ID	Sample Date	QC Code	Method Class	% Solids	Mercury	Methyl Mercury	TOC
							Analysis Method	SM 2540G	EPA 1631	EPA 1630	Lloyd-Kahn
180-111287-1	SED	FF-08-02	FF-08-02_091820_SED_00-01_DUP	180-111287-74	9/18/2020	FD	1				1
180-111287-1	SED	FF-08-02	FF-08-02_091820_SED_01-03	180-111287-75	9/18/2020	FS	1				1
180-111287-1	SED	FF-08-02	FF-08-02_091820_SED_01-03_DUP	180-111287-76	9/18/2020	FD	1				1
180-111287-1	SED	FF-08-02	FF-08-02_091820_SED_03-05	180-111287-77	9/18/2020	FS	1				1
180-111287-1	SED	FF-08-02	FF-08-02_091820_SED_03-05_DUP	180-111287-78	9/18/2020	FD	1				1
180-111287-1	SED	FRB-01	FRB-01_092120_SED_00-01	180-111287-121	9/21/2020	FS	1				1
180-111287-1	SED	FRB-01	FRB-01_092120_SED_01-03	180-111287-122	9/21/2020	FS	1				1
180-111287-1	SED	FRB-01	FRB-01_092120_SED_03-05	180-111287-123	9/21/2020	FS	1				1
180-111287-1	SED	FRB-02	FRB-02_091520_SED_00-01	180-111287-4	9/15/2020	FS	1				1
180-111287-1	SED	FRB-02	FRB-02_091520_SED_01-03	180-111287-5	9/15/2020	FS	1				1
180-111287-1	SED	FRB-02	FRB-02_091520_SED_03-05	180-111287-6	9/15/2020	FS	1				1
180-111287-1	SED	L9-45	L9-45_092020_SED_00-01	180-111287-105	9/20/2020	FS	1				1
180-111287-1	SED	L9-45	L9-45_092020_SED_01-03	180-111287-106	9/20/2020	FS	1				1
180-111287-1	SED	L9-45	L9-45_092020_SED_03-05	180-111287-107	9/20/2020	FS	1				1
180-111287-1	SED	MM-T1-C2	MM-T1-C2_092120_SED_00-01	180-111287-133	9/21/2020	FS	1				1
180-111287-1	SED	MM-T1-C2	MM-T1-C2_092120_SED_01-03	180-111287-134	9/21/2020	FS	1				1
180-111287-1	SED	MM-T1-C2	MM-T1-C2_092120_SED_03-05	180-111287-135	9/21/2020	FS	1				1
180-111287-1	SED	MM-T2-C1	MM-T2-C1_091820_SED_00-01	180-111287-61	9/18/2020	FS	1				1
180-111287-1	SED	MM-T2-C1	MM-T2-C1_091820_SED_01-03	180-111287-62	9/18/2020	FS	1				1
180-111287-1	SED	MM-T2-C1	MM-T2-C1_091820_SED_03-05	180-111287-63	9/18/2020	FS	1				1
180-111287-1	SED	MM-T2-C3	MM-T2-C3_092120_SED_00-01	180-111287-111	9/21/2020	FS	1				1
180-111287-1	SED	MM-T2-C3	MM-T2-C3_092120_SED_01-03	180-111287-124	9/21/2020	FS	1				1

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2020 SEDIMENT SAMPLING
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PENOBSCOT RIVER, MAINE
SDGs 0100073, 0100080, and 180-111287-1**

SDG	Media	Location	Field Sample ID	Lab Sample ID	Sample Date	QC Code	Method Class	% Solids	Mercury	Methyl Mercury	TOC
							Analysis Method	SM 2540G	EPA 1631	EPA 1630	Lloyd-Kahn
180-111287-1	SED	MM-T2-C3	MM-T2-C3_092120_SED_03-05	180-111287-125	9/21/2020	FS	1			1	
180-111287-1	SED	MM-T5-C1	MM-T5-C1_091820_SED_00-01	180-111287-64	9/18/2020	FS	1			1	
180-111287-1	SED	MM-T5-C1	MM-T5-C1_091820_SED_01-03	180-111287-65	9/18/2020	FS	1			1	
180-111287-1	SED	MM-T5-C1	MM-T5-C1_091820_SED_03-05	180-111287-66	9/18/2020	FS	1			1	
180-111287-1	SED	MM-T5-C3	MM-T5-C3_092120_SED_00-01	180-111287-126	9/21/2020	FS	1			1	
180-111287-1	SED	MM-T5-C3	MM-T5-C3_092120_SED_01-03	180-111287-127	9/21/2020	FS	1			1	
180-111287-1	SED	MM-T5-C3	MM-T5-C3_092120_SED_03-05	180-111287-128	9/21/2020	FS	1			1	
180-111287-1	SED	MMSW-C	MMSW-C_091720_SED_00-01	180-111287-31	9/17/2020	FS	1			1	
180-111287-1	SED	MMSW-C	MMSW-C_091720_SED_01-03	180-111287-32	9/17/2020	FS	1			1	
180-111287-1	SED	MMSW-C	MMSW-C_091720_SED_03-05	180-111287-33	9/17/2020	FS	1			1	
180-111287-1	SED	OB-01	OB-01_091720_SED_00-01	180-111287-37	9/17/2020	FS	1			1	
180-111287-1	SED	OB-01	OB-01_091720_SED_01-03	180-111287-38	9/17/2020	FS	1			1	
180-111287-1	SED	OB-01	OB-01_091720_SED_03-05	180-111287-39	9/17/2020	FS	1			1	
180-111287-1	SED	OB-05	OB-05_091820_SED_00-01	180-111287-67	9/18/2020	FS	1			1	
180-111287-1	SED	OB-05	OB-05_091820_SED_01-03	180-111287-68	9/18/2020	FS	1			1	
180-111287-1	SED	OB-05	OB-05_091820_SED_03-05	180-111287-69	9/18/2020	FS	1			1	
180-111287-1	SED	OL-01	OL-01_091920_SED_00-03	180-111287-108	9/19/2020	FS	1			1	
180-111287-1	SED	OR-T1-C1	OR-T1-C1_091720_SED_00-01	180-111287-40	9/17/2020	FS	1			1	
180-111287-1	SED	OR-T1-C1	OR-T1-C1_091720_SED_00-01_DUP	180-111287-41	9/17/2020	FD	1			1	
180-111287-1	SED	OR-T1-C1	OR-T1-C1_091720_SED_01-03	180-111287-42	9/17/2020	FS	1			1	
180-111287-1	SED	OR-T1-C1	OR-T1-C1_091720_SED_01-03_DUP	180-111287-43	9/17/2020	FD	1			1	
180-111287-1	SED	OR-T1-C1	OR-T1-C1_091720_SED_03-05	180-111287-44	9/17/2020	FS	1			1	

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2020 SEDIMENT SAMPLING
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDGs 0100073, 0100080, and 180-111287-1

SDG	Media	Location	Field Sample ID	Lab Sample ID	Sample Date	QC Code	Method Class	% Solids	Mercury	Methyl Mercury	TOC
							Analysis Method	SM 2540G	EPA 1631	EPA 1630	Lloyd-Kahn
180-111287-1	SED	OR-T1-C1	OR-T1-C1_091720_SED_03-05_DUP	180-111287-49	9/17/2020	FD	1				1
180-111287-1	SED	OR-T1-C3	OR-T1-C3_091620_SED_00-01	180-111287-19	9/16/2020	FS	1				1
180-111287-1	SED	OR-T1-C3	OR-T1-C3_091620_SED_01-03	180-111287-20	9/16/2020	FS	1				1
180-111287-1	SED	OR-T1-C3	OR-T1-C3_091620_SED_03-05	180-111287-21	9/16/2020	FS	1				1
180-111287-1	SED	OR-T1-C5	OR-T1-C5_091620_SED_00-01	180-111287-22	9/16/2020	FS	1				1
180-111287-1	SED	OR-T1-C5	OR-T1-C5_091620_SED_01-03	180-111287-23	9/16/2020	FS	1				1
180-111287-1	SED	OR-T1-C5	OR-T1-C5_091620_SED_03-05	180-111287-24	9/16/2020	FS	1				1
180-111287-1	SED	OV-01	OV-01_091820_SED_00-01	180-111287-50	9/18/2020	FS	1				1
180-111287-1	SED	OV-01	OV-01_091820_SED_01-03	180-111287-51	9/18/2020	FS	1				1
180-111287-1	SED	OV-01	OV-01_091820_SED_03-05	180-111287-52	9/18/2020	FS	1				1
180-111287-1	SED	OV-04	OV-04_091620_SED_00-01	180-111287-34	9/16/2020	FS	1				1
180-111287-1	SED	OV-04	OV-04_091620_SED_01-03	180-111287-35	9/16/2020	FS	1				1
180-111287-1	SED	OV-04	OV-04_091620_SED_03-05	180-111287-36	9/16/2020	FS	1				1
180-111287-1	SED	PBR-28	PBR-28_091720_SED_00-01	180-111287-45	9/17/2020	FS	1				1
180-111287-1	SED	PBR-28	PBR-28_091720_SED_00-01_DUP	180-111287-53	9/17/2020	FD	1				1
180-111287-1	SED	PBR-28	PBR-28_091720_SED_01-03	180-111287-54	9/17/2020	FS	1				1
180-111287-1	SED	PBR-28	PBR-28_091720_SED_01-03_DUP	180-111287-55	9/17/2020	FD	1				1
180-111287-1	SED	PBR-28	PBR-28_091720_SED_03-05	180-111287-56	9/17/2020	FS	1				1
180-111287-1	SED	PBR-28	PBR-28_091720_SED_03-05_DUP	180-111287-57	9/17/2020	FD	1				1
180-111287-1	SED	SVE-01	SVE-01_091820_SED_00-01	180-111287-94	9/18/2020	FS	1				1
180-111287-1	SED	SVE-01	SVE-01_091820_SED_01-03	180-111287-95	9/18/2020	FS	1				1
180-111287-1	SED	SVE-01	SVE-01_091820_SED_03-05	180-111287-96	9/18/2020	FS	1				1

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SAMPLE AND ANALYSIS SUMMARY
2020 SEDIMENT SAMPLING
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDGs 0100073, 0100080, and 180-111287-1

SDG	Media	Location	Field Sample ID	Lab Sample ID	Sample Date	QC Code	Method Class	% Solids	Mercury	Methyl Mercury	TOC
							Analysis Method	SM 2540G	EPA 1631	EPA 1630	Lloyd-Kahn
180-111287-1	SED	VN-02-04	VN-02-04_091620_SED_00-01	180-111287-7	9/16/2020	FS	1				1
180-111287-1	SED	VN-02-04	VN-02-04_091620_SED_01-03	180-111287-8	9/16/2020	FS	1				1
180-111287-1	SED	VN-02-04	VN-02-04_091620_SED_03-05	180-111287-9	9/16/2020	FS	1				1
180-111287-1	SED	VN-MU3-GC-1	VN-MU3-GC-1_091620_SED_00-01	180-111287-10	9/16/2020	FS	1				1
180-111287-1	SED	VN-MU3-GC-1	VN-MU3-GC-1_091620_SED_01-03	180-111287-11	9/16/2020	FS	1				1
180-111287-1	SED	VN-MU3-GC-1	VN-MU3-GC-1_091620_SED_03-05	180-111287-12	9/16/2020	FS	1				1
180-111287-1	SED	W-17-High	W-17-HIGH_092120_SED_00-01	180-111287-129	9/21/2020	FS	1				1
180-111287-1	SED	W-17-High	W-17-HIGH_092120_SED_01-03	180-111287-130	9/21/2020	FS	1				1
180-111287-1	SED	W-17-High	W-17-HIGH_092120_SED_03-05	180-111287-131	9/21/2020	FS	1				1
180-111287-1	SED	W-17-Intertidal	W-17-Intertidal_091820_SED_00-01	180-111287-70	9/18/2020	FS	1				1
180-111287-1	SED	W-17-Intertidal	W-17-Intertidal_091820_SED_01-03	180-111287-71	9/18/2020	FS	1				1
180-111287-1	SED	W-17-Intertidal	W-17-Intertidal_091820_SED_03-05	180-111287-72	9/18/2020	FS	1				1
180-111287-1	SED	W-17-Low	W-17-LOW_091820_SED_00-01	180-111287-79	9/18/2020	FS	1				1
180-111287-1	SED	W-17-Low	W-17-LOW_091820_SED_01-03	180-111287-80	9/18/2020	FS	1				1
180-111287-1	SED	W-17-Low	W-17-LOW_091820_SED_03-05	180-111287-81	9/18/2020	FS	1				1
180-111287-1	SED	W-17-Mid	W-17-MID_092120_SED_00-01	180-111287-132	9/21/2020	FS	1				1
180-111287-1	SED	W-17-Mid	W-17-MID_092120_SED_01-03	180-111287-136	9/21/2020	FS	1				1
180-111287-1	SED	W-17-Mid	W-17-Mid_092120_SED_03-05	180-111287-137	9/21/2020	FS	1				1
180-111287-1	SED	W-17-N	W-17-N_091720_SED_00-01	180-111287-46	9/17/2020	FS	1				1
180-111287-1	SED	W-17-N	W-17-N_091720_SED_01-03	180-111287-47	9/17/2020	FS	1				1
180-111287-1	SED	W-17-N	W-17-N_091720_SED_03-05	180-111287-48	9/17/2020	FS	1				1
180-111287-1	SED	W-22-Mid	W-22-MID_091820_SED_00-01	180-111287-58	9/18/2020	FS	1				1

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2020 SEDIMENT SAMPLING
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDGs 0100073, 0100080, and 180-111287-1**

SDG	Media	Location	Field Sample ID	Lab Sample ID	Sample Date	QC Code	Method Class	% Solids	Mercury	Methyl Mercury	TOC
							Analysis Method	SM 2540G	EPA 1631	EPA 1630	Lloyd-Kahn
180-111287-1	SED	W-22-Mid	W-22-Mid_091820_SED_01-03	180-111287-59	9/18/2020	FS	1			1	
180-111287-1	SED	W-22-Mid	W-22-MID_091820_SED_03-05	180-111287-60	9/18/2020	FS	1			1	
180-111287-1	SED	W-61-High	W-61-HIGH_092020_SED_00-01	180-111287-112	9/20/2020	FS	1			1	
180-111287-1	SED	W-61-High	W-61-HIGH_092020_SED_01-03	180-111287-113	9/20/2020	FS	1			1	
180-111287-1	SED	W-61-High	W-61-HIGH_092020_SED_03-05	180-111287-114	9/20/2020	FS	1			1	
180-111287-1	SED	W-61-Intertidal	W-61-Intertidal_091820_SED_00-01	180-111287-82	9/18/2020	FS	1			1	
180-111287-1	SED	W-61-Intertidal	W-61-Intertidal_091820_SED_01-03	180-111287-83	9/18/2020	FS	1			1	
180-111287-1	SED	W-61-Intertidal	W-61-Intertidal_091820_SED_03-05	180-111287-84	9/18/2020	FS	1			1	
180-111287-1	SED	W-61-Low	W-61-LOW_092020_SED_00-01	180-111287-115	9/20/2020	FS	1			1	
180-111287-1	SED	W-61-Low	W-61-LOW_092020_SED_01-03	180-111287-116	9/20/2020	FS	1			1	
180-111287-1	SED	W-61-Low	W-61-LOW_092020_SED_03-05	180-111287-117	9/20/2020	FS	1			1	
180-111287-1	SED	W-61-Mid	W-61-MID_092020_SED_00-01	180-111287-118	9/20/2020	FS	1			1	
180-111287-1	SED	W-61-Mid	W-61-MID_092020_SED_01-03	180-111287-119	9/20/2020	FS	1			1	
180-111287-1	SED	W-61-Mid	W-61-MID_092020_SED_03-05	180-111287-120	9/20/2020	FS	1			1	

Notes:
FS = Field Sample
SED = Sediment
SDG = Sample Delivery Group
TOC = Total Organic Carbon

TABLE 2
DATA VALIDATION REPORT
DATA VALIDATION QUALIFIERS ADDED
2020 SEDIMENT SAMPLING
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE

Method	Lab Sample ID	Field Sample ID	Parameter Name	Lab Result	Lab Qualifier	Validated Result	Validated Qualifier	Validation Reason Code	Result Units
KOH_1630	0I00073-11	ADD-01_091620_SED_00-01	Methyl mercury	4.6	U	4.6	UJ	LCS-L	NG/G
KOH_1630	0I00073-12	ADD-01_091620_SED_01-03	Methyl mercury	5	U	5	UJ	LCS-L	NG/G
KOH_1630	0I00073-14	ADD-02_091620_SED_00-01	Methyl mercury	3.8	U	3.8	UJ	LCS-L	NG/G
KOH_1630	0I00073-15	ADD-02_091620_SED_01-03	Methyl mercury	4	U	4	UJ	LCS-L	NG/G
KOH_1630	0I00073-AI	BO-04_092120_SED_00-02	Methyl mercury	8.9		8.9	J	LCS-L	NG/G
KOH_1630	0I00073-23	BU-01-01_091720_SED_00-01	Methyl mercury	6.2		6.2	J	LCS-L, LCS-RPD	NG/G
KOH_1630	0I00073-24	BU-01-01_091720_SED_00-01_DUP	Methyl mercury	5.6		5.6	J	LCS-L, LCS-RPD	NG/G
KOH_1630	0I00073-25	BU-01-01_091720_SED_01-03	Methyl mercury	8		8	J	MS-H	NG/G
7474_1631	0I00073-96	CJ-04_092020_SED_00-01	Mercury	438		438	J	LCS-L	NG/G
KOH_1630	0I00073-96	CJ-04_092020_SED_00-01	Methyl mercury	2.9	J	2.9	J	LCS-L	NG/G
7474_1631	0I00073-97	CJ-04_092020_SED_01-03	Mercury	535		535	J	LCS-L	NG/G
KOH_1630	0I00073-97	CJ-04_092020_SED_01-03	Methyl mercury	2.3	J	2.3	J	LCS-L	NG/G
7474_1631	0I00073-84	E-01-01_091920_SED_00-01	Mercury	514		514	J	LCS-L, FD	NG/G
KOH_1630	0I00073-84	E-01-01_091920_SED_00-01	Methyl mercury	8.8		8.8	J	LCS-L	NG/G
7474_1631	0I00073-85	E-01-01_091920_SED_00-01_DUP	Mercury	869		869	J	LCS-L, FD	NG/G
KOH_1630	0I00073-85	E-01-01_091920_SED_00-01_DUP	Methyl mercury	11.6		11.6	J	LCS-L	NG/G
7474_1631	0I00073-86	E-01-01_091920_SED_01-03	Mercury	483		483	J	LCS-L	NG/G
KOH_1630	0I00073-86RE1	E-01-01_091920_SED_01-03	Methyl mercury	10.6		10.6	J	LCS-L, MS-H	NG/G
7474_1631	0I00073-87	E-01-01_091920_SED_01-03_DUP	Mercury	570		570	J	LCS-L	NG/G
KOH_1630	0I00073-87RE1	E-01-01_091920_SED_01-03_DUP	Methyl mercury	11.9		11.9	J	LCS-L, MS-H	NG/G
7474_1631	0I00073-88	E-01-01_091920_SED_03-05	Mercury	611		611	J	LCS-L	NG/G
7474_1631	0I00073-89	E-01-01_091920_SED_03-05_DUP	Mercury	380		380	J	LCS-L	NG/G
7474_1631	0I00073-90	E-01-03_091920-SED-00-01	Mercury	382		382	J	LCS-L	NG/G
KOH_1630	0I00073-90	E-01-03_091920-SED-00-01	Methyl mercury	1.9	J	1.9	J	LCS-L	NG/G
7474_1631	0I00073-91	E-01-03_091920-SED-01-03	Mercury	446		446	J	LCS-L	NG/G
KOH_1630	0I00073-91	E-01-03_091920-SED-01-03	Methyl mercury	4.7	U	4.7	UJ	LCS-L	NG/G
7474_1631	0I00073-92	E-01-03_091920-SED-03-05	Mercury	946		946	J	LCS-L	NG/G
7474_1631	0I00073-98	E-01-04_091920_SED_00-01	Mercury	192		192	J	LCS-L	NG/G

TABLE 2
DATA VALIDATION REPORT
DATA VALIDATION QUALIFIERS ADDED
2020 SEDIMENT SAMPLING
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE

Method	Lab Sample ID	Field Sample ID	Parameter Name	Lab Result	Lab Qualifier	Validated Result	Validated Qualifier	Validation Reason Code	Result Units
KOH_1630	0I00073-98	E-01-04_091920_SED_00-01	Methyl mercury	1.1	J	1.1	J	LCS-L	NG/G
7474_1631	0I00073-99	E-01-04_091920_SED_01-03	Mercury	176		176	J	LCS-L	NG/G
KOH_1630	0I00073-99	E-01-04_091920_SED_01-03	Methyl mercury	3.9	U	3.9	UJ	LCS-L	NG/G
7474_1631	0I00073-AA	E-01-04_091920_SED_03-05	Mercury	101		101	J	LCS-L	NG/G
KOH_1630	0I00073-01	ES-02_091620_SED_00-01	Methyl mercury	3.9	J	3.9	J	LCS-L, LCS-RPD	NG/G
KOH_1630	0I00073-02	ES-02_091620_SED_01-03	Methyl mercury	2	J	2	J	LCS-L, LCS-RPD	NG/G
7474_1631	0I00073-AB	ES-FP_091920_SED_00-01	Mercury	298		298	J	LCS-L	NG/G
KOH_1630	0I00073-AB	ES-FP_091920_SED_00-01	Methyl mercury	2.6	J	2.6	J	LCS-L	NG/G
KOH_1630	0I00073-AC	ES-FP_091920_SED_01-03	Methyl mercury	4.2	U	4.2	UJ	LCS-L	NG/G
KOH_1630	0I00073-72	FF-08-02_091820-SED-00-01	Methyl mercury	9.2		9.2	J	LCS-L	NG/G
KOH_1630	0I00073-73	FF-08-02_091820-SED-00-01_DUP	Methyl mercury	9.8		9.8	J	LCS-L	NG/G
KOH_1630	0I00073-74	FF-08-02_091820-SED-01-03	Methyl mercury	6.7		6.7	J	LCS-L	NG/G
KOH_1630	0I00073-75	FF-08-02_091820-SED-01-03_DUP	Methyl mercury	6.7		6.7	J	LCS-L	NG/G
KOH_1630	0I00073-AU	FRB-01_092120_SED_00-01	Methyl mercury	6	U	6	UJ	LCS-L	NG/G
KOH_1630	0I00073-AV	FRB-01_092120_SED_01-03	Methyl mercury	4.7	U	4.7	UJ	LCS-L	NG/G
7474_1631	0I00073-AW	FRB-01_092120_SED_03-05	Mercury	32.5	J	32.5	J	LCS-L	NG/G
KOH_1630	0I00073-04	FRB-02_091520_SED_00-01	Methyl mercury	3.3	U	3.3	UJ	LCS-L	NG/G
KOH_1630	0I00073-05	FRB-02_091520_SED_01-03	Methyl mercury	3.2	U	3.2	UJ	LCS-L	NG/G
KOH_1630	0I00073-AE	L9-45_092020_SED_00-01	Methyl mercury	2.1	J	2.1	J	LCS-L	NG/G
KOH_1630	0I00073-AF	L9-45_092020_SED_01-03	Methyl mercury	1.7	J	1.7	J	LCS-L	NG/G
7474_1631	0I00073-BG	MM-T1-C2_092120_SED_00-01	Mercury	792		792	J	LCS-L	NG/G
KOH_1630	0I00073-BG	MM-T1-C2_092120_SED_00-01	Methyl mercury	7.1		7.1	J	LCS-L	NG/G
7474_1631	0I00073-BH	MM-T1-C2_092120_SED_01-03	Mercury	892		892	J	LCS-L	NG/G
KOH_1630	0I00073-BH	MM-T1-C2_092120_SED_01-03	Methyl mercury	6.4		6.4	J	LCS-L	NG/G
7474_1631	0I00073-BI	MM-T1-C2_092120_SED_03-05	Mercury	982		982	J	LCS-L	NG/G
KOH_1630	0I00073-59	MM-T2-C1_091820_SED_00-01	Methyl mercury	9.9	U	9.9	UJ	LCS-L	NG/G
KOH_1630	0I00073-60	MM-T2-C1_091820_SED_01-03	Methyl mercury	10.8	U	10.8	UJ	LCS-L	NG/G
7474_1631	0I00073-61	MM-T2-C1_091820_SED_03-05	Mercury	687		687	J	MS-L, MS-RPD	NG/G

TABLE 2
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Method	Lab Sample ID	Field Sample ID	Parameter Name	Lab Result	Lab Qualifier	Validated Result	Validated Qualifier	Validation Reason Code	Result Units
KOH_1630	0I00073-AK	MM-T2-C3_092120_SED_00-01	Methyl mercury	15.8		15.8	J	LCS-L	NG/G
7474_1631	0I00073-AX	MM-T2-C3_092120_SED_01-03	Mercury	751		751	J	LCS-L	NG/G
KOH_1630	0I00073-AXRE2	MM-T2-C3_092120_SED_01-03	Methyl mercury	10.8		10.8	J	LCS-L	NG/G
7474_1631	0I00073-AYRE1	MM-T2-C3_092120_SED_03-05	Mercury	1740		1,740	J	LCS-L, MS-L	NG/G
KOH_1630	0I00073-63	MM-T5-C1_091820_SED_00-01	Methyl mercury	5.9	J	5.9	J	LCS-L	NG/G
KOH_1630	0I00073-64	MM-T5-C1_091820_SED_01-03	Methyl mercury	8	U	8	UJ	LCS-L	NG/G
7474_1631	0I00073-AZ	MM-T5-C3_092120_SED_00-01	Mercury	576		576	J	LCS-L	NG/G
KOH_1630	0I00073-AZ	MM-T5-C3_092120_SED_00-01	Methyl mercury	10.8		10.8	J	LCS-L	NG/G
7474_1631	0I00073-BA	MM-T5-C3_092120_SED_01-03	Mercury	654		654	J	LCS-L	NG/G
KOH_1630	0I00073-BA	MM-T5-C3_092120_SED_01-03	Methyl mercury	10.5		10.5	J	LCS-L	NG/G
7474_1631	0I00073-BB	MM-T5-C3_092120_SED_03-05	Mercury	1150		1,150	J	LCS-L	NG/G
KOH_1630	0I00073-36	OB-01_091720_SED_01-03	Methyl mercury	3.8	J	3.8	J	MS-H	NG/G
KOH_1630	0I00073-66	OB-05_091820_SED_00-01	Methyl mercury	16.9		16.9	J	LCS-L	NG/G
KOH_1630	0I00073-67RE1	OB-05_091820_SED_01-03	Methyl mercury	17.9		17.9	J	LCS-L, MS-H	NG/G
KOH_1630	0I00073-AH	OL-01_091920_SED_00-03	Methyl mercury	0.8	J	0.8	J	LCS-L	NG/G
KOH_1630	0I00073-17	OR-T1-C3_091620_SED_00-01	Methyl mercury	7.4		7.4	J	LCS-L, LCS-RPD	NG/G
KOH_1630	0I00073-18	OR-T1-C3_091620_SED_01-03	Methyl mercury	3.6	J	3.6	J	LCS-L, LCS-RPD, MS-RPD	NG/G
7474_1631	0I00073-19RE1	OR-T1-C3_091620_SED_03-05	Mercury	915		915	J	MS-L	NG/G
KOH_1630	0I00073-20	OR-T1-C5_091620_SED_00-01	Methyl mercury	11		11	J	LCS-L, LCS-RPD	NG/G
KOH_1630	0I00073-21	OR-T1-C5_091620_SED_01-03	Methyl mercury	4.5	U	4.5	UJ	LCS-L	NG/G
7474_1631	0I00073-93	SVE-01_091820_SED_00-01	Mercury	469		469	J	LCS-L	NG/G
KOH_1630	0I00073-93	SVE-01_091820_SED_00-01	Methyl mercury	1.7	J	1.7	J	LCS-L	NG/G
7474_1631	0I00073-94	SVE-01_091820_SED_01-03	Mercury	756		756	J	LCS-L	NG/G
KOH_1630	0I00073-94	SVE-01_091820_SED_01-03	Methyl mercury	3.8	J	3.8	J	LCS-L	NG/G
7474_1631	0I00073-95	SVE-01_091820_SED_03-05	Mercury	588		588	J	LCS-L	NG/G
7474_1631	0I00073-BL	VN-02-04_091620_SED_00-01	Mercury	811		811	J	LCS-L	NG/G
7474_1631	0I00073-BM	VN-02-04_091620_SED_01-03	Mercury	715		715	J	LCS-L	NG/G
KOH_1630	0I00073-08	VN-MU3-GC-1_091620_SED_00-01	Methyl mercury	12.3		12.3	J	LCS-L, LCS-RPD	NG/G

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Method	Lab Sample ID	Field Sample ID	Parameter Name	Lab Result	Lab Qualifier	Validated Result	Validated Qualifier	Validation Reason Code	Result Units
KOH_1630	0I00073-09	VN-MU3-GC-1_091620_SED_01-03	Methyl mercury	8.2		8.2	J	LCS-L, LCS-RPD	NG/G
7474_1631	0I00073-BC	W-17-HIGH_092120_SED_00-01	Mercury	638		638	J	LCS-L	NG/G
KOH_1630	0I00073-BC	W-17-HIGH_092120_SED_00-01	Methyl mercury	8.7		8.7	J	LCS-L	NG/G
7474_1631	0I00073-BD	W-17-HIGH_092120_SED_01-03	Mercury	1830		1,830	J	LCS-L	NG/G
KOH_1630	0I00073-BD	W-17-HIGH_092120_SED_01-03	Methyl mercury	7.3	U	7.3	UJ	LCS-L	NG/G
7474_1631	0I00073-BE	W-17-HIGH_092120_SED_03-05	Mercury	745		745	J	LCS-L	NG/G
KOH_1630	0I00073-69	W-17-Intertidal_091820_SED_00-01	Methyl mercury	8.3		8.3	J	LCS-L	NG/G
KOH_1630	0I00073-70	W-17-Intertidal_091820_SED_01-03	Methyl mercury	3.9	J	3.9	J	LCS-L	NG/G
KOH_1630	0I00073-78	W-17-LOW_091820_SED_00-01	Methyl mercury	7.6		7.6	J	LCS-L	NG/G
KOH_1630	0I00073-79	W-17-LOW_091820_SED_01-03	Methyl mercury	19.9		19.9	J	LCS-L	NG/G
7474_1631	0I00073-BF	W-17-MID_092120_SED_00-01	Mercury	779		779	J	LCS-L	NG/G
KOH_1630	0I00073-BF	W-17-MID_092120_SED_00-01	Methyl mercury	17.8		17.8	J	LCS-L	NG/G
7474_1631	0I00073-BJ	W-17-MID_092120_SED_01-03	Mercury	937		937	J	LCS-L	NG/G
KOH_1630	0I00073-BJ	W-17-MID_092120_SED_01-03	Methyl mercury	4.4	J	4.4	J	LCS-L	NG/G
7474_1631	0I00073-BK	W-17-Mid_092120_SED_03-05	Mercury	1680		1,680	J	LCS-L	NG/G
KOH_1630	0I00073-56RE1	W-22-MID_091820_SED_00-01	Methyl mercury	5.5		5.5	J	LCS-L, MS-H	NG/G
KOH_1630	0I00073-57	W-22-Mid_091820_SED_01-03	Methyl mercury	11.8		11.8	J	LCS-L	NG/G
KOH_1630	0I00073-AL	W-61-HIGH_092020_SED_00-01	Methyl mercury	17		17	J	LCS-L	NG/G
KOH_1630	0I00073-AM	W-61-HIGH_092020_SED_01-03	Methyl mercury	6.2	J	6.2	J	LCS-L	NG/G
KOH_1630	0I00073-81	W-61-Intertidal_091820_SED_00-01	Methyl mercury	9.1		9.1	J	LCS-L	NG/G
7474_1631	0I00073-82	W-61-Intertidal_091820_SED_01-03	Mercury	750		750	J	LCS-L, MS-L	NG/G
KOH_1630	0I00073-82	W-61-Intertidal_091820_SED_01-03	Methyl mercury	3.3	J	3.3	J	LCS-L	NG/G
7474_1631	0I00073-83	W-61-Intertidal_091820_SED_03-05	Mercury	1060		1,060	J	LCS-L, MS-L	NG/G
KOH_1630	0I00073-AO	W-61-LOW_092020_SED_00-01	Methyl mercury	3.2	J	3.2	J	LCS-L	NG/G
KOH_1630	0I00073-AP	W-61-LOW_092020_SED_01-03	Methyl mercury	2.7	J	2.7	J	LCS-L	NG/G
KOH_1630	0I00073-AR	W-61-MID_092020_SED_00-01	Methyl mercury	2.7	J	2.7	J	LCS-L	NG/G
KOH_1630	0I00073-AS	W-61-MID_092020_SED_01-03	Methyl mercury	5.4	U	5.4	UJ	LCS-L	NG/G
EPA-Lloyd Kahn	180-111287-14	ADD-01_091620_SED_01-03	CARBON	61000		61,000	J	LR	MG/KG
2540G	180-111287-25	BU-01-01_091720_SED_00-01	Percent Moisture	57.9		57.9	J	FD	PERCENT

TABLE 2
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DATA VALIDATION QUALIFIERS ADDED
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PENOBSCOT RIVER, MAINE

Method	Lab Sample ID	Field Sample ID	Parameter Name	Lab Result	Lab Qualifier	Validated Result	Validated Qualifier	Validation Reason Code	Result Units
2540G	180-111287-25	BU-01-01_091720_SED_00-01	Percent Solids	42.1		42.1	J	FD	PERCENT
2540G	180-111287-26	BU-01-01_091720_SED_00-01_DUP	Percent Moisture	62.2		62.2	J	FD	PERCENT
2540G	180-111287-26	BU-01-01_091720_SED_00-01_DUP	Percent Solids	37.8		37.8	J	FD	PERCENT
EPA-Lloyd Kahn	180-111287-28	BU-01-01_091720_SED_01-03_DUP	CARBON	56000		56,000	J	LR	MG/KG
EPA-Lloyd Kahn	180-111287-134	MM-T1-C2_092120_SED_01-03	CARBON	74000		74,000	J	LR	MG/KG
EPA-Lloyd Kahn	180-111287-124	MM-T2-C3_092120_SED_01-03	CARBON	80000	F1	80,000	J	MS-L	MG/KG
EPA-Lloyd Kahn	180-111287-65	MM-T5-C1_091820_SED_01-03	CARBON	140000	B	140,000	J	LR	MG/KG
EPA-Lloyd Kahn	180-111287-39	OB-01_091720_SED_03-05	CARBON	55000	F1	55,000	J	MS-H	MG/KG
EPA-Lloyd Kahn	180-111287-20	OR-T1-C3_091620_SED_01-03	CARBON	64000	H	64,000	J	LR	MG/KG
EPA-Lloyd Kahn	180-111287-22	OR-T1-C5_091620_SED_00-01	CARBON	49000		49,000	J	LR	MG/KG
EPA-Lloyd Kahn	180-111287-52	OV-01_091820_SED_03-05	CARBON	2600	B	1,100	U	BL1	MG/KG
EPA-Lloyd Kahn	180-111287-95	SVE-01_091820_SED_01-03	CARBON	45000		45,000	J	LR	MG/KG
EPA-Lloyd Kahn	180-111287-7	VN-02-04_091620_SED_00-01	CARBON	57000	B	57,000	J	LR	MG/KG
EPA-Lloyd Kahn	180-111287-80	W-17-LOW_091820_SED_01-03	CARBON	75000		75,000	J	LR	MG/KG

TABLE 2
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DATA VALIDATION QUALIFIERS ADDED
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PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE

Method	Lab Sample ID	Field Sample ID	Parameter Name	Lab Result	Lab Qualifier	Validated Result	Validated Qualifier	Validation Reason Code	Result Units
EPA-Lloyd Kahn	180-111287-117	W-61-LOW_092020_SED_03-05	CARBON	120000		120,000	J	LR	MG/KG
EPA-Lloyd Kahn	180-111287-119	W-61-MID_092020_SED_01-03	CARBON	150000		150,000	J	LR	MG/KG

Units

MG/KG = Nanogram per gram

NG/G = Nanogram per gram

Validation Qualifier

J = Value is estimated

U = The target compound was not detected above the method detection limit

UJ = The target compound was not detected above the method detection limit and is considered an estimated value.

Validation Reason Codes

BL1 = Method blank detection

FD = Field duplicate relative percent difference limit exceeded

HT = Holding time exceeded

LCS-L = Laboratory control sample (LCS) recovery low

LCS-RPD = LCS RPD limit exceeded

LR = Laboratory replicate RPD limit exceeded

MS-H = Matrix spike (MS) and/or MS duplicate (MSD) recovery high

MS-L = MS and/or MSD recovery low

MS-RPD = MS/MSD RPD limit exceeded

Notes

EPA = US Environmental Protection Agency

ID = Identification

RPD = Relative percent difference

TABLE 3
DATA VALIDATION REPORT
VALIDATED SAMPLE RESULTS
2020 SEDIMENT SAMPLING
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDG 0100073

Location	Sample Date	Field Sample ID	Lab Fraction Method Parameter Units QC Code	Eurofins Frontier Global Sciences Total % Solids Percent Solids Percent		Eurofins Frontier Global Sciences Total 7474_1631 Mercury NG/G		Eurofins Frontier Global Sciences Total KOH_1630 Methyl Mercury NG/G		Eurofins Pittsburgh Total EPA-Lloyd Kahn Carbon MG/KG	
				Final Result	Final Qualifier	Final Result	Final Qualifier	Final Result	Final Qualifier	Final Result	Final Qualifier
ADD-01	9/16/2020	ADD-01_091620_SED_00-01	FS	40.8		31.3	J	4.6	UJ	65000	
ADD-01	9/16/2020	ADD-01_091620_SED_01-03	FS	38.7		38.3	J	5	UJ	61000	J
ADD-01	9/16/2020	ADD-01_091620_SED_03-05	FS	43		34.1	J			43000	
ADD-02	9/16/2020	ADD-02_091620_SED_00-01	FS	51.3		26.2	J	3.8	UJ	17000	
ADD-02	9/16/2020	ADD-02_091620_SED_01-03	FS	49.7		23.5	J	4	UJ	18000	
ADD-02	9/16/2020	ADD-02_091620_SED_03-05	FS	48.9		28.6	J			25000	
BO-04	9/21/2020	BO-04_092120_SED_00-02	FS	27.4		833		8.9	J	91000	
BU-01-01	9/17/2020	BU-01-01_091720_SED_00-01	FS	35.5		858		6.2	J	61000	
BU-01-01	9/17/2020	BU-01-01_091720_SED_01-03	FS	39.1		858		8	J	68000	
BU-01-01	9/17/2020	BU-01-01_091720_SED_03-05	FS	42.7		717				68000	
BU-01-01	9/17/2020	BU-01-01_091720_SED_00-01_DUP	FD	37.9		823		5.6	J	73000	
BU-01-01	9/17/2020	BU-01-01_091720_SED_01-03_DUP	FD	40.9		768		6.3		56000	J
BU-01-01	9/17/2020	BU-01-01_091720_SED_03-05_DUP	FD	42.9		865				79000	
CJ-04	9/20/2020	CJ-04_092020_SED_00-01	FS	35.8		438	J	2.9	J	36000	
CJ-04	9/20/2020	CJ-04_092020_SED_01-03	FS	37		535	J	2.3	J	35000	
CJ-04	9/20/2020	CJ-04_092020_SED_03-05	FS	41.1		612				37000	
E-01-01	9/19/2020	E-01-01_091920_SED_00-01	FS	24.1		514	J	8.8	J	58000	
E-01-01	9/19/2020	E-01-01_091920_SED_01-03	FS	31.8		483	J	10.6	J	50000	
E-01-01	9/19/2020	E-01-01_091920_SED_03-05	FS	35		611	J			49000	
E-01-01	9/19/2020	E-01-01_091920_SED_00-01_DUP	FD	25.4		869	J	11.6	J	61000	
E-01-01	9/19/2020	E-01-01_091920_SED_01-03_DUP	FD	30.7		570	J	11.9	J	52000	
E-01-01	9/19/2020	E-01-01_091920_SED_03-05_DUP	FD	33.8		380	J			45000	
E-01-03	9/19/2020	E-01-03_091920-SED-00-01	FS	33.6		382	J	1.9	J		

TABLE 3
DATA VALIDATION REPORT
VALIDATED SAMPLE RESULTS
2020 SEDIMENT SAMPLING
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDG 0100073

Location	Sample Date	Field Sample ID	Lab Fraction Method Parameter Units QC Code	Eurofins Frontier Global Sciences Total % Solids Percent Solids Percent		Eurofins Frontier Global Sciences Total 7474_1631 Mercury NG/G		Eurofins Frontier Global Sciences Total KOH_1630 Methyl Mercury NG/G		Eurofins Pittsburgh Total EPA-Lloyd Kahn Carbon MG/KG	
				Final Result	Final Qualifier	Final Result	Final Qualifier	Final Result	Final Qualifier	Final Result	Final Qualifier
E-01-03	9/19/2020	E-01-03_091920_SED_00-01	FS							37000	
E-01-03	9/19/2020	E-01-03_091920-SED-01-03	FS	41.4		446	J	4.7	UJ		
E-01-03	9/19/2020	E-01-03_091920_SED_01-03	FS							31000	
E-01-03	9/19/2020	E-01-03_091920-SED-03-05	FS	42		946	J				
E-01-03	9/19/2020	E-01-03_091920_SED_03-05	FS							38000	
E-01-04	9/19/2020	E-01-04_091920_SED_00-01	FS	63.4		192	J	1.1	J	23000	
E-01-04	9/19/2020	E-01-04_091920_SED_01-03	FS	48.8		176	J	3.9	UJ	24000	
E-01-04	9/19/2020	E-01-04_091920_SED_03-05	FS	52.5		101	J			19000	
ES-02	9/16/2020	ES-02_091620_SED_00-01	FS	39.6		592		3.9	J	59000	
ES-02	9/16/2020	ES-02_091620_SED_01-03	FS	41.4		780		2	J	48000	
ES-02	9/16/2020	ES-02_091620_SED_03-05	FS	43.2		1120				41000	
ES-FP	9/19/2020	ES-FP_091920_SED_00-01	FS	59		298	J	3	J	33,000	
ES-FP	9/19/2020	ES-FP_091920_SED_01-03	FS	46.6		242		4.2	UJ	52000	
ES-FP	9/19/2020	ES-FP_091920_SED_030-036	FS	46		110				27000	
FF-08-02	9/18/2020	FF-08-02_091820-SED-00-01	FS	36.3		581		9.2	J		
FF-08-02	9/18/2020	FF-08-02_091820_SED_00-01	FS							49000	
FF-08-02	9/18/2020	FF-08-02_091820-SED-01-03	FS	42.4		605		6.7	J		
FF-08-02	9/18/2020	FF-08-02_091820_SED_01-03	FS							51000	
FF-08-02	9/18/2020	FF-08-02_091820-SED-03-05	FS	44.6		666					
FF-08-02	9/18/2020	FF-08-02_091820_SED_03-05	FS							48000	
FF-08-02	9/18/2020	FF-08-02_091820-SED-00-01_DUP	FD	35.4		593		9.8	J		
FF-08-02	9/18/2020	FF-08-02_091820_SED_00-01_DUP	FD							60000	
FF-08-02	9/18/2020	FF-08-02_091820-SED-01-03_DUP	FD	41.4		648		6.7	J		

TABLE 3
DATA VALIDATION REPORT
VALIDATED SAMPLE RESULTS
2020 SEDIMENT SAMPLING
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDG 0100073

Location	Sample Date	Field Sample ID	Lab Fraction Method Parameter Units QC Code	Eurofins Frontier Global Sciences Total % Solids Percent Solids Percent		Eurofins Frontier Global Sciences Total 7474_1631 Mercury NG/G		Eurofins Frontier Global Sciences Total KOH_1630 Methyl Mercury NG/G		Eurofins Pittsburgh Total EPA-Lloyd Kahn Carbon MG/KG	
				Final Result	Final Qualifier	Final Result	Final Qualifier	Final Result	Final Qualifier	Final Result	Final Qualifier
FF-08-02	9/18/2020	FF-08-02_091820_SED_01-03_DUP	FD							51000	
FF-08-02	9/18/2020	FF-08-02_091820-SED-03-05_DUP	FD	46.3		569					
FF-08-02	9/18/2020	FF-08-02_091820_SED_03-05_DUP	FD							52000	
FRB-01	9/21/2020	FRB-01_092120_SED_00-01	FS	32		30.5		6	UJ	34000	
FRB-01	9/21/2020	FRB-01_092120_SED_01-03	FS	39.3		26.4		4.7	UJ	19000	
FRB-01	9/21/2020	FRB-01_092120_SED_03-05	FS	45.4		32.5	J			17000	
FRB-02	9/15/2020	FRB-02_091520_SED_00-01	FS	57.2		21.5	J	3.3	UJ	19000	
FRB-02	9/15/2020	FRB-02_091520_SED_01-03	FS	58.3		26.8	J	3.2	UJ	17000	
FRB-02	9/15/2020	FRB-02_091520_SED_03-05	FS	65.6		27	J			14000	
L9-45	9/20/2020	L9-45_092020_SED_00-01	FS	36.9		414		2.1	J	30000	
L9-45	9/20/2020	L9-45_092020_SED_01-03	FS	39.4		526		1.7	J	32000	
L9-45	9/20/2020	L9-45_092020_SED_03-05	FS	39.4		709				36000	
MM-T1-C2	9/21/2020	MM-T1-C2_092120_SED_00-01	FS	29.7		792	J	7.1	J	89000	
MM-T1-C2	9/21/2020	MM-T1-C2_092120_SED_01-03	FS	32.7		892	J	6.4	J	74000	J
MM-T1-C2	9/21/2020	MM-T1-C2_092120_SED_03-05	FS	32.8		982	J			89000	
MM-T2-C1	9/18/2020	MM-T2-C1_091820_SED_00-01	FS	18.9		159		9.9	UJ	250000	
MM-T2-C1	9/18/2020	MM-T2-C1_091820_SED_01-03	FS	17.5		565		10.8	UJ	210000	
MM-T2-C1	9/18/2020	MM-T2-C1_091820_SED_03-05	FS	16.2		687	J			290000	
MM-T2-C3	9/21/2020	MM-T2-C3_092120_SED_00-01	FS	43.7		567		15.8	J	64000	
MM-T2-C3	9/21/2020	MM-T2-C3_092120_SED_01-03	FS	39.9		751	J	10.8	J	80000	J
MM-T2-C3	9/21/2020	MM-T2-C3_092120_SED_03-05	FS	41.6		1740	J			82000	
MM-T5-C1	9/18/2020	MM-T5-C1_091820_SED_00-01	FS	26.2		631		5.9	J	130000	
MM-T5-C1	9/18/2020	MM-T5-C1_091820_SED_01-03	FS	24.7		982		8	UJ	140000	J

TABLE 3
DATA VALIDATION REPORT
VALIDATED SAMPLE RESULTS
2020 SEDIMENT SAMPLING
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDG 0100073

Location	Sample Date	Field Sample ID	Lab Fraction Method Parameter Units QC Code	Eurofins Frontier Global Sciences Total % Solids Percent Solids Percent		Eurofins Frontier Global Sciences Total 7474_1631 Mercury NG/G		Eurofins Frontier Global Sciences Total KOH_1630 Methyl Mercury NG/G		Eurofins Pittsburgh Total EPA-Lloyd Kahn Carbon MG/KG	
				Final Result	Final Qualifier	Final Result	Final Qualifier	Final Result	Final Qualifier	Final Result	Final Qualifier
MM-T5-C1	9/18/2020	MM-T5-C1_091820_SED_03-05	FS	21.8		1940				150000	
MM-T5-C3	9/21/2020	MM-T5-C3_092120_SED_00-01	FS	30.2		576	J	10.8	J	130000	
MM-T5-C3	9/21/2020	MM-T5-C3_092120_SED_01-03	FS	27.3		654	J	10.5	J	130000	
MM-T5-C3	9/21/2020	MM-T5-C3_092120_SED_03-05	FS	30.2		1150	J			120000	
MMSW-C	9/17/2020	MMSW-C_091720_SED_00-01	FS	28.9		470		5.6	J	110000	
MMSW-C	9/17/2020	MMSW-C_091720_SED_01-03	FS	27.3		540		2.1	J	100000	
MMSW-C	9/17/2020	MMSW-C_091720_SED_03-05	FS	25.8		1770				140000	
OB-01	9/17/2020	OB-01_091720_SED_00-01	FS	34.6		600		2.8	J	68000	
OB-01	9/17/2020	OB-01_091720_SED_01-03	FS	34.6		669		3.8	J	62000	
OB-01	9/17/2020	OB-01_091720_SED_03-05	FS	34		786				55000	J
OB-05	9/18/2020	OB-05_091820_SED_00-01	FS	34.3		714		16.9	J	54000	
OB-05	9/18/2020	OB-05_091820_SED_01-03	FS	32.9		968		17.9	J	80000	
OB-05	9/18/2020	OB-05_091820_SED_03-05	FS	39.8		743				60000	
OL-01	9/19/2020	OL-01_091920_SED_00-03	FS							14000	
OL-01	9/20/2020	OL-01_091920_SED_00-03	FS	69		124		0.8	J		
OR-T1-C1	9/17/2020	OR-T1-C1_091720_SED_00-01	FS	35.9		668		15.5		51000	
OR-T1-C1	9/17/2020	OR-T1-C1_091720_SED_01-03	FS	38.5		838		7.1		59000	
OR-T1-C1	9/17/2020	OR-T1-C1_091720_SED_03-05	FS	40.3		876				54000	
OR-T1-C1	9/17/2020	OR-T1-C1_091720_SED_00-01_DUP	FD	34.5		604		14.4		56000	
OR-T1-C1	9/17/2020	OR-T1-C1_091720_SED_01-03_DUP	FD	39.2		725		6.2		56000	
OR-T1-C1	9/17/2020	OR-T1-C1_091720_SED_03-05_DUP	FD	39.4		901				51000	
OR-T1-C3	9/16/2020	OR-T1-C3_091620_SED_00-01	FS	39.8		608		7.4	J	52000	
OR-T1-C3	9/16/2020	OR-T1-C3_091620_SED_01-03	FS	38.3		824		3.6	J	64000	J

TABLE 3
DATA VALIDATION REPORT
VALIDATED SAMPLE RESULTS
2020 SEDIMENT SAMPLING
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDG 0100073

Location	Sample Date	Field Sample ID	Lab Fraction Method Parameter Units QC Code	Eurofins Frontier Global Sciences Total % Solids Percent Solids Percent		Eurofins Frontier Global Sciences Total 7474_1631 Mercury NG/G		Eurofins Frontier Global Sciences Total KOH_1630 Methyl Mercury NG/G		Eurofins Pittsburgh Total EPA-Lloyd Kahn Carbon MG/KG	
				Final Result	Final Qualifier	Final Result	Final Qualifier	Final Result	Final Qualifier	Final Result	Final Qualifier
OR-T1-C3	9/16/2020	OR-T1-C3_091620_SED_03-05	FS	39.2		915	J			69000	
OR-T1-C5	9/16/2020	OR-T1-C5_091620_SED_00-01	FS	37.7		500		11	J	49000	J
OR-T1-C5	9/16/2020	OR-T1-C5_091620_SED_01-03	FS	43.1		630		4.5	UJ	58000	
OR-T1-C5	9/16/2020	OR-T1-C5_091620_SED_03-05	FS	41.7		704				62000	
OV-01	9/18/2020	OV-01_091820_SED_00-01	FS	95.6		13	J	1.9	U	2000	
OV-01	9/18/2020	OV-01_091820_SED_01-03	FS	95.5		15.6	J	1.9	U	2300	
OV-01	9/18/2020	OV-01_091820_SED_03-05	FS	91.5		17.4	J			2600	U
OV-04	9/16/2020	OV-04_091620_SED_00-01	FS	73.5		22.4	J	2.7	U	9700	
OV-04	9/16/2020	OV-04_091620_SED_01-03	FS	77.8		17.4	J	2.5	U	6500	
OV-04	9/16/2020	OV-04_091620_SED_03-05	FS	82.4		16.7	J			5300	
PBR-28	9/17/2020	PBR-28_091720_SED_00-01	FS							62000	
PBR-28	9/17/2020	PBR-28_0917_SED_00-01	FS	33.1		907		8.6			
PBR-28	9/17/2020	PBR-28_091720_SED_01-03	FS	43.2		581		4	J	45000	
PBR-28	9/17/2020	PBR-28_091720_SED_03-05	FS	45.6		1110				56000	
PBR-28	9/17/2020	PBR-28_091720_SED_00-01_DUP	FD	34.9		739		5.6	J	48000	
PBR-28	9/17/2020	PBR-28_091720_SED_01-03_DUP	FD	39.8		825		3.6	J	46000	
PBR-28	9/17/2020	PBR-28_091720_SED_03-05_DUP	FD	44.2		1050				50000	
SVE-01	9/18/2020	SVE-01_091820_SED_00-01	FS	59.4		469	J	1.7	J	37000	
SVE-01	9/18/2020	SVE-01_091820_SED_01-03	FS	44.3		756	J	3.8	J	45000	J
SVE-01	9/18/2020	SVE-01_091820_SED_03-05	FS	47.6		588	J			32000	
VN-02-04	9/16/2020	VN-02-04_091620_SED_00-01	FS	33.4		811	J	6.1		57000	J
VN-02-04	9/16/2020	VN-02-04_091620_SED_01-03	FS	36.8		715	J	5.2		54000	
VN-02-04	9/16/2020	VN-02-04_091620_SED_03-05	FS	39.3		653				53000	

TABLE 3
DATA VALIDATION REPORT
VALIDATED SAMPLE RESULTS
2020 SEDIMENT SAMPLING
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDG 0100073

Location	Sample Date	Field Sample ID	Lab Fraction Method Parameter Units QC Code	Eurofins Frontier Global Sciences Total % Solids Percent Solids Percent		Eurofins Frontier Global Sciences Total 7474_1631 Mercury NG/G		Eurofins Frontier Global Sciences Total KOH_1630 Methyl Mercury NG/G		Eurofins Pittsburgh Total EPA-Lloyd Kahn Carbon MG/KG	
				Final Result	Final Qualifier	Final Result	Final Qualifier	Final Result	Final Qualifier	Final Result	Final Qualifier
VN-MU3-GC-1	9/16/2020	VN-MU3-GC-1_091620_SED_00-01	FS	31.4		839		12.3	J	73000	
VN-MU3-GC-1	9/16/2020	VN-MU3-GC-1_091620_SED_01-03	FS	44		631		8.2	J	52000	
VN-MU3-GC-1	9/16/2020	VN-MU3-GC-1_091620_SED_03-05	FS	41.9		798				65000	
W-17-High	9/21/2020	W-17-HIGH_092120_SED_00-01	FS	23.1		638	J	8.7	J	170000	
W-17-High	9/21/2020	W-17-HIGH_092120_SED_01-03	FS	25.6		1830	J	7.3	UJ	210000	
W-17-High	9/21/2020	W-17-HIGH_092120_SED_03-05	FS	23.7		745	J			180000	
W-17-Intertidal	9/18/2020	W-17-Intertidal_091820_SED_00-01	FS	41.9		648		8.3	J	38000	
W-17-Intertidal	9/18/2020	W-17-Intertidal_091820_SED_01-03	FS	48.5		537		3.9	J	46000	
W-17-Intertidal	9/18/2020	W-17-Intertidal_091820_SED_03-05	FS	52.9		797				43000	
W-17-Low	9/18/2020	W-17-LOW_091820_SED_00-01	FS	36.9		1020		7.6	J	79000	
W-17-Low	9/18/2020	W-17-LOW_091820_SED_01-03	FS	41.2		700		19.9	J	75000	J
W-17-Low	9/18/2020	W-17-LOW_091820_SED_03-05	FS	32.6		1430				89000	
W-17-Mid	9/21/2020	W-17-MID_092120_SED_00-01	FS	25.4		779	J	17.8	J	140000	
W-17-Mid	9/21/2020	W-17-MID_092120_SED_01-03	FS	23.2		937	J	4.4	J	160000	
W-17-Mid	9/21/2020	W-17-Mid_092120_SED_03-05	FS	25.9		1680	J			160000	
W-17-N	9/17/2020	W-17-N_091720_SED_00-01	FS	23.7		607		7.3	J	180000	
W-17-N	9/17/2020	W-17-N_091720_SED_01-03	FS	21		1610		14.3		210000	
W-17-N	9/17/2020	W-17-N_091720_SED_03-05	FS	21.6		1310				190000	
W-22-Mid	9/18/2020	W-22-MID_091820_SED_00-01	FS	39		700		5.5	J	87000	
W-22-Mid	9/18/2020	W-22-Mid_091820_SED_01-03	FS	40.4		752		11.8	J	87000	
W-22-Mid	9/18/2020	W-22-MID_091820_SED_03-05	FS	39.6		1070				92000	
W-61-High	9/20/2020	W-61-HIGH_092020_SED_00-01	FS	19.6		336		17	J	260000	
W-61-High	9/20/2020	W-61-HIGH_092020_SED_01-03	FS	27.2		365		6.2	J	160000	

TABLE 3
DATA VALIDATION REPORT
VALIDATED SAMPLE RESULTS
2020 SEDIMENT SAMPLING
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDG 0100073

Location	Sample Date	Field Sample ID	Lab Fraction Method Parameter Units QC Code	Eurofins Frontier Global Sciences Total % Solids Percent Solids Percent		Eurofins Frontier Global Sciences Total 7474_1631 Mercury NG/G		Eurofins Frontier Global Sciences Total KOH_1630 Methyl Mercury NG/G		Eurofins Pittsburgh Total EPA-Lloyd Kahn Carbon MG/KG	
				Final Result	Final Qualifier	Final Result	Final Qualifier	Final Result	Final Qualifier	Final Result	Final Qualifier
W-61-High	9/20/2020	W-61-HIGH_092020_SED_03-05	FS	62.7		134				38000	
W-61-Intertidal	9/18/2020	W-61-Intertidal_091820_SED_00-01	FS	41.8		587		9.1	J	59000	
W-61-Intertidal	9/18/2020	W-61-Intertidal_091820_SED_01-03	FS	39.3		750	J	3.3	J	67000	
W-61-Intertidal	9/18/2020	W-61-Intertidal_091820_SED_03-05	FS	42.2		1060	J			71000	
W-61-Low	9/20/2020	W-61-LOW_092020_SED_00-01	FS	32.2		1060		3.2	J	93000	
W-61-Low	9/20/2020	W-61-LOW_092020_SED_01-03	FS	38		656		2.7	J	110000	
W-61-Low	9/20/2020	W-61-LOW_092020_SED_03-05	FS	31.2		1400				120000	J
W-61-Mid	9/20/2020	W-61-MID_092020_SED_00-01	FS	26.5		500		2.7	J	110000	
W-61-Mid	9/20/2020	W-61-MID_092020_SED_01-03	FS	34.7		634		5.4	UJ	150000	J
W-61-Mid	9/20/2020	W-61-MID_092020_SED_03-05	FS	47.8		484				53000	

Units

MG/KG = Nanogram per gram

NG/G = Nanogram per gram

Validation Qualifier

J = Value is estimated

U = The target compound was not detected above the method detection limit

UJ = The target compound was not detected above the method detection limit and is considered an estimated value.

Notes

EPA = US Environmental Protection Agency

FD = Field duplicate

FS = Field sample

ID = Identification

KOH = Potassium hydroxide

**Data Validation Summary
 April 2020 Surface Water Sampling
 Penobscot River 2020 Monitoring
 Penobscot River, Maine**

1.0 INTRODUCTION

Surface water samples were collected in April 2020 for the Penobscot River located in Maine. Samples were analyzed by three Eurofins network laboratories - Eurofins Frontier Global Sciences, Inc. (Eurofins) located in Tacoma, Washington; Eurofins TestAmerica (TestAmerica) located in Pittsburgh, Pennsylvania; and Eurofins Calscience (Calscience) located in Garden Grove, California. Samples were analyzed by one or more of the following: United States Environmental Protection Agency (USEPA) SW-846 (USEPA, 2014), Clean Water Act (CWA, 2012), Standard Methods for the Examination of Water and Wastewater (SM, 1997):

Laboratory	Sample Delivery Group (SDG)	Parameter	Analytical Method	Validation Level
Eurofins	0D00074 0E00002	Mercury, total and dissolved	CWA1631E	10% Stage III/ 90% Stage IIB
Eurofins	0D00074 0E00002	Methyl mercury, total and dissolved	CWA 1630	10% Stage III/ 90% Stage IIB
Eurofins Calscience	570-27031-1 570-27224-1	Suspended Sediment Concentration	ASTM D3977-97B	10% Stage III/ 90% Stage IIB
TestAmerica	180-105175-1 180-105307-1	Organic Carbon, total and dissolved	SW-846 9060A	10% Stage III/ 90% Stage IIB
TestAmerica	180-105175-1 180-105307-1	Total Suspended Solids	SM 2540D	10% Stage III/ 90% Stage IIB

A Stage IIB data validation was completed on all SDGs. A Stage III data validation was performed on ten percent of samples. Data validation was completed using National Functional Guidelines for Inorganic Superfund Data Review (USEPA, 2017) and EPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures (USEPA, 2013) where applicable. Data quality evaluations were completed using quality control (QC) limits specified in the Draft Quality Assurance Project Plan (QAPP) Penobscot River 2020 Monitoring [Wood, 2020]. The project laboratory reported results using a combination of two detection limits including the reporting limit (RL) and the method detection limit (MDL). Results for compounds that are not detected in samples are reported as U qualified results at the RL. Positive detections between the MDL and RL are qualified as estimated (J) by the laboratory.

Data validation review and qualification actions are discussed in the following subsections. It should be noted that only instances that result in an impact to data quality are presented in this report. There may be QC elements outside of QAPP and/or method control limits not presented in this report since there is no impact to data quality. Samples included in this data evaluation are presented in Table 1.

Data qualifications were completed if necessary, in accordance with the guidelines or the professional judgment of the project chemist. The following qualifiers as applied during data validation or reported by the laboratory are included in the final data set:

- J = The reported concentration is considered an estimated value
- U = The target compound was not detected above the method detection limit
- UJ = The target compound was not detected, and the reporting limit is considered an estimated value.

Validation reason codes were applied to results associated with QC measurements outside project QC goals. The validation qualification actions, and associated validation reason codes applied to sample results are summarized on Table 2. The following data validation reason codes were applied to one or more sample results:

- BL1 = Method blank contamination
- BL2 = Equipment blank contamination
- FD = Field duplicate imprecision
- HT = Holding time exceedance

A complete summary of final sample results is provided in Table 3.

Data were evaluated based on the following parameters:

- Data Completeness and Chain of Custody
- Holding Times and Preservation
- Blanks
- * Initial Calibration
- * Continuing Calibration
- * Laboratory Control Sample (LCS)
- * MS/MSD
- * Laboratory Duplicates
- Field Duplicates
- * Detection Limits
- * Sample Result Verification/Electronic Evaluation Verification (EDD)
- * Ongoing Precision Recovery

- * = indicates that criteria were met and/or no impact to data quality for this parameter

With the exception of the following items discussed below, results were determined to be usable as reported by the laboratory.

2.0 Methyl Mercury – 1630

Blanks

Dissolved methyl mercury was detected in the equipment blank associated with all samples at a concentration of 0.126 ng/L. An action level was established at five times the concentration reported in the equipment blank. Dissolved methyl mercury is non-detect in sample WQ-FPT_042920_SW_10 and not impacted by the potential high bias. Dissolved methyl mercury results for samples WQ1b-C_042720_SW_10, WQ1b-C_042720_SW_10_DUP, WQ2-C_042720_SW_10, WQ3-L_042720_SW_10, ES-15_042920_SW_10, WQ_ECH_042920_SW_10, OV-02_042920_SW_10, and ADD-02_042920_SW_10 were less than the action level and were qualified as non-detect. (U – BL2)

Methyl mercury was detected in a method blank associated with a subset of samples at the highest concentration of 0.049 ng/L. An action level was established at five times the concentration reported in the prep blank. Dissolved methyl mercury in sample WQ1b-C_042720_SW_10 and total and dissolved methyl mercury in samples WQ2-C_042720_SW_10 and WQ3-L_042720_SW_10 were less than the action level and were qualified non-detect. (U – BL1)

Methyl mercury was detected in a calibration blank associated with a subset of samples at a concentration of 0.022 ng/L. An action level was established at five times the concentration reported in the blank. Total methyl mercury in sample WQ-FPT_042920_SW_10 and dissolved methyl mercury in sample ES-15_042920_SW_10 were less than the action level and were qualified non-detect. (U – BL1)

Field Duplicate

Sample WQ1b-C_042720_SW_10_DUP was submitted as a field duplicate of sample WQ1b-C_042720_SW_10. Total methyl mercury was detected >5X the RL in sample WQ1b-C_042720_SW_10 at 0.418 ng/L and ND in sample WQ1b-C_042720_SW_10_DUP. The total methyl mercury result in sample WQ1b-C_042720_SW_10 and WQ1b-C_042720_SW_10_DUP were qualified due to the imprecision. (J/UJ – FD)

3.0 Mercury – 1631

Blanks

Total mercury (0.14 J ng/L) and dissolved mercury (0.18 J ng/L) were detected in the equipment blank associated with all samples. An action level was established at five times the concentrations reported in the equipment blank. All sample results were greater than five times the blank concentration and data usability is not impacted.

4.0 Total Organic Carbon – 9060A

Results were determined to be usable as reported by the laboratory.

5.0 Dissolved Organic Carbon – 9060A

Results were determined to be usable as reported by the laboratory.

6.0 Total Suspended Solids – 2540D

Field Duplicate

Sample WQ1b-C_042720_SW_10_DUP was submitted as a field duplicate of sample WQ1b-C_042720_SW_10. The RPD for TSS (78%) exceeded the QC limit of 30. TSS results for samples WQ1b-C_042720_SW_10_DUP and WQ1b-C_042720_SW_10 were qualified as estimated. (J - FD)

7.0 Suspended Sediment Concentration – D3977-97B

Holding Time

Samples received for SSC analysis were sent to Eurofins Calscience for analysis. Due to an internal error at Eurofins Calscience, samples WQ1b-C_042720_SW_10, WQ2-C_042720_SW_10, and WQ3-L_042720_SW_10 were analyzed past the method holding time of 14 days. Samples were qualified as estimated due to the holding time exceedance. (J – HT)

Chain of Custody

Due to laboratory error sample WQ1b-C_042720_SW_10_DUP was not logged in as a separate sample. Sample WQ1b-C_042720_SW_10 was analyzed as a laboratory duplicate had an RPD of 9. This shows acceptable precision, and no qualification is necessary.

References:

Wood, 2020. "Quality Assurance Project Plan Penobscot River 2020 Monitoring Plan Draft", Penobscot River, Maine, June 17, 2020.

U.S. Environmental Protection Agency (USEPA), 2004. "Final Update IIIB and Method 9071B of Final Update IIIA"; Test Methods for Evaluating Solid Waste Physical/Chemical Methods SW-846; Office of Solid Waste and Emergency Response, EPA-SW-846-03-03B; November 2004.

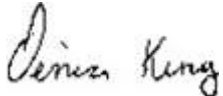
U.S. Environmental Protection Agency (USEPA), 2009. "Guidance for Labeling Externally Validated Laboratory Analytical data for Superfund Use"; Office of Solid Waste and Emergency Response; EPA 540-R-08-005; January 13, 2009.

U.S. Environmental Protection Agency (USEPA), 2017. "National Functional Guidelines for Inorganic Superfund Methods Data Review"; Office of Superfund Remediation and Technology Innovation; EPA-540-R-2017-001; January 2017.

U.S. Environmental Protection Agency (USEPA), 2013. "EPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures"; Quality Assurance Unit Staff; Office of Environmental Measurement and Evaluation; April 22, 2013.

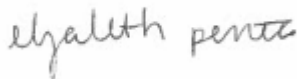
Data Validator: Denise King

November 11, 2020



Reviewer: Elizabeth Penta

November 13, 2020



**Data Validation Summary
 October 2020 Surface Water Sampling
 Penobscot River 2020 Monitoring
 Penobscot River, Maine**

1.0 INTRODUCTION

Surface water samples were collected in October 2020 for the Penobscot River located in Maine. Samples were analyzed by three Eurofins network laboratories - Eurofins Frontier Global Sciences, Inc. (Eurofins) located in Tacoma, Washington; Eurofins TestAmerica (TestAmerica) located in Pittsburgh, Pennsylvania; and Eurofins Calscience (Calscience) located in Garden Grove, California. Samples were analyzed by one or more of the following: United States Environmental Protection Agency (USEPA) SW-846 (USEPA, 2014), Clean Water Act (CWA, 2012), Standard Methods for the Examination of Water and Wastewater (SM, 1997):

Laboratory	Sample Delivery Group (SDG)	Parameter	Analytical Method	Validation Level
Eurofins	0J00143 0J00147	Mercury, total and dissolved	CWA1631E	10% Stage III/ 90% Stage IIB
Eurofins	0J00143 0J00147	Methyl mercury, total and dissolved	CWA 1630	10% Stage III/ 90% Stage IIB
Eurofins CalScience	570-42546-1 570-42632-1	Suspended Sediment Concentration	ASTM D3977-97B	10% Stage III/ 90% Stage IIB
TestAmerica	180-112876-1 180-112945-1	Organic Carbon, total and dissolved	SW-846 9060A	10% Stage III/ 90% Stage IIB
TestAmerica	180-112876-1 180-112945-1	Total Suspended Solids	SM 2540D	10% Stage III/ 90% Stage IIB

A Stage IIB data validation was completed on all SDGs. A Stage III data validation was performed on ten percent of samples. Data validation was completed using National Functional Guidelines for Inorganic Superfund Data Review (USEPA, 2017) and EPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures (USEPA, 2013) where applicable. Data quality evaluations were completed using quality control (QC) limits specified in the Draft Quality Assurance Project Plan (QAPP) Penobscot River 2020 Monitoring [Wood, 2020]. The project laboratory reported results using a combination of two detection limits including the reporting limit (RL) and the method detection limit (MDL). Results for compounds that are not detected in samples are reported as U qualified results at the RL. Positive detections between the MDL and RL are qualified as estimated (J) by the laboratory.

Data validation review and qualification actions are discussed in the following subsections. It should be noted that only instances that result in an impact to data quality are presented in this report. There may be QC elements outside of QAPP and/or method control limits not presented in this report since there is no impact to data quality. Samples included in this data evaluation are presented in Table 1.

Data qualifications were completed if necessary, in accordance with the guidelines or the professional judgment of the project chemist. The following qualifiers as applied during data validation or reported by the laboratory are included in the final data set:

- J = The reported concentration is considered an estimated value
- U = The target compound was not detected above the method detection limit

Validation reason codes were applied to results associated with QC measurements outside project QC goals. The validation qualification actions, and associated validation reason codes applied to sample results are summarized on Table 2. The following data validation reason codes were applied to one or more sample results:

- BL1 = Method blank contamination
- BL2 = Equipment blank contamination
- FD = Field duplicate imprecision
- MS-L = MS and/or MSD recovery low
- MS-RPD = MS/MSD RPD limit exceeded
- SP = Sample preservation/collection does not meet method requirement

A complete summary of final sample results is provided in Table 3.

Data were evaluated based on the following parameters:

- Data Completeness and Chain of Custody
- Holding Times and Preservation
- Blanks
- * Initial Calibration
- * Continuing Calibration
- * Laboratory Control Sample (LCS)
- MS/MSD
- * Laboratory Duplicates
- Field Duplicates
- * Detection Limits
- * Sample Result Verification/Electronic Evaluation Verification (EDD)
- * Ongoing Precision Recovery

- * = indicates that criteria were met and/or no impact to data quality for this parameter

With the exception of the following items discussed below, results were determined to be usable as reported by the laboratory.

2.0 Methyl Mercury – 1630

Sample Containers

Due to multiple shipping delays the Eurofins certified pre-cleaned sampling containers did not arrive in time for sample collection. The samples were collected in containers from a local lab. The local lab containers did go through the necessary pre-cleaning processes and were pre-cleaned with HNO₃. The containers are certified to Hg < 0.2 µg/L. The Wood sampling team had two sets of Eurofins pre-cleaned containers from a previous sampling round. We collected two samples, WQ1b-C_102820_SW_10 and WQ2-C_102820_SW_10, in both the Eurofins bottles as well as the bottles from the local lab. The sample results across both sets of containers were reviewed to see if there was an impact. It does appear that there may be a slight high bias in the methyl mercury results. In order to maintain a consistent data set all sample results were reported from the local lab bottles only. Wood J qualified all of the detected methyl mercury results due to the potential high bias. (J-SP)

Blanks

Methyl mercury was detected in an initial calibration blank associated with a subset of samples at a concentration of 0.008 ng/L. An action level was established at five times the concentration reported in the prep blank. Total and dissolved methyl mercury in sample WQ3-L_102820_SW_10 was less than the action level and were qualified non-detect. (U – BL1)

Methyl mercury was detected in a calibration blank associated with a subset of samples at a concentration of 0.010 ng/L. An action level was established at five times the concentration reported in the blank. Dissolved methyl mercury in sample WQ3-L_102820_SW_10 was less than the action level and was qualified non-detect. (U – BL1)

Field Duplicate

Sample OV-02_102920_SW_10_DUP was submitted as a field duplicate of sample OV-02_102920_SW_10. The RPD for dissolved methyl mercury (43%) exceeded the QC limit of 30%. Dissolved methyl mercury results for samples OV-02_102920_SW_10_DUP and OV-02_102920_SW_10 were qualified as estimated due to the imprecision. (J - FD)

Matrix Spike

Sample OV-02_102920_SW_10 was used as the source for the dissolved methyl mercury MS/MSD analysis. The MSD recovery for dissolved methyl mercury (33.6%) was below the QC limit of 65%. Sample results for OV-02_102920_SW_10 and OV-02_102920_SW_10_DUP were qualified as estimated (J) due to the potential low bias. (J – MS-L)

3.0 Mercury – 1631

Sample Containers

Due to multiple shipping delays the Eurofins certified pre-cleaned sampling containers did not arrive in time for sample collection. The samples were collected in containers from a local lab. The local lab containers did go through the necessary pre-cleaning processes and were pre-cleaned with HNO₃. The containers are certified to Hg < 0.2 µg/L. The Wood sampling team had two sets of Eurofins pre-cleaned containers from a previous sampling round. We collected two samples, WQ1b-C_102820_SW_10 and WQ2-C_102820_SW_10, in both the Eurofins bottles as well as the bottles from the local lab. The sample results across both sets of containers were reviewed to see if there was an impact. It does appear that there may be a slight high bias in the mercury results. In order to maintain a consistent data set all sample results were reported from the local lab bottles only. Wood J qualified all of the detected mercury results due to the potential high bias. (J-SP)

Blanks

Total mercury (0.31 J ng/L) and dissolved mercury (2.48 ng/L) were detected in the equipment blank associated with all samples. An action level was established at five times the concentrations reported in the equipment blank. All sample results for total mercury were greater than five times the blank concentration and data usability is not impacted. All sample results for dissolved mercury were less than five times the blank concentration. Based on professional judgment, reviewing historical data, and discussions with the project team Wood J qualified all dissolved mercury sample results rather than qualifying results as non-detect. (J – BL2)

Matrix Spike

Sample WQ1b-C_102820_SW_10 was used as the source for the total mercury MS/MSD analysis. The MSD recovery for total mercury (58.1%) was below the QC limit of 71%. The total mercury result for WQ1b-C_102820_SW_10 was qualified as estimated (J) due to the potential low bias. (J – MS-L)

4.0 Total Organic Carbon – 9060A

Results were determined to be usable as reported by the laboratory.

5.0 Dissolved Organic Carbon – 9060A

Results were determined to be usable as reported by the laboratory.

6.0 Total Suspended Solids – 2540D

Field Duplicate

Sample OV-02_102920_SW_10_DUP was submitted as a field duplicate of sample OV-02_102920_SW_10. The RPD for TSS (75%) exceeded the QC limit of 30%. TSS results for samples OV-02_102920_SW_10_DUP and OV-02_102920_SW_10 were qualified as estimated due to the imprecision. (J - FD)

7.0 Suspended Sediment Concentration – D3977-97B

Chain of Custody

Due to laboratory error samples were subcontracted to Eurofins CalScience using the Eurofins Frontier Global Sciences sample IDs and not the samples IDs provided on the chain of custody. Wood requested a revised report correcting the samples IDs.

References:

Wood, 2020. "Quality Assurance Project Plan Penobscot River 2020 Monitoring Plan Draft", Penobscot River, Maine, June 17, 2020.

U.S. Environmental Protection Agency (USEPA), 2004. "Final Update IIIB and Method 9071B of Final Update IIIA"; Test Methods for Evaluating Solid Waste Physical/Chemical Methods SW-846; Office of Solid Waste and Emergency Response, EPA-SW-846-03-03B; November 2004.

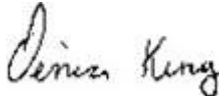
U.S. Environmental Protection Agency (USEPA), 2009. "Guidance for Labeling Externally Validated Laboratory Analytical data for Superfund Use"; Office of Solid Waste and Emergency Response; EPA 540-R-08-005; January 13, 2009.

U.S. Environmental Protection Agency (USEPA), 2017. "National Functional Guidelines for Inorganic Superfund Methods Data Review"; Office of Superfund Remediation and Technology Innovation; EPA-540-R-2017-001; January 2017.

U.S. Environmental Protection Agency (USEPA), 2013. "EPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures"; Quality Assurance Unit Staff; Office of Environmental Measurement and Evaluation; April 22, 2013.

Data Validator: Denise King

December 09, 2020



Reviewer: Elizabeth Penta

December 09, 2020

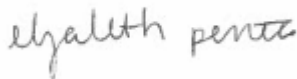


Table 1
Data Validation Summary
October 2020 Surface Water Sampling
Penobscot River 2020 Monitoring
Penobscot River, Maine

				Method Class		Mercury	Mercury	Methyl Mercury	Methyl Mercury	DOC	TOC	TSS	SSC
				Analysis Method		EPA 1631	EPA 1631	EPA 1630	EPA 1630	EPA 9060A	EPA 9060A	SM 2540D	ASTM D3977B
				Fraction		Dissolved	Total	Dissolved	Total	Dissolved	Total	Total	Total
SDG	Location ID	Sample ID	Sample Date	Media	QC Code	Count	Count	Count	Count	Count	Count	Count	Count
0J00143	ES-15	ES-15_102820_SW_10	10/28/2020	SW	FS	1	1	1	1				
0J00143	WQ-ECH	WQ-ECH_102820_SW_10	10/28/2020	SW	FS	1	1	1	1				
0J00143	WQ-FPT	WQ-FPT_102820_SW_10	10/28/2020	SW	FS	1	1	1	1				
0J00143	WQ1b-C	WQ1B-C_102820_SW_10	10/28/2020	SW	FS	1	1	1	1				
0J00143	WQ2-C	WQ2-C_102820_SW_10	10/28/2020	SW	FS	1	1	1	1				
0J00143	WQ3-L	WQ3-L_102820_SW_10	10/28/2020	SW	FS	1	1	1	1				
0J00147	ADD-02	ADD-02_102920_SW_10	10/29/2020	SW	FS	1	1	1	1				
0J00147	OV-02	OV-02_102920_SW_10	10/29/2020	SW	FS	1	1	1	1				
0J00147	OV-02	OV-02_102920_SW_10_DUP	10/29/2020	SW	FD	1	1	1	1				
0J00147	QC	EQ_BLANK_10290_SW_OC	10/29/2020	BW	EB	1	1						
180-112876-1	ES-15	ES-15_102820_SW_10	10/28/2020	SW	FS					1	1	1	
180-112876-1	WQ-ECH	WQ-ECH_102820_SW_10	10/28/2020	SW	FS					1	1	1	
180-112876-1	WQ-FPT	WQ-FPT_102820_SW_10	10/28/2020	SW	FS					1	1	1	
180-112876-1	WQ1b-C	WQ1B-C_102820_SW_10	10/28/2020	SW	FS					1	1	1	
180-112876-1	WQ2-C	WQ2-C_102820_SW_10	10/28/2020	SW	FS					1	1	1	
180-112876-1	WQ3-L	WQ3-L_102820_SW_10	10/28/2020	SW	FS					1	1	1	
180-112945-1	ADD-02	ADD-02_102920_SW_10	10/29/2020	SW	FS					1	1	1	
180-112945-1	OV-02	OV-02_102920_SW_10	10/29/2020	SW	FS					1	1	1	
180-112945-1	OV-02	OV-02_102920_SW_10_DUP	10/29/2020	SW	FD					1	1	1	
570-42546-1	WQ1b-C	WQ1B-C_102820_SW_10	10/29/2020	SW	FS								1
570-42546-1	WQ2-C	WQ2-C_102820_SW_10	10/29/2020	SW	FS								1
570-42546-1	WQ3-L	WQ3-L_102820_SW_10	10/29/2020	SW	FS								1
570-42546-1	WQ-ECH	WQ-ECH_102820_SW_10	10/29/2020	SW	FS								1
570-42546-1	ES-15	ES-15_102820_SW_10	10/29/2020	SW	FS								1
570-42546-1	WQ-FPT	WQ-FPT_102820_SW_10	10/29/2020	SW	FS								1

**Table 1
Data Validation Summary
October 2020 Surface Water Sampling
Penobscot River 2020 Monitoring
Penobscot River, Maine**

SDG	Location ID	Sample ID	Sample Date	Method Class		Mercury	Mercury	Methyl Mercury	Methyl Mercury	DOC	TOC	TSS	SSC
				Analysis Method		EPA 1631	EPA 1631	EPA 1630	EPA 1630	EPA 9060A	EPA 9060A	SM 2540D	ASTM D3977B
				Fraction		Dissolved	Total	Dissolved	Total	Dissolved	Total	Total	Total
Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	
570-42632-1	OV-02	OV-02_102920_SW_10	10/29/2020	SW	FS								1
570-42632-1	OV-02	OV-02_102920_SW_10_DUP	10/29/2020	SW	FD								1
570-42632-1	ADD-02	ADD-02_102920_SW_10	10/29/2020	SW	FS								1

Media

SW = Surface Water
BW = Blank Water

QC Code

EB = Equipment Blank
FD = Field Duplicate
FS = Field Sample

Method

ASTM = American Society for Testing and Materials
DOC = Dissolved Organic Carbon
SM = Standard Methods
SSC = Suspended sediment concentration
TOC = Total Organic Carbon
TSS = Total Suspended Solids

Table 2
Data Validation Summary
October 2020 Surface Water Sampling
Penobscot River 2020 Monitoring
Penobscot River, Maine

Analysis Method	Lab Sample ID	Field Sample ID	Fraction	Parameter Name	Lab Result	Lab Qualifier	Validated Result	Validated Qualifier	Validation Reason Code	Result Units
E1631	OJ00143-09	ES-15_102820_SW_10	Total	Mercury	4.42		4.42	J	SP	NG/L
E1631	OJ00143-10	ES-15_102820_SW_10	Dissolved	Mercury	2.75		2.75	J	SP, BL2	NG/L
E1631	OJ00143-07	WQ-ECH_102820_SW_10	Total	Mercury	7.81		7.81	J	SP	NG/L
E1631	OJ00143-08	WQ-ECH_102820_SW_10	Dissolved	Mercury	4.02		4.02	J	SP, BL2	NG/L
EPA 1630	OJ00143-07	WQ-ECH_102820_SW_10	Total	Methyl mercury	0.072		0.072	J	SP	NG/L
EPA 1630	OJ00143-08	WQ-ECH_102820_SW_10	Dissolved	Methyl mercury	0.055		0.055	J	SP	NG/L
E1631	OJ00143-11	WQ-FPT_102820_SW_10	Total	Mercury	5.36		5.36	J	SP	NG/L
E1631	OJ00143-12	WQ-FPT_102820_SW_10	Dissolved	Mercury	3.04		3.04	J	SP, BL2	NG/L
E1631	OJ00143-02	WQ1B-C_102820_SW_10	Dissolved	Mercury	1.89		1.89	J	SP, BL2	NG/L
E1631	OJ00143-01	WQ1B-C_102820_SW_10	Total	Mercury	9.61		9.61	J	SP, MS-L	NG/L
EPA 1630	OJ00143-02	WQ1B-C_102820_SW_10	Dissolved	Methyl mercury	0.085		0.085	J	SP	NG/L
EPA 1630	OJ00143-01	WQ1B-C_102820_SW_10	Total	Methyl mercury	0.096		0.096	J	SP	NG/L
E1631	OJ00143-04	WQ2-C_102820_SW_10	Dissolved	Mercury	2.39		2.39	J	SP, BL2	NG/L
E1631	OJ00143-03	WQ2-C_102820_SW_10	Total	Mercury	5.87		5.87	J	SP	NG/L
EPA 1630	OJ00143-04	WQ2-C_102820_SW_10	Dissolved	Methyl mercury	0.049	J	0.049	J	SP	NG/L
EPA 1630	OJ00143-03	WQ2-C_102820_SW_10	Total	Methyl mercury	0.089		0.089	J	SP	NG/L
E1631	OJ00143-06	WQ3-L_102820_SW_10	Dissolved	Mercury	4.16		4.16	J	SP, BL2	NG/L
E1631	OJ00143-05	WQ3-L_102820_SW_10	Total	Mercury	2.83		2.83	J	SP	NG/L
EPA 1630	OJ00143-06	WQ3-L_102820_SW_10	Dissolved	Methyl mercury	0.036	J	0.049	U	SP, BL1	NG/L
EPA 1630	OJ00143-05	WQ3-L_102820_SW_10	Total	Methyl mercury	0.037	J	0.05	U	SP, BL1	NG/L
E1631	OJ00147-07	ADD-02_102920_SW_10	Total	Mercury	3.45		3.45	J	SP	NG/L
E1631	OJ00147-08	ADD-02_102920_SW_10	Dissolved	Mercury	3.52		3.52	J	SP, BL2	NG/L
E1631	OJ00147-01	OV-02_102920_SW_10	Total	Mercury	2.92		2.92	J	SP	NG/L
E1631	OJ00147-02	OV-02_102920_SW_10	Dissolved	Mercury	3.39		3.39	J	SP, BL2	NG/L
EPA 1630	OJ00147-02	OV-02_102920_SW_10	Dissolved	Methyl mercury	0.135		0.135	J	SP, MS-L, MS-RPD, FD	NG/L
EPA 1630	OJ00147-01	OV-02_102920_SW_10	Total	Methyl mercury	0.07		0.07	J	SP	NG/L
E1631	OJ00147-03	OV-02_102920_SW_10_DUP	Total	Mercury	2.76		2.76	J	SP	NG/L
E1631	OJ00147-04	OV-02_102920_SW_10_DUP	Dissolved	Mercury	3.04		3.04	J	SP, BL2	NG/L

Table 2
Data Validation Summary
October 2020 Surface Water Sampling
Penobscot River 2020 Monitoring
Penobscot River, Maine

Analysis Method	Lab Sample ID	Field Sample ID	Fraction	Parameter Name	Lab Result	Lab Qualifier	Validated Result	Validated Qualifier	Validation Reason Code	Result Units
EPA 1630	OJ00147-04	OV-02_102920_SW_10_DUP	Dissolved	Methyl mercury	0.087		0.087	J	SP, MS-L, MS-RPD, FD	NG/L
EPA 1630	OJ00147-03	OV-02_102920_SW_10_DUP	Total	Methyl mercury	0.082		0.082	J	SP	NG/L
SM 2540D	180-112945-1	OV-02_102920_SW_10	Total	Total Suspended Solids	2.1		2.1	J	FD	MG/L
SM 2540D	180-112945-2	OV-02_102920_SW_10_DUP	Total	Total Suspended Solids	1		1	J	FD	MG/L

Units

NG/L = Nanogram per liter
 MG/L = Milligrams per liter

Validation Reason Codes

BL1 = Method blank detection
 BL2 = Field QC blank detection
 FD = Field duplicate RPD limit exceeded
 MS-L = MS and/or MSD recovery low

MS-RPD = MS/MSD RPD limit exceeded
 SP = Sample preservation/collection does not meet
 meet method requirement

Notes

EPA = US Environmental Protection Agency
 ID = Identification
 RPD = Relative percent difference
 SM = Standard Methods

Validation Qualifier

U = Value is non-detect
 J = Value is estimated

Table 3
Data Validation Summary
October 2020 Surface Water Sampling
Penobscot River 2020 Monitoring
Penobscot River, Maine

					SDGs	0J00143, 180-112876-1, 570-42546-1	0J00143, 180-112876-1, 570-42546-1	0J00143, 180-112876-1, 570-42546-1	0J00143, 180-112876-1, 570-42546-1	
					Location	ES-15	WQ-ECH	WQ-FPT	WQ1b-C	
					Sample Date	10/28/2020	10/28/2020	10/28/2020	10/28/2020	
					Sample ID	ES-15_102820_SW_10	WQ-ECH_102820_SW_10	WQ-FPT_102820_SW_10	WQ1B-C_102820_SW_10	
					QC Code	FS	FS	FS	FS	
Lab	Method	Parameter	Fration	Unit	Final Result	Final Qualifier	Final Result	Final Qualifier	Final Result	Final Qualifier
EFGS	E1631	Mercury	Dissolved	NG/L	2.75 J		4.02 J		3.04 J	
EFGS	EPA 1630	Methyl mercury	Dissolved	NG/L	0.05 U		0.055 J		0.05 U	
TA	EPA 9060A	CARBON	Dissolved	MG/L	0.84 J		1.4		0.98 J	
Calscience	ASTMD3977B	Suspended Sediment	Total	MG/L	18.3		17.8		19.5	
EFGS	E1631	Mercury	Total	NG/L	4.42 J		7.81 J		5.36 J	
EFGS	EPA 1630	Methyl mercury	Total	NG/L	0.05 U		0.072 J		0.049 U	
TA	EPA 9060A	Total Organic Carbon	Total	MG/L	0.92 J		1.5		1.1	
TA	SM 2540D	Total Suspended Solids	Total	MG/L	5.9		5.1		3.5	

Lab

Calscience = Eurofins Calscience
EFGS = Eurofins Frontier Global Sciences
TA = Eurofins TestAmerica Pittsburgh

QC Code

FS = Field Sample
FD = Field Duplicate
EB = Equipment Blank

Qualifiers

U = Value is non-detect
J = Value is estimated

Notes+A1

NG/L = nanogram per liter
MG/L = milligram per liter
ASTM = American Society for Testing and Materials
EPA = United States Environmental Protection Agency
SM = Standard Methods

Table 3
Data Validation Summary
October 2020 Surface Water Sampling
Penobscot River 2020 Monitoring
Penobscot River, Maine

					SDGs	0J00143, 180-112876-1, 570-42546-1	0J00143, 180-112876-1, 570-42546-1	0J00147, 180-112945-1, 570-42632-1	0J00147, 180-112945-1, 570-42632-1	
					Location	WQ2-C	WQ3-L	ADD-02	OV-02	
					Sample Date	10/28/2020	10/28/2020	10/29/2020	10/29/2020	
					Sample ID	WQ2-C_102820_SW_10	WQ3-L_102820_SW_10	ADD-02_102920_SW_10	OV-02_102920_SW_10	
					QC Code	FS	FS	FS	FS	
Lab	Method	Parameter	Fration	Unit	Final Result	Final Qualifier	Final Result	Final Qualifier	Final Result	Final Qualifier
EFGS	E1631	Mercury	Dissolved	NG/L	2.39 J		4.16 J		3.52 J	
EFGS	EPA 1630	Methyl mercury	Dissolved	NG/L	0.049 J		0.049 U		0.049 U	
TA	EPA 9060A	CARBON	Dissolved	MG/L	4.1		2.3		8.4	
Calscience	ASTMD3977B	Suspended Sediment	Total	MG/L	10.2		15.4		20.9	
EFGS	E1631	Mercury	Total	NG/L	5.87 J		2.83 J		3.45 J	
EFGS	EPA 1630	Methyl mercury	Total	NG/L	0.089 J		0.05 U		0.049 U	
TA	EPA 9060A	Total Organic Carbon	Total	MG/L	3.9		2.3		8.1	
TA	SM 2540D	Total Suspended Solids	Total	MG/L	8.8		3.8		20	

Lab

Calscience = Eurofins Calscience

EFGS = Eurofins Frontier Global Sciences

TA = Eurofins TestAmerica Pittsburgh

QC Code

FS = Field Sample

FD = Field Duplicate

EB = Equipment Blank

Qualifiers

U = Value is non-detect

J = Value is estimated

Notes+A1

NG/L = nanogram per liter

MG/L = milligram per liter

ASTM = American Society for Testing and Materials

EPA = United States Environmental Protection Agency

SM = Standard Methods

Table 3
Data Validation Summary
October 2020 Surface Water Sampling
Penobscot River 2020 Monitoring
Penobscot River, Maine

					SDGs	0J00147, 180-112945-1, 570-42632-1	0J00147	
					Location	OV-02	QC	
					Sample Date	10/29/2020	10/29/2020	
					Sample ID	OV-02_102920_SW_10_DUP	EQ_BLANK_10290_SW_OC	
					QC Code	FD	EB	
Lab	Method	Parameter	Fration	Unit	Final Result	Final Qualifier	Final Result	Final Qualifier
EFGS	E1631	Mercury	Dissolved	NG/L	3.04 J		2.48	
EFGS	EPA 1630	Methyl mercury	Dissolved	NG/L	0.087 J			
TA	EPA 9060A	CARBON	Dissolved	MG/L	8.8			
Calscience	ASTMD3977B	Suspended Sediment	Total	MG/L	1.06			
EFGS	E1631	Mercury	Total	NG/L	2.76 J		0.31 J	
EFGS	EPA 1630	Methyl mercury	Total	NG/L	0.082 J			
TA	EPA 9060A	Total Organic Carbon	Total	MG/L	9.1			
TA	SM 2540D	Total Suspended Solids	Total	MG/L	1 J			

Lab

Calscience = Eurofins Calscience

EFGS = Eurofins Frontier Global Sciences

TA = Eurofins TestAmerica Pittsburgh

QC Code

FS = Field Sample

FD = Field Duplicate

EB = Equipment Blank

Qualifiers

U = Value is non-detect

J = Value is estimated

Notes+A1

NG/L = nanogram per liter

MG/L = milligram per liter

ASTM = American Society for Testing and Materials

EPA = United States Environmental Protection Agency

SM = Standard Methods

**Data Validation Summary
2020 Biota Sampling
Penobscot River 2020 Monitoring
Penobscot River, Maine**

1.0 INTRODUCTION

Biota samples (lobster, tomcod, and smelt) were collected in September 2020 from the Penobscot River located in Maine. Samples were analyzed by Eurofins Frontier Global Sciences, Inc. (Eurofins) located in Tacoma, Washington and included in sample delivery groups (SDG) 0I00047 and 0I00078. Samples were analyzed by Physis Environmental Laboratories, Inc. (Physis) located in Anaheim, California. Samples were analyzed by one or more of the following: Clean Water Act (CWA, 2012) and National Oceanic and Atmospheric Administration (NOAA, 1993a):

Laboratory	Parameter	Analytical Method	Validation Level
Eurofins	Mercury, total	CWA 1631B	10% Stage III/ 90% Stage IIB
Physis	% Lipids	NOAA	10% Stage III/ 90% Stage IIB

A Stage IIB data validation was completed on all SDGs. A Stage III data validation was performed on ten percent of samples. Data validation was completed using National Functional Guidelines for Inorganic Superfund Data Review (USEPA, 2017) and EPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures (USEPA, 2013) where applicable. Data quality evaluations were completed using quality control (QC) limits specified in the Draft Quality Assurance Project Plan (QAPP) Penobscot River 2020 Monitoring [Wood, 2020]. The project laboratory reported results using a combination of two detection limits including the reporting limit (RL) and the method detection limit (MDL).

Data validation review and qualification actions are discussed in the following subsections. It should be noted that only instances that result in an impact to data quality are presented in this report. There may be QC elements outside of QAPP and/or method control limits not presented in this report since there is no impact to data quality. Samples included in this data evaluation are presented in Table 1.

Data qualifications were completed if necessary, in accordance with the guidelines or the professional judgment of the project chemist. The following qualifiers as applied during data validation or reported by the laboratory are included in the final data set:

J = The reported concentration is considered an estimated value

Validation reason codes were applied to results associated with QC measurements outside project QC goals. The validation qualification actions, and associated validation reason codes applied to sample

results are summarized on Table 2. The following data validation reason codes were applied to one or more sample results:

- LD = Lab duplicate limit exceeded
- MS-H = MS and/or MSD recovery high
- MS-L = MS and/or MSD recovery low
- MS-RPD = MS/MSD RPD limit exceeded

A complete summary of final sample results is provided in Table 3.

Data were evaluated based on the following parameters:

- * Data Completeness and Chain of Custody
 - * Holding Times and Preservation
 - * Blanks
 - * Initial Calibration
 - * Continuing Calibration
 - * LCS and LCS Duplicate (LCSD)
 - Matrix Spike/Matrix Spike Duplicates (MS/MSD)
 - Laboratory Duplicates
 - * Detection Limits
 - * Sample Result Verification/Electronic Evaluation Verification (EDD)
 - * Ongoing Precision Recovery
- * = indicates that criteria were met and/or no impact to data quality for this parameter

It should be noted that the analysis for % lipids was analyzed by Physis and not Eurofins CalScience as indicated in the project QAPP. Eurofins CalScience did not have the workload capacity to handle these samples. Wood reviewed Physis' QA/QC information and does not feel there is an impact to data quality.

With the exception of the following items discussed below, results were determined to be usable as reported by the laboratory.

2.0 Mercury – 1631

Matrix Spike

SDG 0100047 – Sample L9-45_20LT001_091020_01_LOB_TA was used as the source for the MS/MSD analysis. The MS/MSD recoveries for mercury (139%/129%) were above the QC limit of 71-125%. Sample results for L9-45_20LT001_091020_01_LOB_TA, L9-45_20LT001_091020_02_LOB_TA, L9-45_20LT001_091020_03_LOB_TA, L9-45_20LT001_091020_04_LOB_TA, L9-45_20LT001_091020_05_LOB_TA, L9-45_20LT001_091020_06_LOB_TA, L9-45_20LT001_091020_07_LOB_TA, L9-

45_20LT001_091020_08_LOB_TA, L9-45_20LT001_091020_09_LOB_TA, and L9-45_20LT001_091020_10_LOB_TA were qualified as estimated (J) due to the potential high bias. (J - MS-H)

SDG 0100047 – Sample ES-FP_20LT202_091020_08_LOB_TA was used as the source for the MS/MSD analysis. The MSD recovery for mercury (134%) was above the QC limit of 71-125%. Sample results for ES-FP_20LT202_091020_08_LOB_TA, SVE-01_20LT406_091020_19_LOB_TA, SVE-01_20LT406_091020_20_LOB_TA, CJ-04_20LT111_091220_14_LOB_TA, CJ-04_20LT111_091220_15_LOB_TA, CJ-04_20LT111_091220_16_LOB_TA, CJ-04_20LT111_091220_17_LOB_TA, CJ-04_20LT113_091220_18_LOB_TA, CJ-04_20LT113_091220_19_LOB_TA, CJ-04_20LT116_091220_20_LOB_TA, CJ-04_20LT124_091220_13_LOB_TA, OL-01_20LT320_091220_13_LOB_TA, OL-01_20LT321_091220_11_LOB_TA, OL-01_20LT322_091220_12_LOB_TA, and OL-01_20LT323_091220_14_LOB_TA were qualified as estimated (J) due to the potential high bias. (J - MS-H)

SDG 0100047 – Sample BO-04_20ET503_091020_01_TOM_WB was used as the source for the MS/MSD analysis. The MS recovery for mercury (63.6%) was below the QC limit of 71-125%. Sample results for BO-04_20ET503_091020_01_TOM_WB, OB-01_20ET601_091320_01_TOM_WB, OB-01_20ET601_091320_02_TOM_WB, OB-01_20ET603_091320_03_TOM_WB, and OB-01_20ET605_091320_04_TOM_WB were qualified as estimated (J) due to the potential low bias. (J - MS-L)

SDG 0100047 – Sample SVE-01_20LT401_091020_01_LOB_TA was used as the source for the MS/MSD analysis. The MS/MSD RPD for mercury (25.4%) was above the QC limit of 24%. Sample results for OL-01_20LT301_091020_01_LOB_TA, SVE-01_20LT401_091020_01_LOB_TA, OL-01_20LT313_091220_17_LOB_TA, OL-01_20LT313_091220_18_LOB_TA, OL-01_20LT314_091220_19_LOB_TA, OL-01_20LT314_091220_20_LOB_TA, OL-01_20LT323_091220_15_LOB_TA, and OL-01_20LT324_091220_16_LOB_TA were qualified as estimated (J) due to the potential imprecision. (J - MS-RPD)

SDG 0100047 – Sample ES-FP_20LT202_091020_07_LOB_TA was used as the source for the MS/MSD analysis. The MS/MSD RPD for mercury (27.1%) was above the QC limit of 24%. Sample results for ES-FP_20LT202_091020_06_LOB_TA, ES-FP_20LT202_091020_07_LOB_TA, SVE-01_20LT402_091020_05_LOB_TA, SVE-01_20LT402_091020_06_LOB_TA, SVE-01_20LT402_091020_07_LOB_TA, SVE-01_20LT402_091020_08_LOB_TA, SVE-01_20LT403_091020_09_LOB_TA, SVE-01_20LT403_091020_10_LOB_TA, SVE-01_20LT404_091020_11_LOB_TA, SVE-01_20LT404_091020_12_LOB_TA, CJ-04_20LT123_091220_12_LOB_TA, L9-45_20L011_091220_15_LOB_TA, L9-45_20L017_091220_16_LOB_TA, L9-45_20L018_091220_17_LOB_TA, SVE-01_20LT405_091020_13_LOB_TA, SVE-01_20LT405_091020_14_LOB_TA, SVE-01_20LT405_091020_15_LOB_TA, SVE-01_20LT405_091020_16_LOB_TA, SVE-01_20LT405_091020_17_LOB_TA, and SVE-01_20LT406_091020_18_LOB_TA were qualified as estimated (J) due to the potential imprecision. (J - MS-RPD)

SDG 0100078 – Sample ES-02_20ET938_091820_04_TOM_WB was used as the source for the MS/MSD analysis. The MS/MSD RPD for mercury (25.8%) was above the QC limit of 24%. Sample results for OL-

01_20LT306_091020_01_TOM_WB, ES-02_20ET938_091820_04_TOM_WB, OL-01_20ET866_091820_03_TOM_WB, SVE-01_20ET048_092120_03_TOM_WB, SVE-01_20ET048_092120_04_TOM_WB, SVE-01_20ET048_092120_05_TOM_WB, SVE-01_20ET048_092120_06_TOM_WB, SVE-01_20ET056_092120_02_TOM_WB, ES-02_20ET952_092120_06_TOM_WB, ES-02_20ET962_092120_07_TOM_WB, ES-02_20ET964_092120_08_TOM_WB, ES-02_20ET967_092120_09_TOM_WB, ES-02_20ET968_092120_10_TOM_WB, and ES-02_20ET970_092120_11_TOM_WB were qualified as estimated (J) due to the potential imprecision. (J - MS-RPD)

3.0 % Lipids – NOAA

Laboratory Duplicate

SDG 2009006-001 – Sample BO-04_20ET503_091020_02_TOM_WB was selected by the laboratory for duplicate analysis. The RPD (15%) between the sample and the laboratory duplicate analysis exceeded the QAPP limit of 10. Based on professional judgment, the mercury result only for sample BO-04_20ET503_091020_02_TOM_WB was qualified estimated. (J – LD)

SDG 2009006-001 – Sample SVE-01_20LT402_091020_06_LOB_TA was selected by the laboratory for duplicate analysis. The RPD (14%) between the sample and the laboratory duplicate analysis exceeded the QAPP limit of 10. Based on professional judgment, the mercury result only for sample SVE-01_20LT402_091020_06_LOB_TA was qualified estimated. (J – LD)

SDG 2009006-001 – Sample SVE-01_20LT405_091020_14_LOB_TA was selected by the laboratory for duplicate analysis. The RPD (27%) between the sample and the laboratory duplicate analysis exceeded the QAPP limit of 10. Based on professional judgment, the mercury result only for sample SVE-01_20LT405_091020_14_LOB_TA was qualified estimated. (J – LD)

SDG 2009006-001 – Sample OL-01_20LT313_091220_17_LOB_TA was selected by the laboratory for duplicate analysis. The RPD (16%) between the sample and the laboratory duplicate analysis exceeded the QAPP limit of 10. Based on professional judgment, the mercury result only for sample OL-01_20LT313_091220_17_LOB_TA was qualified estimated. (J – LD)

SDG 2009006-002 – Sample OL-01_20LT306_091020_01_TOM_WB was selected by the laboratory for duplicate analysis. The RPD (15%) between the sample and the laboratory duplicate analysis exceeded the QAPP limit of 10. Based on professional judgment, the mercury result only for sample OL-01_20LT306_091020_01_TOM_WB was qualified estimated. (J – LD)

SDG 2009006-003 – Sample CJ-04_20LT109_091020_11_LOB_TA was selected by the laboratory for duplicate analysis. The RPD (12%) between the sample and the laboratory duplicate analysis exceeded the QAPP limit of 10. Based on professional judgment, the mercury result only for sample CJ-04_20LT109_091020_11_LOB_TA was qualified estimated. (J – LD)

References:

U.S. Environmental Protection Agency (USEPA), 2009. "Guidance for Labeling Externally Validated Laboratory Analytical data for Superfund Use"; Office of Solid Waste and Emergency Response; EPA 540-R-08-005; January 13, 2009.

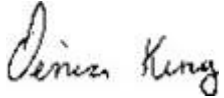
U.S. Environmental Protection Agency (USEPA), 2013. "EPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures"; Quality Assurance Unit Staff; Office of Environmental Measurement and Evaluation; April 22, 2013.

U.S. Environmental Protection Agency (USEPA), 2017. "National Functional Guidelines for Inorganic Superfund Methods Data Review"; Office of Superfund Remediation and Technology Innovation; EPA-540-R-2017-001; January 2017.

Wood, 2020. "Draft Quality Assurance Project Plan Penobscot River 2020 Monitoring", Penobscot River, Maine, June 2020.

Data Validator: Denise King

November 20, 2020



Reviewer: Elizabeth Penta

November 23, 2020

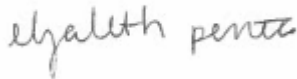


TABLE 1
DATA VALIDATION REPORT
SAMPLE AND ANALYSIS SUMMARY
2020 BIOTA SAMPLING-LOBSTERS, TOMCOD, SMELT
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDGs 0100047 and 0100078

SDG	Media	Location	Field Sample ID	Sample Date	Lab Sample ID	QC Code	Method Class	Mercury	% Lipids
							Analysis Method	EPA 1631	NOAA
0100047	Tomcod	BO-04_20ET503	BO-04_20ET503_091020_01_TOM_WB	9/10/2020	0100047-59	FS	1	1	
0100047	Tomcod	BO-04_20ET503	BO-04_20ET503_091020_02_TOM_WB	9/10/2020	0100047-71	FS	1	1	
0100047	Tomcod	BO-04_20ET506	BO-04_20ET506_091020_03_TOM_WB	9/10/2020	0100047-72	FS	1	1	
0100047	Tomcod	BO-04_20ET506	BO-04_20ET506_091020_04_TOM_WB	9/10/2020	0100047-73	FS	1	1	
0100047	Tomcod	BO-04_20ET506	BO-04_20ET506_091020_05_TOM_WB	9/10/2020	0100047-74	FS	1	1	
0100047	Tomcod	BO-04_20ET506	BO-04_20ET506_091020_06_TOM_WB	9/10/2020	0100047-75	FS	1	1	
0100047	Tomcod	BO-04_20ET507	BO-04_20ET507_091020_07_TOM_WB	9/10/2020	0100047-76	FS	1	1	
0100047	Tomcod	BO-04_20ET508	BO-04_20ET508_091020_08_TOM_WB	9/10/2020	0100047-77	FS	1	1	
0100047	Tomcod	BO-04_20ET508	BO-04_20ET508_091020_09_TOM_WB	9/10/2020	0100047-82	FS	1	1	
0100047	Tomcod	BO-04_20ET508	BO-04_20ET508_091020_10_TOM_WB	9/10/2020	0100047-83	FS	1	1	
0100047	Tomcod	BO-04_20ET508	BO-04_20ET508_091020_11_TOM_WB	9/10/2020	0100047-84	FS	1	1	
0100047	Tomcod	BO-04_20ET509	BO-04_20ET509_091020_12_TOM_WB	9/10/2020	0100047-85	FS	1	1	
0100047	Tomcod	BO-04_20ET509	BO-04_20ET509_091020_13_TOM_WB	9/10/2020	0100047-86	FS	1	1	
0100047	Tomcod	BO-04_20ET509	BO-04_20ET509_091020_14_TOM_WB	9/10/2020	0100047-87	FS	1	1	
0100047	Tomcod	BO-04_20ET509	BO-04_20ET509_091020_15_TOM_WB	9/10/2020	0100047-88	FS	1	1	
0100047	Tomcod	BO-04_20ET510	BO-04_20ET510_091020_16_TOM_WB	9/10/2020	0100047-89	FS	1	1	
0100047	Tomcod	BO-04_20ET510	BO-04_20ET510_091020_17_TOM_WB	9/10/2020	0100047-90	FS	1	1	
0100047	Tomcod	BO-04_20ET511	BO-04_20ET511_091020_18_TOM_WB	9/10/2020	0100047-94	FS	1	1	
0100047	Tomcod	BO-04_20ET511	BO-04_20ET511_091020_19_TOM_WB	9/10/2020	0100047-95	FS	1	1	
0100047	Tomcod	BO-04_20ET513	BO-04_20ET513_091020_20_TOM_WB	9/10/2020	0100047-96	FS	1	1	
0100047	Lobster	CJ-04_20LT101	CJ-04_20LT101_091020_01_LOB_TA	9/10/2020	0100047-13	FS	1	1	
0100047	Lobster	CJ-04_20LT101	CJ-04_20LT101_091020_02_LOB_TA	9/10/2020	0100047-14	FS	1	1	
0100047	Lobster	CJ-04_20LT101	CJ-04_20LT101_091020_03_LOB_TA	9/10/2020	0100047-15	FS	1	1	
0100047	Lobster	CJ-04_20LT104	CJ-04_20LT104_091020_04_LOB_TA	9/10/2020	0100047-16	FS	1	1	
0100047	Lobster	CJ-04_20LT104	CJ-04_20LT104_091020_05_LOB_TA	9/10/2020	0100047-17	FS	1	1	
0100047	Lobster	CJ-04_20LT105	CJ-04_20LT105_091020_06_LOB_TA	9/10/2020	0100047-18	FS	1	1	
0100047	Lobster	CJ-04_20LT108	CJ-04_20LT108_091020_07_LOB_TA	9/10/2020	0100047-25	FS	1	1	
0100047	Lobster	CJ-04_20LT108	CJ-04_20LT108_091020_08_LOB_TA	9/10/2020	0100047-26	FS	1	1	
0100047	Lobster	CJ-04_20LT109	CJ-04_20LT109_091020_09_LOB_TA	9/10/2020	0100047-27	FS	1	1	
0100047	Lobster	CJ-04_20LT109	CJ-04_20LT109_091020_10_LOB_TA	9/10/2020	0100047-CG	FS	1	1	
0100047	Lobster	CJ-04_20LT109	CJ-04_20LT109_091020_11_LOB_TA	9/10/2020	0100047-CH	FS	1	1	
0100047	Lobster	CJ-04_20LT111	CJ-04_20LT111_091220_14_LOB_TA	9/12/2020	0100047-AS	FS	1	1	
0100047	Lobster	CJ-04_20LT111	CJ-04_20LT111_091220_15_LOB_TA	9/12/2020	0100047-AT	FS	1	1	
0100047	Lobster	CJ-04_20LT111	CJ-04_20LT111_091220_16_LOB_TA	9/12/2020	0100047-AU	FS	1	1	
0100047	Lobster	CJ-04_20LT111	CJ-04_20LT111_091220_17_LOB_TA	9/12/2020	0100047-AV	FS	1	1	
0100047	Lobster	CJ-04_20LT113	CJ-04_20LT113_091220_18_LOB_TA	9/12/2020	0100047-AW	FS	1	1	
0100047	Lobster	CJ-04_20LT113	CJ-04_20LT113_091220_19_LOB_TA	9/12/2020	0100047-AX	FS	1	1	
0100047	Lobster	CJ-04_20LT116	CJ-04_20LT116_091220_20_LOB_TA	9/12/2020	0100047-AY	FS	1	1	
0100047	Lobster	CJ-04_20LT123	CJ-04_20LT123_091220_12_LOB_TA	9/12/2020	0100047-AG	FS	1	1	
0100047	Lobster	CJ-04_20LT124	CJ-04_20LT124_091220_13_LOB_TA	9/12/2020	0100047-AZ	FS	1	1	
0100047	Lobster	ES-FP_20LT201	ES-FP_20LT201_091020_01_LOB_TA	9/10/2020	0100047-35	FS	1	1	
0100047	Lobster	ES-FP_20LT201	ES-FP_20LT201_091020_02_LOB_TA	9/10/2020	0100047-36	FS	1	1	
0100047	Lobster	ES-FP_20LT201	ES-FP_20LT201_091020_03_LOB_TA	9/10/2020	0100047-37	FS	1	1	
0100047	Lobster	ES-FP_20LT202	ES-FP_20LT202_091020_04_LOB_TA	9/10/2020	0100047-38	FS	1	1	
0100047	Lobster	ES-FP_20LT202	ES-FP_20LT202_091020_05_LOB_TA	9/10/2020	0100047-39	FS	1	1	
0100047	Lobster	ES-FP_20LT202	ES-FP_20LT202_091020_06_LOB_TA	9/10/2020	0100047-40	FS	1	1	

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SDG	Media	Location	Field Sample ID	Sample Date	Lab Sample ID	QC Code	Method Class	Mercury	% Lipids
							Analysis Method	EPA 1631	NOAA
0100047	Lobster	ES-FP_20LT202	ES-FP_20LT202_091020_07_LOB_TA	9/10/2020	0100047-41	FS	1	1	
0100047	Lobster	ES-FP_20LT202	ES-FP_20LT202_091020_08_LOB_TA	9/10/2020	0100047-42	FS	1	1	
0100047	Lobster	ES-FP_20LT203	ES-FP_20LT203_091020_09_LOB_TA	9/10/2020	0100047-47	FS	1	1	
0100047	Lobster	ES-FP_20LT203	ES-FP_20LT203_091020_10_LOB_TA	9/10/2020	0100047-48	FS	1	1	
0100047	Lobster	ES-FP_20LT203	ES-FP_20LT203_091020_11_LOB_TA	9/10/2020	0100047-49	FS	1	1	
0100047	Lobster	ES-FP_20LT205	ES-FP_20LT205_091020_12_LOB_TA	9/10/2020	0100047-50	FS	1	1	
0100047	Lobster	ES-FP_20LT205	ES-FP_20LT205_091020_13_LOB_TA	9/10/2020	0100047-51	FS	1	1	
0100047	Lobster	ES-FP_20LT206	ES-FP_20LT206_091020_14_LOB_TA	9/10/2020	0100047-52	FS	1	1	
0100047	Lobster	ES-FP_20LT206	ES-FP_20LT206_091020_15_LOB_TA	9/10/2020	0100047-53	FS	1	1	
0100047	Lobster	ES-FP_20LT207	ES-FP_20LT207_091020_16_LOB_TA	9/10/2020	0100047-60	FS	1	1	
0100047	Lobster	ES-FP_20LT208	ES-FP_20LT208_091020_17_LOB_TA	9/10/2020	0100047-61	FS	1	1	
0100047	Lobster	ES-FP_20LT208	ES-FP_20LT208_091020_18_LOB_TA	9/10/2020	0100047-62	FS	1	1	
0100047	Lobster	ES-FP_20LT208	ES-FP_20LT208_091020_19_LOB_TA	9/10/2020	0100047-63	FS	1	1	
0100047	Lobster	ES-FP_20LT209	ES-FP_20LT209_091020_20_LOB_TA	9/10/2020	0100047-64	FS	1	1	
0100047	Lobster	L9-45_20LT001	L9-45_20LT001_091020_01_LOB_TA	9/10/2020	0100047-01	FS	1	1	
0100047	Lobster	L9-45_20LT002	L9-45_20LT002_091020_02_LOB_TA	9/10/2020	0100047-02	FS	1	1	
0100047	Lobster	L9-45_20LT004	L9-45_20LT004_091020_03_LOB_TA	9/10/2020	0100047-03	FS	1	1	
0100047	Lobster	L9-45_20LT004	L9-45_20LT004_091020_04_LOB_TA	9/10/2020	0100047-04	FS	1	1	
0100047	Lobster	L9-45_20LT005	L9-45_20LT005_091020_06_LOB_TA	9/10/2020	0100047-05	FS	1	1	
0100047	Lobster	L9-45_20LT005	L9-45_20LT005_091020_07_LOB_TA	9/10/2020	0100047-06	FS	1	1	
0100047	Lobster	L9-45_20LT005	L9-45_20LT005_091020_08_LOB_TA	9/10/2020	0100047-07	FS	1	1	
0100047	Lobster	L9-45_20LT006	L9-45_20LT006_091020_05_LOB_TA	9/10/2020	0100047-08	FS	1	1	
0100047	Lobster	L9-45_20LT007	L9-45_20LT007_091020_09_LOB_TA	9/10/2020	0100047-09	FS	1	1	
0100047	Lobster	L9-45_20LT009	L9-45_20LT009_091020_10_LOB_TA	9/10/2020	0100047-10	FS	1	1	
0100047	Lobster	L9-45_20LT009	L9-45_20LT009_091020_11_LOB_TA	9/10/2020	0100047-11	FS	1	1	
0100047	Lobster	L9-45_20LT009	L9-45_20LT009_091020_12_LOB_TA	9/10/2020	0100047-12	FS	1	1	
0100047	Lobster	L9-45_20LT009	L9-45_20LT009_091020_13_LOB_TA	9/10/2020	0100047-19	FS	1	1	
0100047	Lobster	L9-45_20LT009	L9-45_20LT009_091020_14_LOB_TA	9/10/2020	0100047-20	FS	1	1	
0100047	Lobster	L9-45_20LT011	L9-45_20LT011_091220_15_LOB_TA	9/12/2020	0100047-AH	FS	1	1	
0100047	Lobster	L9-45_20LT017	L9-45_20LT017_091220_16_LOB_TA	9/12/2020	0100047-AI	FS	1	1	
0100047	Lobster	L9-45_20LT018	L9-45_20LT018_091220_17_LOB_TA	9/12/2020	0100047-AJ	FS	1	1	
0100047	Tomcod	OB-01_20ET601	OB-01_20ET601_091320_01_TOM_WB	9/13/2020	0100047-BE	FS	1	1	
0100047	Tomcod	OB-01_20ET601	OB-01_20ET601_091320_02_TOM_WB	9/13/2020	0100047-BF	FS	1	1	
0100047	Tomcod	OB-01_20ET603	OB-01_20ET603_091320_03_TOM_WB	9/13/2020	0100047-BG	FS	1	1	
0100047	Tomcod	OB-01_20ET605	OB-01_20ET605_091320_04_TOM_WB	9/13/2020	0100047-BH	FS	1	1	
0100047	Tomcod	OB-01_20ET606	OB-01_20ET606_091320_05_TOM_WB	9/13/2020	0100047-BO	FS	1	1	
0100047	Tomcod	OB-01_20ET607	OB-01_20ET607_091320_06_TOM_WB	9/13/2020	0100047-BP	FS	1	1	
0100047	Tomcod	OB-01_20ET607	OB-01_20ET607_091320_07_TOM_WB	9/13/2020	0100047-BQ	FS	1	1	
0100047	Tomcod	OB-01_20ET607	OB-01_20ET607_091320_08_TOM_WB	9/13/2020	0100047-BR	FS	1	1	
0100047	Tomcod	OB-01_20ET607	OB-01_20ET607_091320_09_TOM_WB	9/13/2020	0100047-BS	FS	1	1	
0100047	Tomcod	OB-01_20ET609	OB-01_20ET609_091320_10_TOM_WB	9/13/2020	0100047-BT	FS	1	1	
0100047	Tomcod	OB-01_20ET609	OB-01_20ET609_091320_11_TOM_WB	9/13/2020	0100047-BU	FS	1	1	
0100047	Tomcod	OB-01_20ET611	OB-01_20ET611_091320_12_TOM_WB	9/13/2020	0100047-BV	FS	1	1	
0100047	Tomcod	OB-01_20ET613	OB-01_20ET613_091320_13_TOM_WB	9/13/2020	0100047-BW	FS	1	1	
0100047	Tomcod	OB-01_20ET613	OB-01_20ET613_091320_14_TOM_WB	9/13/2020	0100047-BX	FS	1	1	
0100047	Tomcod	OB-01_20ET613	OB-01_20ET613_091320_15_TOM_WB	9/13/2020	0100047-BY	FS	1	1	

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SDG	Media	Location	Field Sample ID	Sample Date	Lab Sample ID	QC Code	Method Class	Mercury	% Lipids
							Analysis Method	EPA 1631	NOAA
0100047	Tomcod	OB-01_20ET614	OB-01_20ET614_091320_16_TOM_WB	9/13/2020	0100047-BZ	FS	1	1	
0100047	Tomcod	OB-01_20ET614	OB-01_20ET614_091320_17_TOM_WB	9/13/2020	0100047-CA	FS	1	1	
0100047	Tomcod	OB-01_20ET616	OB-01_20ET616_091320_18_TOM_WB	9/13/2020	0100047-CB	FS	1	1	
0100047	Tomcod	OB-01_20ET617	OB-01_20ET617_091320_19_TOM_WB	9/13/2020	0100047-CC	FS	1	1	
0100047	Tomcod	OB-01_20ET617	OB-01_20ET617_091320_20_TOM_WB	9/13/2020	0100047-CD	FS	1	1	
0100047	Tomcod	OB-05_20ET001	OB-05_20ET001_091020_01_TOM_WB	9/10/2020	0100047-21	FS	1	1	
0100047	Tomcod	OB-05_20ET001	OB-05_20ET001_091020_02_TOM_WB	9/10/2020	0100047-22	FS	1	1	
0100047	Tomcod	OB-05_20ET001	OB-05_20ET001_091020_03_TOM_WB	9/10/2020	0100047-23	FS	1	1	
0100047	Tomcod	OB-05_20ET003	OB-05_20ET003_091020_04_TOM_WB	9/10/2020	0100047-24	FS	1	1	
0100047	Tomcod	OB-05_20ET003	OB-05_20ET003_091020_05_TOM_WB	9/10/2020	0100047-28	FS	1	1	
0100047	Tomcod	OB-05_20ET003	OB-05_20ET003_091020_06_TOM_WB	9/10/2020	0100047-29	FS	1	1	
0100047	Tomcod	OB-05_20ET003	OB-05_20ET003_091020_07_TOM_WB	9/10/2020	0100047-30	FS	1	1	
0100047	Tomcod	OB-05_20ET003	OB-05_20ET003_091020_08_TOM_WB	9/10/2020	0100047-31	FS	1	1	
0100047	Tomcod	OB-05_20ET004	OB-05_20ET004_091020_09_TOM_WB	9/10/2020	0100047-32	FS	1	1	
0100047	Tomcod	OB-05_20ET005	OB-05_20ET005_091020_10_TOM_WB	9/10/2020	0100047-33	FS	1	1	
0100047	Tomcod	OB-05_20ET005	OB-05_20ET005_091020_11_TOM_WB	9/10/2020	0100047-34	FS	1	1	
0100047	Tomcod	OB-05_20ET007	OB-05_20ET007_091020_12_TOM_WB	9/10/2020	0100047-43	FS	1	1	
0100047	Tomcod	OB-05_20ET007	OB-05_20ET007_091020_13_TOM_WB	9/10/2020	0100047-44	FS	1	1	
0100047	Tomcod	OB-05_20ET007	OB-05_20ET007_091020_14_TOM_WB	9/10/2020	0100047-45	FS	1	1	
0100047	Tomcod	OB-05_20ET009	OB-05_20ET009_091020_15_TOM_WB	9/10/2020	0100047-46	FS	1	1	
0100047	Tomcod	OB-05_20ET009	OB-05_20ET009_091020_16_TOM_WB	9/10/2020	0100047-54	FS	1	1	
0100047	Tomcod	OB-05_20ET009	OB-05_20ET009_091020_17_TOM_WB	9/10/2020	0100047-55	FS	1	1	
0100047	Tomcod	OB-05_20ET009	OB-05_20ET009_091020_18_TOM_WB	9/10/2020	0100047-56	FS	1	1	
0100047	Tomcod	OB-05_20ET010	OB-05_20ET010_091020_19_TOM_WB	9/10/2020	0100047-57	FS	1	1	
0100047	Tomcod	OB-05_20ET011	OB-05_20ET011_091020_20_TOM_WB	9/10/2020	0100047-58	FS	1	1	
0100047	Lobster	OL-01_20LT301	OL-01_20LT301_091020_01_LOB_TA	9/10/2020	0100047-65RE3	FS	1	1	
0100047	Lobster	OL-01_20LT301	OL-01_20LT301_091020_02_LOB_TA	9/10/2020	0100047-66	FS	1	1	
0100047	Lobster	OL-01_20LT302	OL-01_20LT302_091020_03_LOB_TA	9/10/2020	0100047-67	FS	1	1	
0100047	Lobster	OL-01_20LT304	OL-01_20LT304_091020_04_LOB_TA	9/10/2020	0100047-68	FS	1	1	
0100047	Lobster	OL-01_20LT304	OL-01_20LT304_091020_05_LOB_TA	9/10/2020	0100047-69	FS	1	1	
0100047	Lobster	OL-01_20LT304	OL-01_20LT304_091020_06_LOB_TA	9/10/2020	0100047-70	FS	1	1	
0100047	Lobster	OL-01_20LT305	OL-01_20LT305_091020_07_LOB_TA	9/10/2020	0100047-78RE1	FS	1	1	
0100047	Lobster	OL-01_20LT305	OL-01_20LT305_091020_08_LOB_TA	9/10/2020	0100047-79	FS	1	1	
0100047	Lobster	OL-01_20LT306	OL-01_20LT306_091020_09_LOB_TA	9/10/2020	0100047-80	FS	1	1	
0100047	Lobster	OL-01_20LT307	OL-01_20LT307_091020_10_LOB_TA	9/10/2020	0100047-81	FS	1	1	
0100047	Lobster	OL-01_20LT313	OL-01_20LT313_091220_17_LOB_TA	9/12/2020	0100047-BI	FS	1	1	
0100047	Lobster	OL-01_20LT313	OL-01_20LT313_091220_18_LOB_TA	9/12/2020	0100047-BJ	FS	1	1	
0100047	Lobster	OL-01_20LT314	OL-01_20LT314_091220_19_LOB_TA	9/12/2020	0100047-BK	FS	1	1	
0100047	Lobster	OL-01_20LT314	OL-01_20LT314_091220_20_LOB_TA	9/12/2020	0100047-BL	FS	1	1	
0100047	Lobster	OL-01_20LT320	OL-01_20LT320_091220_13_LOB_TA	9/12/2020	0100047-BA	FS	1	1	
0100047	Lobster	OL-01_20LT321	OL-01_20LT321_091220_11_LOB_TA	9/12/2020	0100047-BB	FS	1	1	
0100047	Lobster	OL-01_20LT322	OL-01_20LT322_091220_12_LOB_TA	9/12/2020	0100047-BC	FS	1	1	
0100047	Lobster	OL-01_20LT323	OL-01_20LT323_091220_14_LOB_TA	9/12/2020	0100047-BD	FS	1	1	
0100047	Lobster	OL-01_20LT323	OL-01_20LT323_091220_15_LOB_TA	9/12/2020	0100047-BM	FS	1	1	
0100047	Lobster	OL-01_20LT324	OL-01_20LT324_091220_16_LOB_TA	9/12/2020	0100047-BN	FS	1	1	
0100047	Lobster Bait	QC	HERRING_091020_LOBSTER_BAIT	9/10/2020	0100047-CE	FS	1	1	

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SDG	Media	Location	Field Sample ID	Sample Date	Lab Sample ID	QC Code	Method Class	Mercury	% Lipids
							Analysis Method	EPA 1631	NOAA
0100047	Lobster	SVE-01_20LT401	SVE-01_20LT401_091020_01_LOB_TA	9/10/2020	0100047-91	FS	1	1	
0100047	Lobster	SVE-01_20LT401	SVE-01_20LT401_091020_02_LOB_TA	9/10/2020	0100047-92	FS	1	1	
0100047	Lobster	SVE-01_20LT401	SVE-01_20LT401_091020_03_LOB_TA	9/10/2020	0100047-93	FS	1	1	
0100047	Lobster	SVE-01_20LT401	SVE-01_20LT401_091020_04_LOB_TA	9/10/2020	0100047-97	FS	1	1	
0100047	Lobster	SVE-01_20LT402	SVE-01_20LT402_091020_05_LOB_TA	9/10/2020	0100047-98	FS	1	1	
0100047	Lobster	SVE-01_20LT402	SVE-01_20LT402_091020_06_LOB_TA	9/10/2020	0100047-99	FS	1	1	
0100047	Lobster	SVE-01_20LT402	SVE-01_20LT402_091020_07_LOB_TA	9/10/2020	0100047-AA	FS	1	1	
0100047	Lobster	SVE-01_20LT402	SVE-01_20LT402_091020_08_LOB_TA	9/10/2020	0100047-AB	FS	1	1	
0100047	Lobster	SVE-01_20LT403	SVE-01_20LT403_091020_09_LOB_TA	9/10/2020	0100047-AC	FS	1	1	
0100047	Lobster	SVE-01_20LT403	SVE-01_20LT403_091020_10_LOB_TA	9/10/2020	0100047-AD	FS	1	1	
0100047	Lobster	SVE-01_20LT404	SVE-01_20LT404_091020_11_LOB_TA	9/10/2020	0100047-AE	FS	1	1	
0100047	Lobster	SVE-01_20LT404	SVE-01_20LT404_091020_12_LOB_TA	9/10/2020	0100047-AF	FS	1	1	
0100047	Lobster	SVE-01_20LT405	SVE-01_20LT405_091020_13_LOB_TA	9/10/2020	0100047-AK	FS	1	1	
0100047	Lobster	SVE-01_20LT405	SVE-01_20LT405_091020_14_LOB_TA	9/10/2020	0100047-AL	FS	1	1	
0100047	Lobster	SVE-01_20LT405	SVE-01_20LT405_091020_15_LOB_TA	9/10/2020	0100047-AM	FS	1	1	
0100047	Lobster	SVE-01_20LT405	SVE-01_20LT405_091020_16_LOB_TA	9/10/2020	0100047-AN	FS	1	1	
0100047	Lobster	SVE-01_20LT405	SVE-01_20LT405_091020_17_LOB_TA	9/10/2020	0100047-AO	FS	1	1	
0100047	Lobster	SVE-01_20LT406	SVE-01_20LT406_091020_18_LOB_TA	9/10/2020	0100047-AP	FS	1	1	
0100047	Lobster	SVE-01_20LT406	SVE-01_20LT406_091020_19_LOB_TA	9/10/2020	0100047-AQ	FS	1	1	
0100047	Lobster	SVE-01_20LT406	SVE-01_20LT406_091020_20_LOB_TA	9/10/2020	0100047-AR	FS	1	1	
0100078	Tomcod	ES-02_20ET909	ES-02_20ET909_091620_01_TOM_WB	9/16/2020	0100078-13	FS	1	1	
0100078	Tomcod	ES-02_20ET924	ES-02_20ET924_091820_02_TOM_WB	9/18/2020	0100078-14	FS	1	1	
0100078	Tomcod	ES-02_20ET934	ES-02_20ET934_091820_03_TOM_WB	9/18/2020	0100078-15	FS	1	1	
0100078	Tomcod	ES-02_20ET938	ES-02_20ET938_091820_04_TOM_WB	9/18/2020	0100078-16	FS	1	1	
0100078	Tomcod	ES-02_20ET941	ES-02_20ET941_091820_05_TOM_WB	9/18/2020	0100078-17	FS	1	1	
0100078	Tomcod	ES-02_20ET952	ES-02_20ET952_092120_06_TOM_WB	9/21/2020	0100078-37	FS	1	1	
0100078	Tomcod	ES-02_20ET962	ES-02_20ET962_092120_07_TOM_WB	9/21/2020	0100078-38	FS	1	1	
0100078	Tomcod	ES-02_20ET964	ES-02_20ET964_092120_08_TOM_WB	9/21/2020	0100078-39	FS	1	1	
0100078	Tomcod	ES-02_20ET967	ES-02_20ET967_092120_09_TOM_WB	9/21/2020	0100078-40	FS	1	1	
0100078	Tomcod	ES-02_20ET968	ES-02_20ET968_092120_10_TOM_WB	9/21/2020	0100078-41	FS	1	1	
0100078	Tomcod	ES-02_20ET970	ES-02_20ET970_092120_11_TOM_WB	9/21/2020	0100078-42	FS	1	1	
0100078	Tomcod	ES-02_20ET973	ES-02_20ET973_092120_12_TOM_WB	9/21/2020	0100078-49	FS	1	1	
0100078	Tomcod	ES-02_20ET974	ES-02_20ET974_092120_13_TOM_WB	9/21/2020	0100078-50	FS	1	1	
0100078	Tomcod	ES-02_20ET978	ES-02_20ET978_092120_14_TOM_WB	9/21/2020	0100078-51	FS	1	1	
0100078	Tomcod	ES-FP_20ET711	ES-FP_20ET711_091020_01_TOM_WB	9/10/2020	0100078-01	FS	1	1	
0100078	Tomcod	ES-FP_20ET717	ES-FP_20ET717_091020_02_TOM_WB	9/10/2020	0100078-02	FS	1	1	
0100078	Tomcod	ES-FP_20ET741	ES-FP_20ET741_091520_03_TOM_WB	9/15/2020	0100078-03	FS	1	1	
0100078	Tomcod	ES-FP_20ET755	ES-FP_20ET755_091520_04_TOM_WB	9/15/2020	0100078-04	FS	1	1	
0100078	Tomcod	ES-FP_20ET756	ES-FP_20ET756_091520_05_TOM_WB	9/15/2020	0100078-05	FS	1	1	
0100078	Smelt	ES-FP_20SN001	ES-FP_20SN001_091120_01_RAS_WB	9/11/2020	0100078-06	FS	1	1	
0100078	Smelt	ES-FP_20SN001	ES-FP_20SN001_091120_02_RAS_WB	9/11/2020	0100078-07	FS	1	1	
0100078	Lobster	FRB-01_20LT606	FRB-01_20LT606_091720_01_LOB_TA	9/17/2020	0100078-18	FS	1	1	
0100078	Lobster	FRB-01_20LT620	FRB-01_20LT620_091720_02_LOB_TA	9/17/2020	0100078-19	FS	1	1	
0100078	Lobster	FRB-01_20LT621	FRB-01_20LT621_092020_03_LOB_TA	9/20/2020	0100078-20	FS	1	1	
0100078	Lobster	FRB-01_20LT627	FRB-01_20LT627_092020_04_LOB_TA	9/20/2020	0100078-21	FS	1	1	
0100078	Lobster	FRB-01_20LT629	FRB-01_20LT629_092020_05_LOB_TA	9/20/2020	0100078-25	FS	1	1	

TABLE 1
DATA VALIDATION REPORT
SAMPLE AND ANALYSIS SUMMARY
2020 BIOTA SAMPLING-LOBSTERS, TOMCOD, SMELT
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDGs 0100047 and 0100078

SDG	Media	Location	Field Sample ID	Sample Date	Lab Sample ID	QC Code	Method Class	Mercury	% Lipids
							Analysis Method	EPA 1631	NOAA
0100078	Lobster	FRB-01_20LT633	FRB-01_20LT633_092020_06_LOB_TA	9/20/2020	0100078-26	FS	1	1	
0100078	Lobster	FRB-01_20LT633	FRB-01_20LT633_092020_07_LOB_TA	9/20/2020	0100078-27	FS	1	1	
0100078	Lobster	FRB-01_20LT635	FRB-01_20LT635_092020_08_LOB_TA	9/20/2020	0100078-28	FS	1	1	
0100078	Lobster	FRB-01_20LT639	FRB-01_20LT639_092020_09_LOB_TA	9/20/2020	0100078-29	FS	1	1	
0100078	Lobster	FRB-01_20LT639	FRB-01_20LT639_092020_10_LOB_TA	9/20/2020	0100078-30	FS	1	1	
0100078	Tomcod	FRB-02_20ET653	FRB-02_20ET653_091520_01_TOM_W	9/15/2020	0100078-08RE2	FS	1	1	
0100078	Tomcod	FRB-02_20ET654	FRB-02_20ET654_091520_02_TOM_W	9/15/2020	0100078-09RE2	FS	1	1	
0100078	Tomcod	FRB-02_20ET659	FRB-02_20ET659_091520_03_TOM_W	9/15/2020	0100078-10RE2	FS	1	1	
0100078	Tomcod	FRB-02_20ET659	FRB-02_20ET659_091520_04_TOM_W	9/15/2020	0100078-11RE2	FS	1	1	
0100078	Tomcod	FRB-02_20ET662	FRB-02_20ET662_091520_05_TOM_W	9/15/2020	0100078-22RE2	FS	1	1	
0100078	Tomcod	OL-01_20ET866	OL-01_20ET866_091820_02_TOM_WB	9/18/2020	0100078-23	FS	1	1	
0100078	Tomcod	OL-01_20ET866	OL-01_20ET866_091820_03_TOM_WB	9/18/2020	0100078-24	FS	1	1	
0100078	Tomcod	OL-01_20LT306	OL-01_20LT306_091020_01_TOM_WB	9/10/2020	0100078-12	FS	1	1	
0100078	Tomcod	SVE-01_20ET033	SVE-01_20ET033_092120_01_TOM_WB	9/21/2020	0100078-31	FS	1	1	
0100078	Tomcod	SVE-01_20ET048	SVE-01_20ET048_092120_03_TOM_WB	9/21/2020	0100078-32	FS	1	1	
0100078	Tomcod	SVE-01_20ET048	SVE-01_20ET048_092120_04_TOM_WB	9/21/2020	0100078-33	FS	1	1	
0100078	Tomcod	SVE-01_20ET048	SVE-01_20ET048_092120_05_TOM_WB	9/21/2020	0100078-34	FS	1	1	
0100078	Tomcod	SVE-01_20ET048	SVE-01_20ET048_092120_06_TOM_WB	9/21/2020	0100078-35	FS	1	1	
0100078	Tomcod	SVE-01_20ET048	SVE-01_20ET048_092120_07_TOM_WB	9/21/2020	0100078-43	FS	1	1	
0100078	Tomcod	SVE-01_20ET050	SVE-01_20ET050_092120_08_TOM_WB	9/21/2020	0100078-44	FS	1	1	
0100078	Tomcod	SVE-01_20ET051	SVE-01_20ET051_092120_09_TOM_WB	9/21/2020	0100078-45	FS	1	1	
0100078	Tomcod	SVE-01_20ET052	SVE-01_20ET052_092120_10_TOM_WB	9/21/2020	0100078-46	FS	1	1	
0100078	Tomcod	SVE-01_20ET053	SVE-01_20ET053_092120_11_TOM_WB	9/21/2020	0100078-47	FS	1	1	
0100078	Tomcod	SVE-01_20ET056	SVE-01_20ET056_092120_02_TOM_WB	9/21/2020	0100078-36	FS	1	1	
0100078	Tomcod	SVE-01_20ET059	SVE-01_20ET059_092120_12_TOM_WB	9/21/2020	0100078-48	FS	1	1	
0100078	Tomcod	SVE-01_20ET077	SVE-01_20ET077_092220_13_TOM_WB	9/22/2020	0100078-52	FS	1	1	
0100078	Tomcod	SVE-01_20ET082	SVE-01_20ET082_092220_14_TOM_WB	9/22/2020	0100078-53	FS	1	1	
0100078	Tomcod	SVE-01_20ET083	SVE-01_20ET083_092220_15_TOM_WB	9/22/2020	0100078-54	FS	1	1	
0100078	Tomcod	SVE-01_20ET083	SVE-01_20ET083_092220_16_TOM_WB	9/22/2020	0100078-55	FS	1	1	
0100078	Tomcod	SVE-01_20ET083	SVE-01_20ET083_092220_17_TOM_WB	9/22/2020	0100078-56	FS	1	1	
0100078	Tomcod	SVE-01_20ET087	SVE-01_20ET087_092220_18_TOM_WB	9/22/2020	0100078-57	FS	1	1	
0100078	Tomcod	SVE-01_20ET089	SVE-01_20ET089_092220_19_TOM_WB	9/22/2020	0100078-58	FS	1	1	
0100078	Tomcod	SVE-01_20ET089	SVE-01_20ET089_092220_20_TOM_WB	9/22/2020	0100078-59	FS	1	1	

Notes:

EPA = US Environmental Protection Agency

FS = Field Sample

ID = Identification

NOAA = National Oceanic and Atmospheric Administration

QC = Quality Control

SDG = Sample Delivery Group

TABLE 2
DATA VALIDATION REPORT
DATA VALIDATION QUALIFIERS ADDED
2020 BIOTA SAMPLING
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE

Analysis Method	Lab Sample ID	Field Sample ID	Fraction	Parameter Name	Lab Result	Lab Qualifier	Validated Result	Validated Qualifier	Validation Reason Code	Result Units
E1631	OI00047-59	BO-04_20ET503_091020_01_TOM_WB	T	Mercury	201		201	J	MS-L	NG/G
Gravimetric	82880	CJ-04_20LT109_091020_11_LOB_TA	N	Lipids	1.22		1.22	J	LD	PERCENT
E1631	OI00047-AS	CJ-04_20LT111_091220_14_LOB_TA	T	Mercury	260		260	J	MS-H	NG/G
E1631	OI00047-AT	CJ-04_20LT111_091220_15_LOB_TA	T	Mercury	167		167	J	MS-H	NG/G
E1631	OI00047-AU	CJ-04_20LT111_091220_16_LOB_TA	T	Mercury	169		169	J	MS-H	NG/G
E1631	OI00047-AV	CJ-04_20LT111_091220_17_LOB_TA	T	Mercury	1170		1,170	J	MS-H	NG/G
E1631	OI00047-AW	CJ-04_20LT113_091220_18_LOB_TA	T	Mercury	133		133	J	MS-H	NG/G
E1631	OI00047-AX	CJ-04_20LT113_091220_19_LOB_TA	T	Mercury	571		571	J	MS-H	NG/G
E1631	OI00047-AY	CJ-04_20LT116_091220_20_LOB_TA	T	Mercury	153		153	J	MS-H	NG/G
E1631	OI00047-AG	CJ-04_20LT123_091220_12_LOB_TA	T	Mercury	118		118	J	MS-RPD	NG/G
E1631	OI00047-AZ	CJ-04_20LT124_091220_13_LOB_TA	T	Mercury	247		247	J	MS-H	NG/G
E1631	OI00047-40	ES-FP_20LT202_091020_06_LOB_TA	T	Mercury	564		564	J	MS-RPD	NG/G
E1631	OI00047-41	ES-FP_20LT202_091020_07_LOB_TA	T	Mercury	523		523	J	MS-RPD	NG/G
E1631	OI00047-42	ES-FP_20LT202_091020_08_LOB_TA	T	Mercury	252		252	J	MS-H	NG/G
E1631	OI00047-AH	L9-45_20L011_091220_15_LOB_TA	T	Mercury	130		130	J	MS-RPD	NG/G
E1631	OI00047-AI	L9-45_20L017_091220_16_LOB_TA	T	Mercury	140		140	J	MS-RPD	NG/G
E1631	OI00047-AJ	L9-45_20L018_091220_17_LOB_TA	T	Mercury	163		163	J	MS-RPD	NG/G
E1631	OI00047-01	L9-45_20LT001_091020_01_LOB_TA	T	Mercury	43.8		43.8	J	MS-H	NG/G
E1631	OI00047-02	L9-45_20LT002_091020_02_LOB_TA	T	Mercury	434		434	J	MS-H	NG/G
E1631	OI00047-03	L9-45_20LT004_091020_03_LOB_TA	T	Mercury	236		236	J	MS-H	NG/G
E1631	OI00047-04	L9-45_20LT004_091020_04_LOB_TA	T	Mercury	305		305	J	MS-H	NG/G
E1631	OI00047-05	L9-45_20LT005_091020_06_LOB_TA	T	Mercury	142		142	J	MS-H	NG/G
E1631	OI00047-06	L9-45_20LT005_091020_07_LOB_TA	T	Mercury	259		259	J	MS-H	NG/G
E1631	OI00047-07	L9-45_20LT005_091020_08_LOB_TA	T	Mercury	356		356	J	MS-H	NG/G
E1631	OI00047-08	L9-45_20LT006_091020_05_LOB_TA	T	Mercury	262		262	J	MS-H	NG/G
E1631	OI00047-09	L9-45_20LT007_091020_09_LOB_TA	T	Mercury	251		251	J	MS-H	NG/G
E1631	OI00047-10	L9-45_20LT009_091020_10_LOB_TA	T	Mercury	230		230	J	MS-H	NG/G
E1631	OI00047-BE	OB-01_20ET601_091320_01_TOM_WB	T	Mercury	110		110	J	MS-L	NG/G

TABLE 2
DATA VALIDATION REPORT
DATA VALIDATION QUALIFIERS ADDED
2020 BIOTA SAMPLING
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE

Analysis Method	Lab Sample ID	Field Sample ID	Fraction	Parameter Name	Lab Result	Lab Qualifier	Validated Result	Validated Qualifier	Validation Reason Code	Result Units
E1631	OI00047-BF	OB-01_20ET601_091320_02_TOM_WB	T	Mercury	46.4		46.4	J	MS-L	NG/G
E1631	OI00047-BG	OB-01_20ET603_091320_03_TOM_WB	T	Mercury	86		86	J	MS-L	NG/G
E1631	OI00047-BH	OB-01_20ET605_091320_04_TOM_WB	T	Mercury	129		129	J	MS-L	NG/G
E1631	OI00047-65RE3	OL-01_20LT301_091020_01_LOB_TA	T	Mercury	971		971	J	MS-RPD	NG/G
Gravimetric	80992	OL-01_20LT313_091220_17_LOB_TA	N	Lipids	0.73		0.73	J	LD	PERCENT
E1631	OI00047-BI	OL-01_20LT313_091220_17_LOB_TA	T	Mercury	300		300	J	MS-RPD	NG/G
E1631	OI00047-BJ	OL-01_20LT313_091220_18_LOB_TA	T	Mercury	304		304	J	MS-RPD	NG/G
E1631	OI00047-BK	OL-01_20LT314_091220_19_LOB_TA	T	Mercury	869		869	J	MS-RPD	NG/G
E1631	OI00047-BL	OL-01_20LT314_091220_20_LOB_TA	T	Mercury	1210		1,210	J	MS-RPD	NG/G
E1631	OI00047-BA	OL-01_20LT320_091220_13_LOB_TA	T	Mercury	93.8		93.8	J	MS-H	NG/G
E1631	OI00047-BB	OL-01_20LT321_091220_11_LOB_TA	T	Mercury	239		239	J	MS-H	NG/G
E1631	OI00047-BC	OL-01_20LT322_091220_12_LOB_TA	T	Mercury	113		113	J	MS-H	NG/G
E1631	OI00047-BD	OL-01_20LT323_091220_14_LOB_TA	T	Mercury	135		135	J	MS-H	NG/G
E1631	OI00047-BM	OL-01_20LT323_091220_15_LOB_TA	T	Mercury	437		437	J	MS-RPD	NG/G
E1631	OI00047-BN	OL-01_20LT324_091220_16_LOB_TA	T	Mercury	288		288	J	MS-RPD	NG/G
E1631	OI00047-91	SVE-01_20LT401_091020_01_LOB_TA	T	Mercury	171		171	J	MS-RPD	NG/G
E1631	OI00047-98	SVE-01_20LT402_091020_05_LOB_TA	T	Mercury	372		372	J	MS-RPD	NG/G
Gravimetric	80957	SVE-01_20LT402_091020_06_LOB_TA	N	Lipids	0.482		0.482	J	LD	PERCENT
E1631	OI00047-99	SVE-01_20LT402_091020_06_LOB_TA	T	Mercury	212		212	J	MS-RPD	NG/G
E1631	OI00047-AA	SVE-01_20LT402_091020_07_LOB_TA	T	Mercury	113		113	J	MS-RPD	NG/G
E1631	OI00047-AB	SVE-01_20LT402_091020_08_LOB_TA	T	Mercury	123		123	J	MS-RPD	NG/G
E1631	OI00047-AC	SVE-01_20LT403_091020_09_LOB_TA	T	Mercury	307		307	J	MS-RPD	NG/G
E1631	OI00047-AD	SVE-01_20LT403_091020_10_LOB_TA	T	Mercury	283		283	J	MS-RPD	NG/G
E1631	OI00047-AE	SVE-01_20LT404_091020_11_LOB_TA	T	Mercury	149		149	J	MS-RPD	NG/G
E1631	OI00047-AF	SVE-01_20LT404_091020_12_LOB_TA	T	Mercury	105		105	J	MS-RPD	NG/G
E1631	OI00047-AK	SVE-01_20LT405_091020_13_LOB_TA	T	Mercury	228		228	J	MS-RPD	NG/G
Gravimetric	80969	SVE-01_20LT405_091020_14_LOB_TA	N	Lipids	0.91		0.91	J	LD	PERCENT
E1631	OI00047-AL	SVE-01_20LT405_091020_14_LOB_TA	T	Mercury	752		752	J	MS-RPD	NG/G

TABLE 2
DATA VALIDATION REPORT
DATA VALIDATION QUALIFIERS ADDED
2020 BIOTA SAMPLING
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE

Analysis Method	Lab Sample ID	Field Sample ID	Fraction	Parameter Name	Lab Result	Lab Qualifier	Validated Result	Validated Qualifier	Validation Reason Code	Result Units
E1631	0I00047-AM	SVE-01_20LT405_091020_15_LOB_TA	T	Mercury	181		181	J	MS-RPD	NG/G
E1631	0I00047-AN	SVE-01_20LT405_091020_16_LOB_TA	T	Mercury	409		409	J	MS-RPD	NG/G
E1631	0I00047-AO	SVE-01_20LT405_091020_17_LOB_TA	T	Mercury	188		188	J	MS-RPD	NG/G
E1631	0I00047-AP	SVE-01_20LT406_091020_18_LOB_TA	T	Mercury	226		226	J	MS-RPD	NG/G
E1631	0I00047-AQ	SVE-01_20LT406_091020_19_LOB_TA	T	Mercury	138		138	J	MS-H	NG/G
E1631	0I00047-AR	SVE-01_20LT406_091020_20_LOB_TA	T	Mercury	1070		1,070	J	MS-H	NG/G
E1631	0I00078-16	ES-02_20ET938_091820_04_TOM_WB	T	Mercury	107		107	J	MS-RPD	NG/G
E1631	0I00078-37	ES-02_20ET952_092120_06_TOM_WB	T	Mercury	154		154	J	MS-RPD	NG/G
E1631	0I00078-38	ES-02_20ET962_092120_07_TOM_WB	T	Mercury	91.6		91.6	J	MS-RPD	NG/G
E1631	0I00078-39	ES-02_20ET964_092120_08_TOM_WB	T	Mercury	159		159	J	MS-RPD	NG/G
E1631	0I00078-40	ES-02_20ET967_092120_09_TOM_WB	T	Mercury	66.9		66.9	J	MS-RPD	NG/G
E1631	0I00078-41	ES-02_20ET968_092120_10_TOM_WB	T	Mercury	93.4		93.4	J	MS-RPD	NG/G
E1631	0I00078-42	ES-02_20ET970_092120_11_TOM_WB	T	Mercury	100		100	J	MS-RPD	NG/G
E1631	0I00078-24	OL-01_20ET866_091820_03_TOM_WB	T	Mercury	58.2		58.2	J	MS-RPD	NG/G
Gravimetric	81040-R1	OL-01_20LT306_091020_01_TOM_WB	N	Lipids	1.31		1.31	J	LD	PERCENT
E1631	0I00078-12	OL-01_20LT306_091020_01_TOM_WB	T	Mercury	86.2		86.2	J	MS-RPD	NG/G
E1631	0I00078-32	SVE-01_20ET048_092120_03_TOM_WB	T	Mercury	69.2		69.2	J	MS-RPD	NG/G
E1631	0I00078-33	SVE-01_20ET048_092120_04_TOM_WB	T	Mercury	71		71	J	MS-RPD	NG/G
E1631	0I00078-34	SVE-01_20ET048_092120_05_TOM_WB	T	Mercury	92.1		92.1	J	MS-RPD	NG/G
E1631	0I00078-35	SVE-01_20ET048_092120_06_TOM_WB	T	Mercury	73.8		73.8	J	MS-RPD	NG/G
E1631	0I00078-36	SVE-01_20ET056_092120_02_TOM_WB	T	Mercury	232		232	J	MS-RPD	NG/G

Units

NG/G = Nanogram per gram

Validation Qualifier

J = Value is estimated

Validation Reason Codes

LD = Lab duplicate limit exceeded
MS-H = MS and/or MSD recovery high
MS-L = MS and/or MSD recovery low
MS-RPD = Matrix Spike (MS)/MS Duplicate RPD limit exceeded

Notes

EPA = US Environmental Protection Agency
ID = Identification
RPD = Relative percent difference

TABLE 3
DATA VALIDATION REPORT
VALIDATED SAMPLE RESULTS
2020 BIOTA SAMPLING
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDGS 0100047 and 0100078

Location	Sample Date	Field Sample ID	QC Code	Eurofins Frontier Global Sciences		Physis	
				Lab Fraction Method Parameter Units	Total E1631 Mercury NG/G	Total NOAA Gravimetric Lipids PERCENT	Final Result
BO-04_20ET503	9/10/2020	BO-04_20ET503_091020_01_TOM_WB	FS	201	J	0.711	
BO-04_20ET503	9/10/2020	BO-04_20ET503_091020_02_TOM_WB	FS	65.3		1.02	
BO-04_20ET506	9/10/2020	BO-04_20ET506_091020_03_TOM_WB	FS	108		0.657	
BO-04_20ET506	9/10/2020	BO-04_20ET506_091020_04_TOM_WB	FS	63.1		0.706	
BO-04_20ET506	9/10/2020	BO-04_20ET506_091020_05_TOM_WB	FS	78.8		0.811	
BO-04_20ET506	9/10/2020	BO-04_20ET506_091020_06_TOM_WB	FS	119		0.772	
BO-04_20ET507	9/10/2020	BO-04_20ET507_091020_07_TOM_WB	FS	106		0.665	
BO-04_20ET508	9/10/2020	BO-04_20ET508_091020_08_TOM_WB	FS	117		0.633	
BO-04_20ET508	9/10/2020	BO-04_20ET508_091020_09_TOM_WB	FS	142		0.723	
BO-04_20ET508	9/10/2020	BO-04_20ET508_091020_10_TOM_WB	FS	73.9		0.673	
BO-04_20ET508	9/10/2020	BO-04_20ET508_091020_11_TOM_WB	FS	123		0.795	
BO-04_20ET509	9/10/2020	BO-04_20ET509_091020_12_TOM_WB	FS	241		0.899	
BO-04_20ET509	9/10/2020	BO-04_20ET509_091020_13_TOM_WB	FS	166		0.912	
BO-04_20ET509	9/10/2020	BO-04_20ET509_091020_14_TOM_WB	FS	133		0.949	
BO-04_20ET509	9/10/2020	BO-04_20ET509_091020_15_TOM_WB	FS	83.7		0.664	
BO-04_20ET510	9/10/2020	BO-04_20ET510_091020_16_TOM_WB	FS	109		0.595	
BO-04_20ET510	9/10/2020	BO-04_20ET510_091020_17_TOM_WB	FS	91.6		0.799	
BO-04_20ET511	9/10/2020	BO-04_20ET511_091020_18_TOM_WB	FS	107		0.738	
BO-04_20ET511	9/10/2020	BO-04_20ET511_091020_19_TOM_WB	FS	49.4		0.826	
BO-04_20ET513	9/10/2020	BO-04_20ET513_091020_20_TOM_WB	FS	87		0.612	
CJ-04_20LT101	9/10/2020	CJ-04_20LT101_091020_01_LOB_TA	FS	761		0.552	
CJ-04_20LT101	9/10/2020	CJ-04_20LT101_091020_02_LOB_TA	FS	268		0.432	
CJ-04_20LT101	9/10/2020	CJ-04_20LT101_091020_03_LOB_TA	FS	188		0.21	
CJ-04_20LT104	9/10/2020	CJ-04_20LT104_091020_04_LOB_TA	FS	353		0.689	
CJ-04_20LT104	9/10/2020	CJ-04_20LT104_091020_05_LOB_TA	FS	175		0.984	
CJ-04_20LT105	9/10/2020	CJ-04_20LT105_091020_06_LOB_TA	FS	147		0.409	
CJ-04_20LT108	9/10/2020	CJ-04_20LT108_091020_07_LOB_TA	FS	405		0.53	
CJ-04_20LT108	9/10/2020	CJ-04_20LT108_091020_08_LOB_TA	FS	137		0.549	
CJ-04_20LT109	9/10/2020	CJ-04_20LT109_091020_09_LOB_TA	FS	193		0.652	
CJ-04_20LT109	9/10/2020	CJ-04_20LT109_091020_10_LOB_TA	FS	150		0.703	
CJ-04_20LT109	9/10/2020	CJ-04_20LT109_091020_11_LOB_TA	FS	0.323		1.22	J
CJ-04_20LT111	9/12/2020	CJ-04_20LT111_091220_14_LOB_TA	FS	260	J	1.01	
CJ-04_20LT111	9/12/2020	CJ-04_20LT111_091220_15_LOB_TA	FS	167	J	0.679	
CJ-04_20LT111	9/12/2020	CJ-04_20LT111_091220_16_LOB_TA	FS	169	J	0.578	
CJ-04_20LT111	9/12/2020	CJ-04_20LT111_091220_17_LOB_TA	FS	1,170	J	1	
CJ-04_20LT113	9/12/2020	CJ-04_20LT113_091220_18_LOB_TA	FS	133	J	0.677	
CJ-04_20LT113	9/12/2020	CJ-04_20LT113_091220_19_LOB_TA	FS	571	J	0.395	
CJ-04_20LT116	9/12/2020	CJ-04_20LT116_091220_20_LOB_TA	FS	153	J	0.623	

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Location	Sample Date	Field Sample ID	QC Code	Eurofins Frontier Global Sciences		Physis	
				Lab Fraction Method Parameter Units	Total E1631 Mercury NG/G	Total NOAA Gravimetric Lipids PERCENT	Final Result
CJ-04_20LT123	9/12/2020	CJ-04_20LT123_091220_12_LOB_TA	FS	118	J	0.605	
CJ-04_20LT124	9/12/2020	CJ-04_20LT124_091220_13_LOB_TA	FS	247	J	0.499	
ES-02_20ET909	9/16/2020	ES-02_20ET909_091620_01_TOM_WB	FS	65.2		1.17	
ES-02_20ET924	9/18/2020	ES-02_20ET924_091820_02_TOM_WB	FS	37		0.718	
ES-02_20ET934	9/18/2020	ES-02_20ET934_091820_03_TOM_WB	FS	45.2		0.959	
ES-02_20ET938	9/18/2020	ES-02_20ET938_091820_04_TOM_WB	FS	107	J	1.08	
ES-02_20ET941	9/18/2020	ES-02_20ET941_091820_05_TOM_WB	FS	99.7		0.881	
ES-02_20ET952	9/21/2020	ES-02_20ET952_092120_06_TOM_WB	FS	154	J	0.903	
ES-02_20ET962	9/21/2020	ES-02_20ET962_092120_07_TOM_WB	FS	91.6	J	1.38	
ES-02_20ET964	9/21/2020	ES-02_20ET964_092120_08_TOM_WB	FS	159	J	0.893	
ES-02_20ET967	9/21/2020	ES-02_20ET967_092120_09_TOM_WB	FS	66.9	J	1	
ES-02_20ET968	9/21/2020	ES-02_20ET968_092120_10_TOM_WB	FS	93.4	J	1.16	
ES-02_20ET970	9/21/2020	ES-02_20ET970_092120_11_TOM_WB	FS	100	J	1.34	
ES-02_20ET973	9/21/2020	ES-02_20ET973_092120_12_TOM_WB	FS	73		0.944	
ES-02_20ET974	9/21/2020	ES-02_20ET974_092120_13_TOM_WB	FS	53.3		1.02	
ES-02_20ET978	9/21/2020	ES-02_20ET978_092120_14_TOM_WB	FS	55.8		1.03	
ES-FP_20ET711	9/10/2020	ES-FP_20ET711_091020_01_TOM_WB	FS	44.4		1.21	
ES-FP_20ET717	9/10/2020	ES-FP_20ET717_091020_02_TOM_WB	FS	60.9		0.869	
ES-FP_20ET741	9/15/2020	ES-FP_20ET741_091520_03_TOM_WB	FS	60.8		1.18	
ES-FP_20ET755	9/15/2020	ES-FP_20ET755_091520_04_TOM_WB	FS	36.4		1.58	
ES-FP_20ET756	9/15/2020	ES-FP_20ET756_091520_05_TOM_WB	FS	89.7		1.23	
ES-FP_20LT201	9/10/2020	ES-FP_20LT201_091020_01_LOB_TA	FS	268		0.704	
ES-FP_20LT201	9/10/2020	ES-FP_20LT201_091020_02_LOB_TA	FS	210		0.566	
ES-FP_20LT201	9/10/2020	ES-FP_20LT201_091020_03_LOB_TA	FS	165		0.719	
ES-FP_20LT202	9/10/2020	ES-FP_20LT202_091020_04_LOB_TA	FS	180		0.464	
ES-FP_20LT202	9/10/2020	ES-FP_20LT202_091020_05_LOB_TA	FS	108		0.578	
ES-FP_20LT202	9/10/2020	ES-FP_20LT202_091020_06_LOB_TA	FS	564	J	0.686	
ES-FP_20LT202	9/10/2020	ES-FP_20LT202_091020_07_LOB_TA	FS	523	J	0.51	
ES-FP_20LT202	9/10/2020	ES-FP_20LT202_091020_08_LOB_TA	FS	252	J	0.525	
ES-FP_20LT203	9/10/2020	ES-FP_20LT203_091020_09_LOB_TA	FS	129		0.725	
ES-FP_20LT203	9/10/2020	ES-FP_20LT203_091020_10_LOB_TA	FS	358		0.612	
ES-FP_20LT203	9/10/2020	ES-FP_20LT203_091020_11_LOB_TA	FS	846		0.803	
ES-FP_20LT205	9/10/2020	ES-FP_20LT205_091020_12_LOB_TA	FS	214		0.412	
ES-FP_20LT205	9/10/2020	ES-FP_20LT205_091020_13_LOB_TA	FS	101		0.599	
ES-FP_20LT206	9/10/2020	ES-FP_20LT206_091020_14_LOB_TA	FS	175		0.598	
ES-FP_20LT206	9/10/2020	ES-FP_20LT206_091020_15_LOB_TA	FS	181		0.585	
ES-FP_20LT207	9/10/2020	ES-FP_20LT207_091020_16_LOB_TA	FS	140		0.721	
ES-FP_20LT208	9/10/2020	ES-FP_20LT208_091020_17_LOB_TA	FS	234		0.614	

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				Eurofins Frontier Global Sciences		Physis		
				Total E1631 Mercury NG/G		Total NOAA Gravimetric Lipids PERCENT		
				Lab Fraction Method Parameter Units				
Location	Sample Date	Field Sample ID	QC Code	Final Result	Final Qualifier	Final Result	Final Qualifier	
ES-FP_20LT208	9/10/2020	ES-FP_20LT208_091020_18_LOB_TA	FS	230		0.85		
ES-FP_20LT208	9/10/2020	ES-FP_20LT208_091020_19_LOB_TA	FS	240		0.704		
ES-FP_20LT209	9/10/2020	ES-FP_20LT209_091020_20_LOB_TA	FS	60.7		0.669		
ES-FP_20SN001	9/11/2020	ES-FP_20SN001_091120_01_RAS_WB	FS	50.1		0.765		
ES-FP_20SN001	9/11/2020	ES-FP_20SN001_091120_02_RAS_WB	FS	45.4		1.08		
FRB-01_20LT606	9/17/2020	FRB-01_20LT606_091720_01_LOB_TA	FS	34.4		0.791		
FRB-01_20LT620	9/17/2020	FRB-01_20LT620_091720_02_LOB_TA	FS	27.2		0.533		
FRB-01_20LT621	9/20/2020	FRB-01_20LT621_092020_03_LOB_TA	FS	26.9		0.791		
FRB-01_20LT627	9/20/2020	FRB-01_20LT627_092020_04_LOB_TA	FS	22.9		0.621		
FRB-01_20LT629	9/20/2020	FRB-01_20LT629_092020_05_LOB_TA	FS	32.2		0.802		
FRB-01_20LT633	9/20/2020	FRB-01_20LT633_092020_06_LOB_TA	FS	24.7		0.879		
FRB-01_20LT633	9/20/2020	FRB-01_20LT633_092020_07_LOB_TA	FS	26.9		0.966		
FRB-01_20LT635	9/20/2020	FRB-01_20LT635_092020_08_LOB_TA	FS	46.1		1.16		
FRB-01_20LT639	9/20/2020	FRB-01_20LT639_092020_09_LOB_TA	FS	46.1		0.786		
FRB-01_20LT639	9/20/2020	FRB-01_20LT639_092020_10_LOB_TA	FS	40.6		0.622		
FRB-02_20ET653	9/15/2020	FRB-02_20ET653_091520_01_TOM_W	FS	18.1		1.02		
FRB-02_20ET654	9/15/2020	FRB-02_20ET654_091520_02_TOM_W	FS	10.3		1.32		
FRB-02_20ET659	9/15/2020	FRB-02_20ET659_091520_03_TOM_W	FS	8.66		1.66		
FRB-02_20ET659	9/15/2020	FRB-02_20ET659_091520_04_TOM_W	FS	17.3		0.818		
FRB-02_20ET662	9/15/2020	FRB-02_20ET662_091520_05_TOM_W	FS	19.5		0.924		
L9-45_20LT001	9/10/2020	L9-45_20LT001_091020_01_LOB_TA	FS	43.8	J	0.463		
L9-45_20LT002	9/10/2020	L9-45_20LT002_091020_02_LOB_TA	FS	434	J	0.576		
L9-45_20LT004	9/10/2020	L9-45_20LT004_091020_03_LOB_TA	FS	236	J	0.614		
L9-45_20LT004	9/10/2020	L9-45_20LT004_091020_04_LOB_TA	FS	305	J	0.502		
L9-45_20LT005	9/10/2020	L9-45_20LT005_091020_06_LOB_TA	FS	142	J	0.647		
L9-45_20LT005	9/10/2020	L9-45_20LT005_091020_07_LOB_TA	FS	259	J	0.703		
L9-45_20LT005	9/10/2020	L9-45_20LT005_091020_08_LOB_TA	FS	356	J	0.654		
L9-45_20LT006	9/10/2020	L9-45_20LT006_091020_05_LOB_TA	FS	262	J	0.826		
L9-45_20LT007	9/10/2020	L9-45_20LT007_091020_09_LOB_TA	FS	251	J	0.49		
L9-45_20LT009	9/10/2020	L9-45_20LT009_091020_10_LOB_TA	FS	230	J	0.577		
L9-45_20LT009	9/10/2020	L9-45_20LT009_091020_11_LOB_TA	FS	157		0.566		
L9-45_20LT009	9/10/2020	L9-45_20LT009_091020_12_LOB_TA	FS	284		0.705		
L9-45_20LT009	9/10/2020	L9-45_20LT009_091020_13_LOB_TA	FS	194		0.676		
L9-45_20LT009	9/10/2020	L9-45_20LT009_091020_14_LOB_TA	FS	184		0.162		
L9-45_20LT011	9/12/2020	L9-45_20L011_091220_15_LOB_TA	FS	130	J	0.783		
L9-45_20LT017	9/12/2020	L9-45_20L017_091220_16_LOB_TA	FS	140	J	0.503		
L9-45_20LT018	9/12/2020	L9-45_20L018_091220_17_LOB_TA	FS	163	J	0.52		
OB-01_20ET601	9/13/2020	OB-01_20ET601_091320_01_TOM_WB	FS	110	J	0.952		

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				Eurofins Frontier Global Sciences		Physis	
				Total E1631 Mercury NG/G		Total NOAA Gravimetric Lipids PERCENT	
				Lab Fraction Method Parameter Units			
Location	Sample Date	Field Sample ID	QC Code	Final Result	Final Qualifier	Final Result	Final Qualifier
OB-01_20ET601	9/13/2020	OB-01_20ET601_091320_02_TOM_WB	FS	46.4	J	0.868	
OB-01_20ET603	9/13/2020	OB-01_20ET603_091320_03_TOM_WB	FS	86	J	0.648	
OB-01_20ET605	9/13/2020	OB-01_20ET605_091320_04_TOM_WB	FS	129	J	0.752	
OB-01_20ET606	9/13/2020	OB-01_20ET606_091320_05_TOM_WB	FS	146		1.06	
OB-01_20ET607	9/13/2020	OB-01_20ET607_091320_06_TOM_WB	FS	102		0.792	
OB-01_20ET607	9/13/2020	OB-01_20ET607_091320_07_TOM_WB	FS	242		0.88	
OB-01_20ET607	9/13/2020	OB-01_20ET607_091320_08_TOM_WB	FS	121		1.41	
OB-01_20ET607	9/13/2020	OB-01_20ET607_091320_09_TOM_WB	FS	88.7		0.762	
OB-01_20ET609	9/13/2020	OB-01_20ET609_091320_10_TOM_WB	FS	122		0.887	
OB-01_20ET609	9/13/2020	OB-01_20ET609_091320_11_TOM_WB	FS	196		0.368	
OB-01_20ET611	9/13/2020	OB-01_20ET611_091320_12_TOM_WB	FS	109		0.849	
OB-01_20ET613	9/13/2020	OB-01_20ET613_091320_13_TOM_WB	FS	150		1.03	
OB-01_20ET613	9/13/2020	OB-01_20ET613_091320_14_TOM_WB	FS	123		0.686	
OB-01_20ET613	9/13/2020	OB-01_20ET613_091320_15_TOM_WB	FS	106		1.89	
OB-01_20ET614	9/13/2020	OB-01_20ET614_091320_16_TOM_WB	FS	161		0.946	
OB-01_20ET614	9/13/2020	OB-01_20ET614_091320_17_TOM_WB	FS	148		0.774	
OB-01_20ET616	9/13/2020	OB-01_20ET616_091320_18_TOM_WB	FS	137		0.802	
OB-01_20ET617	9/13/2020	OB-01_20ET617_091320_19_TOM_WB	FS	47.5		0.968	
OB-01_20ET617	9/13/2020	OB-01_20ET617_091320_20_TOM_WB	FS	58.7		0.888	
OB-05_20ET001	9/10/2020	OB-05_20ET001_091020_01_TOM_WB	FS	101		0.925	
OB-05_20ET001	9/10/2020	OB-05_20ET001_091020_02_TOM_WB	FS	69.1		0.799	
OB-05_20ET001	9/10/2020	OB-05_20ET001_091020_03_TOM_WB	FS	103		0.812	
OB-05_20ET003	9/10/2020	OB-05_20ET003_091020_04_TOM_WB	FS	67.6		0.68	
OB-05_20ET003	9/10/2020	OB-05_20ET003_091020_05_TOM_WB	FS	102		1.1	
OB-05_20ET003	9/10/2020	OB-05_20ET003_091020_06_TOM_WB	FS	78.5		0.722	
OB-05_20ET003	9/10/2020	OB-05_20ET003_091020_07_TOM_WB	FS	127		0.815	
OB-05_20ET003	9/10/2020	OB-05_20ET003_091020_08_TOM_WB	FS	109		2.33	
OB-05_20ET004	9/10/2020	OB-05_20ET004_091020_09_TOM_WB	FS	73.3		0.601	
OB-05_20ET005	9/10/2020	OB-05_20ET005_091020_10_TOM_WB	FS	61.2		0.647	
OB-05_20ET005	9/10/2020	OB-05_20ET005_091020_11_TOM_WB	FS	75.3		0.969	
OB-05_20ET007	9/10/2020	OB-05_20ET007_091020_12_TOM_WB	FS	70.9		0.76	
OB-05_20ET007	9/10/2020	OB-05_20ET007_091020_13_TOM_WB	FS	114		0.513	
OB-05_20ET007	9/10/2020	OB-05_20ET007_091020_14_TOM_WB	FS	238		0.842	
OB-05_20ET009	9/10/2020	OB-05_20ET009_091020_15_TOM_WB	FS	115		0.774	
OB-05_20ET009	9/10/2020	OB-05_20ET009_091020_16_TOM_WB	FS	102		0.938	
OB-05_20ET009	9/10/2020	OB-05_20ET009_091020_17_TOM_WB	FS	82.7		0.645	
OB-05_20ET009	9/10/2020	OB-05_20ET009_091020_18_TOM_WB	FS	78.4		1.04	
OB-05_20ET010	9/10/2020	OB-05_20ET010_091020_19_TOM_WB	FS	64.8		0.738	

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Location	Sample Date	Field Sample ID	QC Code	Eurofins Frontier Global Sciences		Physis	
				Lab Fraction Method Parameter Units	Total E1631 Mercury NG/G	Total NOAA Gravimetric Lipids PERCENT	Final Result
OB-05_20ET011	9/10/2020	OB-05_20ET011_091020_20_TOM_WB	FS	49.2		0.846	
OL-01_20ET866	9/18/2020	OL-01_20ET866_091820_02_TOM_WB	FS	38.1		1.02	
OL-01_20ET866	9/18/2020	OL-01_20ET866_091820_03_TOM_WB	FS	58.2	J	1.32	
OL-01_20LT301	9/10/2020	OL-01_20LT301_091020_01_LOB_TA	FS	971	J	0.893	
OL-01_20LT301	9/10/2020	OL-01_20LT301_091020_02_LOB_TA	FS	962		0.76	
OL-01_20LT302	9/10/2020	OL-01_20LT302_091020_03_LOB_TA	FS	435		0.582	
OL-01_20LT304	9/10/2020	OL-01_20LT304_091020_04_LOB_TA	FS	284		0.517	
OL-01_20LT304	9/10/2020	OL-01_20LT304_091020_05_LOB_TA	FS	130		0.562	
OL-01_20LT304	9/10/2020	OL-01_20LT304_091020_06_LOB_TA	FS	142		0.566	
OL-01_20LT305	9/10/2020	OL-01_20LT305_091020_07_LOB_TA	FS	1,870		1	
OL-01_20LT305	9/10/2020	OL-01_20LT305_091020_08_LOB_TA	FS	540		0.459	
OL-01_20LT306	9/10/2020	OL-01_20LT306_091020_01_TOM_WB	FS	86.2	J	1.31	J
OL-01_20LT306	9/10/2020	OL-01_20LT306_091020_09_LOB_TA	FS	554		1.02	
OL-01_20LT307	9/10/2020	OL-01_20LT307_091020_10_LOB_TA	FS	335		0.552	
OL-01_20LT313	9/12/2020	OL-01_20LT313_091220_17_LOB_TA	FS	300	J	0.73	J
OL-01_20LT313	9/12/2020	OL-01_20LT313_091220_18_LOB_TA	FS	304	J	0.926	
OL-01_20LT314	9/12/2020	OL-01_20LT314_091220_19_LOB_TA	FS	869	J	0.932	
OL-01_20LT314	9/12/2020	OL-01_20LT314_091220_20_LOB_TA	FS	1,210	J	1	
OL-01_20LT320	9/12/2020	OL-01_20LT320_091220_13_LOB_TA	FS	93.8	J	0.541	
OL-01_20LT321	9/12/2020	OL-01_20LT321_091220_11_LOB_TA	FS	239	J	0.48	
OL-01_20LT322	9/12/2020	OL-01_20LT322_091220_12_LOB_TA	FS	113	J	0.71	
OL-01_20LT323	9/12/2020	OL-01_20LT323_091220_14_LOB_TA	FS	135	J	0.525	
OL-01_20LT323	9/12/2020	OL-01_20LT323_091220_15_LOB_TA	FS	437	J	0.726	
OL-01_20LT324	9/12/2020	OL-01_20LT324_091220_16_LOB_TA	FS	288	J	0.558	
QC	9/10/2020	HERRING_091020_LOBSTER_BAIT	FS	55.4			
SVE-01_20ET033	9/21/2020	SVE-01_20ET033_092120_01_TOM_WB	FS	73.6		1.05	
SVE-01_20ET048	9/21/2020	SVE-01_20ET048_092120_03_TOM_WB	FS	69.2	J	1.14	
SVE-01_20ET048	9/21/2020	SVE-01_20ET048_092120_04_TOM_WB	FS	71	J	0.953	
SVE-01_20ET048	9/21/2020	SVE-01_20ET048_092120_05_TOM_WB	FS	92.1	J	0.837	
SVE-01_20ET048	9/21/2020	SVE-01_20ET048_092120_06_TOM_WB	FS	73.8	J	0.795	
SVE-01_20ET048	9/21/2020	SVE-01_20ET048_092120_07_TOM_WB	FS	80.7		0.986	
SVE-01_20ET050	9/21/2020	SVE-01_20ET050_092120_08_TOM_WB	FS	52.5		1.5	
SVE-01_20ET051	9/21/2020	SVE-01_20ET051_092120_09_TOM_WB	FS	63.4		1.12	
SVE-01_20ET052	9/21/2020	SVE-01_20ET052_092120_10_TOM_WB	FS	97.6		1.41	
SVE-01_20ET053	9/21/2020	SVE-01_20ET053_092120_11_TOM_WB	FS	85.3		1.09	
SVE-01_20ET056	9/21/2020	SVE-01_20ET056_092120_02_TOM_WB	FS	232	J	1.07	
SVE-01_20ET059	9/21/2020	SVE-01_20ET059_092120_12_TOM_WB	FS	50.3		0.992	
SVE-01_20ET077	9/22/2020	SVE-01_20ET077_092220_13_TOM_WB	FS	64.5		1.13	

TABLE 3
DATA VALIDATION REPORT
VALIDATED SAMPLE RESULTS
2020 BIOTA SAMPLING
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDGS 0100047 and 0100078

Location	Sample Date	Field Sample ID	QC Code	Eurofins Frontier Global Sciences		Physis	
				Lab Fraction Method Parameter Units	Total E1631 Mercury NG/G	Total NOAA Gravimetric Lipids PERCENT	
SVE-01_20ET082	9/22/2020	SVE-01_20ET082_092220_14_TOM_WB	FS	49.3		1.38	
SVE-01_20ET083	9/22/2020	SVE-01_20ET083_092220_15_TOM_WB	FS	82.3		1	
SVE-01_20ET083	9/22/2020	SVE-01_20ET083_092220_16_TOM_WB	FS	42.5		1.31	
SVE-01_20ET083	9/22/2020	SVE-01_20ET083_092220_17_TOM_WB	FS	66.4		0.898	
SVE-01_20ET087	9/22/2020	SVE-01_20ET087_092220_18_TOM_WB	FS	101		1.85	
SVE-01_20ET089	9/22/2020	SVE-01_20ET089_092220_19_TOM_WB	FS	68.1		1.21	
SVE-01_20ET089	9/22/2020	SVE-01_20ET089_092220_20_TOM_WB	FS	65.4		1.65	
SVE-01_20LT401	9/10/2020	SVE-01_20LT401_091020_01_LOB_TA	FS	171	J	0.421	
SVE-01_20LT401	9/10/2020	SVE-01_20LT401_091020_02_LOB_TA	FS	181		0.624	
SVE-01_20LT401	9/10/2020	SVE-01_20LT401_091020_03_LOB_TA	FS	180		0.621	
SVE-01_20LT401	9/10/2020	SVE-01_20LT401_091020_04_LOB_TA	FS	148		0.668	
SVE-01_20LT402	9/10/2020	SVE-01_20LT402_091020_05_LOB_TA	FS	372	J	0.478	
SVE-01_20LT402	9/10/2020	SVE-01_20LT402_091020_06_LOB_TA	FS	212	J	0.482	J
SVE-01_20LT402	9/10/2020	SVE-01_20LT402_091020_07_LOB_TA	FS	113	J	0.627	
SVE-01_20LT402	9/10/2020	SVE-01_20LT402_091020_08_LOB_TA	FS	123	J	0.49	
SVE-01_20LT403	9/10/2020	SVE-01_20LT403_091020_09_LOB_TA	FS	307	J	0.569	
SVE-01_20LT403	9/10/2020	SVE-01_20LT403_091020_10_LOB_TA	FS	283	J	0.832	
SVE-01_20LT404	9/10/2020	SVE-01_20LT404_091020_11_LOB_TA	FS	149	J	0.679	
SVE-01_20LT404	9/10/2020	SVE-01_20LT404_091020_12_LOB_TA	FS	105	J	0.828	
SVE-01_20LT405	9/10/2020	SVE-01_20LT405_091020_13_LOB_TA	FS	228	J	0.611	
SVE-01_20LT405	9/10/2020	SVE-01_20LT405_091020_14_LOB_TA	FS	752	J	0.91	J
SVE-01_20LT405	9/10/2020	SVE-01_20LT405_091020_15_LOB_TA	FS	181	J	0.924	
SVE-01_20LT405	9/10/2020	SVE-01_20LT405_091020_16_LOB_TA	FS	409	J	1.22	
SVE-01_20LT405	9/10/2020	SVE-01_20LT405_091020_17_LOB_TA	FS	188	J	0.632	
SVE-01_20LT406	9/10/2020	SVE-01_20LT406_091020_18_LOB_TA	FS	226	J	0.604	
SVE-01_20LT406	9/10/2020	SVE-01_20LT406_091020_19_LOB_TA	FS	138	J	0.659	
SVE-01_20LT406	9/10/2020	SVE-01_20LT406_091020_20_LOB_TA	FS	1,070	J	1	

Notes

EPA = US Environmental Protection Agency
 FS = Field Sample
 ID = Identification
 NG/G = Nanogram per gram
 NOAA = National Oceanic and Atmospheric Administration
 QC = Quality Control
 SDG = Sample Delivery Group

Validation Qualifier

J = Value is estimated

**Data Validation Summary
2020 Biota Sampling – Eel
Penobscot River 2020 Monitoring
Penobscot River, Maine**

1.0 INTRODUCTION

Biota samples (eels) were collected in June 2020 from the Penobscot River located in Maine. Samples were analyzed by Eurofins Frontier Global Sciences, Inc. (Eurofins) located in Tacoma, Washington and included in sample delivery group (SDG) 0G00004. Samples were analyzed by Eurofins Calscience (Calscience) located in Garden Grove, California and are included in same Eurofins SDG. Samples were analyzed by one or more of the following: Clean Water Act (CWA, 2012) and National Oceanic and Atmospheric Administration (NOAA, 1993a):

Laboratory	Parameter	Analytical Method	Validation Level
Eurofins	Mercury, total	CWA 1631B	10% Stage III/ 90% Stage IIB
Calscience	% Lipids	NOAA	10% Stage III/ 90% Stage IIB

A Stage IIB data validation was completed on all SDGs. A Stage III data validation was performed on ten percent of samples. Data validation was completed using National Functional Guidelines for Inorganic Superfund Data Review (USEPA, 2017) and EPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures (USEPA, 2013) where applicable. Data quality evaluations were completed using quality control (QC) limits specified in the Draft Quality Assurance Project Plan (QAPP) Penobscot River 2020 Monitoring [Wood, 2020]. The project laboratory reported results using a combination of two detection limits including the reporting limit (RL) and the method detection limit (MDL).

Data validation review and qualification actions are discussed in the following subsections. It should be noted that only instances that result in an impact to data quality are presented in this report. There may be QC elements outside of QAPP and/or method control limits not presented in this report since there is no impact to data quality. Samples included in this data evaluation are presented in Table 1.

Data qualifications were completed if necessary in accordance with the guidelines or the professional judgment of the project chemist. The following qualifiers as applied during data validation or reported by the laboratory are included in the final data set:

J = The reported concentration is considered an estimated value

Validation reason codes were applied to results associated with QC measurements outside project QC goals. The validation qualification actions and associated validation reason codes applied to sample

results are summarized on Table 2. The following data validation reason codes were applied to one or more sample results:

LCS-L = Laboratory control sample (LCS) recovery low
MS-RPD = MS/MSD RPD limit exceeded

A complete summary of final sample results is provided in Table 3.

Data were evaluated based on the following parameters:

- * Data Completeness and Chain of Custody
 - * Holding Times and Preservation
 - * Blanks
 - * Initial Calibration
 - * Continuing Calibration
 - LCS and LCS Duplicate (LCSD)
 - Matrix Spike/Matrix Spike Duplicates (MS/MSD)
 - * Laboratory Duplicates
 - * Detection Limits
 - * Sample Result Verification/Electronic Evaluation Verification (EDD)
 - * Ongoing Precision Recovery
- * = indicates that criteria were met and/or no impact to data quality for this parameter

With the exception of the following items discussed below, results were determined to be usable as reported by the laboratory.

2.0 Mercury – 1631

Laboratory Control Sample

SDG 0G00004 – The LCSD recovery for mercury (71.4%) was below the QC limit of 80-120%. Sample results for BO-04_20ET204_062320_EEL_WB_01, BO-04_20ET204_062320_EEL_WB_02, BO-04_20ET211_062320_EEL_WB_03, BO-04_20ET215_062320_EEL_WB_04, BO-04_20ET215_062320_EEL_WB_05, BO-04_20ET215_062320_EEL_WB_06, BO-04_20ET215_062320_EEL_WB_07, BO-04_20ET215_062320_EEL_WB_08, BO-04_20ET215_062320_EEL_WB_09, BO-04_20ET215_062320_EEL_WB_10, BO-04_20ET215_062320_EEL_WB_11, and BO-04_20ET215_062320_EEL_WB_12 were qualified as estimated (J) due to the potential low bias. (J – LCS-L)

Matrix Spike

SDG 0G00004 – Sample BO-04_20ET204_062320_EEL_WB_01 was used as the source for the MS/MSD analysis. The MS/MSD RPD for mercury (28%) was above the QC limit of 24%. Sample results for BO-04_20ET204_062320_EEL_WB_01, BO-04_20ET204_062320_EEL_WB_02, BO-04_20ET211_062320_EEL_WB_03, BO-04_20ET215_062320_EEL_WB_04, BO-04_20ET215_062320_EEL_WB_05, BO-04_20ET215_062320_EEL_WB_06, BO-04_20ET215_062320_EEL_WB_07, BO-04_20ET215_062320_EEL_WB_08, BO-04_20ET215_062320_EEL_WB_09, BO-04_20ET215_062320_EEL_WB_10, BO-04_20ET215_062320_EEL_WB_11, and BO-04_20ET215_062320_EEL_WB_12 were qualified as estimated (J) due to the potential non-directional bias. (J - MSD-RPD)

References:

U.S. Environmental Protection Agency (USEPA), 2009. "Guidance for Labeling Externally Validated Laboratory Analytical data for Superfund Use"; Office of Solid Waste and Emergency Response; EPA 540-R-08-005; January 13, 2009.

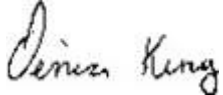
U.S. Environmental Protection Agency (USEPA), 2013. "EPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures"; Quality Assurance Unit Staff; Office of Environmental Measurement and Evaluation; April 22, 2013.

U.S. Environmental Protection Agency (USEPA), 2017. "National Functional Guidelines for Inorganic Superfund Methods Data Review"; Office of Superfund Remediation and Technology Innovation; EPA-540-R-2017-001; January 2017.

Wood, 2020. "Draft Quality Assurance Project Plan Penobscot River 2020 Monitoring", Penobscot River, Maine, June 2020.

Data Validator: Denise King

August 26, 2020



Reviewer: Elizabeth Penta

August 27, 2020

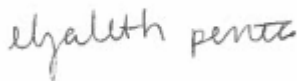


TABLE 1
DATA VALIDATION REPORT
SAMPLE AND ANALYSIS SUMMARY
2020 BIOTA SAMPLING-EELS
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDG 0G00004

SDG	Media	Location	Field Sample ID	Lab ID	Sample Date	Method Class	Mercury	% Lipids
						Analysis Method	EPA 1631	NOAA
						QC Code		
0G00004	Eel	BO-04_20ET204	BO-04_20ET204_062320_EEL_WB_01	0G00004-01	6/23/2020	FS	1	1
0G00004	Eel	BO-04_20ET204	BO-04_20ET204_062320_EEL_WB_02	0G00004-02	6/23/2020	FS	1	1
0G00004	Eel	BO-04_20ET211	BO-04_20ET211_062320_EEL_WB_03	0G00004-03	6/23/2020	FS	1	1
0G00004	Eel	BO-04_20ET215	BO-04_20ET215_062320_EEL_WB_04	0G00004-04	6/23/2020	FS	1	1
0G00004	Eel	BO-04_20ET215	BO-04_20ET215_062320_EEL_WB_05	0G00004-05	6/23/2020	FS	1	1
0G00004	Eel	BO-04_20ET215	BO-04_20ET215_062320_EEL_WB_06	0G00004-06	6/23/2020	FS	1	1
0G00004	Eel	BO-04_20ET215	BO-04_20ET215_062320_EEL_WB_07	0G00004-07	6/23/2020	FS	1	1
0G00004	Eel	BO-04_20ET215	BO-04_20ET215_062320_EEL_WB_08	0G00004-08	6/23/2020	FS	1	1
0G00004	Eel	BO-04_20ET215	BO-04_20ET215_062320_EEL_WB_09	0G00004-09	6/23/2020	FS	1	1
0G00004	Eel	BO-04_20ET215	BO-04_20ET215_062320_EEL_WB_10	0G00004-10	6/23/2020	FS	1	1
0G00004	Eel	BO-04_20ET215	BO-04_20ET215_062320_EEL_WB_11	0G00004-11	6/23/2020	FS	1	1
0G00004	Eel	BO-04_20ET215	BO-04_20ET215_062320_EEL_WB_12	0G00004-12	6/23/2020	FS	1	1
0G00004	Eel	BO-04_20ET215	BO-04_20ET215_062320_EEL_WB_13	0G00004-13	6/23/2020	FS	1	1
0G00004	Eel	BO-04_20ET215	BO-04_20ET215_062320_EEL_WB_14	0G00004-14	6/23/2020	FS	1	1
0G00004	Eel	BO-04_20ET215	BO-04_20ET215_062320_EEL_WB_15	0G00004-15	6/23/2020	FS	1	1
0G00004	Eel	BO-04_20ET219	BO-04_20ET219_062320_EEL_WB_16	0G00004-16	6/23/2020	FS	1	1
0G00004	Eel	BO-04_20ET224	BO-04_20ET224_062320_EEL_WB_20	0G00004-20	6/23/2020	FS	1	1
0G00004	Eel	BO-04_20ET225	BO-04_20ET225_062320_EEL_WB_19	0G00004-19	6/23/2020	FS	1	1
0G00004	Eel	BO-04_20ET228	BO-04_20ET228_062320_EEL_WB_17	0G00004-17	6/23/2020	FS	1	1
0G00004	Eel	BO-04_20ET228	BO-04_20ET228_062320_EEL_WB_18	0G00004-18	6/23/2020	FS	1	1
0G00004	Eel	OB-01_20ET300	OB-01_20ET300_062420_EEL_WB_01	0G00004-40	6/24/2020	FS	1	1
0G00004	Eel	OB-01_20ET301	OB-01_20ET301_062420_EEL_WB_02	0G00004-41	6/24/2020	FS	1	1
0G00004	Eel	OB-01_20ET302	OB-01_20ET302_062420_EEL_WB_04	0G00004-43	6/24/2020	FS	1	1
0G00004	Eel	OB-01_20ET304	OB-01_20ET304_062420_EEL_WB_05	0G00004-44	6/24/2020	FS	1	1
0G00004	Eel	OB-01_20ET305	OB-01_20ET305_062420_EEL_WB_06	0G00004-45	6/24/2020	FS	1	1
0G00004	Eel	OB-01_20ET333	OB-01_20ET333_062520_EEL_WB_07	0G00004-46	6/25/2020	FS	1	1
0G00004	Eel	OB-01_20ET355	OB-01_20ET355_062520_EEL_WB_09	0G00004-48	6/25/2020	FS	1	1
0G00004	Eel	OB-01_20ET356	OB-01_20ET356_062520_EEL_WB_08	0G00004-47	6/25/2020	FS	1	1
0G00004	Eel	OB-01_20ET365	OB-01_20ET365_062620_EEL_WB_03	0G00004-42	6/26/2020	FS	1	1
0G00004	Eel	OB-05_20ET100	OB-05_20ET100_062320_EEL_WB_11	0G00004-30	6/23/2020	FS	1	1
0G00004	Eel	OB-05_20ET100	OB-05_20ET100_062320_EEL_WB_12	0G00004-31	6/23/2020	FS	1	1
0G00004	Eel	OB-05_20ET100	OB-05_20ET100_062320_EEL_WB_13	0G00004-32	6/23/2020	FS	1	1
0G00004	Eel	OB-05_20ET100	OB-05_20ET100_062320_EEL_WB_14	0G00004-33	6/23/2020	FS	1	1
0G00004	Eel	OB-05_20ET100	OB-05_20ET100_062320_EEL_WB_15	0G00004-34	6/23/2020	FS	1	1
0G00004	Eel	OB-05_20ET100	OB-05_20ET100_062320_EEL_WB_16	0G00004-35	6/23/2020	FS	1	1
0G00004	Eel	OB-05_20ET100	OB-05_20ET100_062320_EEL_WB_17	0G00004-36	6/23/2020	FS	1	1
0G00004	Eel	OB-05_20ET102	OB-05_20ET102_062320_EEL_WB_18	0G00004-37	6/23/2020	FS	1	1
0G00004	Eel	OB-05_20ET102	OB-05_20ET102_062320_EEL_WB_19	0G00004-38	6/23/2020	FS	1	1
0G00004	Eel	OB-05_20ET102	OB-05_20ET102_062320_EEL_WB_20	0G00004-39	6/23/2020	FS	1	1
0G00004	Eel	OB-05_20ET115	OB-05_20ET115_062320_EEL_WB_09	0G00004-28	6/23/2020	FS	1	1
0G00004	Eel	OB-05_20ET115	OB-05_20ET115_062320_EEL_WB_10	0G00004-29	6/23/2020	FS	1	1
0G00004	Eel	OB-05_20ET117	OB-05_20ET117_062320_EEL_WB_08	0G00004-27	6/23/2020	FS	1	1
0G00004	Eel	OB-05_20ET119	OB-05_20ET119_062320_EEL_WB_06	0G00004-25	6/23/2020	FS	1	1
0G00004	Eel	OB-05_20ET119	OB-05_20ET119_062320_EEL_WB_07	0G00004-26	6/23/2020	FS	1	1
0G00004	Eel	OB-05_20ET125	OB-05_20ET125_062320_EEL_WB_03	0G00004-22	6/23/2020	FS	1	1
0G00004	Eel	OB-05_20ET125	OB-05_20ET125_062320_EEL_WB_04	0G00004-23	6/23/2020	FS	1	1
0G00004	Eel	OB-05_20ET125	OB-05_20ET125_062320_EEL_WB_05	0G00004-24	6/23/2020	FS	1	1
0G00004	Eel	OB-05_20ET127	OB-05_20ET127_062320_EEL_WB_02	0G00004-21	6/23/2020	FS	1	1

TABLE 1
DATA VALIDATION REPORT
SAMPLE AND ANALYSIS SUMMARY
2020 BIOTA SAMPLING-EELS
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDG 0G00004

SDG	Media	Location	Field Sample ID	Lab ID	Sample Date	Method Class	Mercury	% Lipids
						Analysis Method	EPA 1631	NOAA
						QC Code		
0G00004	Eel	OB-05_20ET129	OB-05_20ET129_062320_EEL_WB_01	0G00004-50	6/23/2020	FS	1	1
0G00004	Eel Bait	QC	HORSESHOE CRAB_062420_EEL_BAIT	0G00004-49	6/24/2020	FS	1	

Notes:

Count = # of analytes

EPA = US Environmental Protection Agency

FS = Field Sample

ID = Identification

NOAA = National Oceanic and Atmospheric Administration

QC = Quality Control

SDG = Sample Delivery Group

TABLE 2
DATA VALIDATION REPORT
DATA VALIDATION QUALIERS ADDED
2020 BIOTA SAMPLING-EELS
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDG 0G00004

Analysis Method	Lab Sample ID	Field Sample ID	Fraction	Parameter Name	Lab Result	Lab Qualifier	Validated Result	Validated Qualifier	Validation Reason Code	Result Units
EPA 1631	0G00004-01	BO-04_20ET204_062320_EEL_WB_01	Total	Mercury	569	QB-01	569	J	LCS-L, MS-RPD	NG/G
EPA 1631	0G00004-02	BO-04_20ET204_062320_EEL_WB_02	Total	Mercury	623	QB-01	623	J	LCS-L, MS-RPD	NG/G
EPA 1631	0G00004-03	BO-04_20ET211_062320_EEL_WB_03	Total	Mercury	1640	QB-01	1640	J	LCS-L, MS-RPD	NG/G
EPA 1631	0G00004-04	BO-04_20ET215_062320_EEL_WB_04	Total	Mercury	514	QB-01	514	J	LCS-L, MS-RPD	NG/G
EPA 1631	0G00004-05	BO-04_20ET215_062320_EEL_WB_05	Total	Mercury	581	QB-01	581	J	LCS-L, MS-RPD	NG/G
EPA 1631	0G00004-06	BO-04_20ET215_062320_EEL_WB_06	Total	Mercury	610	QB-01	610	J	LCS-L, MS-RPD	NG/G
EPA 1631	0G00004-07	BO-04_20ET215_062320_EEL_WB_07	Total	Mercury	665	QB-01	665	J	LCS-L, MS-RPD	NG/G
EPA 1631	0G00004-08	BO-04_20ET215_062320_EEL_WB_08	Total	Mercury	609	QB-01	609	J	LCS-L, MS-RPD	NG/G
EPA 1631	0G00004-09	BO-04_20ET215_062320_EEL_WB_09	Total	Mercury	486	QB-01	486	J	LCS-L, MS-RPD	NG/G
EPA 1631	0G00004-10	BO-04_20ET215_062320_EEL_WB_10	Total	Mercury	624	QB-01	624	J	LCS-L, MS-RPD	NG/G
EPA 1631	0G00004-11	BO-04_20ET215_062320_EEL_WB_11	Total	Mercury	397	QB-01	397	J	LCS-L, MS-RPD	NG/G
EPA 1631	0G00004-12	BO-04_20ET215_062320_EEL_WB_12	Total	Mercury	528	QB-01	528	J	LCS-L, MS-RPD	NG/G

Units

NG/G = Nanogram per gram

Validation Reason Codes

LCS-L = Laboratory control sample (LCS) recovery low

MS-RPD = Matrix Spike (MS)/MS Duplicate RPD limit exceeded

Validation Qualifier

J = Value is estimated

Notes

EPA = US Environmental Protection Agency

ID = Identification

RPD = Relative percent difference

SDG = Sample delivery group

TABLE 3
DATA VALIDATION REPORT
VALIDATED SAMPLE RESULTS
2020 BIOTA SAMPLING - EELS
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDG 0G00004

				Calscience		Eurofins Frontier Global Sciences, Inc.	
				Total NOAA Lipids PERCENT		Total EPA 1631 Mercury NG/G	
				Lab Fraction Method Parameter Units			
Location	Sample Date	Field Sample ID	QC Code	Final Result	Final Qualifier	Final Result	Final Qualifier
BO-04_20ET204	6/23/2020	BO-04_20ET204_062320_EEL_WB_01	FS	1.09		569	J
BO-04_20ET204	6/23/2020	BO-04_20ET204_062320_EEL_WB_02	FS	5.6		623	J
BO-04_20ET211	6/23/2020	BO-04_20ET211_062320_EEL_WB_03	FS	9.26		1,640	J
BO-04_20ET215	6/23/2020	BO-04_20ET215_062320_EEL_WB_04	FS	4.79		514	J
BO-04_20ET215	6/23/2020	BO-04_20ET215_062320_EEL_WB_05	FS	1.58		581	J
BO-04_20ET215	6/23/2020	BO-04_20ET215_062320_EEL_WB_06	FS	4.95		610	J
BO-04_20ET215	6/23/2020	BO-04_20ET215_062320_EEL_WB_07	FS	0.53		665	J
BO-04_20ET215	6/23/2020	BO-04_20ET215_062320_EEL_WB_08	FS	2.43		609	J
BO-04_20ET215	6/23/2020	BO-04_20ET215_062320_EEL_WB_09	FS	8.81		486	J
BO-04_20ET215	6/23/2020	BO-04_20ET215_062320_EEL_WB_10	FS	1.13		624	J
BO-04_20ET215	6/23/2020	BO-04_20ET215_062320_EEL_WB_11	FS	6.25		397	J
BO-04_20ET215	6/23/2020	BO-04_20ET215_062320_EEL_WB_12	FS	2.79		528	J
BO-04_20ET215	6/23/2020	BO-04_20ET215_062320_EEL_WB_13	FS	8.3		600	J
BO-04_20ET215	6/23/2020	BO-04_20ET215_062320_EEL_WB_14	FS	1.89		540	J
BO-04_20ET215	6/23/2020	BO-04_20ET215_062320_EEL_WB_15	FS	6		636	J
BO-04_20ET219	6/23/2020	BO-04_20ET219_062320_EEL_WB_16	FS	0.365		1,080	J
BO-04_20ET224	6/23/2020	BO-04_20ET224_062320_EEL_WB_20	FS	1.14		847	J
BO-04_20ET225	6/23/2020	BO-04_20ET225_062320_EEL_WB_19	FS	0.385		974	J
BO-04_20ET228	6/23/2020	BO-04_20ET228_062320_EEL_WB_17	FS	1.18		978	J
BO-04_20ET228	6/23/2020	BO-04_20ET228_062320_EEL_WB_18	FS	2.57		849	J
OB-01_20ET300	6/24/2020	OB-01_20ET300_062420_EEL_WB_01	FS	0.19		541	J
OB-01_20ET301	6/24/2020	OB-01_20ET301_062420_EEL_WB_02	FS	0.6		182	J
OB-01_20ET302	6/24/2020	OB-01_20ET302_062420_EEL_WB_04	FS	1.04		466	J
OB-01_20ET304	6/24/2020	OB-01_20ET304_062420_EEL_WB_05	FS	5.18		368	J
OB-01_20ET305	6/24/2020	OB-01_20ET305_062420_EEL_WB_06	FS	0.206		408	J
OB-01_20ET333	6/25/2020	OB-01_20ET333_062520_EEL_WB_07	FS	0.144		515	J
OB-01_20ET355	6/25/2020	OB-01_20ET355_062520_EEL_WB_09	FS	6.93		352	J
OB-01_20ET356	6/25/2020	OB-01_20ET356_062520_EEL_WB_08	FS	1.19		466	J
OB-01_20ET365	6/26/2020	OB-01_20ET365_062620_EEL_WB_03	FS	0.577		530	J
OB-05_20ET100	6/23/2020	OB-05_20ET100_062320_EEL_WB_11	FS	0.431		394	J
OB-05_20ET100	6/23/2020	OB-05_20ET100_062320_EEL_WB_12	FS	2.93		240	J
OB-05_20ET100	6/23/2020	OB-05_20ET100_062320_EEL_WB_13	FS	3.99		298	J
OB-05_20ET100	6/23/2020	OB-05_20ET100_062320_EEL_WB_14	FS	0.856		216	J
OB-05_20ET100	6/23/2020	OB-05_20ET100_062320_EEL_WB_15	FS	0.404		555	J
OB-05_20ET100	6/23/2020	OB-05_20ET100_062320_EEL_WB_16	FS	6.42		279	J
OB-05_20ET100	6/23/2020	OB-05_20ET100_062320_EEL_WB_17	FS	4.56		229	J
OB-05_20ET102	6/23/2020	OB-05_20ET102_062320_EEL_WB_18	FS	7.88		216	J
OB-05_20ET102	6/23/2020	OB-05_20ET102_062320_EEL_WB_19	FS	3.96		201	J
OB-05_20ET102	6/23/2020	OB-05_20ET102_062320_EEL_WB_20	FS	4.57		267	J

**TABLE 3
DATA VALIDATION REPORT
VALIDATED SAMPLE RESULTS
2020 BIOTA SAMPLING - EELS
PENOBSCOT RIVER 2020 MONITORING
PENOBSCOT RIVER, MAINE
SDG 0G00004**

Location	Sample Date	Field Sample ID	QC Code	Final Result	Final Qualifier	Final Result	Final Qualifier
OB-05_20ET115	6/23/2020	OB-05_20ET115_062320_EEL_WB_09	FS	4.98		273	
OB-05_20ET115	6/23/2020	OB-05_20ET115_062320_EEL_WB_10	FS	3.79		332	
OB-05_20ET117	6/23/2020	OB-05_20ET117_062320_EEL_WB_08	FS	6.99		169	
OB-05_20ET119	6/23/2020	OB-05_20ET119_062320_EEL_WB_06	FS	8.13		496	
OB-05_20ET119	6/23/2020	OB-05_20ET119_062320_EEL_WB_07	FS	8.9		213	
OB-05_20ET125	6/23/2020	OB-05_20ET125_062320_EEL_WB_03	FS	1.54		318	
OB-05_20ET125	6/23/2020	OB-05_20ET125_062320_EEL_WB_04	FS	4.36		283	
OB-05_20ET125	6/23/2020	OB-05_20ET125_062320_EEL_WB_05	FS	6.25		638	
OB-05_20ET127	6/23/2020	OB-05_20ET127_062320_EEL_WB_02	FS	2.2		308	
OB-05_20ET129	6/23/2020	OB-05_20ET129_062320_EEL_WB_01	FS	1.34		451	
QC	6/24/2020	HORSESHOE CRAB_062420_EEL_BAIT	FS			124	

Notes

EPA = US Environmental Protection Agency
FS = Field Sample
ID = Identification
NG/G = Nanogram per gram
NOAA = National Oceanic and Atmospheric Administration
QC = Quality Control
SDG = Sample Delivery Group

Validation Qualifier

J = Value is estimated