

**APPENDIX B
FIELD DATA RECORDS**

APPENDIX B-1
SEDIMENT SAMPLE FDRS



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: ~~WOOD~~ ^{HP 9/17} USDC Project No.: 3617207486 Logger: H. PLANTE
 Sub: ~~WOOD ETIS Mine~~ WO: _____ Crew: HP, MB, BW
^{BW 9/22/20} Date: 9/15/20 Time: 1515 Vessel: WHALER

Coordinates: Lat 44.462946 Long -68.356386 Plan Volume: 0.140gal

Sampling Station: ~~FRENCHMAN'S~~ FRB-02 Deploy No. 1 Sub-tidal Location? NO

Weather: 65' CLOUDY Winds: CALM Waters: CALM+CLEAR Traffic: NONE Water Temp:

Measured Water Depth [NAVD88]: 0	Core Penetration Length (ft.): 0.75' 0.8'
Correction to NAVD88 (+/- ft. from NAVD88): -	Recovered Core Length (ft.): 0.75' 0.8'
Mudline (Corrected Depth) @ NAVD88: -	Sample Length Retained (ft.): 0.5'
Study Depth (-NAVD88): -	Acceptable Core (80% recovery): 90% YES
Required Penetration Length: 6" = 0.5'	Core Volume Retained (gal.): 4.40 0.140gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top	FRB-02_09152020_00-01 SED-00-01	Dark gray brown fat clay + silt little fine sand, shiny, wet, high plasticity
0 - 0.1'	FRB-02_09152020_01-02	
0.1 - 0.3' SED	FRB-02_09152020_01-03	Dark gray brown fat CLAY + silt trace fine sand, wet, high plasticity
0.3 - 0.5' SED	FRB-02_09152020_03-05	Dark gray brown fat CLAY; some silt, high plasticity
Bottom		

Number of containers: 6	Core Volumes	
Type of container: bucket	Nominal core-barrel diameter	EST. Volume
Liner Type: Acetate	4.0"	.50gal/ft
Vibracorer: Push Corer	3.5"	.33gal/ft

Live Organisms present NO
 Oil-Like Present NO
 Odor Present YES - organic
 Debris Present NO

Photo Numbers
 B. WEYER
 9/22/2020

Comments: Push/extractor
 HP 9/17

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: <u>USDC</u>	Project No.: <u>3617207486</u>	Logger: <u>C. LAURACK</u>
Sub: <u>AS1</u>	WO: <u> </u>	Crew: <u>B. WEYER</u>
Date: <u>9/16/20</u>	Time: <u>0940</u>	Vessel: <u>R/V TESLA</u>
Coordinates: Lat <u>44.559835</u>	Long <u>-68.774383</u>	Plan Volume: <u>0.140gal</u>
Sampling Station: <u>VN-02-04</u>	Deploy No. <u>1</u>	Sub-tidal Location? <u>NO</u>

Weather: <u>SUNNY, 50s</u>	Winds: <u>10-15</u>	Waters: <u>1-2'</u>	Traffic: <u>NONE</u>	Water Temp: <u> </u>
Measured Water Depth [NAVD88]: <u>3.5'</u>	Core Penetration Length (ft.): <u>0.6'</u>			
Correction to NAVD88 (+/- ft. from NAVD88): <u> </u>	Recovered Core Length (ft.): <u>0.6 0.57'</u>			
Mudline (Corrected Depth) @ NAVD88: <u> </u>	Sample Length Retained (ft.): <u>0.5'</u>			
Study Depth (-NAVD88): <u> </u>	Acceptable Core (80% recovery): <u>YES</u>			
Required Penetration Length: <u>6"</u>	Core Volume Retained (gal.): <u>0.140gal</u>			

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01	CLAYEY SILT; VERY DARK OLIVE GRAY (5Y 3/2)
0.1' - 0.3'	01-03	CLAYEY SILT, VERY DARK GRAY
0.3' - 0.5'	03-05	CLAYEY SILT, VERY DARK GRAY
0.5' - 0.57'	—	NO SAMPLE RECOVERED FOR DESCRIPTION
ck	ck 9/16/20	ck
Bottom		

Number of containers:	—	—	<u>6</u>	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: <u>N/A</u> ^{CL 9/16} ACETATE	Vibracorer: <u>BOX</u>			Slambar	4.0"	.50gal/ft
	Push Corer				3.5"	.33gal/ft

Live Organisms present	<u>NO</u>
Oil-Like Present	<u>NO</u>
Odor Present	<u>NO</u>
Debris Present	<u>NO</u>

Photo Numbers
B. WEYER
9/22/2020

Comments
COORDINATES RECORDED w/ AS1'S GPS (ON VESSEL)

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC

Project No.: 3617207486

Logger: C. LAUBACK

Sub: ASI

WO: —

Crew: B. WEYER

Date: 9/16/20

Time: 0940

Vessel: R/V TESLA

Coordinates: Lat 44.559835

Long -68774383

Plan Volume: 0.140gal

Sampling Station: VN-02-04-DUP

Deploy No. 1

Sub-tidal Location? NO

Weather: SUNNY, 50s

Winds: 10-15

Waters: 1-2'

Traffic: NONE

Water Temp: —

Measured Water Depth [NAVD88]: 3.5'

Core Penetration Length (ft.): 0.6'

Correction to NAVD88 (+/- ft. from NAVD88):

Recovered Core Length (ft.): 0.5'

Mudline (Corrected Depth) @ NAVD88:

Sample Length Retained (ft.): 0.5'

Study Depth (-NAVD88):

Acceptable Core (80% recovery): YES

Required Penetration Length: 0.5'

Core Volume Retained (gal.): 0.140gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0 - 0.1'	00-01-DUP	CLAYEY SILT; VERY DARK GRAY, SLIGHTLY OLIVE
0.1 - 0.3'	01-03-DUP	CLAYEY SILT; MINIMAL VERY FINE SAND; VERY DARK GRAY
0.3 - 0.5'	05-03 ^{CL 9/16/20} 03-05-DUP	CLAYEY SILT, VERY DARK GRAY
CY 9/16/20		
Bottom		

Number of containers: —	—	6	—	Core Volumes	
Type of container: bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ALCATE ^{CL 9/16}	Vibracorer: <u>BOX</u>	Push Corer	Slambar	4.0"	.50gal/ft
				3.5"	.33gal/ft

Live Organisms present	NO	Comments YES @ 0.3-0.5 (HAD A SULFUR-LIKE SMELL) (COORDINATES RECORDED W/ ASI'S GPS (ON VESSEL))
Oil-Like Present	NO	
Odor Present	NO	
Debris Present	NO	
Photo Numbers B. WEYER 9/22/2020		

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 3617207486	Logger: C. LAURACK
Sub: ASI	WO: _____	Crew: B. WEYER
Date: 9/16/20	Time: 0958	Vessel: R/V TESLA
Coordinates: Lat 44.548556	Long -68768846	Plan Volume: 0.140gal
Sampling Station: VN-MU3-GC-1	Deploy No. 1	Sub-tidal Location? NO
Weather: SUNNY, 50s	Winds: 10-15	Waters: 3.4' / 1-2'
	Traffic: NONE	Water Temp: -
Measured Water Depth [NAVD88]: 3.4'	Core Penetration Length (ft.): 0.7'	
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.65'	
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5'	
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES	
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140gal	

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0'-0.1'	00-01	CLAYEY SILT, VERY DARK GRAY, FINES, NO SANDS.
0.1'-0.3'	01-03	CLAYEY SILT W/ SOME VERY FINE SANDS; ARTICULATED BIVALVE VERY DARK GRAY
0.3'-0.5'	03-05	CLAYEY SILT W/ SOME VERY FINE SANDS (MINIMAL); WOODCHIPS PRESENT IN SAMPLE; VERY DARK GRAY SED.
0.5'-0.65'	CL 9/16/20	CLAYEY SILT W/ BROWN MED. SAND-SIZED WOODCHIPS; VERY DARK GRAY SEDIMENT MATRIX; SOME VEGETATIVE ROOT-MASS-LIKE FIBERS PRESENT
CL 9/16/20	CL 9/16/20	CL 9/16/20
Bottom		

Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: N/A 9/16/20 ACETATE	Vibracorer: BOX			Push Corer	4.0"	.50gal/ft
				Slambar	3.5"	.33gal/ft

Live Organisms present YES.	Comments
Oil-Like Present NO	
Odor Present NO	
Debris Present NO	
Photo Numbers	
B. WEYER 9/22/2020	COORDINATES RECORDED W/ ASI'S BOAT GPS

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/16/20 Time: 1018 Vessel: R/V TESLA

Coordinates: Lat 44.541013 Long -68.764729 Plan Volume: 0.140gal

Sampling Station: ES-02 Deploy No. 1 Sub-tidal Location? NO

Weather: SUNNY 60s Winds: 10-15 Waters: 30' / 1-2' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 30.0'	Core Penetration Length (ft.): 0.75'
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.6'
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5'
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0'-0.1'	00-01	VERY FINE SANDY SILT; DARK OLIVE GRAY
0.1'-0.3'	01-03	VERY FINE SANDY SILT; DARK OLIVE GRAY
0.3'-0.5'	03-05	FINE SANDY SILT W/ MED. TO COARSE SAND-SIZED WOOD CHIP (BROWN); VERY DARK OLIVE GRAY SED. MATRIX
0.5'-0.6'	—	SILTY VERY FINE SAND W/ COARSE-SAND-SIZED WOOD CHIP (BROWN); DARK OLIVE GRAY SEDIMENT MATRIX
Bottom	CL 9/16/20	CL 9/16/20

Number of containers: 6	Core Volumes	
Type of container: bucket / liner bag / jar / other	Nominal core-barrel diameter	EST. Volume
Liner Type: ALETATE	4.0"	.50gal/ft
Vibracorer: Push Corer	3.5"	.33gal/ft

Live Organisms present	NO
Oil-Like Present	NO
Odor Present	YES
Debris Present	NO

Photo Numbers
 B. WEYER
 9/22/2020

Comments
 - LOCATION TAKEN WHERE LOBSTER POT WAS SET; CONFIRMED CATCH W/ SHAWNA (WOOD)
 - ONLY ONE CORE COLLECTED @ LOCATION
 - IS A BIOTA CO-LOCATE SAMPLE
 - SULFUR-LIKE SMELL - STRONG.
 - COORDINATES RECORDED W/ ASI GPS (ABOARD VESSEL)

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. DRUBACK
 Sub: ASI WO: _____ Crew: B. WEYER
 Date: 9/16/20 Time: 1043 Vessel: RV TESLA

Coordinates: Lat 44.541135 Long -68.748969 Plan Volume: 0.140gal

Sampling Station: OR-T1-C3 Deploy No. 1 Sub-tidal Location? NO

Weather: SUNNY, 50S Winds: 10-15 Waters: 7.8' / 2-4' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 7.8'	Core Penetration Length (ft.): 1'
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): ^{CL 9/16} 5"
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): —
Study Depth (-NAVD88):	Acceptable Core (80% recovery): —
Required Penetration Length: 0.5'	Core Volume Retained (gal.): —

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CQ 9/16/20

Number of containers:	Ø	Ø	Ø	Ø	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibracorer: (BOX)			Slambar	4.0"	.50gal/ft
	Push Corer				3.5"	.33gal/ft

Live Organisms present	NO	Comments INSUFFICIENT RECOVERY @ 5" COORDINATES RECORDED w/ ASI'S GPS (ABOARD VESSEL)
Oil-Like Present	NO	
Odor Present	NO	
Debris Present	NO	
Photo Numbers		
B. WEYER 9/22/2020		

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207480 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/16/20 Time: 1050 Vessel: R/V TESLA
 Coordinates: Lat 44.541148 Long -68.748954 Plan Volume: 0.140gal
 Sampling Station: OR-T1-C3 Deploy No. 2 Sub-tidal Location? NO

Weather: SUNNY 50s Winds: 10-15 Waters: 7.8' / 2-4' Traffic: NONE Water Temp: —
 Measured Water Depth (NAVD88): 7.8' Core Penetration Length (ft.): 0.7
 Correction to NAVD88 (+/- ft. from NAVD88): Recovered Core Length (ft.): 0.6
 Mudline (Corrected Depth) @ NAVD88: Sample Length Retained (ft.): 0.5
 Study Depth (-NAVD88): Acceptable Core (80% recovery): YES
 Required Penetration Length: 0.5' Core Volume Retained (gal.): 0.140gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01	CLAYEY SILT; DARK OLIVE GRAY MINIMAL WOOD CHIP.
0.1' - 0.3'	01-03	CLAYEY SILT; DARK GRAY BLACK SOME ORGANIC-LIKE MATERIAL THAT LOOKED LIKE ROOT MASS HAIRS; BROKEN BIVALVE SHELLS (0.05" IN DIAM.)
0.3' - 0.5'	03-05	CLAYEY SILT, VERY DARK GRAY-BLACK, SOME WOOD CHIPS, BI-VALVE SHELL HASH, SOME ORGANIC-LIKE DETRITUS.
Bottom		

CL 9/16/20

Number of containers: — — 6 —
 Type of container: bucket liner bag jar other
 Liner Type: ACETATE ~~PLA~~ CL 9/16/20 Vibracorer: (BOX) Push Corer Slambar
 Core Volumes: Nominal core-barrel diameter EST. Volume
 4.0" .50gal/ft
 3.5" .33gal/ft

Live Organisms present NO
 Oil-Like Present NO
 Odor Present YES
 Debris Present NO

Comments
 -SULFUR-LIKE SMELL (STRONGER BETWEEN 0.1'-0.5')
 COORDINATES RECORDED w/ ASI GPS (ABCARD VESSEL)

Photo Numbers
 B. WEYER
 9/22/2020

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 3617207486	Logger: C. LAUBACK
Sub: ASI	WO: —	Crew: B. WEYER
Date: 9/16/20	Time: 1050	Vessel: R/V TESLA
Coordinates: Lat 44.541148	Long -68.748959	Plan Volume: 0.14gal
Sampling Station: OR-T1-C3-DUP	Deploy No. 2	Sub-tidal Location? NO

Weather: SUNNY, SDS	Winds: 10-15	Waters: 7.8 / 2-4'	Traffic: NONE	Water Temp: —
Measured Water Depth (NAVD88): 7.8	Core Penetration Length (ft.): 0.7			
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.6			
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5			
Study Depth (-NAVD88):	Acceptable Core (80% recovery):			
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140			

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01_DUP	CLAYEY SILT; DARK OLIVE GRAY NO WOOD CHIPS PRESENT
0.1' - 0.3'	01-03_DUP	CLAYEY SILT; VERY DARK GRAY MINIMAL BI-VALVE SHELL HASH MATERIAL.
0.3' - 0.5'	03-05_DUP	CLAYEY SILT; VERY DARK GRAY MINIMAL VERY FINE SAND; MINIMAL WOOD CHIP (MED-SAND-SIZED)
Bottom		

Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE		Vibracorer:	(BOX)		4.0"	.50gal/ft
		Push Corer	Slambar		3.5"	.33gal/ft

Live Organisms present	NO
Oil-Like Present	NO
Odor Present	YES
Debris Present	NO

Comments
SULFUR-LIKE SMELL PRESENT IN SAMPLES.

Photo Numbers
B. WEYER
9/22/2020

COORDINATES RECORDED W/ ASI GPS (ABOARD VESSEL)

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAIBACK
 Sub: ASI WO: _____ Crew: B. WEYER.
 Date: 9/16/20 Time: 1056 Vessel: R/V TESLA

Coordinates: Lat 44.542543 Long -68.752126 Plan Volume: 0.140gal

Sampling Station: OR-T1-C5 Deploy No. 1 Sub-tidal Location? NO

Weather: SUNNY 50s Winds: 10-15 Waters: 9.5' / 2.4' Traffic: NONE Water Temp: -

Measured Water Depth [NAVD88]: 9.5'	Core Penetration Length (ft.): 0.7
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.62
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5'
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01	SILT W/ SOME CLAY-SIZED FINES (MINIMAL) AND FIN TO MED SAND-SIZED WOOD CHIPS, DARK OLIVE GRAY
0.1' - 0.3' ^{10/16}		
0.3' - 0.5'		
0.1' - 0.3'	01-03	CLAYEY SILT W/ FINE & MED-SAND-SIZED WOOD CHIP, DARK OLIVE GRAY
0.3' - 0.5'	03-05	SILT CLAYEY SAND, VERY DARK BLACK GRAY, BROKEN BIVALVES (NOT ARTICULATE), MINIMAL FIN TO MED SAND-SIZED WOOD PULP
Bottom		

Number of containers:	6			Core Volumes		
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ^{2 9/16} N/A ACETATE	Vibracorer: (BOX) Push Corer			Stambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

Live Organisms present	YES
Oil-Like Present	NO
Odor Present	NO
Debris Present	NO

Photo Numbers
 B. weyer
 9/22/2020

Comments
 - ONLY ONE CORE COLLECTED HERE;
 NOT ENOUGH RECOVERY IN "BACKUP" CORE
 - COORDINATES RECORDED W/ ASI BOAT

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: ~~WOOD ETIS~~ USDC Project No.: ~~3017207436~~ ^{48W} ^{9/22/20} Logger: H. PLANTÉ
 Sub: ~~WOOD ETIS~~ ^{OW} ^{9/22/20} WO: _____ Crew: HP, MB, TG
 NONE Date: 9/16/20 Time: 1:30 Vessel: NA

Coordinates: Lat 44.644204 Long -67.720579 Plan Volume: 0.140gal
 Sampling Station: ~~ADD-00~~ ^{#P 9/17} ADD-01 Deploy No. 1 Sub-tidal Location? No

Weather: 65° F SW, Winds: MODERATE SOUTH Waters: NA Traffic: NA Water Temp: NA

Measured Water Depth (NAVD88):	NA	Core Penetration Length (ft.):	1.6'
Correction to NAVD88 (+/- ft. from NAVD88):	—	Recovered Core Length (ft.):	1.6'
Mudline (Corrected Depth) @ NAVD88:	—	Sample Length Retained (ft.):	6" → 0.5'
Study Depth (-NAVD88):	—	Acceptable Core (80% recovery):	100% ^{9/17} YES
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	0.140gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
0-0.1	ADD-01_09162020_SED_00-01 @ 1145	Medium brown clay, medium plasticity, homogeneous, organic root matter throughout, saturated
0.1-0.3	ADD-01_09162020_SED_01-03 @ 1150	SAME AS 0-0.1', increase root matter content, woodier roots, increased moisture content
0.3-0.6	ADD-01_09162020_SED_03-05 @ 1200	SAME AS 0.1-0.3, roots finer with depth
Bottom		

Number of containers:	6	Core Volumes	
Type of container:	bucket	liner bag	jar
Liner Type:	Acetate	Vibracorer:	See Comments
		Push Corer:	Slambar
		Nominal core-barrel diameter	4.0"
		EST. Volume	.50gal/ft
			3.5"
			.33gal/ft

Live Organisms present	NO	Comments	0.28gal/ft
Oil-Like Present	NO		
Odor Present	NO		
Debris Present	NO		

Photo Numbers
~~B. Woyek~~
~~9/22/2020~~

QC CHECK BY B. Woyek 9/22/2020

wood.

9117

Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: ~~WOOD ETIS~~ USDC Project No.: 3017207486 ^{11 SW 9/22/20} Logger: H. PRANTE
 Sub: ~~WOOD ETIS SW~~ ^{None} _{9/22/20} WO: _____ Crew: HP, TG, MB
 Date: 9/16/20 Time: 1330 Vessel: NA
 Coordinates: Lat 44.643104 Long -67.720128 Plan Volume: 7.405 gal ^{0.140 gal}
 Sampling Station: ~~ADDISON~~ ADD-02 Deploy No. 1 Sub-tidal Location? No
 Weather: 65°F SUN Winds: 17 mph SW Waters: NA Traffic: NA Water Temp: NA

Measured Water Depth (NAVD88):	NA	Core Penetration Length (ft.):	0.95
Correction to NAVD88 (+/- ft. from NAVD88):	—	Recovered Core Length (ft.):	0.8
Mudline (Corrected Depth) @ NAVD88:	—	Sample Length Retained (ft.):	0.5
Study Depth (-NAVD88):	—	Acceptable Core (80% recovery):	yes
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	7.40 gal ^{0.140 gal}

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0 - 0.1'	ADD-02_09162020_SED_00-01 @1405	Medium brown fine SILT, trace organics, trace black silt, wet, organic-like odor
0.1 - 0.3'	ADD-02_09162020_SED_01-03 @1420	SAA, No organics, organic-like odor
0.3 - 0.5'	ADD-02_09162020_SED_03-05 @1430	SAA
Bottom		

Number of containers:	<input checked="" type="checkbox"/>	10 ⁶ _{9/22/20}	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume	
Liner Type:	Acetate			Vibracorer:	4.0"	.50gal/ft	
				Push Corer	3.5"	.33gal/ft	
				Extrusion			
				Slambar			

Live Organisms present	NO	Comments EXTRUDER
Oil-Like Present	NO	
Odor Present	YES	
Debris Present	NO	

Photo Numbers
~~R. Weyer 9/22/2020~~

QC CHECK BY R. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: ~~WOOD~~ ^{HP 9/17} USDC Project No.: 3617207486 Logger: M. BRUNIO

Sub: ~~WOOD EXIS~~ ^{8W} WO: _____ Crew: TG HP

~~None~~ ^{9/22/20} Date: 9/16/20 Time: 1630 Vessel: NA

Coordinates: Lat 44.876573 Long -68.674001 Plan Volume: 0.140gal

Sampling Station: OV-04 Deploy No. 1 Sub-tidal Location? NO

Weather: 65° cloudy Winds: 17 mph S Waters: NA Traffic: NA Water Temp: NA

Measured Water Depth (NAVD88):	NA	Core Penetration Length (ft.):	0.9
Correction to NAVD88 (+/- ft. from NAVD88):	-	Recovered Core Length (ft.):	0.8
Mudline (Corrected Depth) @ NAVD88:	-	Sample Length Retained (ft.):	0.5
Study Depth (-NAVD88):	-	Acceptable Core (80% recovery):	YES
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	1.40 0.140 gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
00-01	OV-0A_091620 - SED-00-01	Brown clay, hetero → light brown w/ fine sands, grey w/ fine sands, trace clay
01-03	OV-0A_091620 - SED-00-01	fat clay silty fat clay w/ medium fine sands. medium plasticity, grey-brown.
03-05	OV-0A_091620 - SED-00-01	same as above. Decreased moisture content, additional fine sands.
Bottom		

Number of containers:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: acetate	Vibracorer:				4.0"	.50gal/ft
	Push Corer Extrusion Slambar				3.5"	.33gal/ft

Live Organisms present	NONE	Comments 00-01 @ 1700 1645 01-03 @ 1715 1700 03-05 @ 1715
Oil-Like Present	NONE	
Odor Present	NONE	
Debris Present	NONE	
Photo Numbers		

B. Woyner 9/24/2020

QC CHECK BY B. Woyner 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 3617 207486	Logger: C. LAUBACK
Sub: ASI	WO: —	Crew: B. WEYER
Date: 9/17/20	Time: 1005	Vessel: R/V TESLA
Coordinates: Lat 44.623471	Long -68.855390	Plan Volume: 0.140 gal.
Sampling Station: W-17-N	Deploy No. 1	Sub-tidal Location? NO

Weather: SUNNY, 60s	Winds: —	Waters: < 1.0'	Traffic: NONE	Water Temp: —
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Measured Water Depth [NAVD88]:	∅ N/A MARSH	Core Penetration Length (ft.):	0.67
Correction to NAVD88 (+/- ft. from NAVD88):		Recovered Core Length (ft.):	0.62
Mudline (Corrected Depth) @ NAVD88:		Sample Length Retained (ft.):	0.5'
Study Depth (-NAVD88):		Acceptable Core (80% recovery):	YES
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	0.140 gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01 @ 1656	VERY DARK GRAYISH BROWN (2.5YR 3/2) SILTY PEAT, WITH FIBROUS INSITU ROOT MASS, NO OBSERVED LIVE ORGANISMS. FOUR LARGE (>1") WOOD DEBRIS REMOVED FROM SAMPLE, Pt.
0.1' - 0.3'	01-03 @ 1658	VERY DARK GRAYISH BROWN (2.5YR 3/2) SILTY PEAT, DENSE FIBROUS ROOT MATTING (IN SITU), NO LIVE ORGANISMS OBSERVED. SIX PIECES OF WOODY DEBRIS (0.5"-1") REMOVED, Pt.
0.3' - 0.5'	03-05 @ 1700	VERY DARK GRAYISH BROWN (2.5YR 3/2) SILTY PEAT, DENSE FIBROUS ROOT MATTING (IN SITU), NO LIVE ORGANISMS OBSERVED, Pt.
0.5' - 0.62'	—	VERY DARK GRAYISH BROWN (2.5YR 3/2) SILTY PEAT, DENSE FIBROUS ROOT MATTING (IN SITU), NO LIVE ORGANISMS OBSERVED, Pt.
Bottom		

Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibracorer: Push Corer			Slambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

Live Organisms present	NO
Oil-Like Present	NO
Odor Present	YES
Debris Present	NO
Photo Numbers	B. WEYER 9/22/2020

Comments

- COORDINATES RECORDED ON WOOD TABLET W/ TRIMBLE R1 GPS RECEIVER.

- SULFUR-LIKE SMELL THROUGHOUT CORE

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 361720 7486	Logger: C. LAUBACK
Sub: ASI	WO: —	Crew: B. WEYER
Date: 9/17/20	Time: 1020	Vessel: R/V TESLA
Coordinates: Lat 44.623471	Long -68.855390	Plan Volume: 0.140 gal
Sampling Station: W-17-N-DUP	Deploy No. 2	Sub-tidal Location? NO

Weather: SUNNY, 60s	Winds:	Waters: < 1.0'	Traffic: NONE	Water Temp: —
Measured Water Depth [NAVD88]: \emptyset	Core Penetration Length (ft.): 0.75			
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.68			
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5'			
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES (90%) ^{CK 9/17}			
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140			

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01-DUP @1729	VERY DARK, GRAYISH BROWN (2.5Y 3/2) SILTY PEAT W/ TRACE SAND AND CLAY; REMOVED A FIVE PIECES OF WOODY DEBRIS (0.5"-1.0") FROM SAMPLE, Pt.
0.1' - 0.3'	01-03-DUP @1731	VERY DARK GRAYISH BROWN (2.5Y 3/2) SILTY PEAT; VERY DENSE ROOT MATTING, MINIMAL SEDIMENT, Pt.
0.3' - 0.5'	03-05-DUP @1733	VERY DARK GRAYISH BROWN (2.5Y 3/2) SILTY PEAT, VERY DENSE ROOT MATTING, MINIMAL SEDIMENT, Pt.
0.5' - 0.68'	— —	DARK GRAYISH BROWN (2.5Y 4/1) SILTY PEAT, VERY DENSE ROOT MATTING, SILT-SIZED ORGANIC-LIKE SED. - NON-CLASTIC, Pt.
Bottom		

Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibracorer: Rush Corer			Slambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

Live Organisms present NO	Comments - COORDINATES RECORDED ON WOOD TABLET W/ TRIMBLE RI GPS RECEIVER.
Oil-Like Present NO	
Odor Present NO	
Debris Present NO	
Photo Numbers B. WEYER 9/22/2020	

QC CHECK BY B. WEYER 9/22/2020

CL 9/17/20



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486
 Sub: ASI WO: 1040
 Date: 9/17/20 Time: 1035
 Coordinates: Lat 44.603375 Long -68.847862
 Plan Volume: 0.140 gal.

Logger: C. LAUBACK
 Crew: B. WEYER
 Vessel: R/V TESLA

Sampling Station: OB-01 Deploy No. 1 Sub-tidal Location? NO

Weather: SUNNY, 60S Winds: 5-10 Waters: <0.5' CALM Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 22.3	Core Penetration Length (ft.): 0.85
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.74
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00 - 01 @1625	DARK OLIVE GRAY (5Y 3/2) SILT W/ TRACE VERY FINE SAND - SIZED ORGANIC-LIKE MATERIALS; NO LIVE ORGANISMS OBSERVED, ALLUVIUM
0.1' - 0.3'	01 - 03 @1627	VERY DARK GRAY (5Y 3/1) CLAYEY SILT - CLOSER TO 50% PER, NO LIVE ORG. ANISMS OR LARGER DETRITS IN SAMPLE, ALLUVIUM
0.3' - 0.5'	03 - 05 @1629	BLACK (5Y 2.5/1) SILT-CLAY, ONE WORM-LIKE ORGANISM PRESENT, ALLUVIUM
0.5' - 0.75' 0.5' - 0.74' CL 9/17/20 CL	— —	VERY DARK GRAY (5Y 3/1) SILTY CLAY WITH TRACE VERY FINE FIBROUS ROOT-LIKE MATERIAL, ONE BENTHIC WORM-LIKE ORGANISM PRESENT, ALLUVIUM
Bottom		

Number of containers: —	Core Volumes
Type of container: bucket	Nominal core-barrel diameter
Liner Type: ACETATE	EST. Volume
Vibracorer: BOX	4.0"
Push Corer: Slambar	3.5"
	.50gal/ft
	.33gal/ft

Live Organisms present	YES.
Oil-Like Present	NO
Odor Present	YES
Debris Present	NO

Photo Numbers
 B. WEYER
 9/22/2020

Comments
 - TWO CORES COLLECTED @ OB-01 TO HAVE ONE ON RESERVE; CORE "A" WILL B PROCESSED
 - CORE "B" HAD RECOVERED CORE LENGTH OF 0.72'
 - TABLET (COLLECTOR APPLICATION) AND R1 NOT CONNECTING - USE ASI COORDINATES (RECORDED ON VESSE)
 - SULFUR-LIKE SMELL THROUGH HOUT

BW 9/22/20
 QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 361720 7486 1110 Logger: C. LAUBACK
 Sub: ASI WO: — Date: 9/17/20 Time: 1105 9/17 Crew: B. WEYER
 Coordinates: Lat 44.587312 Long -68.825354 Plan Volume: 0.140gal.
 Sampling Station: BU-01-01 Deploy No. 1 Sub-tidal Location? NO

Weather: SUNNY, 60s Winds: Waters: CALM (<0.2) Traffic: NONE Water Temp: —
 Measured Water Depth (NAVD88): 10.8 Core Penetration Length (ft.): 0.85
 Correction to NAVD88 (+/- ft. from NAVD88): Recovered Core Length (ft.): 0.78
 Mudline (Corrected Depth) @ NAVD88: Sample Length Retained (ft.): 0.50
 Study Depth (-NAVD88): Acceptable Core Recovery (80% recovery): YES
 Required Penetration Length: 0.5' Core Volume Retained (gal.): 0.140gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01 @1521	DARK OLIVE GRAY (SY 2 1/2) SILT WITH VERY FINE SAND; TR WOOD PULP, VERY WET, ALLUVIUM
0.1' - 0.3'	01-03 @1523	DARK OLIVE GRAY (SY 3/2) SILT WITH TRACE VERY FINE SAND AND MINIMAL CLAY; MINIMAL WOOD CHIP AND TR ORGANIC-LIKE MATERIAL; ALLUVIUM
0.3' - 0.5'	03-05 @1525	VERY DARK GREY (SY 3/1) CLAYEY SILT WITH MINIMAL MED. SAND-SIZED WOOD PULP AND FIBROUS ROOT-LIKE MATERIAL; ORGANIC-LIKE RICH, ALLUVIUM
0.5' - 0.78	—	BLACK (SY 2.5/1) FINE SANDY SILT WITH SOME FIBROUS ROOT-LIKE MATERIAL AND SOME WOOD CHIPS - STRONG SULFUR-LIKE ODOR
Bottom		* ARTICULATED BIVALVE (~0.03') IN DIAM. PRESENT

Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	ACETATE				4.0"	.50gal/ft
Vibracorer:	Push Corer				3.5"	.33gal/ft

Live Organisms present	YES	Comments - COORDINATES COLLECTED W/ ASI'S ONBOARD GPS SYSTEM - COORDINATES WERE ATTEMPTED TO BE COLLECTED W/ TABLET - BUT WOULD NOT CONNECT IN TIME FOR RECORDING. DUE TO MOVEMENT OF RESEARCH VESSEL
Oil-Like Present	NO	
Odor Present	NO	
Debris Present	NO	
Photo Numbers		
B. WEYER 9/22/2020		

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/17/20 Time: 1115 Vessel: R/V TESLA
 Coordinates: Lat 44.587303 Long -68.825370 Plan Volume: 0.140gal
 Sampling Station: BU-01-01-DUP Deploy No. 2 Sub-tidal Location? NO

Weather: SUNNY, 60s Winds: Waters: CALM (<0.2) Traffic: NONE Water Temp: —
 Measured Water Depth (NAVD88): 10.8 Core Penetration Length (ft.): 0.9
 Correction to NAVD88 (+/- ft. from NAVD88): Recovered Core Length (ft.): 0.70
 Mudline (Corrected Depth) @ NAVD88: Sample Length Retained (ft.): 0.5
 Study Depth (-NAVD88): Acceptable Core (80% recovery): YES
 Required Penetration Length: 0.5' Core Volume Retained (gal.): 0.140

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01-DUP @1554	DARK OLIVE GRAY (SY 3/2) SILT WITH TR CLAY, MINIMAL MED-SAND SIZED WOOD CHIP, MIN. FIBROUS MATERIAL. CL 9/17/20 ROOT-LIKE MATERIAL CONTAINS BENTHIC ORGANISMS. ALLUVIUM
0.1' - 0.3'	01-03-DUP @1556	VERY DARK GRAY (SY 3/1) CLAYEY SILT WITH TR WOOD CHIP AND MINIMAL FIBROUS ROOT-LIKE MATERIAL, LIVE BENTHIC WORMS(XI), TR VERY COARSE ANGULAR SANDS, ALLUVIUM
0.3' - 0.5'	03-05-DUP @1558	BLACK (SY 2.5/1) CLAYEY SILT WITH TR MED SAND-SIZED WOOD CHIP AND FIBROUS ROOT-LIKE MATERIAL, NO ORGANISMS OBSERVED, ALLUVIUM.
0.5' - 0.7'	— @1600	BLACK (SY 2.5/1) SILT W/ SOME VERY FINE SAND AND CLAY, SOME MED-SAND-SIZED WOOD CHIPS AND FIBROUS ROOT-LIKE MATERIAL, MINIMAL LARVAE, GRAVEL-SIZED WOODY DEBRIS, ALLUVIUM
Bottom		

Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	ACETATE			Vibracorer:	4.0"	.50gal/ft
				Push Corer	3.5"	.33gal/ft

Live Organisms present YES.
 Oil-Like Present NO
 Odor Present YES
 Debris Present NO

Photo Numbers
 B. WEYER
 9/22/2020

Comments
 - COORDINATES COLLECTED WITH ASI GPS (ON VESSEL)
 - ATTEMPTED TO USE TABLET & TRIMBLE R1, BUT RECORDED POINT DID NOT HAVE ANY LAT. OR LONG, RECORDED
 - CORE HAS A STRONG SULFUR-LIKE ODOR

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 36F207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/17/20 Time: 1131 Vessel: R/V TESLA
 Coordinates: Lat 44.575291 Long -68.816383 Plan Volume: 0.140 gal

Sampling Station: BU-02 Deploy No. 1-4 Sub-tidal Location? **NO** *YES 9/22/20*

Weather: SUNNY, 60s Winds: 5-10 mph Waters: <0.3' CALM Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 57.3'	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): <i>CL 9/17/20</i>
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 6.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/17/20

Number of containers: —					Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibracorer: BOX				4.0"	.50gal/ft
	Push Corer				3.5"	.33gal/ft

Live Organisms present —	<p>Comments</p> <p>- NO RECOVERED SEDIMENT; ONLY RECOVERED LARGER (0.4'-0.8') PIECES OF WOODY DEBRIS AND OTHER LEAFY-ORGANIC-LIKE DETRITS FOR FIRST TWO ATTEMPTS.</p> <p>- THIRD AND FOURTH ATTEMPT HAD INSUFFICIENT QUANTITIES OF SEDIMENT, WITH 2-3" OF SED. IN ON CORNER OF THE BOX</p>
Oil-Like Present —	
Odor Present —	
Debris Present —	
Photo Numbers	

CL 9/17/20

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: VSDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: AS1 WO: - Crew: B. WEYER
 Date: 9/17/20 Time: 1133 Vessel: R/V TESLA

Coordinates: Lat 44.574958 Long -68.816462 Plan Volume: 0.140gal

Sampling Station: BU-02 Deploy No. 2 Sub-tidal Location? NO

Weather: SUNNY, 60S Winds: 5-10mph Waters: <0.3'/CALM Traffic: NONE Water Temp: -

Measured Water Depth [NAVD88]: 57.3	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

YES
BW
9/22/20

CL
9/17/20

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL
9/17/20

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	—	Vibracorer:	Box	—	4.0"	.50gal/ft
		Push Corer	Stambar	—	3.5"	.33gal/ft

Live Organisms present
Oil-Like Present
Odor Present
Debris Present
Photo Numbers

Comments
 - INSUFFICIENT RECOVERY
 - INCLUDED WOODY DEBRIS AND OTHER LEAFY-ORGANIC-LIKE DETRITUS.

CL
9/17/20

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: VSDC Project No.: 361207486 Logger: C. LARBACK
 Sub: AS1 WO: — Crew: B. WEYER
 Date: 9/17/20 Time: 1135 Vessel: R/V TESLA
 Coordinates: Lat 44.575944 Long -68.817294 Plan Volume: 0.140 gal
 Sampling Station: BU-03 ^{CL 9/17} BU-02 Deploy No. 3 Sub-tidal Location? NO
 Weather: SUNNY, 60s Winds: 5-10 mph Waters: CALM Traffic: NONE Water Temp: —

YES BW 9/22/20

Measured Water Depth [NAVD88]: <u>57.3</u>	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: <u>0.5'</u>	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/17/20

Number of containers:	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	<u>—</u>	Vibracorer:	<u>BOX</u>	Slambar	4.0"	.50gal/ft
		Push Corer			3.5"	.33gal/ft

Live Organisms present	<u>—</u>	Comments <u>- INSUFFICIENT RECOVERY</u> <u>- 2-3" OF SED. IN CORNER OF THE BOX</u>
Oil-Like Present	<u>—</u>	
Odor Present	<u>—</u>	
Debris Present	<u>—</u>	
Photo Numbers	<u>CL 9/17/20</u>	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: CLIMBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/20/20 Time: 1454 Vessel: R/V TESLA
 Coordinates: Lat 44.575445 Long -68.816525 Plan Volume: 0.140
 Sampling Station: BU-02 Deploy No. ^{CL 9/20/20} 75 Sub-tidal Location? NO

Weather: CLEAR 50s Winds: 10-15 mph Waters: 0'-1' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 39.3	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/20/20

Number of containers:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	Vibracorer: BOX				4.0"	.50gal/ft
	Push Corer			Slambar	3.5"	.33gal/ft

Live Organisms present	<p>Comments</p> <p>- INSUFFICIENT RECOVERY</p>
Oil-Like Present	
Odor Present	
Debris Present	
Photo Numbers	
	CL 9/20/20

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAURACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/20/20 Time: 1450 Vessel: R/V TESLA
 Coordinates: Lat 44.574977 Long -68.816466 Plan Volume: 0.140gal
 Sampling Station: BU-02 Deploy No. 20 Sub-tidal Location? No
 Weather: CLEAR, 50s Winds: 10-15 mph Waters: 0.0-9.0' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 24.3	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/20/20

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	—	Vibracorer:		Slambar	4.0"	.50gal/ft
		Push Corer			3.5"	.33gal/ft

Live Organisms present	—	Comments - INSUFFICIENT RECOVERY
Oil-Like Present	—	
Odor Present	—	
Debris Present	—	
Photo Numbers	CL 9/20/20	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: - Crew: B. WEYER
 Date: 9/20/20 Time: 1500 Vessel: R/V TESLA

Coordinates: Lat 44.575958 Long -68.817241 Plan Volume: 0.140gal

Sampling Station: BU-02 Deploy No. 37 Sub-tidal Location? NO

Weather: CLEAR, 50 Winds: 10-15MPH Waters: 0.0'-1.0' Traffic: NONE Water Temp: -

Measured Water Depth [NAVD88]: 28.3	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 9/20/20
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): CL
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/20/20

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	Vibracorer:		BOX		4.0"	.50gal/ft
	Push Corer			Slambar	3.5"	.33gal/ft

Live Organisms present —
 Oil-Like Present —
 Odor Present —
 Debris Present —

Comments

INSUFFICIENT RECOVERY

Photo Numbers

CL 9/20/20

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: ~~AS~~ CL 9/20/20 USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Date: 9/20/20 Time: 1505 Crew: B. WEYER
 Vessel: R/R TESLA
 Coordinates: Lat 44.576488 Long -68.814730 Plan Volume: 0.140gal
 Sampling Station: BU-02 Deploy No. 48 Sub-tidal Location? NO
 Weather: CLEAR, 50s Winds: 10-15 mph Waters: 0.0'-1.0' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 52.9	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/20/20

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	—	Vibracorer:	Push Corer	BOX	4.0"	.50gal/ft
				Slambar	3.5"	.33gal/ft

Live Organisms present	—	<p>Comments</p> <p>-NO RECOVERY OTHER THAN ONE LARGE PIECE OF WOODY DEBRIS (6" X 2" X 4")</p>
Oil-Like Present	—	
Odor Present	—	
Debris Present	—	
Photo Numbers	CL 9/20/20	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC
Sub: ASI

Project No.: 361774
WO: —
Date: 9/20/20
CL 9/20/20

Logger: C. LAUBACK
Crew: B. WEYER
Vessel: R/V TESLA

Coordinates: Lat 44.576011

Long -68.815615
CL 9/20/20

Plan Volume: 0.140gal

Sampling Station: BU-02

Deploy No. 59

Sub-tidal Location? NO

Weather: CLEAR, 50s Winds: 10-15 mph Waters: 0.0' - 1.0' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 58.9	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL
9/20/20

Number of containers: —	—	—	—	—	Core Volumes	
					Nominal core-barrel diameter	EST. Volume
Type of container: bucket	liner bag	jar	other		4.0"	.50gal/ft
Liner Type: —	Vibracorer: —	Push Corer	Slambar		3.5"	.33gal/ft

Live Organisms present	Comments — NO RECOVERY
Oil-Like Present	
Odor Present	
Debris Present	
Photo Numbers	

CL
9/20/20

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 36172074 B6 Logger: C. LABACK
 Sub: AS1 WO: — Crew: B. WEYER
 Date: 9/20/20 Time: 1510 Vessel: R/V TESLA
 Coordinates: Lat 44.578941 Long -68.817482 Plan Volume: 0.140gal
 Sampling Station: ~~BU-03~~ BU-02 Deploy No. 610 Sub-tidal Location? No
 Weather: CLEAR, 50s Winds: 10-15 mph Waters: 0.5-1.0 Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 39.3	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers:	—	—	—	—	Core Volumes	
	Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter
Liner Type:	✓	Vibracorer:	BOX		4.0"	.50gal/ft
		Push Corer	Slambar		3.5"	.33gal/ft

Live Organisms present	—	Comments — INSUFFICIENT RECOVERY, A FEW INCHES OF SEDIMENT IN BOX
Oil-Like Present	—	
Odor Present	—	
Debris Present	—	
Photo Numbers	CL 9/20/20	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 3617267486	Logger: C. LAUBACK
Sub: ASI	WO: —	Crew: B. WEYER
Date: 9/20/20	Time: 1515	Vessel: R/V TESLA
Coordinates: Lat 44.579932	Long -68.817902	Plan Volume: 0.140gal
Sampling Station: BU-05 BU-02	Deploy No. 711	Sub-tidal Location? NO

Weather:	Winds: 10-15mph	Waters: 0.5'-1.0'	Traffic: NONE	Water Temp: —
Measured Water Depth [NAVD88]:	36.4	Core Penetration Length (ft.):	CL 9/20/20	
Correction to NAVD88 (+/- ft. from NAVD88):		Recovered Core Length (ft.):		
Mudline (Corrected Depth) @ NAVD88:		Sample Length Retained (ft.):		
Study Depth (-NAVD88):		Acceptable Core (80% recovery):		
Required Penetration Length:	0.5	Core Volume Retained (gal.):		

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/20/20

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	Vibracorer: <u>Box</u>		Push Corer		4.0"	.50gal/ft
			Slambar		3.5"	.33gal/ft

Live Organisms present	—	Comments - INSUFFICIENT RECOVERY
Oil-Like Present	—	
Odor Present	—	
Debris Present	—	
Photo Numbers		
CL 9/20/20		

QC CHECK BY B. WEYER 9/21/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USPC Project No.: 3617207486.4^{BW} 1/9/20^{1/2} Logger: H. PLANTE
 Sub: ~~WOOD ETIS~~ ^{BW} 9/22/20^{1/2} WO: _____ Crew: TG, HP,
~~None~~ Date: 9/17/20 Time: 1020 Vessel: NA
 Coordinates: Lat 44.579978 Long -68.860386 Plan Volume: 0.140 GAL

Sampling Station: MMSW-C Deploy No. 1 Sub-tidal Location? NO

Weather: 65° SO Winds: Slight breeze Waters: NA Traffic: NA Water Temp: NA

Measured Water Depth [NAVD88]:	NA	Core Penetration Length (ft.):	1.6'
Correction to NAVD88 (+/- ft. from NAVD88):	-	Recovered Core Length (ft.):	1.6'
Mudline (Corrected Depth) @ NAVD88:	-	Sample Length Retained (ft.):	6" - 0.5'
Study Depth (-NAVD88):	-	Acceptable Core (80% recovery):	YES
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	0.140

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0-0.1	MMSW-C_091720_ SED_00-01 @1030	Brown CLAY, roots throughout, trace fine sand, wet, high plasticity
0.1-0.3	MMSW-C_091720_ SED_01-03 @1040	SAA, more dense + fine roots, wet, compacted roots
0.3-0.5	MMSW-C_091720_ SED_03-05	SAA, saturated, fine roots, less dense
(SC) 9-17-20		
Bottom		

Number of containers:	6			Core Volumes	
Type of container:	bucket	liner bag	jar	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibracorer: (See comments)			4.0"	.50gal/ft
	Push Corer: Slamber			3.5"	.33gal/ft

Live Organisms present	YES	Comments SHOOTER SHOVEL
Oil-Like Present	NO	
Odor Present	YES-ORGANIC	
Debris Present	NO	
Photo Numbers		
B. WYLER		
9/22/2020		

QC CHECK BY B WYLER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: H. PLANTE
 Sub: ~~WOOD ETIS~~ ^{BW 9/22/20} ~~NONE~~ WO: _____ 1450 Crew: SCARP, IG
 Date: 9-17-2020 Time: 8:50 Vessel: N/A

Coordinates: Lat 44.540301 Long -68.746707 Plan Volume: 0.140 gal
 Sampling Station: OR-T1-C1 Deploy No. 1 Sub-tidal Location? NO

Weather: 65°F Sun Winds: Breeze Waters: N/A Traffic: N/A Water Temp: N/A

Measured Water Depth [NAVD88]:	NA	Core Penetration Length (ft.):	0.95'
Correction to NAVD88 (+/- ft. from NAVD88):	-	Recovered Core Length (ft.):	0.79'
Mudline (Corrected Depth) @ NAVD88:	-	Sample Length Retained (ft.):	0.5'
Study Depth (-NAVD88):	-	Acceptable Core (80% recovery):	83% - YES
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	0.140

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0 - 0.1	OR-T1-C1-091720- SED-00-01 @1700	Dark brown clay, wet, trace silt + fine sand, organics on top
0.1 - 0.3	OR-T1-C1-091720- SED-01-03 @1715	Dark brown clay, wet, trace organics, trace silt
0.3 - 0.5	OR-T1-C1-091720- SED-03-05 @1730	Dark brown clay, trace silt, wet, trace organics, organic odor
(C) 9-17-20		
Bottom		

Number of containers:	/	/	6	/	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: Acetate	Vibracorer: Push Corer				4.0"	.50gal/ft
	Slambar				3.5"	.33gal/ft

Live Organisms present	NO	Comments Extruder 0.5-0.79 ft not logged
Oil-Like Present		
Odor Present	YES - ORG	
Debris Present	Roots	
Photo Numbers	BW 9/22/2020 9/22/2020 BW 9/22/2020	

QC CHECK BY B. WAYSER 9/22/2020 BW 9/22/2020
 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207484 Logger: S. Couplin
 Sub: ~~WOOD ETIS~~ NONE WO: 1450 Crew: SL, HP, TG
 Date: 9-17-2020 Time: 9:17-20 Vessel: N/A
 Coordinates: Lat 44.540301 Long -68.746707 Plan Volume: 0.95 0.140 GAL

Sampling Station: OR-T1-C1 DUP Deploy No. 1 Sub-tidal Location? NO

Weather: WSP, sun Winds: Breeze Waters: N/A Traffic: N/A Water Temp: N/A

Measured Water Depth [NAVD88]: NA	Core Penetration Length (ft.): 0.95'
Correction to NAVD88 (+/- ft. from NAVD88): -	Recovered Core Length (ft.): 0.79'
Mudline (Corrected Depth) @ NAVD88: -	Sample Length Retained (ft.): 0.5'
Study Depth (-NAVD88): -	Acceptable Core (80% recovery): 83% - YES
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0-0.1 9-17-20 50	OR-T1-C1-091720- SED-00-01-01 (50) 9-17-20 9-17-20 @1705 @1740	Dark brown clay, wet, trace organics on top, trace fine sand + silt
0.1-0.3 50	OR-T1-C1-091720- SED-01-03-DUP (50) 9-17-20 @1715 1745	Dark Brown clay, wet, trace organics, trace silt, trace shells
0.3-0.5	OR-T1-C1-091720- SED-03-05-DUP @1718 @3050 (50) 9-17-20	Dark brown clay, trace silt, wet, trace organics, organic odor, trace shells
Bottom		

					Core Volumes	
Number of containers:	/	/	6	/	Nominal core-barrel diameter	EST. Volume
Type of container:	bucket	liner bag	jar	other	4.0"	.50gal/ft
Liner Type:	Acefate	Vibracorer:	Push Corer	Slambar	3.5"	.33gal/ft

		Comments
Live Organisms present	NO	Extruder 0.5-0.79 ft not logged
Oil-Like Present	NO	
Odor Present	YES - org	
Debris Present	Roots, shells	
Photo Numbers		
B. WEYER 9/22/2020		

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: S. L. O'Neil
 Sub: ~~WOOD LHS~~ ^{BW} 9/22/20 WO: ~~_____~~ Crew: SL, HP, TB
^{Nine} Date: 9-17-20 Time: 1530 Vessel: N/A
 Coordinates: Lat ^{BW} 44.50660696 Long -68.764433 Plan Volume: 0.140 gal

Sampling Station: PBR-28 Deploy No. 1 Sub-tidal Location? YES

Weather: 65°F, Sun Winds: Breeze Waters: N/A Traffic: N/A Water Temp: N/A

Measured Water Depth [NAVD88]:	NA	Core Penetration Length (ft.):	0.95'
Correction to NAVD88 (+/- ft. from NAVD88):	-	Recovered Core Length (ft.):	0.86'
Mudline (Corrected Depth) @ NAVD88:	-	Sample Length Retained (ft.):	0.5'
Study Depth (-NAVD88):	-	Acceptable Core (80% recovery):	91%
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	0.140

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0-0.1	PBR-28-091720-SED-00-01 @1745	Dark Brown, clay, some silt, wet, odor
0.1-0.3	PBR-28-091720-SED-01-03 @1800	Dark brown clay, some silt, wet, odor
0.3-0.5	PBR-28-091720-SED-03-05 @1815	Dark brown clay, ^{some} silt, moist ^{to} wet, odor organic-sulfur-like
0.5-0.86	N/A	medium brown clay, high plasticity, some silt, moist to wet, odor organic-sulfur-like
Bottom	(50) 9-17-20	

Number of containers:	/	/	6	/	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	Acetate	Vibracorer: Push Corer		Slambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

Live Organisms present	NO	Comments Extruder
Oil-Like Present	NO	
Odor Present	YES	
Debris Present	NB	
Photo Numbers		
B. Weyer 9/22/2020		

QC CHECK By B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDL Project No.: 3617207480 Logger: S. COUPLIN
 Sub: ~~WOOD ETTS~~ None WO: _____ Crew: SC, HP, TCG
 Date: 9-17-20 Time: 1530 Vessel: N/A
 Coordinates: Lat 44.560696 Long -68.764433 Plan Volume: 0.140 gal
 Sampling Station: PBR-28 DOP Deploy No. 1 Sub-tidal Location? YES

Weather: 65°F, Sun Winds: Breeze Waters: N/A Traffic: N/A Water Temp: N/A

Measured Water Depth [NAVD88]:	NA	Core Penetration Length (ft.):	0.95'
Correction to NAVD88 (+/- ft. from NAVD88):	-	Recovered Core Length (ft.):	0.87'
Mudline (Corrected Depth) @ NAVD88:	-	Sample Length Retained (ft.):	0.5'
Study Depth (-NAVD88):	-	Acceptable Core (80% recovery):	92.7 92.7 ^{SW 9/22/20} YES
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	0.140

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0 - 0.1	PBR-28-091720-SED -00-01-DUP @1825	Dark Brown Clay, some silt, wet, odor
0.1 - 0.3	PBR-28-091720-SED -01-03-DUP @1835	Dark Brown clay, some silt, wet, odor
0.3 - 0.5	PBR-28-091720-SED -03-01-DUP @1845	Dark brown clay, some silt, moist to wet, odor organic-sulfur
0.5 - 0.87	N/A	medium brown clay, ^{like} high plasticity, some silt, moist to wet, odor organic-sulfur like
Bottom	(SW) 9-17-20	

Number of containers:	/	/	6	/	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	Acetate	Vibracorer:	Push Corer	Slambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

Live Organisms present	NO	Comments Extruder
Oil-Like Present	NO	
Odor Present	NO YES	
Debris Present	NO	
Photo Numbers		
B. Wajser 9/22/2020		

QC CHECK BY B. Wajser 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/18/20 Time: 1100 Vessel: R/V TESLA
 Coordinates: Lat 44.755351 Long -68.814993 Plan Volume: 0.140 gal
 Sampling Station: B0-04 Deploy No. 1-4 Sub-tidal Location? NO

Weather: OVERCAST, 50s Winds: 5-10 mph Waters: 0.5-1.0' Traffic: NONE Water Temp: —
 Measured Water Depth [NAVD88]: 12.5' 15.3' Core Penetration Length (ft.): —
 Correction to NAVD88 (+/- ft. from NAVD88): — Recovered Core Length (ft.): —
 Mudline (Corrected Depth) @ NAVD88: — Sample Length Retained (ft.): —
 Study Depth (-NAVD88): — Acceptable Core (80% recovery): —
 Required Penetration Length: — Core Volume Retained (gal.): —

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/18/20

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	—	Vibracorer:	BOX	Slambar	4.0"	.50gal/ft
		Push Corer			3.5"	.33gal/ft

Live Organisms present —
 Oil-Like Present —
 Odor Present —
 Debris Present —

Comments
 - NO RECOVERY - ATTEMPTED SEDIMENT ACQUISITION WITH BOTH BOX CORER AND PUSH CORER.

Photo Numbers
 B. WEYER
 9/22/2020

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: CLABACK
 Sub: ASI WO: - Crew: B. WEYER
 Date: 9/18/20 Time: 1102 Vessel: R/V TESLA
 Coordinates: Lat 44.755287 Long -68.814922 Plan Volume: 0.140gal

Sampling Station: B0-04 Deploy No. 2 Sub-tidal Location? NO

Weather: OVERCAST, 50s Winds: 5-10mph Waters: 0.5'-1.0' Traffic: NONE Water Temp: -

Measured Water Depth [NAVD88]: 15.3'	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers:	-	-	-	-	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	Vibracorer: Box				4.0"	.50gal/ft
	Push Corer			Slambar	3.5"	.33gal/ft

Live Organisms present	-	Comments - NO RECOVERY; HITTING BED ROCK.
Oil-Like Present	-	
Odor Present	-	
Debris Present	-	
Photo Numbers	CL 9/18/20	

QC CHECK BY B. WEYER 9/21/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WIEZ
 Date: 9/18/20 Time: 1105 Vessel: P/NTESLA

Coordinates: Lat 44.755296 Long -68.814858 Plan Volume: 0.140gal

Sampling Station: B0-04 Deploy No. 3 Sub-tidal Location? NO

Weather: OVERCAST 50s Winds: 5-10mph Waters: 0.5'-1.0' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 15.3'	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 6.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	—	Vibracorer:	<u>Box</u>	other	4.0"	.50gal/ft
		Push Corer	Slambar		3.5"	.33gal/ft

Live Organisms present	—	Comments -NO RECOVERY
Oil-Like Present	—	
Odor Present	—	
Debris Present	—	

Photo Numbers
 CL 9/18/20

QC CHECK BY B. Weyer 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. L. KIBACK
 Sub: ASI WO: - Crew: B. WEYER
 Date: 9/18/20 Time: 1107 Vessel: R/V TESLA
 Coordinates: Lat 44.755172 Long -68.814771 Plan Volume: 0.140gal

Sampling Station: 30-04 Deploy No. 4 Sub-tidal Location? NO

Weather: OVERCAST Winds: 5-10 mph Waters: 0.5-1.0' Traffic: NONE Water Temp: -

Measured Water Depth [NAVD88]: 15.3	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	—	Vibracorer:	BOX	Slambar	4.0"	.50gal/ft
		Push Corer			3.5"	.33gal/ft

Live Organisms present <input type="checkbox"/>	Comments - NO RECOVERY
Oil-Like Present <input type="checkbox"/>	
Odor Present <input type="checkbox"/>	
Debris Present <input type="checkbox"/>	
Photo Numbers	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC

Project No.: 3017207486

Logger: C. LAUBACK

Sub: ASI

WO: -

Crew: B. WEYER

Date: 9/18/20

Time: 1115

Vessel: R/V TBSLA

Coordinates: Lat 44.705470

Long -68.837866

Plan Volume: 0.140 gal.

Sampling Station: OB-05

Deploy No. 1-3

Sub-tidal Location? NO

Weather: OVERCAST, DS Winds: 5-8 mph Waters: 0.5-1.0' Traffic: NONE Water Temp: -

Measured Water Depth [NAVD88]: 15.8' 15.2' 14.3' <small>CL 9/18/20</small>	Core Penetration Length (ft.): -
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): -
Mudline (Corrected Depth) @ NAVD88: -	Sample Length Retained (ft.): -
Study Depth (-NAVD88): -	Acceptable Core (80% recovery): -
Required Penetration Length: -	Core Volume Retained (gal.): -

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers:	-	-	-	-	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	-	Vibracorer: BOX		Push Corer	4.0"	.50gal/ft
				Slambar	3.5"	.33gal/ft

- Live Organisms present
- Oil-Like Present
- Odor Present
- Debris Present

Comments
- ATTEMPTED 3 DEPLOYMENTS OF BOX CORER WITH INSUFFICIENT SEDIMENT VOLUMES.

Photo Numbers
B. WEYER
9/22/2020

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 3617207486	Logger: C. LAUBACK
Sub: ASI	WO: —	Crew: B. WEYER
Date: 9/18/20	Time: 1120	Vessel: R/V TESLA
Coordinates: Lat 44.705371	Long -68.837905	Plan Volume: 0.140gal
Sampling Station: OB-05	Deploy No. 2	Sub-tidal Location? NO
Weather: OVERCAST, 50s	Winds: 5-8mph	Waters: 0.5-1.0'
	Traffic: NONE	Water Temp: —

Measured Water Depth [NAVD88]: 15.2	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers: —	Core Volumes	
Type of container: bucket	liner bag	jar
Liner Type: —	Vibracorer: <u>BOX</u>	Slambar
	Push Corer	
	Nominal core-barrel diameter	EST. Volume
	4.0"	.50gal/ft
	3.5"	.33gal/ft

Live Organisms present —	Comments - INSUFFICIENT RECOVERY
Oil-Like Present —	
Odor Present —	
Debris Present —	
Photo Numbers	
	CL 9/18/20

QC CHECK BY B. WEYER 9/24/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LABACK
 Sub: ASI WO: _____ Crew: B WEYER
 Date: 9/18/20 Time: 1125 Vessel: R/ TESLA

Coordinates: Lat 44.705542 Long -68.837759 Plan Volume: 0.140gal

Sampling Station: OBOS Deploy No. 3 Sub-tidal Location? NO

Weather: OVERCAST, 50s Winds: 5-8 mph Waters: 0.5-1.0' Traffic: NONE Water Temp: _____

Measured Water Depth [NAVD88]:	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length:	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers: _____					Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: _____	Vibracorer:		3.5" 3.0"		4.0"	.50gal/ft
	Push Corer		Slambar		3.5"	.33gal/ft

Live Organisms present _____	Comments - IN SUFFICIENT RECOVERY
Oil-Like Present _____	
Odor Present _____	
Debris Present _____	
Photo Numbers CL 9/18/20	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/18/20 Time: 1130 Vessel: R/V TESLA
 Coordinates: Lat 44.705549 Long -68.837777 Plan Volume: 0.140 gal
 Sampling Station: OB-05 Deploy No. 4 Sub-tidal Location? NO

Weather: OVERCAST, 50s Winds: 5-8 mph Waters: 0.5-1' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 14.3	Core Penetration Length (ft.): 0.8'
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.5'
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5'
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140 gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01 @1540	VERY DARK GREENISH GRAY (GLEY) 3/1 (BY) CLAYEY SILT WITH MINIMAL VERY FINE CLASTIC SANDS; ORGANIC RICH, TR. VEGETATIVE DETRITUS, ALLUVIUM, SLIGHTLY PLASTIC
CL 9/18/20	CL 9/18/20	CL 9/18/20
0.1' - 0.3'	01-03 @1542	VERY DARK GREENISH GRAY (GLEY) 3/1 (SGP) CLAYEY SILT; HIGH ORGANIC WITH TRACE VERY FINE CLASTIC SANDS, TRACE LARGER (0.01-0.02) ORGANIC FINE FINES, ALLUVIUM, SLIGHTLY PLASTIC
CL 9/18/20	CL 9/18/20	
0.3' - 0.5'	03-05	DARK OLIVE GRAY (5Y 3/2) SILTY CLAY WITH TRACE FINE AND MEDIUM GRAINED CLASTIC SANDS, TRACE FIBROUS ROOT-LIKE ORGANIC MATERIAL, ORGANIC-LIKE FINES, PLASTIC, ALLUVIUM
Bottom		

Number of containers: — — 6 —	Core Volumes	
Type of container: bucket liner bag jar other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	4.0"	.50 gal/ft
Vibracorer: Push Corer	3.5"	.33 gal/ft
	Slambar	

Live Organisms present NO	Comments - DUPLICATE WAS PLANNED HERE - ONLY ONE CORE PUSHED INTO BOX CORE HAD ENOUGH RECOVERY
Oil-Like Present NO	
Odor Present NO	
Debris Present NO	
Photo Numbers B. WEYER 9/22/2020	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/18/20 Time: 1205 Vessel: R/V TESLA
 Coordinates: Lat 44.614478 Long -68.830012 Plan Volume: 0.140gal
 Sampling Station: FF-08-02 Deploy No. 1 Sub-tidal Location? NO

Weather: ~~OVERCAST~~ WDS Winds: 5-8mph Waters: 0.5-1.0' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 9.2	Core Penetration Length (ft.): 0.70'
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.62'
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5'
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01 @ 1624	OLIVE GRAY (SY 4/2) CLAYEY SILT, HETEROGENEOUS LENSE OF BLACK CLAYEY SILT (ORGANIC RICH) TRACE FIBROUS ORGANIC STRANDS. ALLUVIUM, LOW PLASTICITY
0.1' - 0.3'	01-03 @ 1626	VERY DARK GREENISH GRAY (GLEY 1 3/10Y) SILTY ORGANIC-LIKE CLAY, WITH TRACE SMALL FIBROUS ROOT-LIKE MATERIAL (0.05') AND TR WOOD CHIP, ONE ARTICULATED BIVALVE (0.05')
—	—	ALLUVIUM, MED. PLASTICITY
0.3' - 0.5'	03-05 @ 1628	VERY DARK GREENISH GRAY (GLEY 1 3/10GY) CLAYEY SILT WITH TRACE VERY FINE FIBROUS ROOT-LIKE ORGANIC-LIKE MATERIAL, ONE BIVALVE FOUND (ARTICULATED), NO OBSERVED WOOD CHIP, ALLUVIUM, MED. PLASTICITY, ALLUVIUM
Bottom 0.5' - 0.62	—	VERY DARK GREENISH GRAY (GLEY 1 3/10Y) SILTY CLAY, HOMOGENEOUS TR WOOD CHIP, ONE ARTICULATED BIVALVE, MED. PLASTIC ALLUVIUM

Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	ALETATE			Vibracorer:	4.0"	.50gal/ft
	CL 9118			Push Corer	3.5"	.33gal/ft
				Slambar		

Live Organisms present	NO YES	Comments -TABLET DID NOT RECORD COORDINATES, WILL USE GPS COORDINATES COLLECTED BY ASI'S ON BOARD GPS.
Oil-Like Present	NO	
Odor Present	YES	
Debris Present	NO	
Photo Numbers	B. WEYER 9/22/2020	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/18/20 Time: 1205 Vessel: R/V TESLA
 Coordinates: Lat 44.614478 Long -68.830012 Plan Volume: 0.140gal
 Sampling Station: FF-08-02-DUP Deploy No. 1 Sub-tidal Location? NO

Weather: OVERCAST, 50s Winds: ~~SE~~ 9/18 5-8 MPH Waters: 0.5-1.0' Traffic: NONE Water Temp: —
 Measured Water Depth [NAVD88]: 9.2 Core Penetration Length (ft.): 0.65'
 Correction to NAVD88 (+/- ft. from NAVD88): Recovered Core Length (ft.): 0.6'
 Mudline (Corrected Depth) @ NAVD88: Sample Length Retained (ft.): 0.5'
 Study Depth (-NAVD88): Acceptable Core (80% recovery): YES
 Required Penetration Length: 0.5' Core Volume Retained (gal.): 0.140gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0'-0.1'	00-01 @1706	DARK OLIVE GRAY (5Y 3/2) CLAYEY SILT; ORGANIC-LIKE FINES, NON-PLASTIC ALLUVIUM.
0.1'-0.3'	01-03 @1708	GREENISH BLACK (6.5Y 12.5/10Y) CLAYEY SILT, HOMOGENOUS, TR. FINE FIBROUS ROOT-LIKE MATERIAL, TR. BI-VALVE SHELL HASH, MED. PLASTIC ALLUVIUM
0.3'-0.5'	03-05 @1710	GREENISH BLACK (6.5Y 12.5/10Y) CLAYEY SILT, HOMOGENOUS, MED PLASTIC WITH TR WOOD CHIP & BI-VALVE SHELL HASH
0.5'-0.6'	—	VERY DARK GREENISH GRAY (6.5Y 12.5/10Y) SLIGHTLY CLAYEY SILT WITH MINIMAL VERY FINE GRAINED CLASTIC SANDS, TRACE WOOD CHIP, LOW PLASTIC ALLUVIUM
CL 9/18/20	CL 9/18/20	CL 9/18/20
Bottom		

Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	ACETATE			Vibracorer:	4.0"	.50gal/ft
				Push Corer	3.5"	.33gal/ft

Live Organisms present NO
 Oil-Like Present NO
 Odor Present YES
 Debris Present NO
 Photo Numbers
 B. WEYER
 9/22/2020

Comments
 -TABLET DID NOT RECORD COORDINATES; WILL USE GPS COORDINATES COLLECTED BY ASI'S ONBOARD GPS.
 -SULFUR-LIKE ODOR INCREASING DOWN CORE

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 3617207486	Logger: C. LAUBACK
Sub: ASI	WO: -	Crew: B. WEYER
Date: 9/18/20	Time: 1220	Vessel: R/V TESLA
Coordinates: Lat 44.618575	Long -68.856182	Plan Volume: 0.140gal
Sampling Station: W-17-LOW	Deploy No. 1	Sub-tidal Location? NO
Weather: OVERCAST, 50s	Winds: 5-8mph	Waters: 0.5-1.0'
	Traffic:	Water Temp: -
Measured Water Depth [NAVD88]: 1.6	Core Penetration Length (ft.): ^{CL 1/8} 1.0	
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): ^{CL 9/18} 0.9	
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5	
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES	
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140gal	

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01 @1733	DARK OLIVE GRAY (SY 3/2) SILTY CLAY, ORGANIC-LIKE AND CLASTIC FINES, DENSE ROOT-MATTING - IN SITU LIVING MARSH PLANTS, MARSH, PE.
0.1' - 0.3'	01-03 @1735	DARK OLIVE GRAY (SY 3/2) SILTY CLAY, ORGANIC-LIKE AND CLASTIC FINES SEDIMENT MATRIX WITH DENSE ROOT MATTING (LIVE/IN SITU), LOW PLASTIC, MARSH, PE.
0.3' - 0.5'	03-05 @1737	DARK OLIVE GRAY (SY 3/2) SILTY CLAY, ORGANIC-LIKE AND CLASTIC FINES SEDIMENT MATRIX WITH DENSE ROOT MATTING (LIVE IN SITU), LOW PLASTIC, MARSH, PE.
0.5' - 0.8'	—	DARK OLIVE GRAY (SY 3/2) SILTY CLAY, ORGANIC-LIKE AND CLASTIC FINES SEDIMENT MATRIX WITH DENSE ROOT MAT, LOW PLASTIC
Bottom		

Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibracorer: Push Corer			Slambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

Live Organisms present	Comments - COORDINATES RECORDED W/TABLET - SULFUR-LIKE ODOR INCREASES DOWNCORE
Oil-Like Present NO	
Odor Present YES, ORGANIC-LIKE	
Debris Present NO	
Photo Numbers	
B. WEYER 9/22/2020	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B WEYER
 Date: 9/18/20 Time: 1230 Vessel: RV TESLA
 Coordinates: Lat 44.618510 Long -68.855762 Plan Volume: 0.140gal
 Sampling Station: W-17 - INTERTIDAL Deploy No. 1 Sub-tidal Location? NO

Weather: OVERCAST 50s Winds: 5-8mph Waters: 0.5-1.0' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 9.0'	Core Penetration Length (ft.): 0.60
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.58
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5
Study Depth (-NAVD88):	Acceptable Core (80% recovery) : YES
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01 @ 1606	VERY DARK GRAY (5Y 3/1) CLAYEY SILT, ORGANIC-LIKE RICH, SOME VERY FINE CLASTIC SANDS WITH TR WOOD CHIP, LOW PLASTIC ALLUVIUM
0.1' - 0.3'	01-03 @ 1608	BLACK (5Y 2.5/1) CLAYEY SILT, SOME VERY DARK BLUE/BLACK LENSES (GLEY 2.5/1.5PB), ONE ARTICULATED BI-VALVE PRESENT, LOW TO MED. PLASTIC ALLUVIUM
0.3' - 0.5'	03-05 @ 1610	BLACK (5Y 2.5/1) CLAYEY SILT, ORGANIC-LIKE FINES, LOW TO MED. PLASTICITY, ALLUVIUM.
	CL 9/18/20	CL 9/18/20
	CL 9/18/20	CL 9/18/20
Bottom		

Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibrator: Push Corer			Slambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

Live Organisms present	YES
Oil-Like Present	NO
Odor Present	YES
Debris Present	NO

Photo Numbers
 B. WEYER
 9/22/2020

Comments
 - COORDINATES RECORDED W/ TABLET
 - SULFUR-LIKE ODOR INCREASES DOWN CORE

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: A31 WO: — Crew: B. WEYER
 Date: 9/18/20 Time: 1300 Vessel: P/V TESLA
 Coordinates: Lat 44.505648 Long -68.772441 Plan Volume: 0.140gal

Sampling Station: W-61-INTER TIDAL Deploy No. 1 Sub-tidal Location? NO

Weather: OVERCAST, 50s Winds: 5-8mph Waters: 0.5-10' Traffic: NONE Water Temp: —

Measured Water Depth (NAVD88): 8.6	Core Penetration Length (ft.): 0.6
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.55
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0'-0.1'	00-01 @1820	VERY DARK GRAY (5Y 3/1) SILTY CLAY, ORGANIC RICH, ORGANIC DETRITUS FINES, TR FINE ROOT-LIKE FIBERS, LOW PLASTIC ALLUVIUM
0.1'-0.3'	01-03 @1822	VERY DARK GRAY (5Y 3/1) CLAYEY SILT WITH TR VERY FINE CLASTIC SANDS, WITH WOOD CHIP (MINIMAL) TR ROOT-LIKE FIBERS, LOW PLASTIC, ALLUVIUM
0.3'-0.5'	03-05 @1824	VERY DARK GRAY (5Y 3/1) SILTY ORGANIC RICH CLAY WITH MINIMAL WOOD CHIP AND FINE ROOT LIKE FIBERS, MED. PLASTIC, ALLUVIUM
0.5'-0.55	—	VERY DARK GRAY (5Y 3/1) SILTY-ORGANIC RICH CLAY WITH FINE ROOT LIKE FIBERS FINE LENSE OF COARSE ANGULAR CLASTIC SAND AT BOTTOM OF SED. INTERVAL, LOW PLASTIC ALLUVIUM
Bottom	CL 9/18/20	CL 9/18/20

Number of containers: —	—	6	—	Core Volumes	
Type of container: bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibracorer: Push Coter	Slambar		4.0"	.50gal/ft
				3.5"	.33gal/ft

Live Organisms present NO	Comments -STRONG SULFUR-LIKE ODOR
Oil-Like Present NO	
Odor Present YES	
Debris Present NO	
Photo Numbers B. WEYER 9/22/2020	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAWBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/18/20 Time: 1316 Vessel: R/V TESLA
 Coordinates: Lat 44.501420 Long -68.775877 Plan Volume: 0.140 gal

Sampling Station: SVE-01 Deploy No. 1 Sub-tidal Location? ~~NO~~ YES *BW 9/22/20*

Weather: OVERCAST SWS Winds: 5-8 mph Waters: 0.5' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 42.3'	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 9/18/20
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/18/20

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: <i>NA</i>	Vibracorer: <u>BOX</u>				4.0"	.50gal/ft
	Push Corer			Slambar	3.5"	.33gal/ft

Live Organisms present —
 Oil-Like Present —
 Odor Present —
 Debris Present —
 Photo Numbers
B. WEYER
9/22/2020

Comments
 - DROPPED BOX CORE NEXT TO NEAREST BIOTA TRAP - COORDINATES WILL BE OFF PROPOSED LOCATION
 - NOT ENOUGH RECOVERED SEDIMENT
 ↳ ONLY 2" OF RECOVERY

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: VSDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI Date: 9/18 WO: — Time: 1320 Crew: B. WEYER
 Vessel: R/V TESLA

Coordinates: Lat 44.501352 Long -68.775870 Plan Volume: 0.140gal

Sampling Station: SVE-01 Deploy No. 2 Sub-tidal Location? ~~NO~~ **BW 9/22/20 YES**

Weather: ~~OVERCAST~~ Winds: 5-8mph Waters: 0.5' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 33.9	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/18/20

Number of containers: —	Type of container: bucket	liner bag	jar	other	Core Volumes	
					Nominal core-barrel diameter	EST. Volume
Liner Type: —	Vibracorer: <u>BOX</u>			4.0"		.50gal/ft
	Push Corer			Slambar		3.5"

Live Organisms present —	<p>Comments</p> <p>- NOT ENOUGH RECOVERY - ONLY 13" OF SEDIMENT</p>
Oil-Like Present —	
Odor Present —	
Debris Present —	
Photo Numbers	

B. WEYER 9/22/2020

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: <u>USDC</u>	Project No.: <u>3617 2074 86</u>	Logger: <u>C. LAUBACK</u>
Sub: <u>ASI</u>	WO: <u>—</u>	Crew: <u>B. WEYER</u>
Date: <u>9/18/20</u>	Time: <u>1322</u>	Vessel: <u>R/V TESLA</u>
Coordinates: Lat <u>44.501282</u>	Long <u>-68.775869</u>	Plan Volume: <u>0.140</u>
Sampling Station: <u>SVE-01</u>	Deploy No. <u>3</u>	Sub-tidal Location? <u>NO</u>
Weather: <u>OVERCAST, 50s</u>	Winds: <u>5-8mph</u>	Waters: <u>0.5</u>
	Traffic: <u>NONE</u>	Water Temp: <u>—</u>

*BN 9/22/20
YES*

Measured Water Depth [NAVD88]: <u>35.8'</u>	Core Penetration Length (ft.): <u>—</u>
Correction to NAVD88 (+/- ft. from NAVD88): <u>—</u>	Recovered Core Length (ft.): <u>—</u>
Mudline (Corrected Depth) @ NAVD88: <u>—</u>	Sample Length Retained (ft.): <u>—</u>
Study Depth (-NAVD88): <u>—</u>	Acceptable Core (80% recovery): <u>—</u>
Required Penetration Length: <u>0.5'</u>	Core Volume Retained (gal.): <u>—</u>

*B. WEYER
9/22/2020*

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/18/20

Number of containers:	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	<u>—</u>	Vibracorer:	<u>BOX</u>		4.0"	.50gal/ft
		Push Corer	Slambar		3.5"	.33gal/ft

Live Organisms present <u>—</u>	Comments <u>- IN SUFFICIENT RECOVERY</u>
Oil-Like Present <u>—</u>	
Odor Present <u>—</u>	
Debris Present <u>—</u>	
Photo Numbers <i>B. WEYER 9/22/2020</i>	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: - Crew: B. WEYER
 Date: 9/18/20 Time: 1325 Vessel: R/V TESLA
 Coordinates: Lat 44.501226 Long -68.776081 Plan Volume: 0.140gal
 Sampling Station: SVE-01 Deploy No. 4 Sub-tidal Location? ~~NO~~ **BW 9/22/20 YES**

Weather: OVERCAST 50s Winds: 5-8mph Waters: 0.5'-1.0' Traffic: NONE Water Temp: -
 Measured Water Depth [NAVD88]: 36.8 Core Penetration Length (ft.):
 Correction to NAVD88 (+/- ft. from NAVD88): Recovered Core Length (ft.): CL 9/18/20
 Mudline (Corrected Depth) @ NAVD88: Sample Length Retained (ft.):
 Study Depth (-NAVD88): Acceptable Core (80% recovery):
 Required Penetration Length: 0.5' Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/18/20

Number of containers:	-	-	-	-	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	-	Vibracorer:	BOX	-	4.0"	.50gal/ft
		Push Corer	Slambar		3.5"	.33gal/ft

Live Organisms present	-	Comments - INSUFFICIENT RECOVERY
Oil-Like Present	-	
Odor Present	-	
Debris Present	-	
Photo Numbers		
<i>B. WEYER 9/22/2020</i>		

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 3617207486	Logger: C. LAIBACK
Sub: A51	WO: -	Crew: B. WEYER
Date: 9/18/20	Time: 1327	Vessel: R/V TESLA
Coordinates: Lat 44.501375	Long -68.775840	Plan Volume: 0.140gal
Sampling Station: SVE-01	Deploy No. 5	Sub-tidal Location? NO

BW 9/22/20
YES

Weather: OVERCAST, SW	Winds: 5-8 mph	Waters: 0.5' - 1.0'	Traffic: NONE	Water Temp: -
Measured Water Depth (NAVD88): 37.0	Core Penetration Length (ft.): 5" = 0.4 ft			
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 5" = 0.4 ft			
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.4			
Study Depth (-NAVD88):	Acceptable Core (80% recovery): -			
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.117gal			

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/18/20

Number of containers:	—	—	—	—	Core Volumes		
	Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	ACETATE		Vibracorer:	Push Corer	Slambar	4.0"	.50gal/ft
						3.5"	.33gal/ft

Live Organisms present	—	Comments
Oil-Like Present	—	
Odor Present	—	
Debris Present	—	
Photo Numbers	B. WEYER 9/22/2020	

- RECOVERED SOME SEDIMENT - DID COLLECT ONE ACETATE CORE, WITH ONLY 5" OF SEDIMENT - INSUFFICIENT VOLUME

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 3617207486	Logger: C. LABACK
Sub: ASI	WO: -	Crew: B. WEYER
Date: 9/18/20	Time: 1330	Vessel: R/V TESLA
Coordinates: Lat 44.500332	Long -68.775456	Plan Volume: 0.140gal
Sampling Station: SVE-01	Deploy No. 6	Sub-tidal Location? NO YES

Weather: OVERCAST/AS	Winds: 5-8mph	Waters: 0.5-1.0'	Traffic: NONE	Water Temp: -
Measured Water Depth [NAVD88]: 37.2	Core Penetration Length (ft.):			
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):			
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): CL 9/18/20			
Study Depth (-NAVD88):	Acceptable Core (80% recovery): 9/18/20			
Required Penetration Length: 0.5'	Core Volume Retained (gal.):			

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/18/20

Number of containers:	—	—	—	—	Core Volumes	
	Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter
Liner Type:	—	Vibracorer:	BOX	Slambar	4.0"	.50gal/ft
		Push Corer			3.5"	.33gal/ft

Live Organisms present	—	Comments - PROPOSED LOCATION - NOT ENOUGH RECOVERY - HAD A FEW INCHES OF SED - ROCKY PIECES IN SAMPLER
Oil-Like Present	—	
Odor Present	—	
Debris Present	—	
Photo Numbers B. WEYER 9/22/2020		

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: AS1 WO: — Crew: B. WEYER
 Date: 9/18/20 Time: 1340 Vessel: R/V TESLA
 Coordinates: Lat 44.501730 Long -68.774940 Plan Volume: 0.140gal
 Sampling Station: SVE-01 Deploy No. 7 Sub-tidal Location? NO

Weather: OVERCAST, 50s Winds: 5-8 mph Waters: 0.5-1.0 Traffic: — Water Temp: —

Measured Water Depth [NAVD88]: <u>38.2</u>	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: <u>0.5'</u>	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers: <u>—</u>	Core Volumes			
Type of container: <u>bucket</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
Liner Type: <u>—</u>	Vibracorer: <u>—</u>	Push Corer: <u>—</u>	Nominal core-barrel diameter: <u>4.0"</u>	EST. Volume: <u>.50gal/ft</u>
			Nominal core-barrel diameter: <u>3.5"</u>	EST. Volume: <u>.33gal/ft</u>

Live Organisms present	Comments <u>- IN SUFFICIENT RECOVERY</u>
Oil-Like Present	
Odor Present	
Debris Present	
Photo Numbers	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/18/20 Time: 1340 Vessel: RUTESLA
 Coordinates: Lat 44.501563 Long -68.775047 CL 9/18/20 Plan Volume: 0.140 gal
 Sampling Station: SVE-01 Deploy No. 8 Sub-tidal Location? NO

Weather: OVERCAST, 50s Winds: 5-8 mph CL 9/18/20 Waters: 0.5' - 1.0' Traffic: NONE Water Temp: —
 Measured Water Depth [NAVD88]: 38.2, 37.8 Core Penetration Length (ft.): 0.60
 Correction to NAVD88 (+/- ft. from NAVD88): Recovered Core Length (ft.): 0.55
 Mudline (Corrected Depth) @ NAVD88: Sample Length Retained (ft.): 0.50
 Study Depth (-NAVD88): Acceptable Core (80% recovery): YES
 Required Penetration Length: 0.5' Core Volume Retained (gal.): 0.140 gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01 @1842	DARK TO VERY DARK GRAY (SY 3/1) CLAYEY SILT, TRACE VERY FINE ROOT-LIKE MATERIAL, NON-PLASTIC, ALLUVIUM
0.1' - 0.3'	01-03 @1844	DARK GRAY (SY 3/1) CLAYEY SILT, ORGANIC LIKE TR FIBROUS FINE ROOT-LIKE MATERIALS, LOW PLASTIC ALLUVIUM
0.3' - 0.5'	03-05 @1846	DARK GRAY (SY 3/1) SILTY CLAY WITH MINIMAL WOOD CHIP, MED PLASTIC ALLUVIUM
0.5' - 0.55'	—	DARK GRAY (SY 3/1) CLAYEY SILT W/ MINIMAL VERY FINE CLASTIC WELL SORTED SAND - COARSENING DOWNWARD W/ WOOD CHIP (MINIMAL) LOW PLASTIC ALLUVIUM
Bottom	CL 9/18/20	CL 9/18/20

Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	ACETATE		Vibracorer:	BOX	4.0"	.50 gal/ft
			Push Corer	Slambar	3.5"	.33 gal/ft

Live Organisms present NO
 Oil-Like Present NO
 Odor Present YES
 Debris Present NO
 Photo Numbers
 B. WEYER
 9/22/2020

Comments
 CL 9/18
 - MOVED TO SECOND ZOT BIOTA TRAP
 - DEPLOYMENT 7 HAD INSUFFICIENT SED. VOLUMES.
 - DEPLOYMENT 8 HAD SUFFICIENT SEDIMENT TO PROCESS - LOGGING FOR DEPLOY. 8 ON THIS FORM
 - SULFUR LIKE SMELL INCREASES DOWN CORE

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 3617207486	Logger: C. LAUBACK
Sub: ASI	WO: -	Crew: B. WEYER
Date: 9/18/20	Time: 1405	Vessel: R/V TESLA
Coordinates: Lat 44.515787	Long -68.797812	Plan Volume: 0.140 gal
Sampling Station: OL-81	Deploy No. 1	Sub-tidal Location? YES

Weather: OVERCAST, 50s	Winds: 5-8mph	Waters: 0.5'-1.0'	Traffic: NONE	Water Temp: -
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Measured Water Depth [NAVD88]: 58 ^{CL 9/18} 56.3	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/18/20

Number of containers: —	—	—	—	Core Volumes		
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: —	Vibracorer: <u>BOX</u>		Push Corer		4.0"	.50gal/ft
			Slambar		3.5"	.33gal/ft

Live Organisms present —	Comments - INSUFFICIENT RECOVERY - ~2" OF SEDIMENT COLLECTED IN BOX CORE - SANDY/GRAVELLY w/ SOME ROCK COBBLES
Oil-Like Present —	
Odor Present —	
Debris Present —	
Photo Numbers	
B. WEYER 9/22/2020	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: <u>USDC</u>	Project No.: <u>3617207486</u>	Logger: <u>C. LAUBACK</u>
Sub: <u>ASI</u>	WO: <u>—</u>	Crew: <u>B. WEYER</u>
Date: <u>9/18/20</u>	Time: <u>1408</u>	Vessel: <u>R/V TESLA</u>
Coordinates: Lat <u>44.515760</u>	Long <u>-68.797787</u>	Plan Volume: <u>0.140gal</u>
Sampling Station: <u>OL-61</u>	Deploy No. <u>2</u>	Sub-tidal Location? <u>YES</u>

Weather: <u>OVERCAST 50s</u>	Winds: <u>5-8 mph</u>	Waters: <u>0.5-1.0'</u>	Traffic: <u>NONE</u>	Water Temp: <u>—</u>
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Measured Water Depth [NAVD88]: <u>53.4</u>	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: <u>0.5'</u>	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers:	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	<u>—</u>	Vibracorer:	<u>BOX</u>		4.0"	.50gal/ft
		Push Corer		Slambar	3.5"	.33gal/ft

Live Organisms present <u>—</u>	<p align="center">Comments</p> <p><u>-INSUFFICIENT RECOVERY - HAD ~2" OF SED IN A CORNER OF THE BOX</u></p> <p><u>-COORDINATES RECORDED W/ WOOD TABLET</u></p>
Oil-Like Present <u>—</u>	
Odor Present <u>—</u>	
Debris Present <u>—</u>	
Photo Numbers	
<u>B. WEYER</u>	
<u>9/22/2020</u>	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC
Sub: ASI

Project No.: 3617207486
WO: -

Logger: C. LAUBACK
Crew: B. WEYER
Vessel: R/V TESLA

Date: 9/18/20 Time: 1412

Coordinates: Lat 44.515780

Long -68.797798

Plan Volume: 0.140gal

Sampling Station: OL-01

Deploy No. 3

Sub-tidal Location? YES

Weather: OVERCAST 50s Winds: 5-8mph Waters: 0.5-1.0' Traffic: NONE Water Temp: -

Measured Water Depth [NAVD88]: <u>56.2</u>	Core Penetration Length (ft.): <u>CL</u>
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): <u>9/18/20</u>
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: <u>0.5'</u>	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL
9/18/20

Number of containers:	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	<u>-</u>	Vibracorer:	<u>BOX</u>	Slambar	4.0"	.50gal/ft
		Push Corer:			3.5"	.33gal/ft

Live Organisms present	<u>-</u>	Comments <u>- COORDINATES RECORDED BY ASI'S ONBOARD GPS</u> <u>- BATTERY ON TABLET DIED - DID NOT CHARGE OVERNIGHT, DESPITE BEING PLUGGED IN.</u> <u>- NO RECOVERY</u>
Oil-Like Present	<u>-</u>	
Odor Present	<u>-</u>	
Debris Present	<u>-</u>	
Photo Numbers	<u>B. WEYER</u> <u>9/22/2020</u>	

QC CHECK BY B. WEYER 9/24/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: NA ^{BW} 9/22/20 USDC	Project No.: 3617207486	Logger: MR
Sub: NA ^{BW} 9/22/20 NONE	WO: 03 BW 9/22/2020	Crew: LT, SC
Date: 9-18-2020	Time: 1000	Vessel: N/A
Coordinates: Lat 44.856389	Long - 68.679730	Plan Volume: 0.140
Sampling Station: OV-01	Deploy No. 1	Sub-tidal Location? 10
Weather: 50	Winds: LIGHT	Waters: N/A
	Traffic: N/A	Water Temp: N/A

Measured Water Depth [NAVD88]:	NA	Core Penetration Length (ft.):	NA
Correction to NAVD88 (+/- ft. from NAVD88):	-	Recovered Core Length (ft.):	NA
Mudline (Corrected Depth) @ NAVD88:	-	Sample Length Retained (ft.):	NA
Study Depth (-NAVD88):	-	Acceptable Core (80% recovery):	NA
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	NA

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0 - 0.1 @ 10:15	OV-01-091820-SED-00-01	MED BROWN-GREY SANDY GRAVEL, SUB-ROUNDED POORLY SORTED. DAMP.
0.1 - 0.3 @ 10:20	OV-01-091820-SED-01-03	SAME AS 00-01, INCREASED COBBLE SIZE (MORE LARGE ROCKS)
0.3 - 0.5 @ 10:25	OV-01-091820-SED-03-05	SAME AS 0.1-0.3, COBBLE SIZE CONTINUES TO INCREASE. MOIST. SOME FINES PRESENT.
Bottom		

Number of containers:		3	3	Core Volumes	
Type of container:	bucket	liner bag	(jar)	other	Nominal core-barrel diameter
Liner Type: NONE		Vibracorer: N/A			EST. Volume
		Push Corer: SEE NOTES		jar	4.0" : .50gal/ft
					3.5" : .33gal/ft

Live Organisms present	NONE	Comments REMOVED GRAVEL PIECES ABOVE ~ 1" OR AS NEEDED FOR SAMPLE VOLUME. REMOVED LARGE ROCK AND SAMPLED AW/ SPOONS AFTER ATTEMPTING PUSH CORE AND SHOULDER SHOVEL UNDERNEATH
Oil-Like Present	NONE	
Odor Present	NONE	
Debris Present - BARK-LIKE		
Photo Numbers	WOODY	

B. WEYER 9/22/2020

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: ~~3617207486~~ ^{BW 9/22/20} 7
 Sub: ~~WOOD E + IS~~ ^{None} _{BW 9/22/20} WO: _____ 1105 Crew: HP, TG
 Date: 9/18/20 Time: 1305 Vessel: WHALER
 Coordinates: Lat 44.590001 Long -68.858305 ^{2E 9/18} Plan Volume: ~~0.140~~ ^{BW 9/22/20} 0.140 gal
 Sampling Station: MM-T5-C1 Deploy No. 1 Sub-tidal Location? ND

Weather: 55°F cloudy Winds: south light Waters: NA Traffic: NA Water Temp: NA

Measured Water Depth [NAVD88]:	NA	Core Penetration Length (ft.):	0.9
Correction to NAVD88 (+/- ft. from NAVD88):	-	Recovered Core Length (ft.):	0.8
Mudline (Corrected Depth) @ NAVD88:	-	Sample Length Retained (ft.):	0.5
Study Depth (-NAVD88):	-	Acceptable Core (80% recovery):	89% YES
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	0.140

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0 - 0.1	mm-T5-C1-091820 -SED-00-01 @1310	Brown clayey silt, dense fine roots, saturated, live organisms
0.1 - 0.3	mm-T5-C1-091820 -SED-01-03 @1320	Brown clayey silt, less dense fine roots, saturated
0.3 - 0.5	mm-T5-C1-091820 -SED-03-05 @1330	same as 0.1-0.3, slightly less roots, less dense
0.5 - 0.8	mm-T5-C1-091820 -SED-05-08 SD a-18-20	Brown clayey silt, dense fine roots, saturated
Bottom	mm-T5-C1-091820 -SED-08-09 SD a-18-20	

Number of containers:	6				Core Volumes	
	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	ACETATE				4.0"	.50gal/ft
	Vibracorer: Push Corer				3.5"	.33gal/ft
					Slambar	

Live Organisms present	YES, TOP	Comments Extruder
Oil-Like Present	NO	
Odor Present	↓	
Debris Present	↓	
Photo Numbers		
B. WEYER 9/22/2020		

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 361720 Logger: C. LAUBACK

Sub: ASI WO: - Crew: B. WEYER

Date: 9/19/20 Time: 0956 Vessel: P/V TESLA

Coordinates: Lat 44.482349 Long -68.827820 Plan Volume: 0.140gal

Sampling Station: E01-01 Deploy No. 1 Sub-tidal Location? YES

Weather: CLEAR, 40s Winds: 5mph Waters: 0.5-1.0' Traffic: Water Temp: -

Measured Water Depth [NAVD88]: 12.0 Core Penetration Length (ft.): 0.70

Correction to NAVD88 (+/- ft. from NAVD88): Recovered Core Length (ft.): 0.65

Mudline (Corrected Depth) @ NAVD88: Sample Length Retained (ft.): 0.5

Study Depth (-NAVD88): Acceptable Core (80% recovery): YES

Required Penetration Length: 0.5' Core Volume Retained (gal.): 0.140gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0'-0.1'	00-01 @1440	DARK OLIVE GRAY (SY 3/2) CLAYEY SILT - ORGANIC RICH, SOME ORGANIC-LIKE LEAFY DEBRIS, HOMOGENOUS, NON-PLASTIC, ALLUVIUM
0.1'-0.3'	01-03 @1443	VERY DARK GRAY (SY 3/1) SILTY CLAY, HOMOGENOUS. TRACE WOOD CHIP, LOW TO NON PLASTIC, ALLUVIUM.
0.3'-0.5'	03-05 @1445	VERY DARK GRAY (SY 3/1) SILTY CLAY, FINING DOWNWARD FROM OVERLYING, ALLOQUOT (0.1-0.3'), HOMOGENOUS, NO WOOD CHIP, MED TO LOW PLASTICITY, ALLUVIUM
0.5'-0.65'	— —	VERY DARK GRAY (2.5Y 3/1) SILTY CLAY WITH TRACE FINE FIBROUS ROOT-LIKE MATERIAL, HOMOGENOUS MED. PLACTICITY, ALLUVIUM.
Bottom	B. WEYER 9/22/2020	

Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	ACETATE		Vibracorer: <u>BOX</u>	Slambar	4.0"	.50gal/ft
			Push Corer		3.5"	.33gal/ft

Live Organisms present	NO
Oil-Like Present	NO
Odor Present	YES
Debris Present	NO

Comments

- COLLECTED DUPLICATE @ THIS LOCATION

- SULFUR-LIKE ODOR INCREASES DOWNCORE

Photo Numbers

B. WEYER
9/22/2020

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASL WO: — Crew: B. WEYER
 Date: 9/19/20 Time: 0956 Vessel: P/V TESLA
 Coordinates: Lat 44.482349 Long -68.827820 Plan Volume: 0.140 gal
 Sampling Station: E-01-01-DUP Deploy No. 1 Sub-tidal Location? YES

Weather: CLEAR, 40s Winds: 5mph Waters: 0.5'-1.0' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 12.0	Core Penetration Length (ft.): 0.70
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.6
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES
Required Penetration Length: 0.5	Core Volume Retained (gal.): 0.140gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00 - 01 @1445	DARK GRAYISH BROWN (2.5Y 4/1) (2.5Y 4/2) ORGANIC SILT AND TIL CLAY WITH MINIMAL ORGANIC-LIKE DETRITUS AND ISOLATED BLACK SILT (2.5Y 2.5/4) NON PLASTIC ALLUVIUM
0.1' - 0.3'	01 - 03 @1447	DARK OLIVE GRAY (5Y 3/2) CLAY AND SILT, SOME ISOLATED HORIZONS OF BLACK SILT (5Y 2.5/1) LOW PLASTIC ALLUVIUM
0.3' - 0.5'	03 - 05 @1449	DARK GRAY (5Y 4/1) SILTY CLAY WITH SOME ISOLATED BLACK CLAY-SILT HORIZONS (5Y 2.5/1) MED PLASTIC, ALLUVIUM
0.5' - 0.6'	— —	BLACK (5Y 2.5/2) SILTY-CLAY, ORGANIC RICH, HOMOGENOUS, MED-LOW PLASTIC ALLUVIUM
Bottom	B. WEYER 9/22/2020	

Number of containers: — — 6 —	Core Volumes	
Type of container: bucket liner bag jar other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibracorer: 4.0"	.50gal/ft
	Push Corer: Slambar	3.5"
		.33gal/ft

Live Organisms present NO	Comments ORGANIC
Oil-Like Present NO	
Odor Present YES	
Debris Present NO	
Photo Numbers B. WEYER 9/22/2020	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUSACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/19/20 Time: 1015 Vessel: R/V TESLA
 Coordinates: Lat 44.482382 Long -68.808507 Plan Volume: 0.140gal
 Sampling Station: E-01-03 Deploy No. 1 Sub-tidal Location? YES

Weather: CLEAR, 40s Winds: 5mph Waters: 0.5'-1.5' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 29.2'	Core Penetration Length (ft.): 1.0
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.59
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5
Study Depth (-NAVD88):	Acceptable Core (80%-recovery): YES
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0'-0.1'	00-01 @1515	OLIVE GRAY (5 Y 4/2) ORGANIC-LIKE SILT, HOMOGENOUS, TRACE ORGANIC-MED. SAND SIZED DETRITS, NON-PLASTIC, ALLUVIUM
0.1'-0.3'	01-03 @1517	VERY DARK GREENISH GRAY (GLEY 1 2.5/10Y) CLAYEY SILT HOMOGENOUS, WITH TR. MED. SANDSIZED ORGANIC DETRITS, LOW PLASTIC ALLUVIUM.
0.3'-0.5'	03-05 @1519	VERY DARK GREENISH GRAY (GLEY 1 2.5/10Y) CLAY-SILT WITH ISOLATED FINE HORIZONTALS OF BLACK (5Y 2.5/1) SILT (ORGANIC RICH) HOMOGENOUS LOW PLASTIC, ALLUVIUM
0.5'-0.59'	—	VERY DARK GREENISH GRAY (GLEY 1 2.5/10Y) CLAYEY SILT, ORGANIC RICH, TRACE VERY FINE CLASTIC SANDS, LOW PLASTICITY, ALLUVIUM
Bottom	B. WEYER 9/22/2020	

Number of containers: —	Core Volumes
Type of container: bucket — liner bag — jar <u>6</u> other —	Nominal core-barrel diameter EST. Volume
Liner Type: ACETATE	4.0" .50gal/ft
Vibracorer: Push Corer <u>Box</u> Slambor	3.5" .33gal/ft

Live Organisms present NO	Comments INSUFFICIENT SEDIMENT VOLUME (~23") BIVALVES + FO CL 9/19/20 -SULFUR-LIKE ODOR INCREASES DOWNCORE
Oil-Like Present NO	
Odor Present YES	
Debris Present NO	
Photo Numbers B. WEYER 9/22/2020	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 3617207486	Logger: C. LAUBACK
Sub: ASI	WO: -	Crew: B. WEYER
Date: 9/19/20	Time: 1020	Vessel: R/V TESLA
Coordinates: Lat 44.481636	Long -68.798540	Plan Volume: 0.140gal
Sampling Station: E-01-04	Deploy No. 1	Sub-tidal Location? YES
Weather: CLEAR, 50s	Winds: 5mph	Waters: 0.5-2.0
	Traffic: NONE	Water Temp: -

Measured Water Depth [NAVD88]: 55.8	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers: —	—	—	—	Core Volumes		
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibracorer: Push Corer		BOX	Slambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

Live Organisms present —	Comments - INSUFFICIENT RECOVERY
Oil-Like Present —	
Odor Present —	
Debris Present —	
Photo Numbers B. WEYER 9/22/2020	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI Date: 9/19/20 WO: — Crew: B. WEYER
 Time: 1033 Vessel: R/V TESLA
 Coordinates: Lat 44.481652 Long -68.798531 Plan Volume: 0.140gal

Sampling Station: E-01-04 Deploy No. 2 Sub-tidal Location? YES

Weather: CLEAR, 50s Winds: 5 mph Waters: 0.520 Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 55.0	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers: —	—	—	—	Core Volumes	
Type of container: bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: —	Vibracorer: (BOX)	Push Corer	Slambar	4.0"	.50gal/ft
				3.5"	.33gal/ft

Live Organisms present —
 Oil-Like Present —
 Odor Present —
 Debris Present —
 Photo Numbers
 B. WEYER
 9/22/2020

Comments
 -INSUFFICIENT VOLUME OF SEDIMENT;
 ~2-3" IN BOX CORE. PRESENCE OF
 LARGE BIVALVE SHELL PIECES.

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAURAKI
 Sub: AS1 WO: — Crew: B. WEYER
 Date: 9/19/20 Time: 1038 Vessel: R/V TESLA
 Coordinates: Lat 44.481653 Long -68.798519 Plan Volume: 0.140gal
 Sampling Station: E-01-04 Deploy No. 3 Sub-tidal Location? YES.

Weather: CLEAR, 50s Winds: 5mph Waters: 1.0'-2.5' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 56.9	Core Penetration Length (ft.): 0.6
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.55
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES
Required Penetration Length: 0.5	Core Volume Retained (gal.): 0.140 gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0'-0.1'	00-01 @1550	OLIVE GRAY (5Y 4/2) CLAYEY SILT WITH SOME MEDIUM ANGULAR SANDS & SM. GRAVELS. NO PLASTICITY, LIVE ORGANISMS, ALLUVIUM
0.1'-0.3'	01-03 @1552	VERY DARK GRAY (5Y 3/1) SILTY CLAY WITH SOME MED. GRAINED ANGULAR CLASTIC SANDS, LIVE ORGANISMS, TR. ORGANIC-LIKE DETRITUS, LOW PLASTIC ALLUVIUM
0.3'-0.5'	03-05 @1554	DARK GRAY (2.5Y 4/1) SILTY CLAY, HIGHER RATIO OF CLAY TO SILT THAN OVERLYING SED. SOME WOOD CHIP (COARSE SAND-SIZED) TR. COARSE ANGULAR, CLASTIC SAND, MED. PLASTIC ALLUVIUM
B. WEYER 9/22/2020		
B. WEYER 9/22/2020		
Bottom		

Number of containers: — — 6 —	Core Volumes	
Type of container: bucket liner bag jar other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	4.0"	.50gal/ft
Vibracorer: Push Corer	3.5"	.33gal/ft

Live Organisms present	YES
Oil-Like Present	NO
Odor Present	YES
Debris Present	NO
Photo Numbers	
B. WEYER 9/22/2020	

Comments
 -ABLE TO GET ONE ACETATE CORE FROM BOX
 -CORRE^{CL 9/19} CORE, OUT OF 2 ATTEMPTS
 -SULFUR-LIKE ODOR INCREASES WITH DEPTH.

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: <u>USC</u>	Project No.: <u>3617207486</u>	Logger: <u>C. LAUBACK</u>
Sub: <u>AS1</u>	WO: <u>-</u>	Crew: <u>B. WEYER</u>
Date: <u>9/19/20</u>	Time: <u>1055</u>	Vessel: <u>R/V TESLA</u>
Coordinates: Lat <u>44.470127</u>	Long <u>-68.807445</u>	Plan Volume: <u>0.140gal</u>
Sampling Station: <u>ES-FP-2014-202 BW 9/22/20</u>	Deploy No. <u>1</u>	Sub-tidal Location? <u>YES</u>
Weather: <u>CLEAR, SWS</u>	Winds: <u>5mph</u>	Waters: <u>1-2.5'</u>
	Traffic: <u>NONE</u>	Water Temp: <u>-</u>

Measured Water Depth [NAVD88]:	Core Penetration Length (ft.): <u>0.5'</u>
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: <u>0.5'</u>	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers:	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	<u>-</u>	Vibracorer:	<u>BOX</u>		4.0"	.50gal/ft
		Push Corer		Slambar	3.5"	.33gal/ft

Live Organisms present <u>-</u>	Comments - INSUFFICIENT SEDIMENT VOLUME - LOCATION ADJUSTED FROM PROPOSED, "ES-FP" TO ATTEMPT A BIOTA-COLOCCATE SAMPLE
Oil-Like Present <u>-</u>	
Odor Present <u>-</u>	
Debris Present <u>-</u>	
Photo Numbers <u>CL 9/19/20</u>	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 3617207486	Logger: C. LAUBACK
Sub: ASI	WO: -	Crew: B. WEYER
Date: 9/19/20	Time: 1059	Vessel: P/V TESLA
Coordinates: Lat 44.461892	Long -68.807345	Plan Volume: 0.140gal
Sampling Station: ES FP 2011202 9/19/20	Deploy No. 2	Sub-tidal Location? YES
Weather: CLEAR, 50S	Winds: 5mph	Waters: 0.5-1.0
	Traffic: NONE	Water Temp: -

Measured Water Depth [NAVD88]: 73.9	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	—	Vibracorer:	Push Corer	Slambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

Live Organisms present	—	Comments -LOCATION ADJUSTED FOR BIOTA CO-LOCATE -INSUFFICIENT RECOVERY
Oil-Like Present	—	
Odor Present	—	
Debris Present	—	
Photo Numbers	CL 9/19/20	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: <u>USDC</u>	Project No.: <u>3617207486</u>	Logger: <u>C. LAUBACK</u>
Sub: <u>ASI</u>	WO: <u>-</u>	Crew: <u>B. WEYER</u>
Date: <u>9/19/20</u>	Time: <u>1103</u>	Vessel: <u>R/V TESLA</u>
Coordinates: Lat <u>44.470087</u>	Long <u>-68.807451</u>	Plan Volume: <u>0.14gal</u>
Sampling Station: <u>ES-FP-2011202-3/22/20</u>	Deploy No. <u>3</u>	Sub-tidal Location? <u>YES</u>
Weather: <u>CLEAR 50S</u>	Winds: <u>5mph</u>	Waters: <u>0.5-1.0</u>
		Traffic: <u>NONE</u>
		Water Temp: <u>-</u>

Measured Water Depth [NAVD88]: <u>71.0</u>	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: <u>0.5</u>	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers: <u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter
Liner Type: <u>—</u>	Vibracorer: <u>(Box)</u>			4.0"	EST. Volume
	Push Corer			Slambar	.50gal/ft
				3.5"	.33gal/ft

Live Organisms present	<u>—</u>
Oil-Like Present	<u>—</u>
Odor Present	<u>—</u>
Debris Present	<u>—</u>

Photo Numbers
B. WEYER
9/22/2020

Comments
 - INSUFFICIENT RECOVERY, LARGE QUANTITIES OF ROCK NODULES (0.5"-1.0" IN DIAM.)
 - LOCATION ADJUSTED FROM PROPOSED, "ESFP" FOR BIOTA CO-LOCATE

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3017207486 Logger: C. LAUBACK
 Sub: ASI WO: - Crew: B. WEYER
 Date: 9/19/20 Time: 1115 Vessel: R/V TESLA
 Coordinates: Lat 44.472608 Long -68.807996 Plan Volume: 0.14gal
 Sampling Station: ES-FD-MD-BW 9/22/20 Deploy No. 4 Sub-tidal Location? YES

Weather: CLEAR 50s Winds: 5mph Waters: 0.5-1.5' Traffic: NONE Water Temp: -

Measured Water Depth [NAVD88]: 56.9	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/19/20

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	—	Vibracorer: BOX			4.0"	.50gal/ft
		Push Corer			3.5"	.33gal/ft

Live Organisms present	—	Comments - INSUFFICIENT RECOVERY; A FEW INCHES OF SEDIMENT W/ SUBROUNDED COBBLES AND WOODY DEBRIS
Oil-Like Present	—	
Odor Present	—	
Debris Present	—	
Photo Numbers	B. WEYER 9/22/2020	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 3617207486	Logger: C. LAUBACK
Sub: ASI	WO: —	Crew: B. WEYER
Date: 9/19/20	Time: 1120	Vessel: R/V TESLA
Coordinates: Lat 44.473310	Long -68.806748	Plan Volume: 0.140 gal
Sampling Station: ES-FP-MID-SW 9/22/20	Deploy No. 25	Sub-tidal Location? YES
Weather: CLEAR, 50s	Winds: 5 mph	Waters: 0.5' - 1.5'
	Traffic: NONE	Water Temp: —
Measured Water Depth (NAVD88): 51.9	Core Penetration Length (ft.):	
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):	
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):	
Study Depth (-NAVD88):	Acceptable Core (80% recovery):	
Required Penetration Length: 0.5'	Core Volume Retained (gal.):	

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/19/20

Number of containers: —	—	—	—	Core Volumes	
Type of container: bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: —	Vibracorer: —	Push Corer: —	Slambar: —	4.0"	.50gal/ft
				3.5"	.33gal/ft

Live Organisms present —	Comments - INSUFFICIENT RECOVERY, A FEW INCHES OF SED WITH ROCKS AND WOOD DEBRIS, SOME SMALL ARTICULATED BIVALVES (0.5")
Oil-Like Present —	
Odor Present —	
Debris Present —	
Photo Numbers B. WEYER 9/22/2020	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAURACK
 Sub: ASI WO: - Crew: B. WEYER
 Date: 9/19/20 Time: 1125 Vessel: R/V TESLA
 Coordinates: Lat 44.473142 Long -68.806787 Plan Volume: 0-140gal
 Sampling Station: ES-FP-MID-CL-9/19 Deploy No. 30 Sub-tidal Location? YES.

Weather: CLEAR 50's Winds: 5mph Waters: 0.5'-1.5' Traffic: NONE Water Temp: -

Measured Water Depth [NAVD88]: 58.4	Core Penetration Length (ft.): 0.40
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.36
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.36
Study Depth (-NAVD88):	Acceptable Core (80% recovery): NO
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.10/gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0'-0.1'	00-01 @1630	DARK OLIVE GRAY (5Y 3/2) SANDY SILT, TR ARTICULATED BIVALVES (0.03'-0.05'), MIN. COARSE SANDS, ORGANIC SILTS, TR WOOD CHIP, LOW TO NON-PLASTIC, ALLUVIUM
0.1-0.3	01-03 @1632	DARK GREENISH GRAY (6Y 1 4/10Y) SILTY FINE SAND, TRACE ORGANIC-LIKE MATERIAL, TR COARSE ANGULAR CLASTIC SAND, LOW PLASTIC, ALLUVIUM
0.3-0.36	030-036 @1634	DARK GREENISH GRAY (6Y 1 4/10Y) SILTY FINE SANDY SILT ONE LARGE PIECE OF WOODY-LIKE DEBRIS, LOW PLASTIC, ALLUVIUM
CL 9/19/20	CL 9/19/20	CL 9/19/20
Bottom		

Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibracorer: BOX				4.0"	.50gal/ft
	Push Corer			Slambar	3.5"	.33gal/ft

Live Organisms present YES	Comments -COORDINATES IN TABLET AND RECORDED ON ASI BOAT NAMED SAMPLING STATION "ES-FP-MID"
Oil-Like Present NO	
Odor Present YES	
Debris Present NO	
Photo Numbers	
B. WEYER 9/22/2020	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: - Crew: B. WEYER
 Date: 9/19/20 Time: 1155 Vessel: R/V TESLA
 Coordinates: Lat 44.514448 Long -68.784863 Plan Volume: 0.14 gal
 Sampling Station: OL-Ø1 Deploy No. 4 Sub-tidal Location? YES
 Weather: CLEAR 50s Winds: 5 mph Waters: 0.5-1.5' Traffic: NONE Water Temp: →

Measured Water Depth [NAVD88]: 54.0	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/19/20

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	Vibracorer: <u>BOX</u>			Slambar	4.0"	.50gal/ft
	Push Corer				3.5"	.33gal/ft

Live Organisms present	—	<p>Comments</p> <p>INSUFFICIENT RECOVERY, SEDIMENT CONTAINED ROCK LOBBLES, WOODY DEBRIS AND BIVALVES (0.5-1.0")</p>
Oil-Like Present	—	
Odor Present	—	
Debris Present	—	
Photo Numbers		

B. WEYER
9/22/2020

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 5617207486 Logger: C-LADBACK
 Sub: ASI WO: _____ Crew: B. WEYER
 Date: 9/19/20 Time: 1158 Vessel: R/V TESLA
 Coordinates: Lat 44.514538 Long -68.804682
 Plan Volume: 0.140gal
 Sampling Station: OL-01 Deploy No. 75 Sub-tidal Location? YES

Weather: CLEAR, 50S Winds: 5 MPH Waters: 0.5-1.5' Traffic: NONE Water Temp: _____

Measured Water Depth [NAVD88]: 52.3	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/19/20

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	—	Vibracorer: <u>BOX</u>			4.0"	.50gal/ft
		Push Corer			3.5"	.33gal/ft

Live Organisms present —
 Oil-Like Present —
 Odor Present —
 Debris Present —
 Photo Numbers
 B. WEYER
 9/22/2020

Comments
 - INSUFFICIENT SEDIMENT, ABUNDANCE OF GRAVEL, SOME ~~CL~~ WOOD DEBRIS, BIVALVES, VERY SANDY

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 361720-486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/19/20 Time: 1207 Vessel: R/V TESLA
 Coordinates: Lat 44.514540 Long -68.804612 Plan Volume: 0.140 gal
 Sampling Station: OL-01 Deploy No. 6 Sub-tidal Location? YES

Weather: CLEAR, SWS Winds: 5mph Waters: 0.5-1.5' Traffic: NONE Water Temp: —
 Measured Water Depth [NAVD88]: 53.6 Core Penetration Length (ft.): —
 Correction to NAVD88 (+/- ft. from NAVD88): — Recovered Core Length (ft.): —
 Mudline (Corrected Depth) @ NAVD88: — Sample Length Retained (ft.): —
 Study Depth (-NAVD88): — Acceptable Core (80% recovery): —
 Required Penetration Length: 0.5 Core Volume Retained (gal.): —

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0-0.3'	00-03 @ 1654	VERY DARK OLIVE GRAY (5Y 3/2) SANDY SILT WITH LARGE PIECES OF SUBROUND COBBLES AND GRAVELS, NON-PLASTIC, ALLUVIUM
CL 9/19/20		
Bottom		

Number of containers:	—	—	2	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	Vibracorer:		BOX	Slambar	4.0"	.50gal/ft
	Push Corer				3.5"	.33gal/ft

Live Organisms present	NO	Comments - INSUFFICIENT RECOVERY - COLLECTED BULK SAMPLE OF MATERIAL IN BOX CORE - BOX CORE RECOVERED APPROXIMATELY 0.3' OF MATERIAL. Grab sample location.
Oil-Like Present	NO	
Odor Present	YES	
Debris Present	NO	
Photo Numbers	B. WEYER 9/22/2020	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAURACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/20/20 Time: 1025 Vessel: R/V TESLA
 Coordinates: Lat 44.424723 Long -68.822624 Plan Volume: 0.140 gal

Sampling Station: L9-45 Deploy No. 1 Sub-tidal Location? YES

Weather: clear, SDS Winds: 10-15 mph Waters: 3-4' Traffic: NONE Water Temp: YES 9/20

Measured Water Depth [NAVD88]: <u>65.1</u>	Core Penetration Length (ft.): <u>0.9</u>
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): <u>0.71</u>
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): <u>0.5</u>
Study Depth (-NAVD88):	Acceptable Core (80% recovery): <u>YES</u>
Required Penetration Length: <u>0.5'</u>	Core Volume Retained (gal.): <u>0.140 gal</u>

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0'-0.1'	00-01 @1202	DARK GRAYISH BROWN (2.5 Y 4/2) SILT WITH MINIMAL CLAY AND TR VERY FINE CLASTIC SANDS, SOME ORGANIC-LIKE DEBRITS OF THE SAME COLOR, NON-PLASTIC ALLUVIUM
0.1'-0.3'	01-03 @1204	DARK GRAY (2.5 Y 4/1) CLAY AND SILT, HOMOGENOUS WITH TRACE FIBROUS ORGANIC-LIKE MATERIAL, LOW PLASTIC ALLUVIUM
0.3'-0.5'	03-05 @1206	VERY DARK GRAY (2.5 Y 3/1) CLAY AND SILT, ORGANIC-RICH-LIKE, SOME MEDIUM TO COARSE SAND-SIZED LEAF-LIKE DEBRITS, LOW PLASTIC, ALLUVIUM
0.5'-0.71'	— —	VERY DARK GRAY (2.5 Y 3/1) SILTY CLAY WITH TR HORIZON (FINE) OF WOOD CHIP HOMOGENOUS, FINING DOWNWARD FROM OVERLYING ALLOQUOT, MED. PLASTIC ALLUVIUM.
Bottom	CL 9/20/20	CL 9/20/20

Number of containers: <u>—</u> <u>—</u> <u>6</u> <u>—</u>	Core Volumes	
Type of container: bucket liner bag jar other	Nominal core-barrel diameter	EST. Volume
Liner Type: <u>ACETATE</u>	4.0"	.50gal/ft
Vibrocoring: <u>BOX</u>	3.5"	.33gal/ft
Push Corer: <u>Slambar</u>		

Live Organisms present	<u>NO</u>
Oil-Like Present	<u>NO</u>
Odor Present	<u>NO</u>
Debris Present	<u>NO</u>
Photo Numbers	<u>B. WEYER</u> <u>9/22/2020</u>

Comments

- VERY GOOD RECOVERY ON ONE TUBE
- NO DUPLICATE OF BACK UP COLLECTED.
- ASI'S GPS WAS USED TO RECORD COORDINATES

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: CLARK/BLACK
 Sub: ASI WO: - Crew: B. WEYER
 Date: 9/20/20 Time: 1102 Vessel: R/V TESLA
 Coordinates: Lat 44.445321 Long -68.838183 Plan Volume: 0.140gal

Sampling Station: CJ-04 Deploy No. 1 Sub-tidal Location? YES

Weather: CLEAR/SOS Winds: 10-15mph Waters: 3'-4' Traffic: NONE Water Temp: -

Measured Water Depth [NAVD88]:	Core Penetration Length (ft.): 0.60
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.55
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES
Required Penetration Length: 0.50	Core Volume Retained (gal.): 0.140gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0'-0.1'	00-01	DARK GRAY (2.5Y 4/2) CLAY AND SILT NON PLASTIC, ORGANIC-LIKE RICH, ALLUVIUM
0.1'-0.3'	01-03	VERY DARK GRAY (2.5Y 3/1) CLAY AND SILT, LOW PLASTIC ALLUVIUM
0.3'-0.5'	03-05	VERY DARK GRAY (2.5Y 3/1) SILT AND CLAY, LOW TO MED PLASTIC, ALLUVIUM
Bottom		

Number of containers:	-	-	6	-	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibracorer:		BOX	Slambar	4.0"	.50gal/ft
	Push Corer				3.5"	.33gal/ft

Live Organisms present	NO	Comments
Oil-Like Present	-	
Odor Present	NO	
Debris Present	-	
Photo Numbers	CL9/20/20	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/20/20 Time: 1404 Vessel: RV TESLA
 Coordinates: Lat 44.505648 Long -68.772441 Plan Volume: 0.140gal
 Sampling Station: W-61 LOW Deploy No. 1 Sub-tidal Location? NO

Weather: CLEAR, BLS Winds: 0-5 MPH Waters: CALM Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 2.5	Core Penetration Length (ft.): 0.8
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.78
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0'-0.1'	00-01	DARK GRAYISH BROWN (2.5Y 4/2) SILT, ORGANIC RICH FINES, DENSE ROOT MATTING, (FINES FIBROUS), GREATER RATIO OF ORGANIC FIBERS TO SEDIMENT, MARSH, PE. (IN SITU - LIVE ROOT MASS)
0.1'-0.3'	01-03	DARK GRAYISH BROWN (2.5Y 4/2) SILT AND MINIMAL CLAYS, DENSE ROOT MATTING, TR COARSE CLASTIC SANDS. MARSH, PE. (IN SITU - LIVE ROOT MASS)
0.3'-0.5'	03-05	VERY DARK GRAYISH BROWN (2.5Y 3/2) ORGANIC-LIKE SILT IN ROOT MATTING, ROOTS LESS DENSE THAN FROM (0.0'-0.3') MARSH, PE.
0.5'-0.8'	CL 9/20/20	VERY DARK GRAYISH BROWN (2.5Y 3/2) ORGANIC-LIKE SILT IN MED. DENSE IN SITU ROOT MATTING, LESS DENSE THAN OVERLYING LAYERS, MARSH, PE.
Bottom	CL 9/20/20	CL 9/20/20

Number of containers: — — 6 —	Core Volumes	
Type of container: bucket liner bag jar other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	4.0"	.50gal/ft
Vibracorer: Push Corer	3.5"	.33gal/ft
Slambar		

Live Organisms present —
 Oil-Like Present —
 Odor Present YES, ORGANIC —
 Debris Present —

Photo Numbers
 B. WEYER
 9/22/2020

Comments
 — SULFUR-LIKE ODOR FROM 0.3 AND BELOW - INCREASING WITH DEPTH

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/20/20 Time: 1413 Vessel: R/V TESLA
 Coordinates: Lat 44.505909 Long -68.772855 Plan Volume: 0.140 gal
 Sampling Station: W-61 MID Deploy No. 1 Sub-tidal Location? NO

Weather: CLEAR 50s Winds: 0-5mph Waters: CALM Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 1.5	Core Penetration Length (ft.): 0.8
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.2
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES
Required Penetration Length: 0.5	Core Volume Retained (gal.): 0.140 gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01 @1734	VERY DARK GRAYISH BROWN (2.5Y 3/2) SILT WOODY-LIKE AND LEAFY DEBRIS WITH SOME FINE FIBROUS ROOT-LIKE MATERIAL, ABUNDANT COARSE SAND SIZED WOOD CHIP
0.1' - 0.3'	01-03 @1736	DARK GRAYISH BROWN (2.5Y 4/2) SILT WITH ABUNDANT COARSE SAND-SIZED WOOD CHIP, SOME FIBROUS ROOT-LIKE MATERIAL, NOT DENSE,
0.3' - 0.5'	03-05 @1738	VERY DARK GRAY (2.5Y 3/1) FINE SANDY SILT WITH SOME FINE FIBROUS ROOT MATERIAL, HIGHER RATIO OF SED. TO ROOTS THAN OVERLYING LAYERS.
0.5' - 0.8'	CL 9/20/20	VERY DARK GRAY (2.5Y 3/1) FINE SANDY SILT WITH SOME FIBROUS ROOT-LIKE FIBERS AND TR WOOD-LIKE CHIPS (1.0"-1.5") LESS DENSE THAN OVERLYING LAYERS,
Bottom	CL 9/20/20	MARSH, PE.

Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	ACETATE				4.0"	.50gal/ft
	Vibracorer: Push Corer				3.5"	.33gal/ft
	Slambar					

Live Organisms present —
 Oil-Like Present —
 Odor Present YES ORGANIC
 Debris Present NO

Photo Numbers
 B. WEYER
 9/22/2020

Comments
 - SOME SULFUR-LIKE ODOR, INCREASING DOWNCORE

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/20/20 Time: 1425 Vessel: R/V TESLA
 Coordinates: Lat 44.505928 Long -68.772911 Plan Volume: 0.140gal
 Sampling Station: W-61 HIGH Deploy No. 1 Sub-tidal Location? NO

Weather: CLEAR, SWS Winds: 0-5mph Waters: CALM Traffic: NONE Water Temp: —
 Measured Water Depth (NAVD88): 1.0 Core Penetration Length (ft.): 0.8
 Correction to NAVD88 (+/- ft. from NAVD88): Recovered Core Length (ft.): 0.8
 Mudline (Corrected Depth) @ NAVD88: Sample Length Retained (ft.): 0.5
 Study Depth (-NAVD88): Acceptable Core (80% recovery): YES
 Required Penetration Length: 0.5' Core Volume Retained (gal.): 0.140gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0 - 0.1	00-01 @1815	VERY DARK GRAYISH BROWN (2.5Y 3/2) ORGANIC-LIKE SILT AND COARSE SAND-SIZED WOODCHIP PREDOMINANTLY WOODCHIP, SOME LARGER WOODY-LIKE DEBRIS (0.5"-0.75") NON-PLASTIC
0.1 - 0.3	01-03 @1817	VERY DARK GRAYISH BROWN (2.5Y 3/2) ORGANIC-LIKE SILTY COARSE-SAND-SIZED WOODCHIPS, SOME FINE LEAFY DEBRIS, NON-PLASTIC
0.3 - 0.5	03-05 @1819	DARK GRAY (5Y 4/1) SILTY CLAY, TR ORGANIC-LIKE LEAFY DEBRIS, TR LARGER WOODY DEBRIS (0.1" X 0.05" X 0.05"), MEDIUM PLASTICITY, ALLUVIUM
0.5 - 0.8		DARK GRAY (5Y 4/1) SILTY CLAY, WITH TR ISOLATED PINE HORIZONS OF ORGANIC RICH-LIKE SILT AND DETRITS (BLACKS Y 2.5/1)
Bottom		

Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	ALETATE			Vibracorer: (Push Core)	4.0"	.50gal/ft
				Slambar	3.5"	.33gal/ft

Live Organisms present	—	Comments
Oil-Like Present	—	
Odor Present	YES ORGANIC	
Debris Present	—	
Photo Numbers	B. WEYER 9/22/2020	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/21/20 Time: 0935 Vessel: R/V TESLA
 Coordinates: Lat 44.757522 Long -68.807297 Plan Volume: 0.140
 Sampling Station: BO-04 Deploy No. 5 Sub-tidal Location? NO

Weather: CLEAR 50s Winds: 0-5mph Waters: 0.5-1.0' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]:	22.3	Core Penetration Length (ft.):	CL
Correction to NAVD88 (+/- ft. from NAVD88):		Recovered Core Length (ft.):	9/21/20
Mudline (Corrected Depth) @ NAVD88:		Sample Length Retained (ft.):	
Study Depth (-NAVD88):		Acceptable Core (80% recovery):	
Required Penetration Length:	0.5	Core Volume Retained (gal.):	

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/21/20

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	—	Vibracorer: Box			4.0"	.50gal/ft
		Push Corer			3.5"	.33gal/ft

Live Organisms present	<p style="text-align: center;">Comments</p> <p>- SECOND DAY ATTEMPTING. BO-04; HAD ATTEMPTED DEPLOYMENTS 1-4 ON 9/18/20</p> <p>- NO RECOVERY</p> <p>- COORDINATES SAVED IN WOOD TABLET</p>
Oil-Like Present	
Odor Present	
Debris Present	
Photo Numbers	

CL 9/21/20

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: - Crew: B. MEYER
 Date: 9/21/20 Time: 0937 Vessel: R/V TESLA
 Coordinates: Lat 44.757743 Long -68.867122 Plan Volume: 0.140gal

Sampling Station: BO-04 Deploy No. 6 Sub-tidal Location? NO

Weather: CLEAR, 50s Winds: 0-5 mph Waters: 0.5'-1.0' Traffic: N Water Temp: -

Measured Water Depth [NAVD88]: 23.7'	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/21/20

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	Vibracorer: <u>BOX</u>				4.0"	.50gal/ft
	Push Corer			Slambar	3.5"	.33gal/ft

Live Organisms present	—	Comments - INSUFFICIENT RECOVERY; SOME LARGE ROCK LOBBLES (0.5' X 0.3') - COORDINATES RECORDED ON WOOD TAILGATE
Oil-Like Present	—	
Odor Present	—	
Debris Present	—	
Photo Numbers	CL 9/21/20	

QC CHECK BY B MEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC

Project No.: 3617207486

Logger: C. LAIBACK

Sub: ASI

WO: -

Crew: B. WEYER

Date: 9/21/20

Time: 22.5

Vessel: R/V TESLA

Coordinates: Lat 44.757914

Long -68.807346

Plan Volume: 0.140gal

Sampling Station: B0-04

Deploy No. 7

Sub-tidal Location? NO

Weather: CLEAR, 50s

Winds: 0-5 mph

Waters: 0.5'-1.0'

Traffic: NONE

Water Temp: -

Measured Water Depth [NAVD88]: 22.5'

Core Penetration Length (ft.):

Correction to NAVD88 (+/- ft. from NAVD88):

Recovered Core Length (ft.):

Mudline (Corrected Depth) @ NAVD88:

Sample Length Retained (ft.):

Study Depth (-NAVD88):

Acceptable Core (80% recovery):

Required Penetration Length: 0.5'

Core Volume Retained (gal.):

CL 9/21/20

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/21/20

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	Vibracorer:		Push Corer		4.0"	.50gal/ft
					3.5"	.33gal/ft

- Live Organisms present
- Oil-Like Present
- Odor Present
- Debris Present

Comments

- NO RECOVERY

- COORDINATES RECORDED w/ WOOD TABLET

Photo Numbers

CL 9/21/20

QC CHECK BY B. WEYER 9/21/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC

Project No.: 3617207486

Logger: C. LAUBACK

Sub: ASI

WO: -

Crew: B. WEYER

Date: 9/21/20

Time: 0940

Vessel: P/V TESLA

Coordinates: Lat 44.757727

Long -68.808029

Plan Volume: 0.140gal

Sampling Station: BO-04

Deploy No. 8

Sub-tidal Location? NO

Weather: CLEAR SKY

Winds: 0-5 mph

Waters: 0.5' - 1.0'

Traffic: NONE

Water Temp: -

Measured Water Depth [NAVD88]: 23.4'

Core Penetration Length (ft.):

Correction to NAVD88 (+/- ft. from NAVD88):

Recovered Core Length (ft.):

Mudline (Corrected Depth) @ NAVD88:

Sample Length Retained (ft.):

Study Depth (-NAVD88):

Acceptable Core (80% recovery):

Required Penetration Length: 0.5'

Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/21/20

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	—				4.0"	.50gal/ft
	Vibracorer: BOX				3.5"	.33gal/ft
	Push Corer: Slambar					

Live Organisms present
Oil-Like Present
Odor Present
Debris Present
Photo Numbers

CL 9/21/20

Comments CL 9/21

- INSUFFICIENT RECOVERY; SAMPLE RECOVERED IN ^{CL 9/21} LARGE PIECE OF WOODY DEBRIS (3' x 8' x 3')

- COORDINATES RECORDED W/ WOOD TABLET

QC CHECK BY B. WEYER 9/21/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LADBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/21/20 Time: 0942 Vessel: P/V TESLA
 Coordinates: Lat 44.757290 Long -68.807815 Plan Volume: 0.14gal
 Sampling Station: B0-04 Deploy No. 9 Sub-tidal Location? NO

Weather: CLEAR, 50s Winds: 0-5 mph Waters: 0.5-1.0 Traffic: NONE Water Temp: —
 Measured Water Depth [NAVD88]: 23.5 Core Penetration Length (ft.):
 Correction to NAVD88 (+/- ft. from NAVD88): Recovered Core Length (ft.): CL 9/21/20
 Mudline (Corrected Depth) @ NAVD88: Sample Length Retained (ft.):
 Study Depth (-NAVD88): Acceptable Core (80% recovery):
 Required Penetration Length: 0.5 Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	—	Vibracorer:	Push Corer	Slambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

Live Organisms present —
 Oil-Like Present —
 Odor Present —
 Debris Present —

Photo Numbers
 CL 9/21/20

Comments
 - INSUFFICIENT RECOVERY; NO. 203 OF SEDIMENT IN BOX CAR
 - COORDINATES RECORDED w/ WOOD TABLET

QC CHECK BY B. WEYER 9/21/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: VSDC Project No.: 3617207486 Logger: C. LABACK
 Sub: ASI WO: _____ Crew: B. WEYER
 Date: 9/21/20 Time: 0945 Vessel: R/V TESLA

Coordinates: Lat 44.756786 Long -68.808186 Plan Volume: 0.140gal

Sampling Station: B0-04 Deploy No. 10 Sub-tidal Location? NO

Weather: CLD, 50S Winds: 0-5 mph Waters: 0.5' - 1.0' Traffic: NONE Water Temp: _____

Measured Water Depth [NAVD88]: 12.8	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5	Core Volume Retained (gal.):

CL 9/21/20

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/21/20

Number of containers:	_____	_____	_____	_____	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	Vibracorer: <u>Box</u>				4.0"	.50gal/ft
	Push Corer: Slambar				3.5"	.33gal/ft

- Live Organisms present _____
- Oil-Like Present _____
- Odor Present _____
- Debris Present _____

Photo Numbers
 CL 9/21/20

Comments
 - INSUFFICIENT RECOVERY ; ~0.2' OF SEDIMENT IN BOX
 - COORDINATES RECORDED W/ WOOD TABLET

QC CHECK BY B. WEYER 9/21/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC

Project No.: 3017207486

Logger: C. LAIBACK

Sub: ASI

WO: —

Crew: B. WEYER

Date: 9/21/20

Time: 0948

Vessel: P/V TESLA

Coordinates: Lat 44.756604

Long - 68.208428

Plan Volume: 0.140gal

Sampling Station: B0-04

Deploy No. 11

Sub-tidal Location? NO

Weather: CLEAR, SB Winds: 0-5 mph Waters: 0.5'-1.0' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 6.8'	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	—	Vibracorer:	Push Corer	Slambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

Live Organisms present	—
Oil-Like Present	—
Odor Present	—
Debris Present	—
Photo Numbers	CL 9/21/20

Comments

—NO RECOVERY

—COORDINATES RECORDED W/ WOODTABLET

QC CHECK BY B. WEYER 9/22/2020

wood.

Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LABACK
Sub: ASI WO: - Crew: B. WEYER
Date: 9/21/20 Time: 0949 Vessel: R/V TESLA

Coordinates: Lat 44.756987 Long -68.808865 Plan Volume: 0.140gal

Sampling Station: B0-04 Deploy No. 12 Sub-tidal Location? NO

Weather: CLEAR/SOS Winds: 0-5 mph Waters: 0.5-10' Traffic: Water Temp: -

Measured Water Depth [NAVD88]: 20.5'	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

CL
9/21/20

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL
9/21/20

Number of containers: -	-	-	-	Core Volumes
Type of container: bucket	liner bag	jar	other	Nominal core-barrel diameter
Liner Type: -	Vibracorer: <u>BOX</u>	Push Corer	Slambar	EST. Volume
				4.0" : .50gal/ft
				3.5" : .33gal/ft

Live Organisms present	-
Oil-Like Present	-
Odor Present	-
Debris Present	-
Photo Numbers	CL 9/21/20

Comments
CL 9/21
- INSUFFICIENT RECOVERY; SOME BOX CONTAINED A LARGE PIECE OF WOOD DEBRIS (1.0' X 0.4')
- COORDINATES RECORDED ON WOOD TABLET

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC

Project No.: 3017207486

Logger: C. LAUBACK

Sub: ASI

WO: -

Crew: B. WEYER

Date: 9/21/20

Time: 0954

Vessel: R/V TESLA

Coordinates: Lat 44.758012

Long -68.806020

Plan Volume: 0.14 gal

Sampling Station: B0-04

Deploy No. 13

Sub-tidal Location? NO

Weather: CLEAR 50s

Winds: 0-5 mph

Waters: 0.5-1.0'

Traffic: NONE

Water Temp: -

Measured Water Depth [NAVD88]: 20.7

Core Penetration Length (ft.):

Correction to NAVD88 (+/- ft. from NAVD88):

Recovered Core Length (ft.):

Mudline (Corrected Depth) @ NAVD88:

Sample Length Retained (ft.):

Study Depth (-NAVD88):

Acceptable Core (80% recovery):

Required Penetration Length: 0.5'

Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/21/20

CL 9/21/20

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	Vibracorer: <u>BOX</u>			Slambar	4.0"	.50 gal/ft
	Push Corer				3.5"	.33 gal/ft

Live Organisms present	—
Oil-Like Present	—
Odor Present	—
Debris Present	—
Photo Numbers	CL 9/21/20

Comments

- INSUFFICIENT RECOVERY ; SMALL AMOUNT OF SEDIMENT IN CORNER OF BOX

- COORDINATES RECORDED ON WOOD TABLET

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC

Project No.: 3617207486

Logger: C. LABACK

Sub: ASI

WO: -

Crew: B. WEYER

Date: 9/21/20

Time: 0957

Vessel: P/V TESLA

Coordinates: Lat 44.758044

Long -68.805980

Plan Volume: 0.140gal

Sampling Station: 80-04

Deploy No. 14

Sub-tidal Location? NO

Weather: CLEAR, 50s

Winds: 0-5mph

Waters: 0.5-1.0

Traffic: NONE

Water Temp: -

Measured Water Depth [NAVD88]: 22.0'

Core Penetration Length (ft.):

Correction to NAVD88 (+/- ft. from NAVD88):

Recovered Core Length (ft.):

Mudline (Corrected Depth) @ NAVD88:

Sample Length Retained (ft.):

Study Depth (-NAVD88):

Acceptable Core (80% recovery):

Required Penetration Length: 0.5'

Core Volume Retained (gal.):

CL 9/21/20

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/21/20

Number of containers:	-	-	-	-	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:					4.0"	.50gal/ft
					3.5"	.33gal/ft

- Live Organisms present
- Oil-Like Present
- Odor Present
- Debris Present

Photo Numbers
CL 9/21/20

Comments

- INSUFFICIENT RECOVERY; BOX CONTAINED SOME LARGE WOODY DEBRIS (2' x 0.3' x 0.2')

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/21/20 Time: 0959 Vessel: R/V TESLA
 Coordinates: Lat 44.758520 Long -68.804914 Plan Volume: 0.140gal

Sampling Station: B0-φ4 Deploy No. 15 Sub-tidal Location? NO

Weather: CLEAR 50S Winds: 0-5mph Waters: 0.5-1.0 Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 19.0'	Core Penetration Length (ft.): —
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered ^{Depth} Core Length (ft.): 0.2
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.2
Study Depth (-NAVD88):	Acceptable Core (80% recovery): —
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.056

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0-0.2'	00-02	VERY DARK GRAYISH BROWN (2.5Y 3/2) ORGANIC-LIKE SILT WITH MINIMAL CLASTIC CLAY-SIZED PARTICULATES, HOMOGENEOUS, NON-PLASTIC ALLUVIUM.
CL 9/21/20		
Bottom		

Number of containers: — — 2 —	Core Volumes	
Type of container: bucket liner bag jar other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibracorer: 4.0"	.50gal/ft
	Push Corer: <u>BOX</u> Slambar	3.5" .33gal/ft

Live Organisms present	NO
Oil-Like Present	NO
Odor Present	NO
Debris Present	NO

Photo Numbers
 B. WEYER
 9/22/2020

Comments
 -Insufficient recovery on previous 14 deployments led this location to be a grab sample location. 15 total deployments on both sides of river channel and in close proximity to biota station.

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 3617207486	Logger: C. LAUBACK
Sub: ASI	WO: —	Crew: B. WEYER
Date: 9/2/20	Time: 1413	Vessel: P/V TESLA
Coordinates: Lat 44.439784	Long -68.342499	Plan Volume: 0.140 gal
Sampling Station: FRB-01	Deploy No. 1	Sub-tidal Location? <input checked="" type="checkbox"/> YES

Weather: CLEAR, 60s	Winds: 0-5mph	Waters: CALM	Traffic: NONE	Water Temp: —
---------------------	---------------	--------------	---------------	---------------

Measured Water Depth [NAVD88]: 48.5'	Core Penetration Length (ft.): 0.9
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.8
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0 - 0.1	00-01 @1452	OLIVE GRAY (SY 4/2) CLAYEY SILT CLASTIC AND ORGANIC-LIKE SEDIMENT, HOMOGENOUS NON-PLASTIC, MARINE SED.
0.1 - 0.3	01-03 @1454	BLACK (GLEY-1 2.5/N) SILTY CLAY, HOMOGENOUS, ORGANIC-RICH W/ VEGETATIVE DETRITUS. (COARSE SAND-SIZED), MED PLASTIC, MARINE SEDIMENT
0.3 - 0.5	03-05 @1456	BLACK (2.5Y 2.5/1) CLAY WITH MINIMAL SILT, HOMOGENOUS, MEDIUM TO HIGH PLASTICITY MARINE SEDIMENT.
0.5 - 0.8	05 CL 9/21	BLACK (2.5Y 2.5/1) SILTY CLAY HOMOGENOUS MED TO HIGH PLASTICITY, MARINE SEDIMENT
Bottom	CL 9/21	CL 9/21

Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibracorer: BOX			Slambar	4.0"	.50gal/ft
	Push Corer				3.5"	.33gal/ft

Live Organisms present	NO
Oil-Like Present	NO
Odor Present	YES
Debris Present	NO
Photo Numbers	B. WEYER 9/22/2020

Comments

- SULFUR-LIKE ODOR INCREASES DOWNCORE
- COORDINATES RECORDED ON WOOD TABLET LASI DID NOT RECORD COORDINATE

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: ~~USDC - Penobscot~~ **BW 9/22/20** Project No.: 3617207486 Logger: S. Caplin
 Sub: ~~WOOD ERTS None~~ **BW 9/22/20** WO: _____ Crew: H. Plante, T. Gerhard, C. Godfrey
 Date: 9-21-20 Time: 1635 Vessel: NA
 Coordinates: Lat **44.597156** Long **-68.855359** Plan Volume: **0.140 gal**
 Sampling Station: **mm-T1-C2** Deploy No. **1** Sub-tidal Location? **NO**

Weather: 60°F, (16k)	Winds: North	Waters: NA	Traffic: NA	Water Temp: NA
Measured Water Depth [NAVD88]: NA	Core Penetration Length (ft.): 1.0'			
Correction to NAVD88 (+/- ft. from NAVD88): -	Recovered Core Length (ft.): 0.82'			
Mudline (Corrected Depth) @ NAVD88: -	Sample Length Retained (ft.): 0.54'			
Study Depth (-NAVD88): -	Acceptable Core (80% recovery): YES			
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140			

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
0.0 - 0.1	mm-T1-C2-012120 -SED-00-01 @1640	Brown to dark brown silty clay, wet, slight sheen
0.1 - 0.3	mm-T1-C2-012120 -SED-01-03 @1650	Brown to dark brown ^{some} to dark brown ^{black streaks} , silty clay, wet, slight sheen
0.3 - 0.5	mm-T1-C2-012120 -SED-03-05 @1700	Dark brown with black, silty clay, wet, slight sheen, odor - organic sulfur-like
0.5 - 0.82	mm-T1-C2-012120 -SED-05-05 @1750	Dark brown with black streaks, clayey silt, moist, low plasticity, slight sheen strong odor - organic sulfur-like
Bottom		see 9-21-20

Number of containers: <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Core Volumes	
Type of container: bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: Acetate	Vibracorer: Push Corer	Slambar		4.0"	.50gal/ft
				3.5"	.33gal/ft

Live Organisms present NO	Comments Odor increased with depth, collected with Extruder
Oil-Like Present YES	
Odor Present YES	
Debris Present NO	
Photo Numbers B. WEYER 9/22/2020	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC - ~~Penobscot~~ ^{BW} 9/22/20
 Sub: ~~WOOD ESTS~~ ^{None} ~~BW~~ 9/22/20
 Project No.: 36172074816
 WO: ~~_____~~
 Date: 9.21.20
 Time: 1505
 Logger: S. Coulter
 Crew: H. Platt, T. G. School, C. Godfrey
 Vessel: NA
 Coordinates: Lat 44.618732 Long -68.856397
 Plan Volume: 0.140 gal
 Sampling Station: W-17-MID
 Deploy No.: 1
 Sub-tidal Location? NO

Weather: 65°F, clear Winds: north Waters: NA Traffic: NA Water Temp: NA

Measured Water Depth (NAVD88):	NA	Core Penetration Length (ft.):	1.0'
Correction to NAVD88 (+/- ft. from NAVD88):	-	Recovered Core Length (ft.):	0.85'
Mudline (Corrected Depth) @ NAVD88:	-	Sample Length Retained (ft.):	0.5'
Study Depth (-NAVD88):	-	Acceptable Core (80% recovery):	YES
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	0.140

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0-0.1	W-17-MID-092120 -SED-00-01 @ 1510	medium brown, clayey silt, very dense roots, saturated
0.1-0.3	W-17-MID-092120 -SED-01-03 @ 1520	medium brown, clayey silt, very dense fine and medium roots, saturated
0.3-0.5	W-17-MID-092120 -SED-03-05 @ 1530	medium brown, clayey silt, very dense fine to medium roots, saturated
0.5-0.85	_____ (SC) 9-21-20	Same as above, decreasing root density with depth
Bottom	_____ (SC) 9-21-20	

Number of containers:	6			Core Volumes		
Type of container:	bucket	liner bag	(jar)	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	NA	Vibracorer:	(SEE COMMENTS)		4.0"	.50gal/ft
		Push Corer	Slambar		3.5"	.33gal/ft

Live Organisms present	NO	Comments Shouter spore!
Oil-Like Present	NO	
Odor Present	NO	
Debris Present	NO	
Photo Numbers	B. WEYER 9/22/2020	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: **USDC** Project No.: **3617207486** Logger: **S. Couplin**
 Sub: **NONE** WO: **---** Crew: **H. Plante, T. Gierhardy, C. Goffrey**
 Date: **9-21-20** Time: **1430** Vessel: **NA**

Coordinates: Lat **44.618743** Long **-68.856681** Plan Volume: **0.140 gal.**

Sampling Station: **W-17-HIGH-092120** Deploy No. **1** Sub-tidal Location? **NO**

Weather: **65°F, Clear** Winds: **North** Waters: **NA** Traffic: **NA** Water Temp: **NA**

Measured Water Depth [NAVD88]: NA	Core Penetration Length (ft.): 1.0
Correction to NAVD88 (+/- ft. from NAVD88): ---	Recovered Core Length (ft.): 0.75'
Mudline (Corrected Depth) @ NAVD88: ---	Sample Length Retained (ft.): 0.5
Study Depth (-NAVD88): ---	Acceptable Core (80% recovery): YES
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140 gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0 - 0.1	W-17-HIGH-092120 SED-00-01 @ 1435	Dark brown ⁹⁻²¹⁻²⁰ silty clayey silt, some fine roots, wet, low plasticity
0.1 - 0.3	W-17-HIGH-092120 SED-01-03 @ 1445	Dark brown silt, some clay, very dense roots, saturated
0.3 - 0.5	W-17-HIGH-092120 SED-03-05 @ 1455	Same as above, few roots, wet
0.5 - 0.75	W-17-HIGH-092120 SED-05-07 @ 1455	Dark brown, silt, ^{some} fine clay, ⁹⁻²¹⁻²⁰ saturated, dense roots
Bottom	---	---

Number of containers:	<input checked="" type="checkbox"/> bucket	<input checked="" type="checkbox"/> liner bag	<input checked="" type="checkbox"/> jar (6)	<input checked="" type="checkbox"/> other	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	NA			Vibracorer: See comments	4.0"	.50gal/ft
				Push Corer: Slambar	3.5"	.33gal/ft

Live Organisms present	NO	Comments Shooter shovel
Oil-Like Present	NO	
Odor Present	NO	
Debris Present	YES - roots	
Photo Numbers		
B. WEYER		
9/22/2020		

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LABRACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/17/20 Time: 1140 Vessel: R/V TESLA
 Coordinates: Lat 44.576166 Long -68.816116 Plan Volume: 0.140gal
 Sampling Station: BU-02 Deploy No. 4 Sub-tidal Location? ~~NO~~

Weather: SUNNY, 60s Winds: 5-10mph Waters: <0.3' CALM Traffic: NONE Water Temp: —
 Measured Water Depth (NAVD88): 57.3' Core Penetration Length (ft.):
 Correction to NAVD88 (+/- ft. from NAVD88): Recovered Core Length (ft.):
 Mudline (Corrected Depth) @ NAVD88: Sample Length Retained (ft.):
 Study Depth (-NAVD88): Acceptable Core (80% recovery):
 Required Penetration Length: 0.5' Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/17/20

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	Vibracorer:		Push Corer		4.0"	.50gal/ft
			Slambar		3.5"	.33gal/ft

Live Organisms present	—	Comments - INSUFFICIENT RECOVERY - 2-3" OF SED. IN CORNER OF THE BOX CL 9/17/20
Oil-Like Present	—	
Odor Present	—	
Debris Present	—	
Photo Numbers		

YES SW 9/22/20

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: <u>USDG</u>	Project No.: <u>3617207486</u>	Logger: <u>HP, TG</u>
Sub: <u>WOODS IS NONE</u> <u>BW 9/22/20</u>	WO: <u> </u>	Crew: <u>HP, TG</u>
Date: <u>9/18/20</u>	Time: <u>9:53</u>	Vessel: <u>WHALE</u>
Coordinates: Lat <u>44.565808</u>	Long <u>-68.856275</u>	Plan Volume: <u>0.140 gal</u>
Sampling Station: <u>WW-22-MID</u>	Deploy No. <u>1</u>	Sub-tidal Location? <u>NO</u>

Weather: <u>150F cloudy</u>	Winds: <u>SWTH</u>	Waters: <u>CALM</u>	Traffic: <u>N/A</u>	Water Temp: <u>NA</u>
Measured Water Depth (NAVD88): <u>N/A - MARSH</u>	Core Penetration Length (ft.): <u>0.9'</u>			
Correction to NAVD88 (+/- ft. from NAVD88): <u>—</u>	Recovered Core Length (ft.): <u>0.9'</u>			
Mudline (Corrected Depth) @ NAVD88: <u>—</u>	Sample Length Retained (ft.): <u>0.5'</u>			
Study Depth (-NAVD88): <u>—</u>	Acceptable Core (80% recovery): <u>YES</u>			
Required Penetration Length: <u>0.5'</u>	Core Volume Retained (gal.): <u>0.140 N/A</u>			

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
0.0-0.1	WW-22-MID_091820 SED-00-01 @1000	BROWN CLAYEY SILT, SOME ORGANICS + ROOTS. WET. ORGANISMS PRESENT, LOW PLASTICITY.
0.1-0.3	WW-22-MID_091820 SED-01-03 @1010	BROWN CLAYEY SILT. DENSE FINE ROOTS THROUGHOUT. SOME ORGANICS. WET LOW PLASTICITY.
0.3-0.5	WW-22-MID_091820 SED-03-05 @1020	BROWN CLAYEY SILT. VERY DENSE FINE ROOTS. WET. LOW PLASTICITY.
0.5-0.9	N/A	SAME AS 0.3-0.5, SULFUR LIKE ODOR
Bottom		

(5) 9-18-20

Number of containers: <u>6 TB</u>	Core Volumes	
Type of container: <u>bucket</u> <u>liner bag</u> <u>jar</u> <u>other TB</u>	Nominal core-barrel diameter	EST. Volume
Liner Type: <u>NA</u>	4.0"	.50gal/ft
Vibracorer: <u>see comments</u>	3.5"	.33gal/ft
Push Corer: <u> </u>		

Live Organisms present: <u>YES-TOP</u>	Comments SHOVEL SHOOTER SHOVEL USED TO SAMPLE MARSH PLATFORM.
Oil-Like Present: <u>NO</u>	
Odor Present: <u>SULFUR LIKE</u>	
Debris Present: <u>NO</u>	
Photo Numbers <u>B. WEYER</u> <u>9/22/2020</u>	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207480.3 ^{BW 9/22/20} Logger: H. PLANTE
 Sub: ~~WOOD ETTS~~ None ^{BW 9/22/20} WO: _____ Crew: HP, TG
 Date: 9/18/20 Time: 1055 Vessel: WHALER
 Coordinates: Lat 44.590543 Long -68.859621 Plan Volume: 0.140 gal
 Sampling Station: MM-T2-C1 Deploy No. 1 Sub-tidal Location? NO

Weather: 55° cloudy Winds: south Waters: NA Traffic: N Water Temp: NA

Measured Water Depth [NAVD88]:	NA	Core Penetration Length (ft.):	0.95
Correction to NAVD88 (+/- ft. from NAVD88):	-	Recovered Core Length (ft.):	0.65
Mudline (Corrected Depth) @ NAVD88:	-	Sample Length Retained (ft.):	0.5
Study Depth (-NAVD88):	-	Acceptable Core (80% recovery):	YES
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	0.140

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
00-0.1	MM-T2-C1-091820-SED-00-01 @1235	medium to dark brown clayey silt saturated, high organic content, dense fine roots
0.1-0.3	MM-T2-C1-091820-SED-01-03 @1245	medium brown clayey silt, saturated, very high organic dense fine roots
0.3-0.5	MM-T2-C1-091820-SED-03-05 @1255	same as 0.1-0.3
0.5-0.65	MM-T2-C1-091820-SED-05-065 @1255	same as 0.3-0.5
Bottom		

Number of containers:	6				Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibracorer: Push Corer			Slambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

Live Organisms present NO
 Oil-Like Present NO
 Odor Present Yes, organic
 Debris Present roots

Photo Numbers
 Extruder
 Comments

B. WEYER
 9/22/2020

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC ~~Penobscot~~ ^{BW} 9/22/20 Project No.: 3617 ²⁰⁷⁴⁸⁶ Logger: H. PLANTE
 Sub: ~~WOOD ETS~~ ^{None} WO: _____ Crew: T. Gerhard, S. Gaffney
^{BW} 9/22/20 Date: 9/21/20 Time: 1145 Vessel: whaler
 Coordinates: Lat 44.591424 Long -68.861980 Plan Volume: 0.140 gal
 Sampling Station: MM-T2-C3 Deploy No. 1 Sub-tidal Location? NO

Weather: 60°F CLEAR Winds: NORTH Waters: NA Traffic: NA Water Temp: NA

Measured Water Depth [NAVD88]:	NA	Core Penetration Length (ft.):	1.0
Correction to NAVD88 (+/- ft. from NAVD88):	-	Recovered Core Length (ft.):	1.0
Mudline (Corrected Depth) @ NAVD88:	-	Sample Length Retained (ft.):	0.5
Study Depth (-NAVD88):	-	Acceptable Core (80% recovery):	YES
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	0.140

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
0.0 - 0.1	MM-T2-C3_092120_ SED_00-01 @ 1150	BROWN CLAYEY SILT. HIGH PLASTICITY W/ ED TO, WET. TRACE FINE ROOTS. TRACE LARGE ROOTS. SULFUR LIKE ODOR.
0.1 - 0.3	MM-T2-C3_092120_ SED_01-03 @ 1200	SAME AS 0.0-0.1
0.3 - 0.5	MM-T2-C3_092120_ SED_05-05 @ 1210	SAME AS 0.1-0.3. INCREASED ROOT DENSITY w/ DEPTH. LOWER MOISTURE CONTENT.
0.5 - 1.0	N/C	SAME AS 0.3-0.5. AFTER 0.8', DECREASING ROOT DENSITY w/ DEPTH.
Bottom		

Number of containers:	6	Core Volumes	
Type of container:	bucket / liner bag / jar / other	Nominal core-barrel diameter	EST. Volume
Liner Type:	NA	4.0"	.50gal/ft
	Vibracorer: <u>See comments</u> / Push Corer	3.5"	.33gal/ft

Live Organisms present	NO
Oil-Like Present	NO
Odor Present	SULFUR
Debris Present	NO

Photo Numbers
 B. WEYER
 9/22/2020

Comments
 SHOETER SHOVEL

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: ~~USDC - Penobscot~~ ^{BW 9/22/20} Project No.: 507207480 Logger: S. Caplin
 Sub: ~~WOOD 6815~~ ^{BW 9/22/20} WO: _____ Crew: H. Plank, J. Gerhardt, C. Goodrich
~~NONE~~ Date: 9-21-20 Time: 1305 Vessel: N/A
 Coordinates: Lat 44.590059 Long -68.857543 Plan Volume: 0.140 gal.
 Sampling Station: mm-T5-C3 Deploy No. 1 Sub-tidal Location? No

Weather: 60°F Clear	Winds: North	Waters: NA	Traffic: NA	Water Temp: NA
Measured Water Depth [NAVD88]:	NA	Core Penetration Length (ft.):	1.0	
Correction to NAVD88 (+/- ft. from NAVD88):	-	Recovered Core Length (ft.):	0.9 @ 9-21-20	
Mudline (Corrected Depth) @ NAVD88:	-	Sample Length Retained (ft.):	0.95	
Study Depth (-NAVD88):	-	Acceptable Core (80% recovery):	Yes	
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	0.140	

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0-0.1	mm-T5-C3-092120 -SED-00-01 @1310	Brown clayey silt, saturated, high plasticity, fine roots throughout
0.1-0.3	mm-T5-C3-092120 -SED-01-03 @1320	Brown clayey silt, saturated, fine roots and woody roots matted, very dense.
0.3-0.5	mm-T5-C3-092120 -SED-03-05 @1330	Brown clayey silt, saturated, fine roots, less dense, (SC) 9-21-20
0.5-0.9	(SC) 9-21-20	Same as above, decreasing root density with depth
Bottom	(SC) 9-21-20	

some woody roots

Number of containers:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	N/A			Vibracorer:	4.0"	.50gal/ft
				Push Corer:	3.5"	.33gal/ft

Live Organisms present: NO
 Oil-Like Present: NO
 Odor Present: NO
 Debris Present: NO

Photo Numbers
 B. WEYER
 9/22/2020

Comments
shooter shovel

QC CHECK BY B. WEYER 9/22/2020

APPENDIX B-2 SEDIMENT STATION SUMMARIES

APPENDIX B – 2.01

Station Summary – OV-04

STATION SUMMARY		
Station ID: OV-04	Core collection and sample processing date: 16 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – OV-04 Collection Overview

On Wednesday, September 16, 2020, Wood scientists cored station OV-04 in the North of Bangor reach between 4:40pm and 5:15pm. The weather was cloudy with a temperature of 65°F and 17mph winds from the South. Sea conditions were negligible to sampling effort, as station was accessed by foot. Sediment was sampled by 1-ft hand push cores with 3-in diameter acetate liners. One (1) 1-ft push core was collected at OV-04.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and core(s) at station OV-04.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station OV-04 represents the single collection point. The deployment represented a vegetated marsh zone accessible at low tide within the North of Bangor reach.

D – Processing Overview

Same-day processing was performed on OV-04 by Wood scientists on location. Core OV-04 was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

The appearance and textural properties of all recovered sediment was described using the Unified Soil Classification (USCS).

Sediment Core Logs are attached (See Attachment B).

OV-04

Push core OV-04 had acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: brown CLAY, heterogeneous, light brown with fine sands, grey with fine sands, trace clay
- 0.1 – 0.3 ft: grey-brown silty fat CLAY with medium and fine sands, medium plasticity
- 0.3 – 0.5 ft: grey-brown silty fat CLAY with medium and fine sands, medium plasticity, decreased moisture content with depth

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: ~~WOOD~~ ^{HP 9/17} USDC Project No.: 3617207486 Logger: M. BRUNIO

Sub: ~~WOOD EXIS~~ ^{8W} WO: _____ Crew: TG HP

~~None~~ ^{9/22/20} Date: 9/16/20 Time: 1630 Vessel: NA

Coordinates: Lat 44.876573 Long -68.674001 Plan Volume: 0.140gal

Sampling Station: OV-04 Deploy No. 1 Sub-tidal Location? NO

Weather: 65° cloudy Winds: 17 mph S Waters: NA Traffic: NA Water Temp: NA

Measured Water Depth (NAVD88):	NA	Core Penetration Length (ft.):	0.9
Correction to NAVD88 (+/- ft. from NAVD88):	-	Recovered Core Length (ft.):	0.8
Mudline (Corrected Depth) @ NAVD88:	-	Sample Length Retained (ft.):	0.5
Study Depth (-NAVD88):	-	Acceptable Core (80% recovery):	YES
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	1.40 0.140 gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
00-01	OV-0A_091620 - SED-00-01	Brown clay, hetero → light brown w/ fine sands, grey w/ fine sands, trace clay
01-03	OV-0A_091620 - SED-00-01	fat clay silty fat clay w/ medium fine sands. medium plasticity, grey-brown.
03-05	OV-0A_091620 - SED-00-01	same as above. Decreased moisture content, additional fine sands.
Bottom		

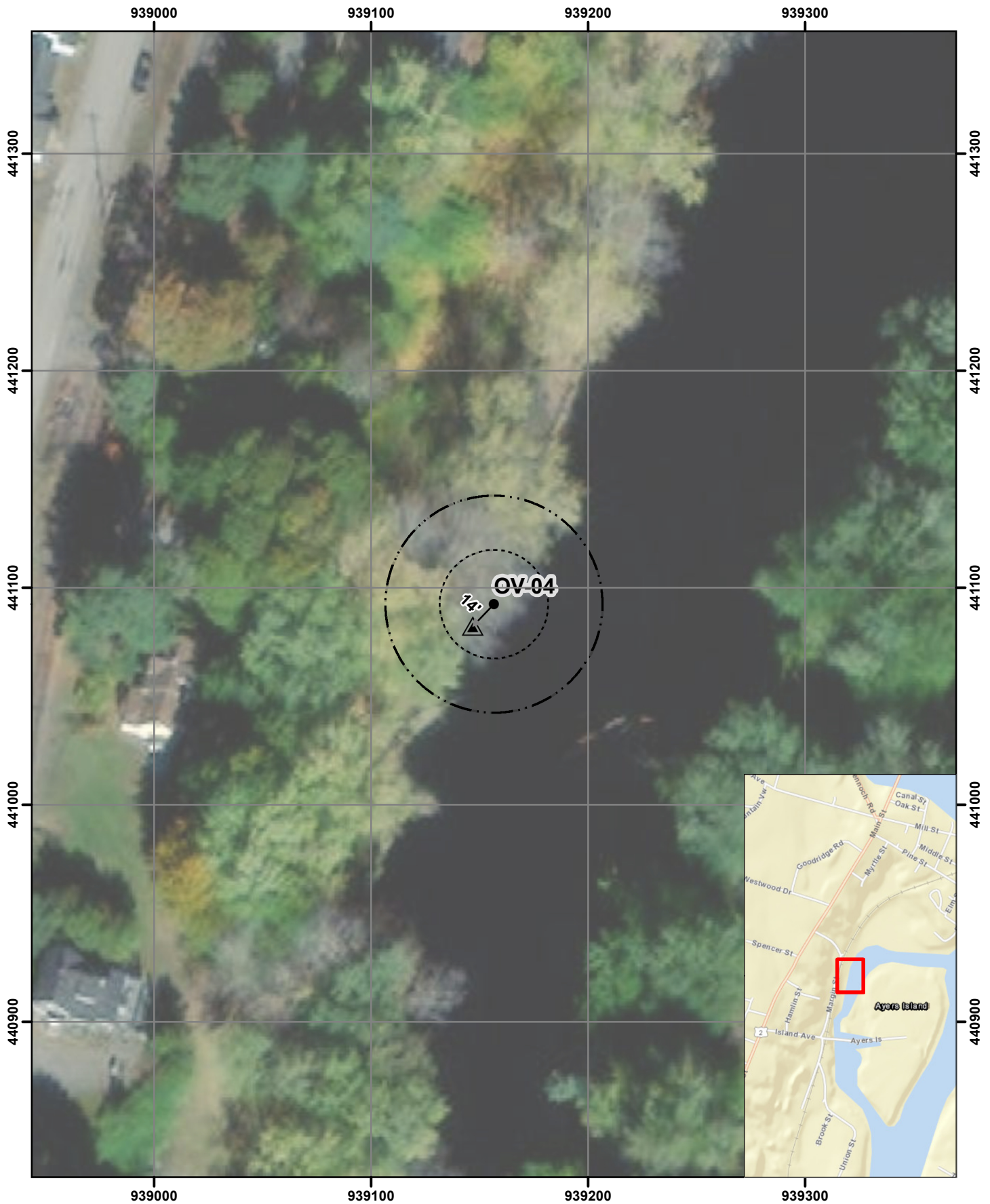
Number of containers:	✓	✓	6	✓	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: acetate	Vibracorer:				4.0"	.50gal/ft
	Push Corer			extrusion	3.5"	.33gal/ft

Live Organisms present	NONE
Oil-Like Present	NONE
Odor Present	NONE
Debris Present	NONE

Photo Numbers
~~B. Woyner 9/24/2020~~

Comments
00-01 @ 1700 1645
01-03 @ 1715 1700
03-05 @ 1715

QC CHECK BY B. Woyner 9/22/2020

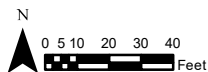


wood.

Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- 25 foot radius buffer
- 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [OV-04]
Reach: [Veazie]



Prepared/Date: ICD 12/20/20 | Checked/Date: BPW 12/21/20 | Maine State Plane CRS East Zone 1983 | Penobscot River Estuary 2020 Long Term Monitoring

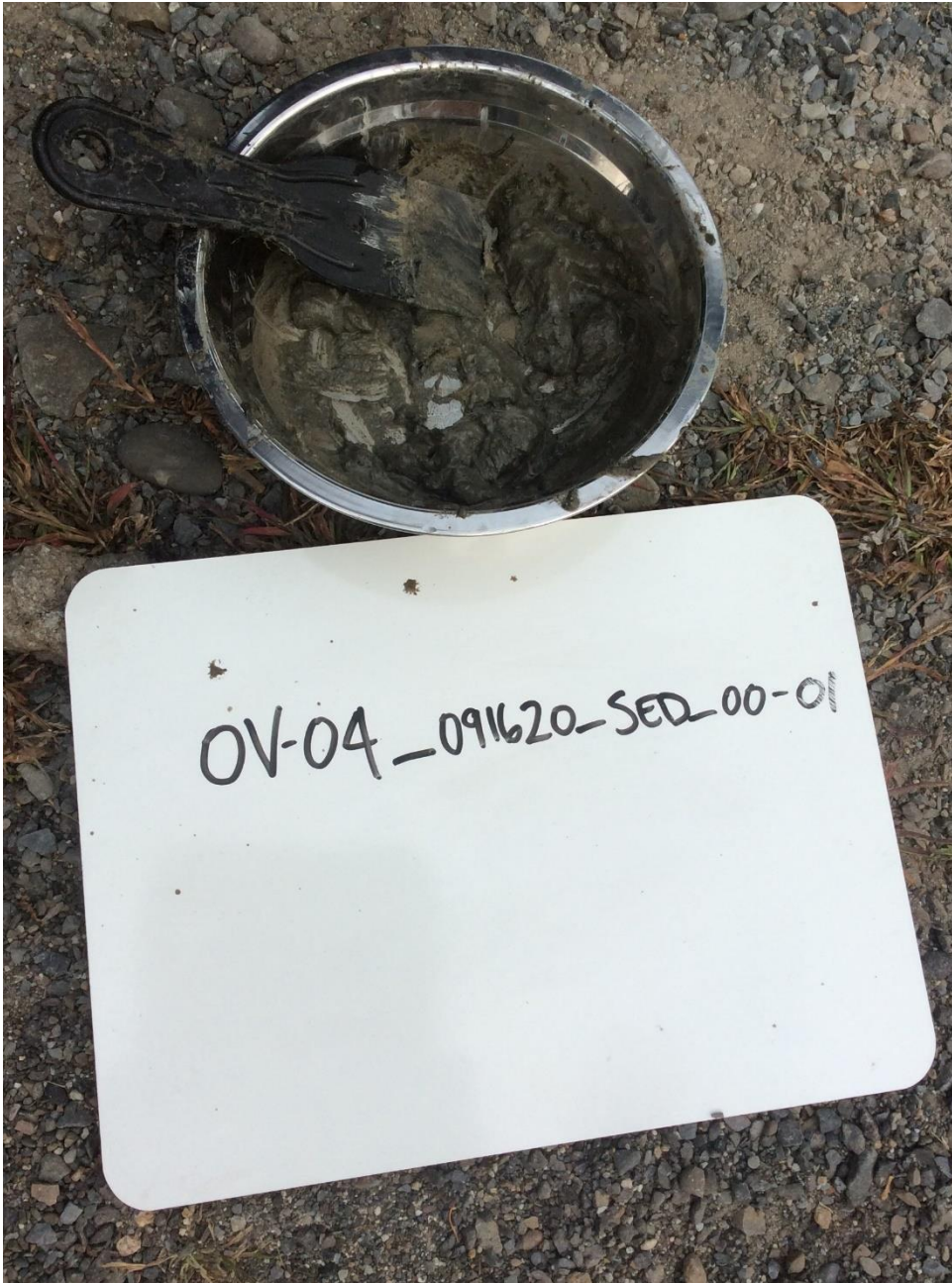


PHOTO 1:

CORE: OV-04

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/16/2020

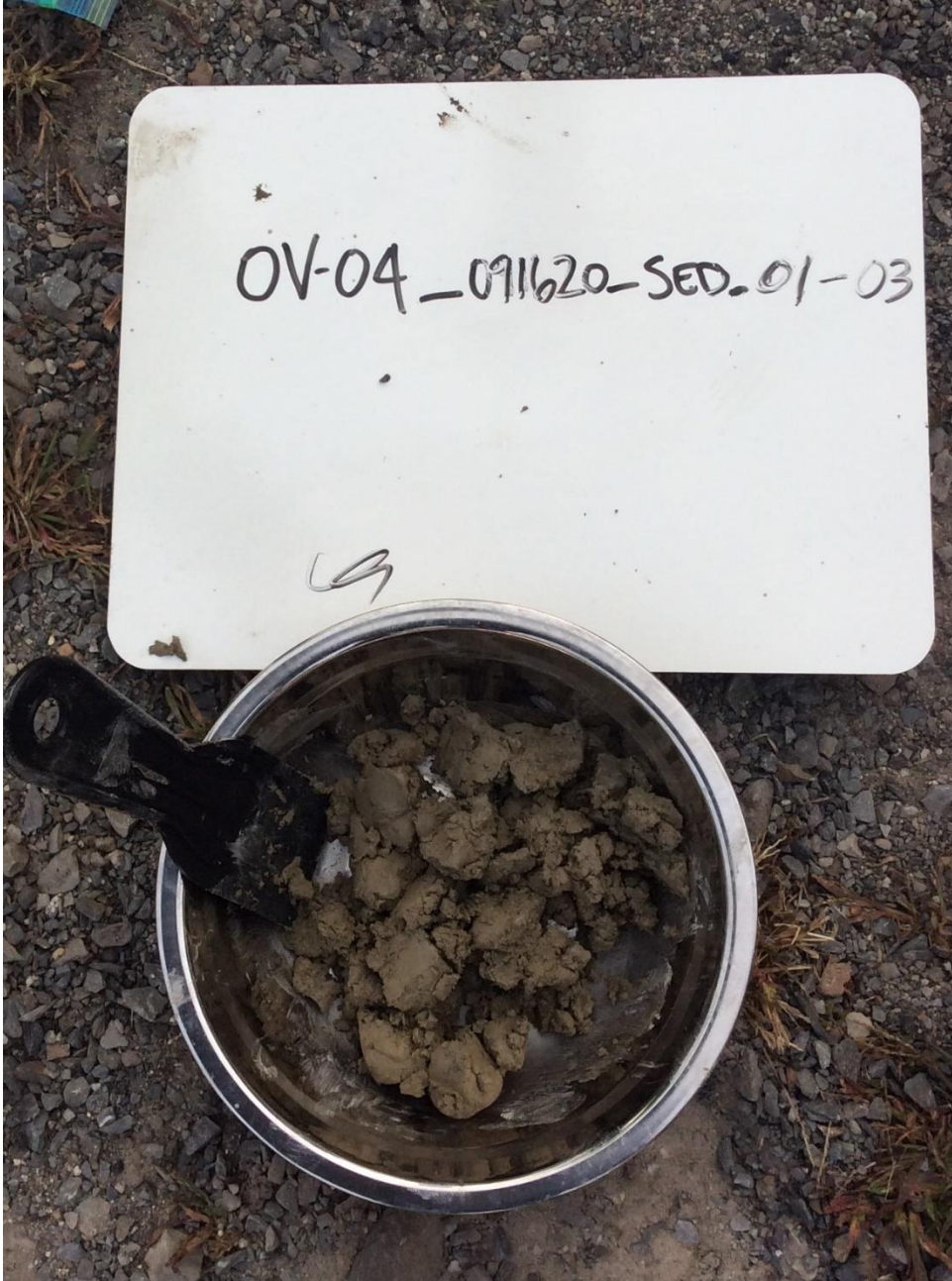


PHOTO 2:

CORE: OV-04

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/16/2020

PHOTO 3:

CORE: OV-04

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/16/2020

Interval not photographed



APPENDIX B – 2.02

Station Summary – OV-01

STATION SUMMARY		
Station ID: OV-01	Core collection and sample processing date: 18 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – OV-01 Collection Overview

On Friday, September 18, 2020, Wood scientists cored station OV-01 in the North of Bangor reach between 10:00am and 10:25am. The weather was cloudy with a temperature of 50°F and light wind. Sea conditions were negligible to sampling effort, as station was accessed by foot. A push corer and shooter shovel were first attempted to collect sediment; however, no sediment was recovered using these methods. Gravel pieces greater than approximately 1.0-inch, were removed from the collection area prior to collecting sediment. Wood scientists used a decontaminated stainless-steel metal spoon to collect samples at the proposed intervals.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and core(s) at station OV-01.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station OV-01 represents the single collection point. The deployment represented a vegetated marsh zone accessible at low tide within the North of Bangor reach.

D – Processing Overview

Same-day processing was performed on OV-01 by Wood scientists on location. Sediment was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by sampling a single interval at a time. The tools used for sampling were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

The appearance and textural properties of all recovered sediment was described using the Unified Soil Classification (USCS).

Sediment Core Logs are attached (See Attachment B).

OV-01

A sufficient amount of sediment was able to be collected via metal spoon at Station OV-01 of the upper 0.5-ft of the subsurface.

- 0.0 – 0.1 ft: medium brown-gray sandy GRAVEL, subrounded, poorly sorted, damp
- 0.1 – 0.3 ft: medium brown-gray sandy GRAVEL with some cobble-sized pieces, subrounded, poorly sorted, damp
- 0.3 – 0.5 ft: medium brown-gray sandy GRAVEL with cobble-sized pieces increasing with depth, some fines present, moist

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: ~~NA~~ ^{BW} 9/22/20 USDC
 Sub: ~~NA~~ ^{BW} 9/22/20 NONE
 Project No.: 3617207486
 WO: ~~03~~ BW 9/22/2020
 Date: 9-18-2020
 Time: 1000
 Logger: MR
 Crew: LT, SC
 Vessel: N/A

Coordinates: Lat 44.856389 Long -68.679730 Plan Volume: 0.140

Sampling Station: OV-01 Deploy No. 1 Sub-tidal Location? 10

Weather: 50 Winds: LIGHT Waters: N/A Traffic: N/A Water Temp: N/A

Measured Water Depth [NAVD88]:	NA	Core Penetration Length (ft.):	NA
Correction to NAVD88 (+/- ft. from NAVD88):	-	Recovered Core Length (ft.):	NA
Mudline (Corrected Depth) @ NAVD88:	-	Sample Length Retained (ft.):	NA
Study Depth (-NAVD88):	-	Acceptable Core (80% recovery):	NA
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	NA

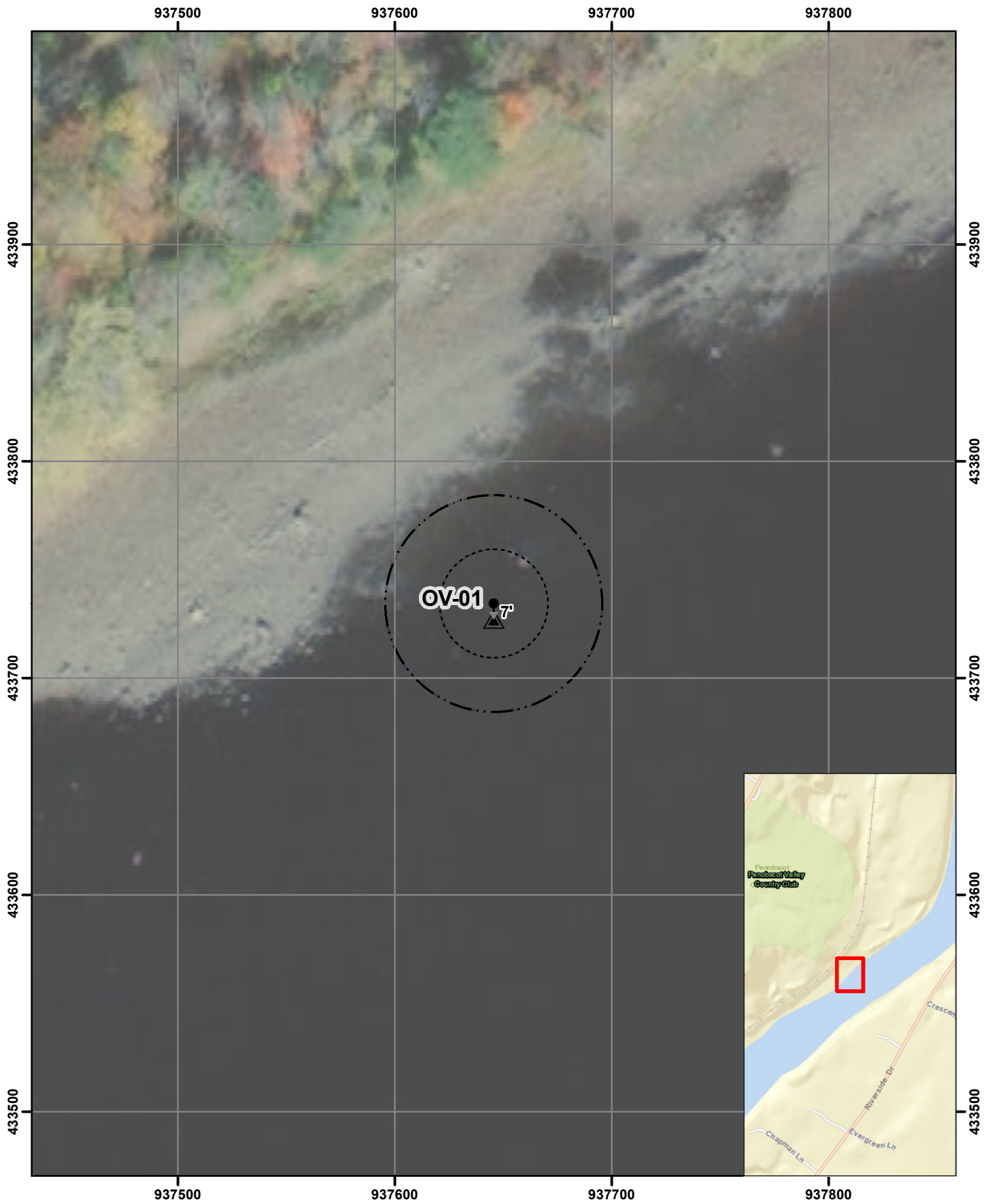
All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0 - 0.1 @ 10:15	OV-01-091820-SED-00-01	MED BROWN-GREY SANDY GRAVEL, SUB-ROUNDED POORLY SORTED. DAMP.
0.1 - 0.3 @ 10:20	OV-01-091820-SED-01-03	SAME AS 00-01, INCREASED COBBLE SIZE (MORE LARGE ROCKS)
0.3 - 0.5 @ 10:25	OV-01-091820-SED-03-05	SAME AS 0.1-0.3, COBBLE SIZE CONTINUES TO INCREASE. MOIST. SOME FINES PRESENT.
Bottom		

Number of containers:		3	3	Core Volumes	
Type of container:	bucket	liner bag	(jar)	other	Nominal core-barrel diameter
Liner Type:	NONE			Vibracorer:	4.0"
				Push Corer	3.5"
					EST. Volume
					.50gal/ft
					.33gal/ft

Live Organisms present	NONE	Comments REMOVED GRAVEL PIECES ABOVE ~ 1" OR AS NEEDED FOR SAMPLE VOLUME. REMOVED LARGE ROCK AND SAMPLED AW/ SPOONS AFTER ATTEMPTING PUSH CORE AND SHOOTER SHOVEL UNDERNEATH
Oil-Like Present	NONE	
Odor Present	NONE	
Debris Present - BARK-LIKE		
Photo Numbers	WOODY	
B. WEYER 9/22/2020		

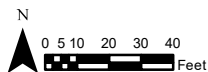
QC CHECK BY B. WEYER 9/22/2020



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- 25 foot radius buffer
- 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [OV-01]
Reach: [Veazie]



Penobscot River Estuary
2020 Long Term Monitoring

Prepared/Date: ICD 12/20/20 | Checked/Date: BPW 12/21/20 | Maine State Plane CRS East Zone 1983



PHOTO 1:

CORE: OV-01

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/18/2020



PHOTO 2:

CORE: OV-01

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/18/2020



PHOTO 3:

CORE: OV-01

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/18/2020



APPENDIX B – 2.03

Station Summary – BO-04

STATION SUMMARY		
Station ID: BO-04	Core collection and sample processing date: 18 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – BO-04 Collection Overview

On Friday, September 18, 2020, Wood scientists attempted coring at station BO-04 in the Bangor reach between 10:30am and 11:10am aboard the *R/V Tesla*. The weather was overcast with temperatures in the 50's (°F) and varying winds ranging from 5 to 10-knots from the North. Sea conditions were smooth, with a wave height of 0.5-1.0-ft, providing acceptable conditions for the vessel to hold on location for sampling. A Watermark Universal Core Head Kit (Watermark) was used to attempt sediment collection but found a rocky, impenetrable substrate. The *R/V Tesla* was offset towards center of channel in search of sediment deposition. A box corer was utilized at these offset locations. However, deployments with the box corer continued to hit rocky substrate and no sediment was collected. Four (4) unsuccessful deployments were attempted.

On Monday, September 21, 2020, Wood scientists returned to station BO-04 in the Bangor reach between 9:30am and 10:12am aboard the *R/V Tesla* to attempt sampling at locations collocated with biota traps where samples were successfully harvested along the Southeast bank of the river. The weather was clear with temperatures in the 50's (°F) and varying winds ranging from 10 to 15-knots from the Northeast. Sea conditions were smooth, with wave heights of 0.5 to 1.0-ft, providing acceptable conditions for the vessel to hold on location for sampling. A box corer was utilized for attempted sediment collection. An additional eleven (11) deployments were made at multiple coordinates around the proposed location within the Bangor reach. Attempts were made on both sides of the river channel and proximal to stations where biota were successfully harvested. Deployments five (5) through fifteen (15) had insufficient recovery to provide the acceptable core volume, or a minimum core length of 6-in. Multiple deployments contained rocky or woody debris. Deployment six (6), only recovered some large rock cobbles (0.5-0.3-ft). Three deployments (8, 12, and 14) recovered large pieces of woody debris, ranging in sizes between 1.0x0.4-ft and 3.0x0.8x0.3-ft. Three deployments (10, 13, and 15) did recover some sediment, though of insufficient volume for a core sample or grab sample (approximately 0.2-ft in corners of box).

A grab sample was collected from the sediment recovered in deployment fifteen (15) with sediment representative of the 0.0-0.2ft depth. Sediment was preserved on wet ice in a plastic bag until processing.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and sediment sampling at station BO-04.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the locations of the fifteen (15) deployments of the box corer at station BO-04 are represented. The deployments represent a non-vegetated intertidal zone accessible at high tide within the Bangor reach.

D – Processing Overview

Same-day processing was performed on BO-04 by Wood scientists at the Wood Field Station, Winterport, Maine. A single sample was taken from the collected sediment, representative of the upper 0.2-ft of the subsurface. The tools used for sampling were decontaminated between intervals. The sample interval was placed in a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury, and total organic carbon (TOC).

The appearance and textural properties of each push core was described using the Unified Soil Classification (USCS).

Sediment Core Logs are attached (See Attachment B).

BO-04

Grab sample at BO-04 did not have acceptable recover (of 0.5-ft), though the sample was representative of the upper 0.0 to 0.2-ft.

- 0.0 – 0.2 ft: very dark grayish brown (2.5Y 3/2) organic-like silt with minimal clastic clay-sized particulates, homogenous, non-plastic: ALLUVIUM

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/18/20 Time: 1100 Vessel: R/V TESLA
 Coordinates: Lat 44.755351 Long -68.814993 Plan Volume: 0.140 gal
 Sampling Station: B0-04 Deploy No. 1-4 Sub-tidal Location? NO

Weather: OVERCAST, 50s Winds: 5-10 mph Waters: 0.5-1.0' Traffic: NONE Water Temp: —
 Measured Water Depth [NAVD88]: 12.5' 15.3' Core Penetration Length (ft.): —
 Correction to NAVD88 (+/- ft. from NAVD88): — Recovered Core Length (ft.): —
 Mudline (Corrected Depth) @ NAVD88: — Sample Length Retained (ft.): —
 Study Depth (-NAVD88): — Acceptable Core (80% recovery): —
 Required Penetration Length: — Core Volume Retained (gal.): —

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/18/20

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	—	Vibracorer:	BOX	Slambar	4.0"	.50gal/ft
		Push Corer			3.5"	.33gal/ft

Live Organisms present	—	<p>Comments</p> <p>- NO RECOVERY - ATTEMPTED SEDIMENT ACQUISITION WITH BOTH BOX CORER AND PUSH CORER.</p>
Oil-Like Present	—	
Odor Present	—	
Debris Present	—	
Photo Numbers		
B. WEYER		
9/22/2020		

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: CLARACK
 Sub: ASI WO: - Crew: B. WEYER
 Date: 9/18/20 Time: 1102 Vessel: R/V TESLA
 Coordinates: Lat 44.755287 Long -68.814922 Plan Volume: 0.140gal
 Sampling Station: B0-04 Deploy No. 2 Sub-tidal Location? NO

Weather: OVERCAST, S03 Winds: 5-10mph Waters: 0.5'-1.0' Traffic: NONE Water Temp: -

Measured Water Depth [NAVD88]: 15.3'	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers:	-	-	-	-	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	Vibracorer: Box				4.0"	.50gal/ft
	Push Corer			Slambar	3.5"	.33gal/ft

Live Organisms present	-	Comments - NO RECOVERY; HITTING BED ROCK.
Oil-Like Present	-	
Odor Present	-	
Debris Present	-	
Photo Numbers	CL 9/18/20	

QC CHECK BY B. WEYER 9/21/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WIEZ
 Date: 9/18/20 Time: 1105 Vessel: P/NTESLA

Coordinates: Lat 44.755296 Long -68.814858 Plan Volume: 0.140gal

Sampling Station: B0-04 Deploy No. 3 Sub-tidal Location? NO

Weather: OVERCAST 50s Winds: 5-10mph Waters: 0.5'-1.0' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 15.3'	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 6.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	—	Vibracorer:	Push Corer	Slambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

Live Organisms present	—	Comments
Oil-Like Present	—	
Odor Present	—	
Debris Present	—	

Photo Numbers
 CL 9/18/20

QC CHECK BY B. Weyer 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. L. KIBACK
 Sub: ASI WO: - Crew: B. WEYER
 Date: 9/18/20 Time: 1107 Vessel: R/V TESLA
 Coordinates: Lat 44.755172 Long -68.814771 Plan Volume: 0.140gal

Sampling Station: 30-04 Deploy No. 4 Sub-tidal Location? NO

Weather: OVERCAST Winds: 5-10 mph Waters: 0.5-1.0' Traffic: NONE Water Temp: -

Measured Water Depth [NAVD88]: 15.3	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	—	Vibracorer:	BOX	Slambar	4.0"	.50gal/ft
		Push Corer			3.5"	.33gal/ft

Live Organisms present <input type="checkbox"/>	Comments - NO RECOVERY
Oil-Like Present <input type="checkbox"/>	
Odor Present <input type="checkbox"/>	
Debris Present <input type="checkbox"/>	
Photo Numbers	

B QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC

Project No.: 3617207486

Logger: C. LAUBACK

Sub: ASI

WO: -

Crew: B. WEYER

Date: 9/21/20

Time: 0935

Vessel: R/V TESLA

Coordinates: Lat 44.757522

Long -68.807297

Plan Volume: 0.140

Sampling Station: BO-04

Deploy No. 5

Sub-tidal Location? NO

Weather: CLEAR 50s

Winds: 0-5mph

Waters: 0.5-1.0'

Traffic: NONE

Water Temp: -

Measured Water Depth [NAVD88]: 22.3

Core Penetration Length (ft.): CL

Correction to NAVD88 (+/- ft. from NAVD88):

Recovered Core Length (ft.): 9/21/20

Mudline (Corrected Depth) @ NAVD88:

Sample Length Retained (ft.):

Study Depth (-NAVD88):

Acceptable Core (80% recovery):

Required Penetration Length: 0.5

Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/21/20

Number of containers:	-	-	-	-	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	-	Vibracorer: Box			4.0"	.50gal/ft
		Push Corer			3.5"	.33gal/ft

Live Organisms present	<p>Comments</p> <p>- SECOND DAY ATTEMPTING. BO-04; HAD ATTEMPTED DEPLOYMENTS 1-4 ON 9/18/20</p> <p>- NO RECOVERY</p> <p>- COORDINATES SAVED IN WOOD TABLET</p>
Oil-Like Present	
Odor Present	
Debris Present	
Photo Numbers	

CL 9/21/20

QC CHECK BY B. WEYER 9/22/2020

wood.

Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC

Project No.: 3617207486

Logger: C. LAUBACK

Sub: ASI

WO: —

Crew: B. WEYER

Date: 9/21/20

Time: 0937

Vessel: R/V TESLA

Coordinates: Lat 44.757743

Long -68.867122

Plan Volume: 0.140gal

Sampling Station: BO-04

Deploy No. 6

Sub-tidal Location? NO

Weather: CLEAR, 50s

Winds: 0-5 mph

Waters: 0.5'-1.0'

Traffic: N

Water Temp: —

Measured Water Depth [NAVD88]: 23.7'

Correction to NAVD88 (+/- ft. from NAVD88):

Mudline (Corrected Depth) @ NAVD88:

Study Depth (-NAVD88):

Required Penetration Length: 0.5'

Core Penetration Length (ft.):

Recovered Core Length (ft.):

Sample Length Retained (ft.):

Acceptable Core (80% recovery):

Core Volume Retained (gal.):

CL 9/21/20

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/21/20

Number of containers: — — — —

Type of container: bucket liner bag jar other

Liner Type: —

Vibracorer: **BOX**

Push Corer Slambar

Core Volumes	
Nominal core-barrel diameter	EST. Volume
4.0"	.50gal/ft
3.5"	.33gal/ft

Live Organisms present —

Oil-Like Present —

Odor Present —

Debris Present —

Photo Numbers

CL 9/21/20

Comments

-INSUFFICIENT RECOVERY; SOME LARGE ROCK LOBBLES (0.5'x0.3')

-COORDINATES RECORDED ON WOOD TAILGATE

QC CHECK BY B WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC

Project No.: 3017207486

Logger: C. LAIBACK

Sub: ASI

WO: -

Crew: B. WEYER

Date: 9/21/20

Time: 22.5

Vessel: R/V TESLA

Coordinates: Lat 44.757914

Long -68.807346

Plan Volume: 0.140gal

Sampling Station: B0-04

Deploy No. 7

Sub-tidal Location? NO

Weather: CLEAR, 50s

Winds: 0-5mph

Waters: 0.5'-1.0'

Traffic: NONE

Water Temp: -

Measured Water Depth [NAVD88]: 22.5'

Core Penetration Length (ft.):

Correction to NAVD88 (+/- ft. from NAVD88):

Recovered Core Length (ft.):

Mudline (Corrected Depth) @ NAVD88:

Sample Length Retained (ft.):

Study Depth (-NAVD88):

Acceptable Core (80% recovery):

Required Penetration Length: 0.5'

Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/21/20

CL 9/21/20

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	Vibracorer:			BOX	4.0"	.50gal/ft
	Push Corer			Slambar	3.5"	.33gal/ft

- Live Organisms present —
- Oil-Like Present —
- Odor Present —
- Debris Present —

Photo Numbers

CL 9/21/20

Comments

- NO RECOVERY

- COORDINATES RECORDED w/ WOOD TABLET

QC CHECK BY B. WEYER 9/21/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC

Project No.: 3617207486

Logger: C. LABACK

Sub: ASI

WO: -

Crew: B. WEYER

Date: 9/21/20

Time: 0940

Vessel: P/V TESLA

Coordinates: Lat 44.757727

Long -68.808029

Plan Volume: 0.140gal

Sampling Station: BO-04

Deploy No. 8

Sub-tidal Location? NO

Weather: CLEAR SKY

Winds: 0-5 mph

Waters: 0.5' - 1.0'

Traffic: NONE

Water Temp: -

Measured Water Depth [NAVD88]: 23.4'

Core Penetration Length (ft.):

Correction to NAVD88 (+/- ft. from NAVD88):

Recovered Core Length (ft.):

Mudline (Corrected Depth) @ NAVD88:

Sample Length Retained (ft.):

Study Depth (-NAVD88):

Acceptable Core (80% recovery):

Required Penetration Length: 0.5'

Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/21/20

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	—				4.0"	.50gal/ft
	Vibracorer: BOX				3.5"	.33gal/ft
	Push Corer: Slambar					

Live Organisms present
Oil-Like Present
Odor Present
Debris Present
Photo Numbers

CL 9/21/20

Comments CL 9/21

- INSUFFICIENT RECOVERY; SAMPLE RECOVERED IN ^{CL 9/21} LARGE PIECE OF WOODY DEBRIS (3' x 8' x 3')

- COORDINATES RECORDED W/ WOOD TABLET

QC CHECK BY B. WEYER 9/21/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LADBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/21/20 Time: 0942 Vessel: P/V TESLA
 Coordinates: Lat 44.757290 Long -68.807815 Plan Volume: 0.14gal
 Sampling Station: B0-04 Deploy No. 9 Sub-tidal Location? NO

Weather: CLEAR, 50s Winds: 0-5 mph Waters: 0.5-1.0 Traffic: NONE Water Temp: —
 Measured Water Depth [NAVD88]: 23.5 Core Penetration Length (ft.):
 Correction to NAVD88 (+/- ft. from NAVD88): Recovered Core Length (ft.): CL 9/21/20
 Mudline (Corrected Depth) @ NAVD88: Sample Length Retained (ft.):
 Study Depth (-NAVD88): Acceptable Core (80% recovery):
 Required Penetration Length: 0.5 Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	—	Vibracorer:	Push Corer	Slambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

Live Organisms present —
 Oil-Like Present —
 Odor Present —
 Debris Present —

Photo Numbers
 CL 9/21/20

Comments
 - INSUFFICIENT RECOVERY; NO. 203 OF SEDIMENT IN BOX CAR
 - COORDINATES RECORDED w/ WOOD TABLET

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: VSDC

Project No.: 3617207486

Logger: C. LABACK

Sub: AS1

WO: —

Crew: B. WEYER

Date: 9/21/20

Time: 0945

Vessel: R/V TESLA

Coordinates: Lat 44.756786

Long -68.808186

Plan Volume: 0.140gal

Sampling Station: B0-04

Deploy No. 10

Sub-tidal Location? NO

Weather: CLDY, 50s

Winds: 0-5 mph

Waters: 0.5' - 1.0'

Traffic: NONE

Water Temp: —

Measured Water Depth [NAVD88]: 12.8

Core Penetration Length (ft.):

Correction to NAVD88 (+/- ft. from NAVD88):

Recovered Core Length (ft.):

Mudline (Corrected Depth) @ NAVD88:

Sample Length Retained (ft.):

Study Depth (-NAVD88):

Acceptable Core (80% recovery):

Required Penetration Length: 0.5

Core Volume Retained (gal.):

CL 9/21/20

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/21/20

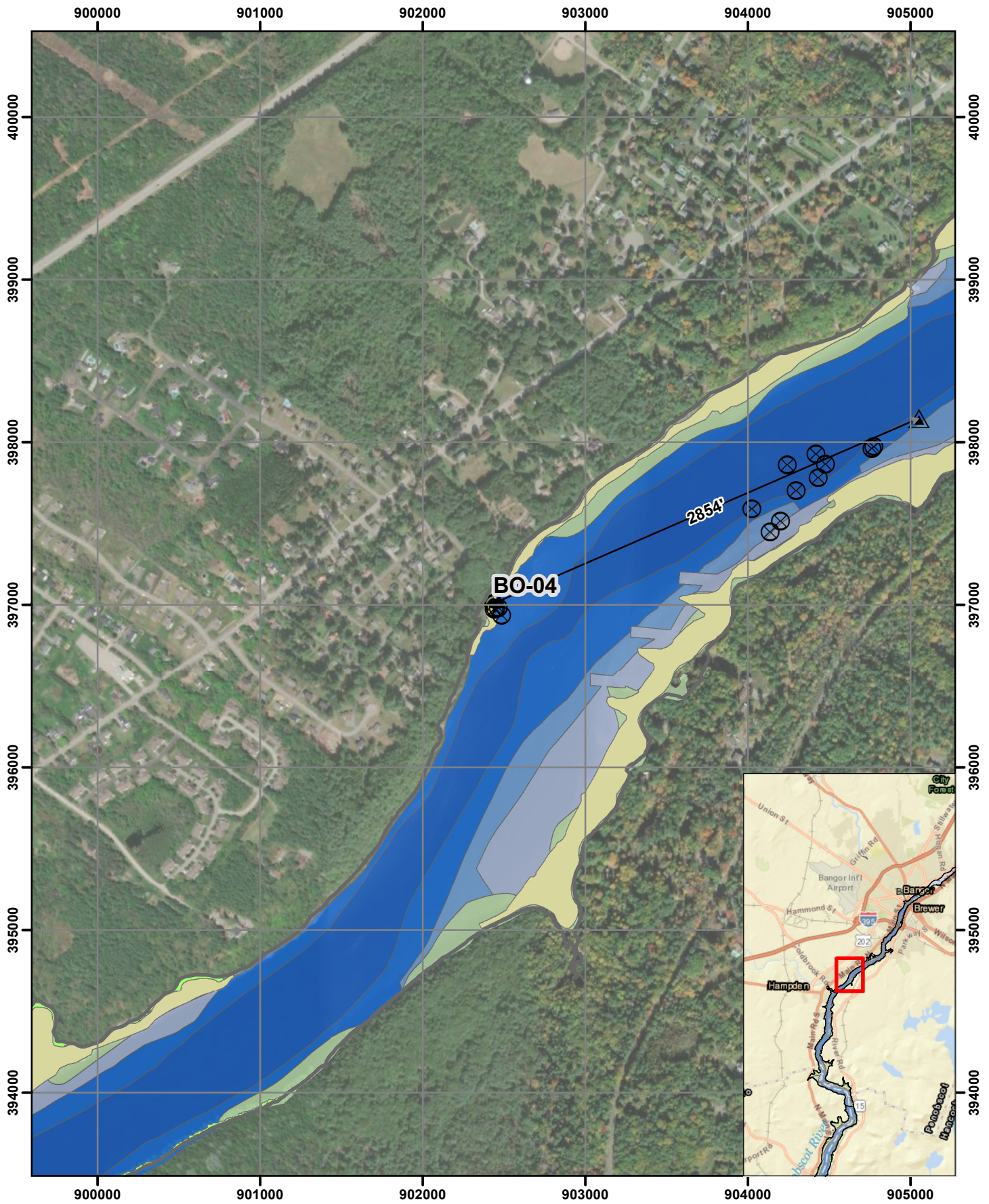
Number of containers:	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	Vibracorer: <u>Box</u>				4.0"	.50gal/ft
	Push Corer				3.5"	.33gal/ft

Live Organisms present	<u>—</u>
Oil-Like Present	<u>—</u>
Odor Present	<u>—</u>
Debris Present	<u>—</u>

Photo Numbers
CL 9/21/20

Comments
INSUFFICIENT RECOVERY ; ~0.2' OF SEDIMENT IN BOX
- COORDINATES RECORDED W/ WOOD TABLET

QC CHECK BY B. WEYER 9/21/2020



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- ⊞ 25 foot radius buffer
- ⊞ 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [BO-04]
Reach: [Bangor]

**Penobscot River Estuary
2020 Long Term Monitoring**

Prepared/Date: ICD 12/20/20

Checked/Date: BPW 12/21/20

Maine State Plane CRS East Zone 1983

MXD: \\PLD2-FS1\Project\Projects\USDC - Penobscot River 2020 Monitoring-3617207486\4.0_Deliverables\4.5_Databases\MXD\2020_REPORTING\PENOB_2020_LOC_ACC_vf_12202020_8.5x11P.mxd
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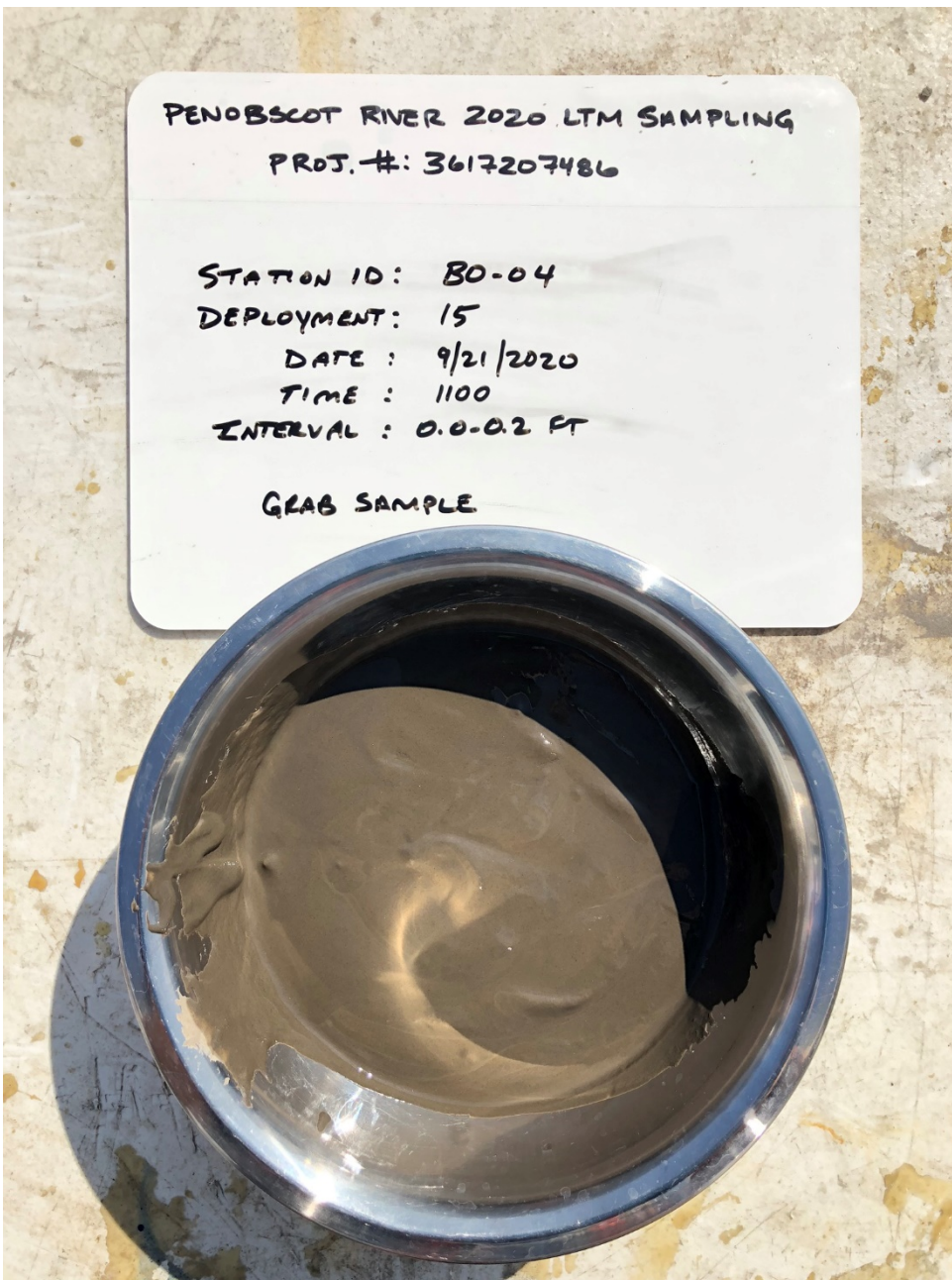


PHOTO 1:

CORE: BO-04

DEPLOYMENT: 15

INTERVAL: 0.0-0.2 FT

DATE: 9/21/2020

APPENDIX B – 2.04

Station Summary – OB-05

STATION SUMMARY		
Station ID: OB-05	Core collection and sample processing date: 18 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – OB-05 Collection Overview

On Friday, September 18, 2020, Wood scientists cored station OB-05 in the Orrington reach between 11:10am and 11:40am aboard the *R/V Tesla*. The weather was overcast with temperatures in the 50's (°F) and varying winds ranging from 5 to 8-knots from the North. Sea conditions were smooth, with a wave height of 0.5-1.0-ft, providing acceptable conditions for the vessel to hold on location for sampling. A box corer was utilized for sediment collection. Sediment was sampled from the box corer by 1-ft hand push cores with 3-in diameter acetate liners. Four (4) deployments of the box corer were attempted at OB-05 to obtain one (1) 1-ft hand push core with sufficient recovery, designated in the field as OB-05. The core was preserved on wet ice while awaiting to be processed.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and core(s) at station OB-05.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of the four (4) deployments of the box corer at station OB-05 are represented. The deployment represented a non-vegetated subtidal zone accessible anytime within the Orrington reach.

D – Processing Overview

Same-day processing was performed on OB-05 by Wood scientists at the Wood Field Station, Winterport, Maine. Core OB-05 was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC). Interval 0.1 – 0.3 ft of OB-05 was selected to be used for a MS/MSD laboratory control sample.

The appearance and textural properties of each push core was described using the Unified Soil Classification (USCS).

Sediment Core Logs are attached (See Attachment B).

OB-05

Push core OB-05 had an acceptable recovery over 0.5-ft.

- 0 – 0.1 ft very dark greenish gray (GLEY 1 3/1 10Y) clayey SILT with minimal very fine clastic sands, appears organic rich with trace vegetative-like detritus, slightly plastic: ALLUVIUM
- 0.1 – 0.3 ft: very dark greenish gray (GLEY 1 3/1 5GY) clayey SILT, high organic-like content with trace very fine clastic sands, trace larger (0.01-0.02-ft) organic-like grains, slightly plastic: ALLUVIUM
- 0.3 – 0.5 ft: dark olive gray (5Y 3/2) silty CLAY with trace fine- and medium-grained clastic sands, trace fibrous root-like organic material, organic-like fines, plastic: ALLUVIUM

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3017207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/18/20 Time: 1115 Vessel: R/V TBSLA
 Coordinates: Lat 44.705470 Long -68.837866 Plan Volume: 0.140 gal.
 Sampling Station: OB-05 Deploy No. 1-3 Sub-tidal Location? NO

Weather: OVERCAST, DS Winds: 5-8 mph Waters: 0.5-1.0' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 15.8' 15.2' 14.3' <small>CL 9/18/20</small>	Core Penetration Length (ft.): —
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): —
Mudline (Corrected Depth) @ NAVD88: —	Sample Length Retained (ft.): —
Study Depth (-NAVD88): —	Acceptable Core (80% recovery): —
Required Penetration Length: —	Core Volume Retained (gal.): —

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers: —	—	—	—	Core Volumes		
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: —	Vibracorer: BOX				4.0"	.50gal/ft
	Push Corer			Slambar	3.5"	.33gal/ft

- Live Organisms present
- Oil-Like Present
- Odor Present
- Debris Present

Comments
 - ATTEMPTED 3 DEPLOYMENTS OF BOX CORER WITH INSUFFICIENT SEDIMENT VOLUMES.

Photo Numbers
 B. WEYER
 9/22/2020

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 3617207486	Logger: C. LAUBACK
Sub: ASI	WO: —	Crew: B. WEYER
Date: 9/18/20	Time: 1120	Vessel: R/V TESLA
Coordinates: Lat 44.705371	Long -68.837905	Plan Volume: 0.140gal
Sampling Station: OB-05	Deploy No. 2	Sub-tidal Location? NO
Weather: OVERCAST, 50s	Winds: 5-8mph	Waters: 0.5-1.0'
	Traffic: NONE	Water Temp: —

Measured Water Depth [NAVD88]: 15.2	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers: —	Core Volumes	
Type of container: bucket	Nominal core-barrel diameter	EST. Volume
Liner Type: —	4.0"	.50gal/ft
Vibracorer: <u>BOX</u>	3.5"	.33gal/ft
Push Corer	Slambar	

Live Organisms present —	Comments - INSUFFICIENT RECOVERY
Oil-Like Present —	
Odor Present —	
Debris Present —	
Photo Numbers	
	CL 9/18/20

QC CHECK BY B. WEYER 9/24/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LABACK
 Sub: ASI WO: _____ Crew: B WEYER
 Date: 9/18/20 Time: 1125 Vessel: P/ TESLA

Coordinates: Lat 44.705542 Long -68.837759 Plan Volume: 0.140gal

Sampling Station: OBOS Deploy No. 3 Sub-tidal Location? NO

Weather: OVERCAST, 50s Winds: 5-8 mph Waters: 0.5-1.0' Traffic: NONE Water Temp: _____

Measured Water Depth [NAVD88]:	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length:	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers: _____				Core Volumes		
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: _____	Vibracorer: <u>BOX</u>				4.0"	.50gal/ft
	Push Corer			Slambar	3.5"	.33gal/ft

Live Organisms present _____	Comments - IN SUFFICIENT RECOVERY
Oil-Like Present _____	
Odor Present _____	
Debris Present _____	
Photo Numbers CL 9/18/20	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/18/20 Time: 1130 Vessel: R/V TESLA
 Coordinates: Lat 44.705549 Long -68.837777 Plan Volume: 0.140 gal
 Sampling Station: OB-05 Deploy No. 4 Sub-tidal Location? NO

Weather: OVERCAST, 50s Winds: 5-8 mph Waters: 0.5-1' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 14.3	Core Penetration Length (ft.): 0.8'
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.5'
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5'
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140 gal

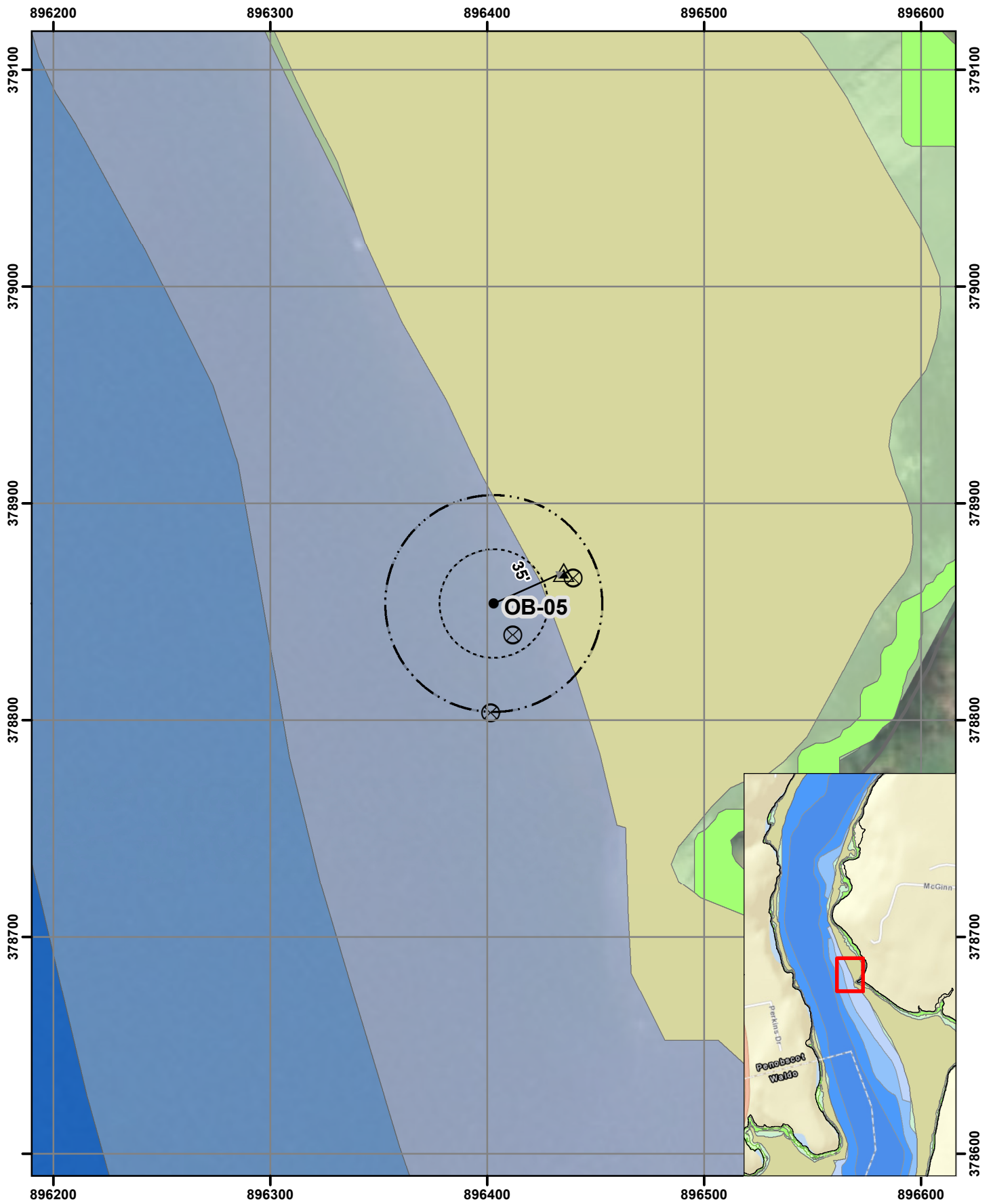
All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01 @1540	VERY DARK GREENISH GRAY (GLEY) 3/1 (BY) CLAYEY SILT WITH MINIMAL VERY FINE CLASTIC SANDS; ORGANIC RICH, TR. VEGETATIVE DETRITUS, ALLUVIUM, SLIGHTLY PLASTIC
CL 9/18/20	CL 9/18/20	CL 9/18/20
0.1' - 0.3'	01-03 @1542	VERY DARK GREENISH GRAY (GLEY) 3/1 (SGP) CLAYEY SILT; HIGH ORGANIC WITH TRACE VERY FINE CLASTIC SANDS, TRACE LARGER (0.01-0.02) ORGANIC FINE FINES, ALLUVIUM, SLIGHTLY PLASTIC
CL 9/18/20	CL 9/18/20	
0.3' - 0.5'	03-05	DARK OLIVE GRAY (5Y 3/2) SILTY CLAY WITH TRACE FINE AND MEDIUM GRAINED CLASTIC SANDS, TRACE FIBROUS ROOT-LIKE ORGANIC MATERIAL, ORGANIC-LIKE FINES, PLASTIC, ALLUVIUM
Bottom		

Number of containers: — — 6 —	Core Volumes	
Type of container: bucket liner bag jar other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibracorer: 4.0"	.50 gal/ft
	Push Corer: Slambar	3.5"
		.33 gal/ft

Live Organisms present NO	Comments - DUPLICATE WAS PLANNED HERE - ONLY ONE CORE PUSHED INTO BOX CORE HAD ENOUGH RECOVERY
Oil-Like Present NO	
Odor Present NO	
Debris Present NO	
Photo Numbers B. WEYER 9/22/2020	

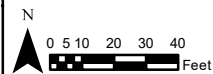
QC CHECK BY B. WEYER 9/22/2020



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- ⊘ 25 foot radius buffer
- ⊚ 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [OB-05]
 Reach: [Orrington]



Penobscot River Estuary
 2020 Long Term Monitoring

Prepared/Date: ICD 12/20/20 | Checked/Date: BPW 12/21/20 | Maine State Plane CRS East Zone 1983

MXD: \PLD2-FS1\Project\Projects\USDC - Penobscot River 2020 Monitoring-3617207486\4.0_Deliverables\4.5_Databases\MXD\2020_REPORTING\PENOB_2020_LOC_ACC_vf_12202020_8.5x11P.mxd
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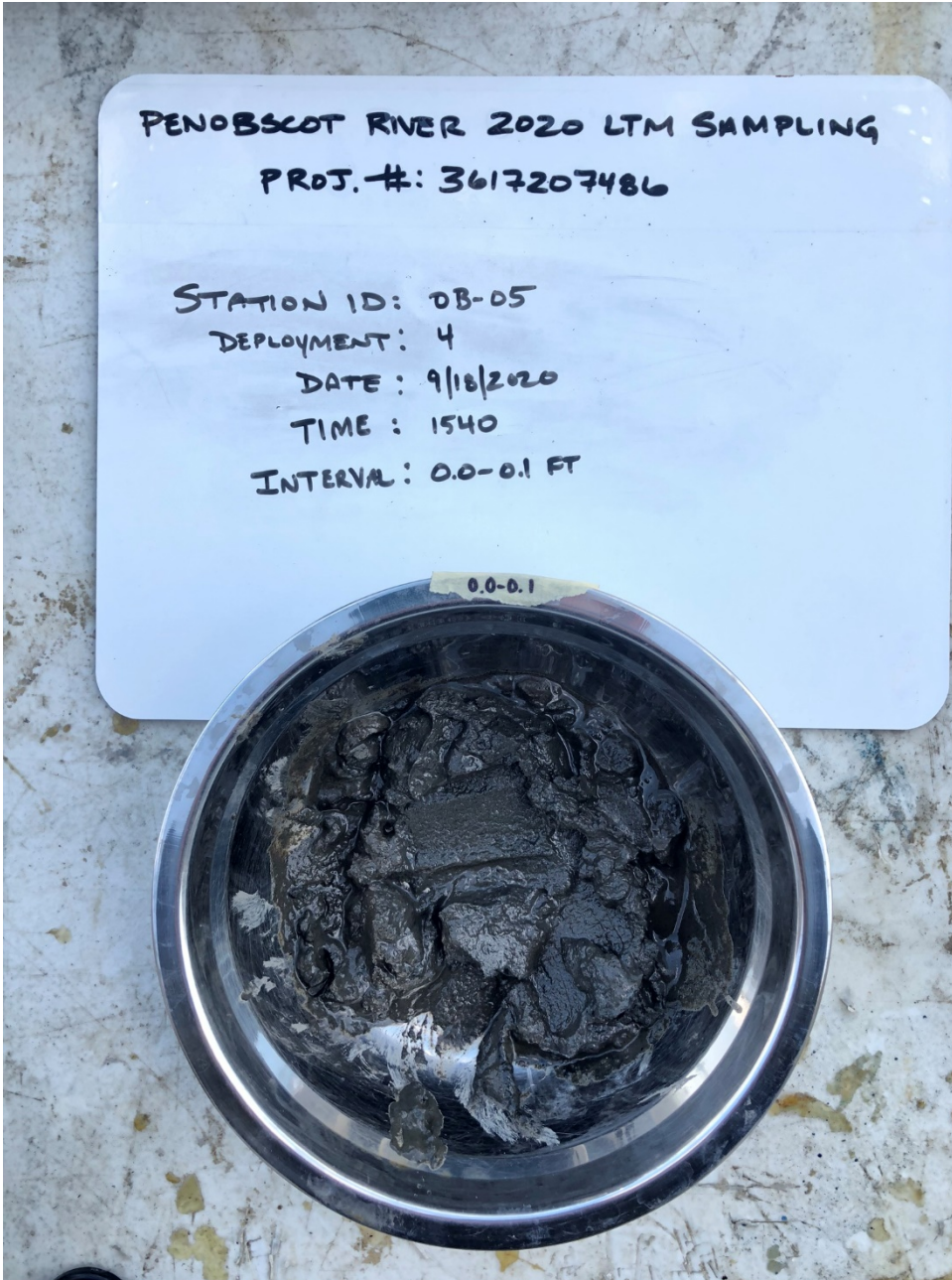


PHOTO 1:

CORE: OB-05

DEPLOYMENT: 4

INTERVAL: 0.0-0.1 FT

DATE: 9/18/2020

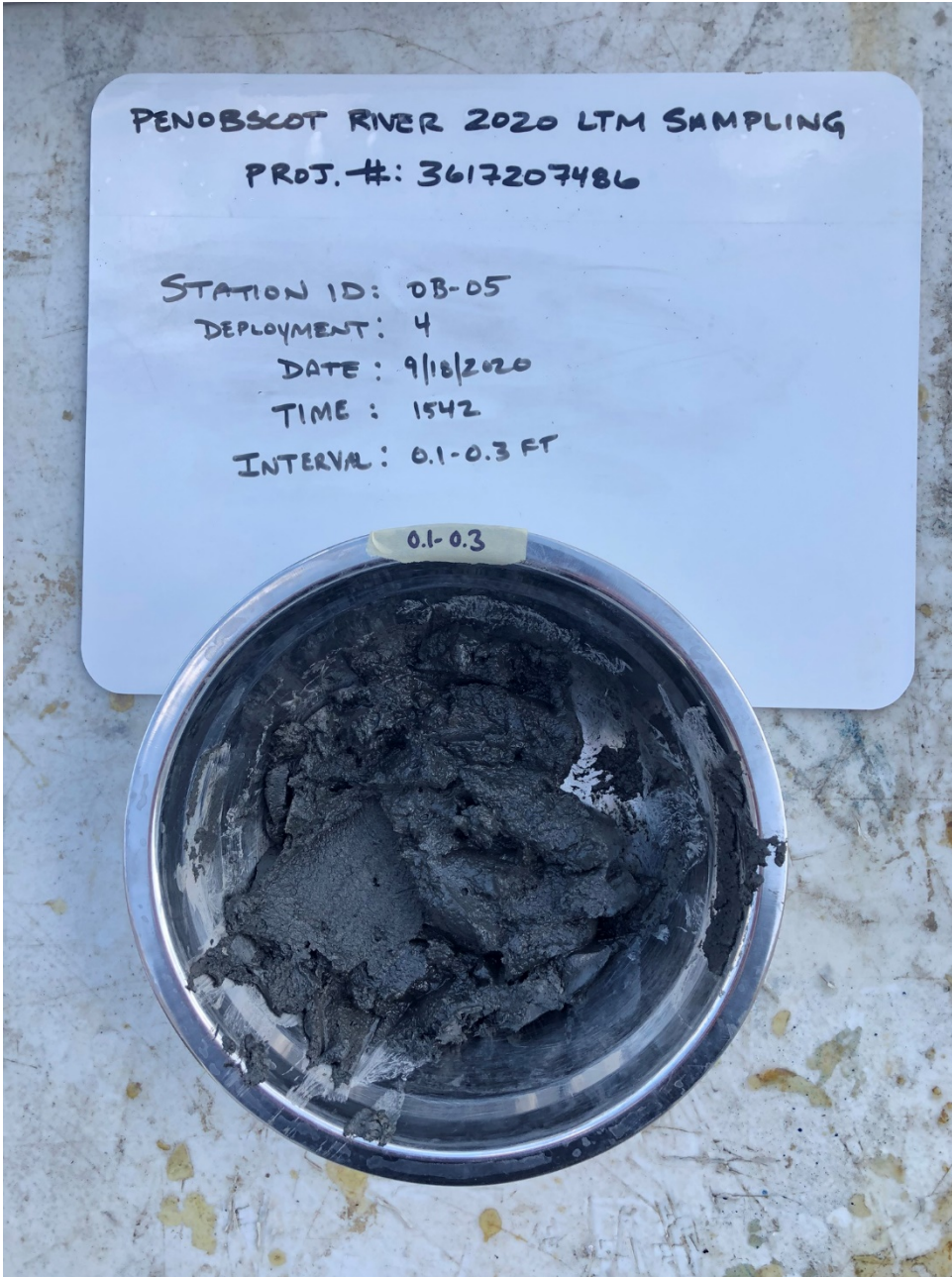


PHOTO 2:

CORE: OB-05

DEPLOYMENT: 4

INTERVAL: 0.1-0.3 FT

DATE: 9/18/2020

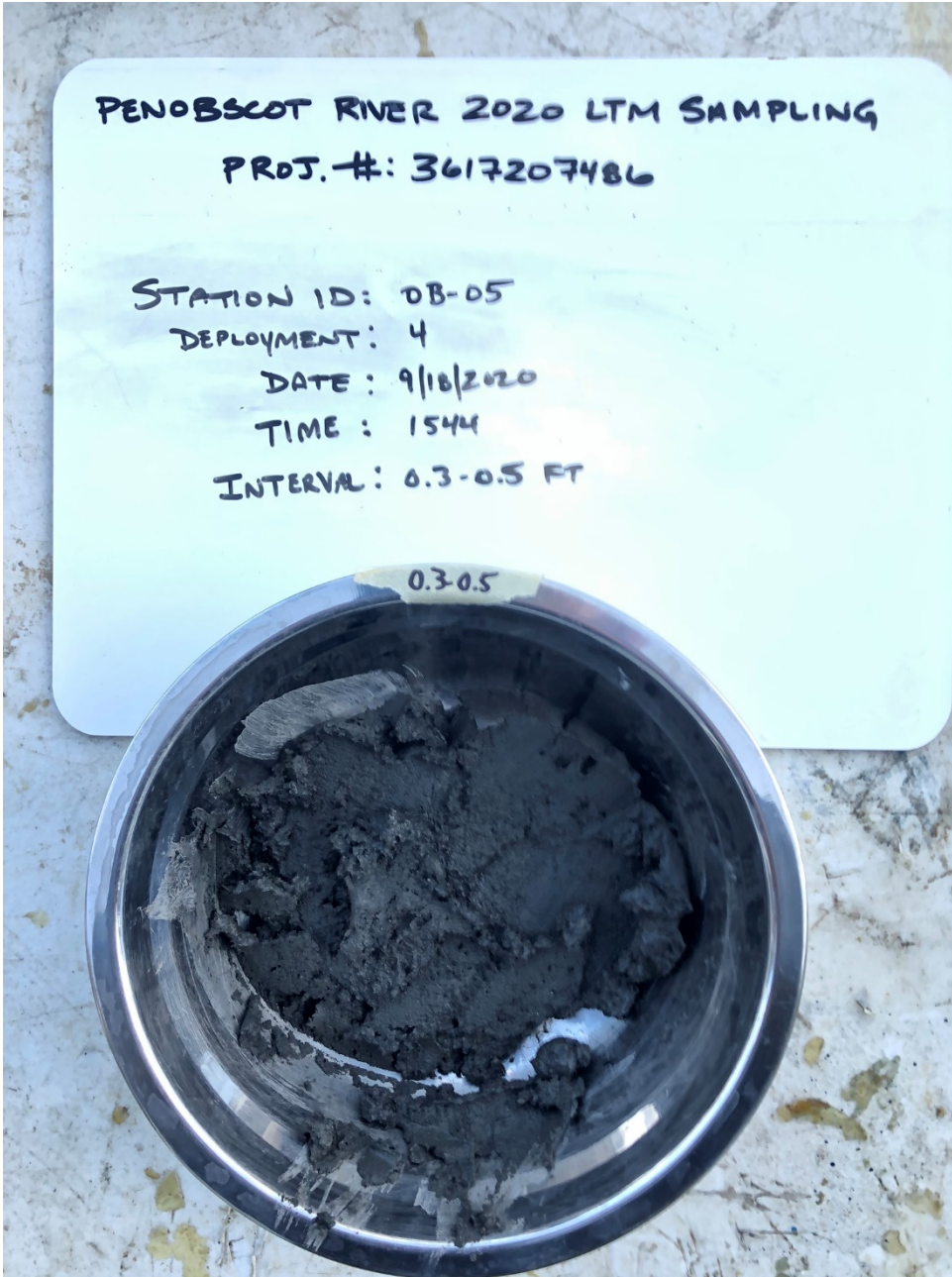


PHOTO 3:

CORE: OB-05

DEPLOYMENT: 4

INTERVAL: 0.3-0.5 FT

DATE: 9/18/2020



APPENDIX B – 2.05

Station Summary – W-17-N

STATION SUMMARY		
Station ID: W-17-N	Core collection and sample processing date: 17 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – W-17-N Collection Overview

On Thursday, September 17, 2020, Wood scientists cored station W-17-N in the Winterport reach between 10:05am and 10:25am aboard the *R/V Tesla*. The vessel was used to provide the sampling crew access to the high marsh area where the station was located. The sampling crew disembarked from the vessel and continued on foot to the sampling location. The weather was clear with temperatures in the 60's (°F) and varying winds ranging from 5 to 10-knots from the Southwest. Sea conditions were negligible to sampling effort, as station was accessed by foot. A Watermark Universal Core Head Kit (Watermark) was utilized for sediment collection via push coring. Sediment was collected with the Watermark directly into a 1-ft x 3-in diameter acetate liner. Two (2) 1-ft push cores were collected from two single attempts with the Watermark, designated in the field as W-17-N-A and W-17-N-B. Two cores were collected at this station in case sample integrity of a single core were to become compromised between collection and processing. Cores were preserved on wet ice while awaiting to be processed.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and cores at station W-17-N.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of the two deployments of the Watermark push corer are represented for station W-17-N. The deployments represented a vegetated high marsh zone accessible at highest high tide within the Winterport reach.

D – Processing Overview

Same-day processing was performed on W-17-N by Wood scientists at the Wood Field Station, Winterport, Maine. Core W-17-N-A, designated during processing as W-17-N, was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

The appearance and textural properties of each push core was described using the Unified Soil Classification (USCS). Cores contained a strong sulfur-like odor throughout.

Sediment Core Logs are attached (See Attachment B).

W-17-N

Push core W-17-N had an acceptable recovery over 0.5-ft.

- 0 – 0.1 ft: very dark grayish brown (2.5YR 3/2) silty PEAT, with fibrous in-situ root mass, no observed live organisms, four large (>1-in) wood debris (removed from sample): MARSH
- 0.1 – 0.3 ft: very dark grayish brown (2.5YR 3/2) silty PEAT, dense fibrous root matting (in situ), no live organisms, observed six (6) pieces of woody debris (0.5-1.0-in) removed: MARSH
- 0.3 – 0.5 ft: very dark grayish brown (2.5YR 3/2) silty PEAT, dense fibrous root matting (in situ), no live organisms observed: MARSH
- 0.5 – 0.62 ft: very dark grayish brown (2.5YR 3/2) silty PEAT, dense fibrous root matting (in situ), no live organisms observed: MARSH

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617 207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/17/20 Time: 1005 Vessel: R/V TESLA
 Coordinates: Lat 44.623471 Long -68.855390 Plan Volume: 0.140 gal.
 Sampling Station: W-17-N Deploy No. 1 Sub-tidal Location? NO

Weather: SUNNY, 60s Winds: — Waters: < 1.0' Traffic: NONE Water Temp: —

Measured Water Depth (NAVD88):	Ø N/A MARSH	Core Penetration Length (ft.):	0.67
Correction to NAVD88 (+/- ft. from NAVD88):		Recovered Core Length (ft.):	0.62
Mudline (Corrected Depth) @ NAVD88:		Sample Length Retained (ft.):	0.5'
Study Depth (-NAVD88):		Acceptable Core (80% recovery):	YES
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	0.140 gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01 @ 1656	VERY DARK GRAYISH BROWN (2.5YR 3/2) SILTY PEAT, WITH FIBROUS INSITU ROOT MASS, NO OBSERVED LIVE ORGANISMS. FOUR LARGE (>1") WOOD DEBRIS REMOVED FROM SAMPLE, Pt.
0.1' - 0.3'	01-03 @ 1658	VERY DARK GRAYISH BROWN (2.5YR 3/2) SILTY PEAT, DENSE FIBROUS ROOT MATTING (IN SITU), NO LIVE ORGANISMS OBSERVED. SIX PIECES OF WOODY DEBRIS (0.5"-1") REMOVED, Pt.
0.3' - 0.5'	03-05 @ 1700	VERY DARK GRAYISH BROWN (2.5YR 3/2) SILTY PEAT, DENSE FIBROUS ROOT MATTING (IN SITU), NO LIVE ORGANISMS OBSERVED, Pt.
0.5' - 0.62'	—	VERY DARK GRAYISH BROWN (2.5YR 3/2) SILTY PEAT, DENSE FIBROUS ROOT MATTING (IN SITU), NO LIVE ORGANISMS OBSERVED, Pt.
Bottom		

Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	ACETATE				4.0"	.50gal/ft
	Vibracorer: Push Corer				3.5"	.33gal/ft
	Slambar					

Live Organisms present	NO
Oil-Like Present	NO
Odor Present	YES
Debris Present	NO

Photo Numbers
 B. WEYER
 9/22/2020

Comments
 - COORDINATES RECORDED ON WOOD TABLET W/ TRIMBLE R1 GPS RECEIVER.
 - SULFUR-LIKE SMELL THROUGHOUT CORE

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 361720 7486	Logger: C. LAUBACK
Sub: ASI	WO: —	Crew: B. WEYER
Date: 9/17/20	Time: 1020	Vessel: R/V TESLA
Coordinates: Lat 44.623471	Long -68.855390	Plan Volume: 0.140 gal
Sampling Station: W-17-N-DUP	Deploy No. 2	Sub-tidal Location? NO

Weather: SUNNY, 60s	Winds:	Waters: < 1.0'	Traffic: NONE	Water Temp: —
Measured Water Depth [NAVD88]: \emptyset	Core Penetration Length (ft.): 0.75			
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.68			
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5'			
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES (90%) ^{CR 9/17}			
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140			

All Length Measurements are in Decimal Feet

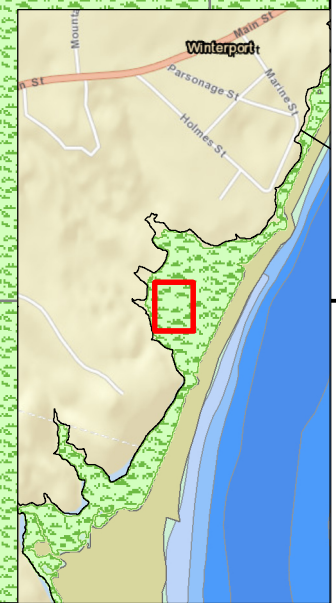
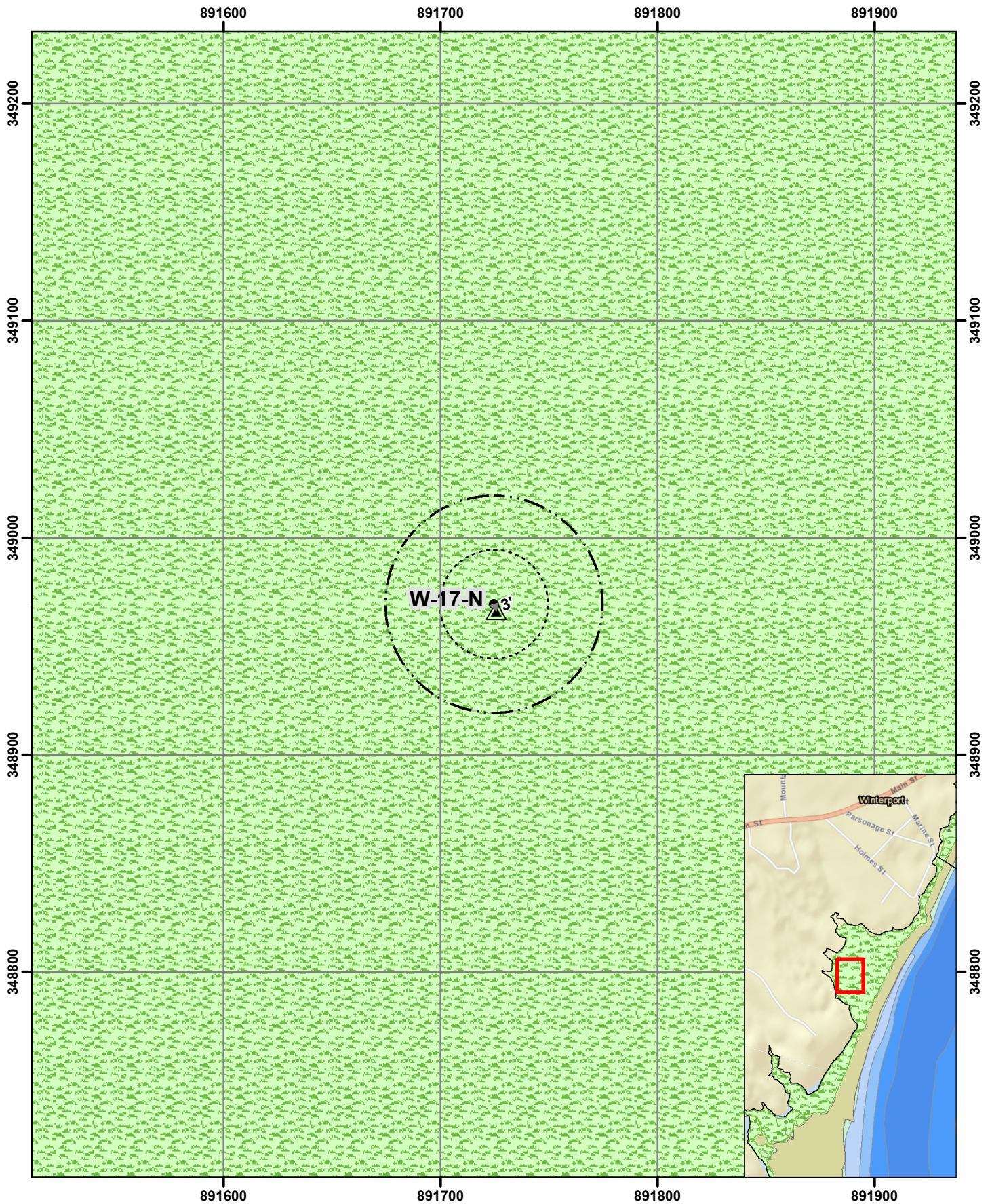
Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01-DUP @1729	VERY DARK, GRAYISH BROWN (2.5Y 3/2) SILTY PEAT W/ TRACE SAND AND CLAY; REMOVED A FIVE PIECES OF WOODY DEBRIS (0.5"-1.0") FROM SAMPLE, Pt.
0.1' - 0.3'	01-03-DUP @1731	VERY DARK GRAYISH BROWN (2.5Y 3/2) SILTY PEAT; VERY DENSE ROOT MATTING, MINIMAL SEDIMENT, Pt.
0.3' - 0.5'	03-05-DUP @1733	VERY DARK GRAYISH BROWN (2.5Y 3/2) SILTY PEAT, VERY DENSE ROOT MATTING, MINIMAL SEDIMENT, Pt.
0.5' - 0.68'	— —	DARK GRAYISH BROWN (2.5Y 4/1) SILTY PEAT, VERY DENSE ROOT MATTING, SILT-SIZED ORGANIC-LIKE SED. - NON-CLASTIC, Pt.
Bottom		

Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibracorer: Rush Corer			Slambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

Live Organisms present	NO	Comments - COORDINATES RECORDED ON WOOD TABLET W/ TRIMBLE RI GPS RECEIVER.
Oil-Like Present	NO	
Odor Present	NO	
Debris Present	NO	
Photo Numbers		
B. WEYER 9/22/2020		

QC CHECK BY B. WEYER 9/22/2020

CL 9/17/20



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- 25 foot radius buffer
- 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [W-17-N]
Reach: [Frankfort Flats]

Penobscot River Estuary
2020 Long Term Monitoring

Prepared/Date: ICD 12/20/20

Checked/Date: BPW 12/21/20

Maine State Plane CRS East Zone 1983

MXD: \PLD2-FS1\Project\Projects\USDC - Penobscot River 2020 Monitoring-3617207486\4.0_Deliverables\4.5_Databases\MXD\2020_REPORTING\PENOB_2020_LOC_ACC_vf_12202020_8.5x11P.mxd
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PHOTO 1:

CORE: W-17-N

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/17/2020

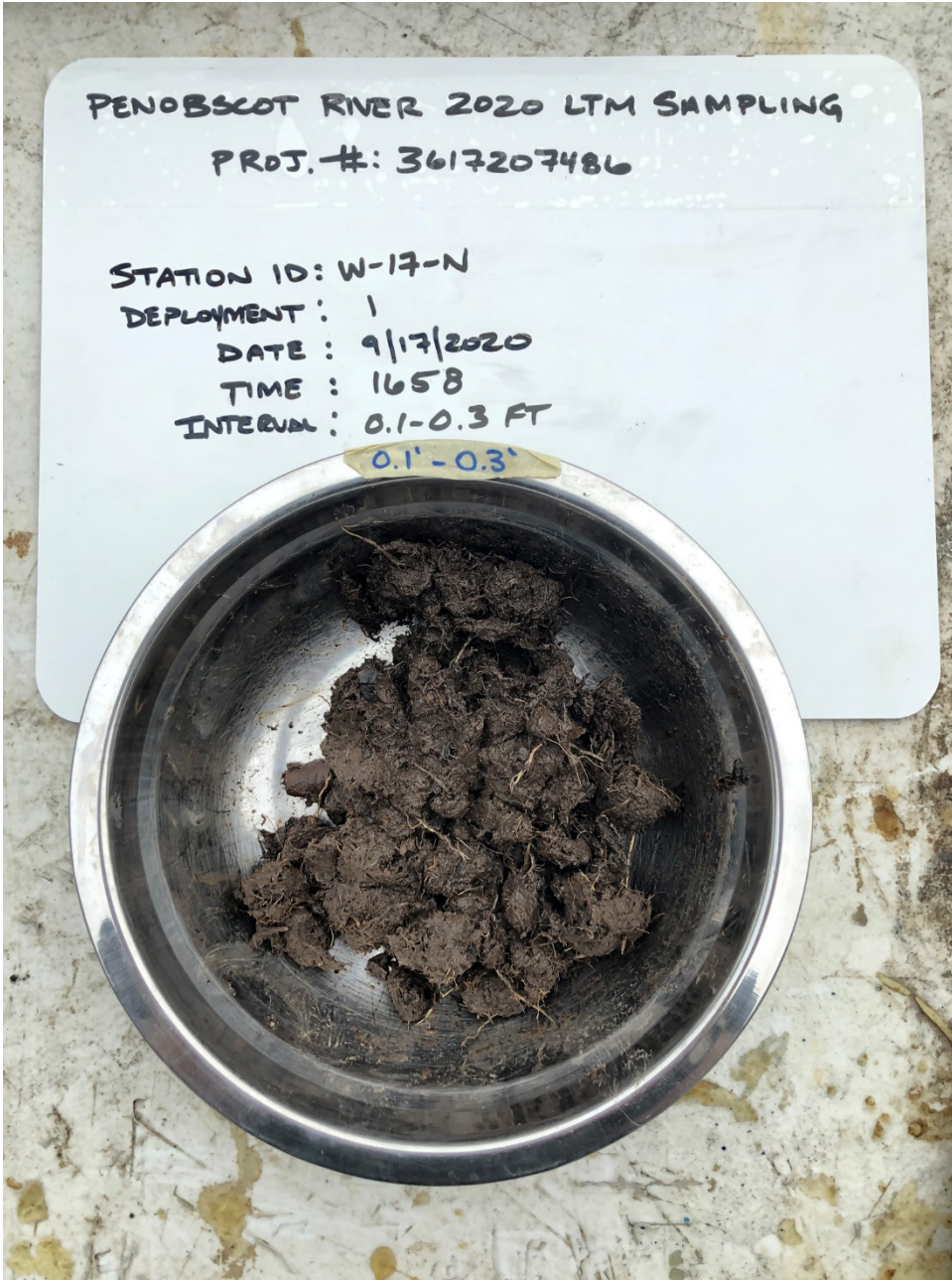


PHOTO 2:

CORE: W-17-N

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/17/2020

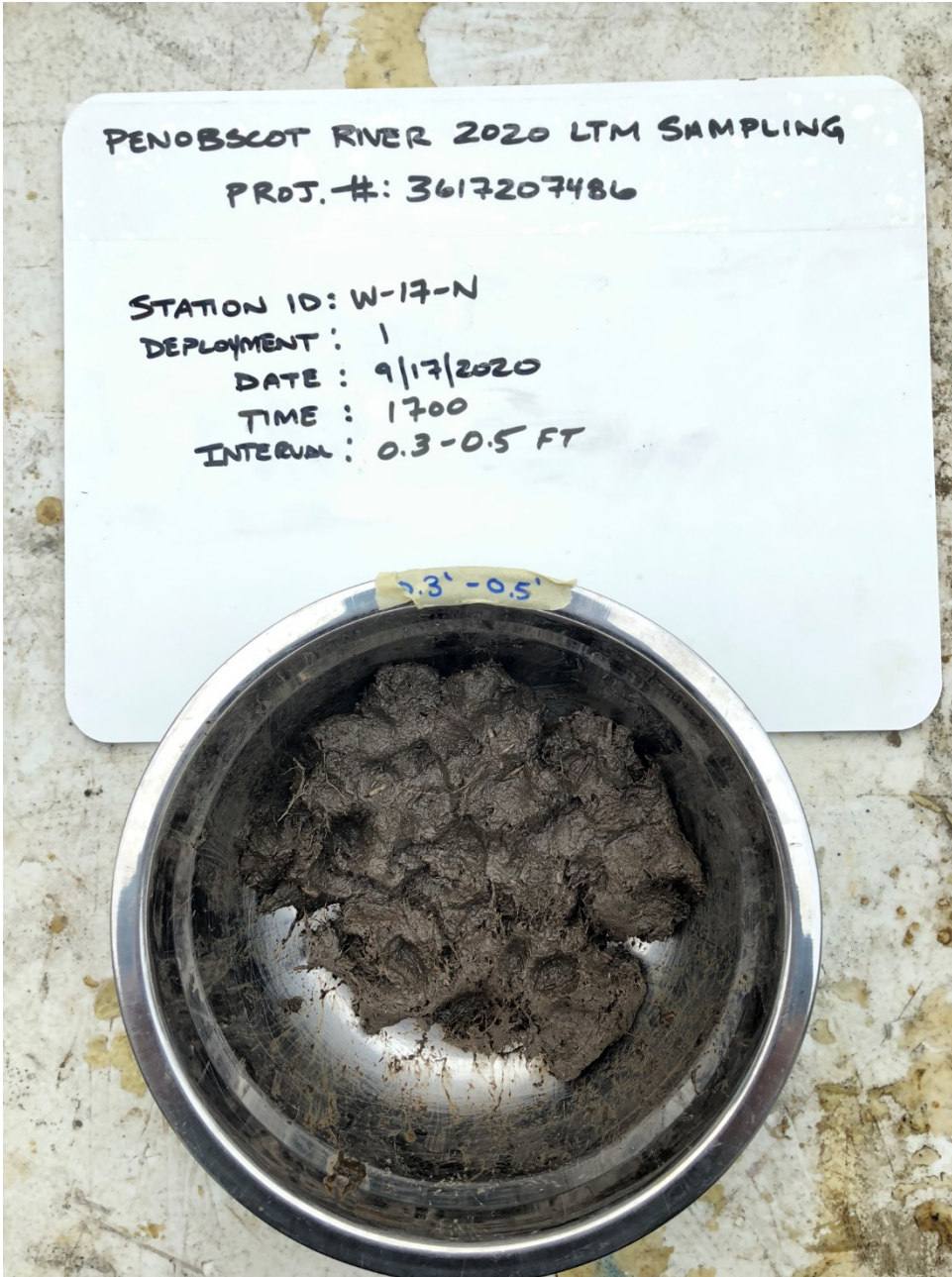


PHOTO 3:

CORE: W-17-N

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/17/2020



APPENDIX B – 2.06

Station Summary – W-17-High

STATION SUMMARY		
Station ID: W-17-High	Core collection and sample processing date: 21 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – W-17-High Collection Overview

On Monday, September 21, 2020, Wood scientists cored station W-17-High in the Winterport reach between 2:24pm and 3:05pm. The weather was clear with a temperature of 65°F and winds from the North. Sea conditions were negligible to sampling effort, as station was accessed by foot. A shooter shovel was utilized for sediment collection. The shooter shovel penetrated 0.7-ft into the subsurface and sediment was sampled directly from the shooter shovel.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and core(s) at station W-17-High.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station W-17-High represents the single collection point with the shooter shovel. The deployment represented a vegetated high marsh zone accessible at low tide within the Winterport reach.

D – Processing Overview

Same-day processing was performed on W-17-High on September 21, 2020 by Wood scientists on location. Sediment was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

The appearance and textural properties of each push core was described using the Unified Soil Classification (USCS).

Sediment Core Logs are attached (See Attachment B).

W-17-High

There was acceptable recovery with the shooter shovel at station W-17-High.

- 0.0 – 0.1 ft: dark brown, clayey SILT, some fine roots, wet, low plasticity
- 0.1 – 0.3 ft: dark brown SILT, some clay, very dense roots, saturated
- 0.3 – 0.5 ft: dark brown SILT, some clay, few roots, wet
- 0.5 – 0.75 ft: dark brown, SILT, some clay, dense roots, saturated

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: **USDC** Project No.: **3617207486** Logger: **S. Couplin**
 Sub: **NONE** WO: **---** Crew: **H. Plante, T. Gierhardy, C. Goffrey**
 Date: **9-21-20** Time: **1430** Vessel: **NA**

Coordinates: Lat **44.618743** Long **-68.856681** Plan Volume: **0.140 gal.**

Sampling Station: **W-17-HIGH-092120** Deploy No. **1** Sub-tidal Location? **NO**

Weather: **65°F, Clear** Winds: **North** Waters: **NA** Traffic: **NA** Water Temp: **NA**

Measured Water Depth [NAVD88]: NA	Core Penetration Length (ft.): 1.0
Correction to NAVD88 (+/- ft. from NAVD88): ---	Recovered Core Length (ft.): 0.75'
Mudline (Corrected Depth) @ NAVD88: ---	Sample Length Retained (ft.): 0.5
Study Depth (-NAVD88): ---	Acceptable Core (80% recovery): YES
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140 gal

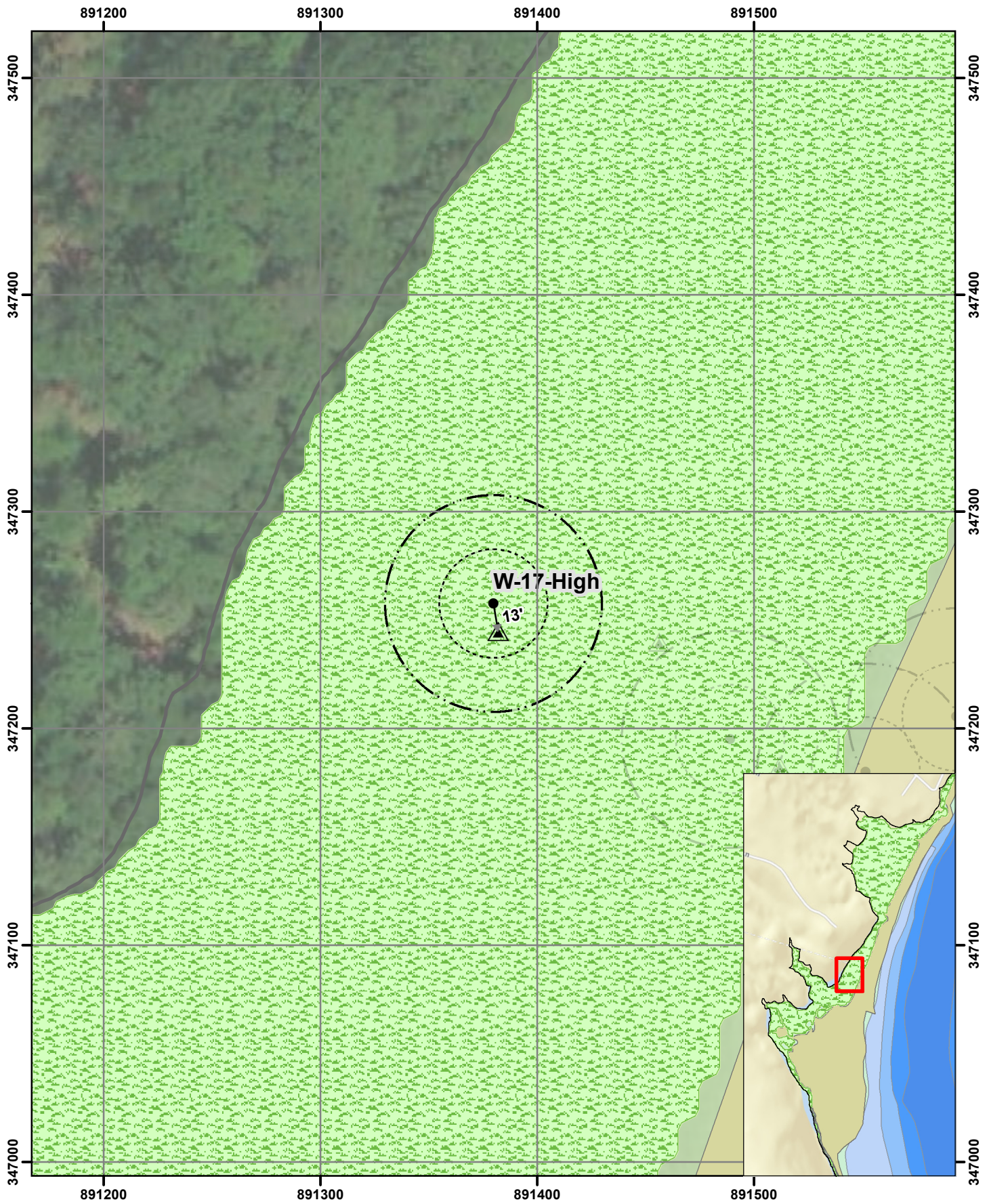
All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0 - 0.1	W-17-HIGH-092120 SED-00-01 @ 1435	Dark brown ⁹⁻²¹⁻²⁰ silty clayey silt, some fine roots, wet, low plasticity
0.1 - 0.3	W-17-HIGH-092120 SED-01-03 @ 1445	Dark brown silt, some clay, very dense roots, saturated
0.3 - 0.5	W-17-HIGH-092120 SED-03-05 @ 1455	Same as above, few roots, wet
0.5 - 0.75	W-17-HIGH-092120 SED-05-075 @ 1455	Dark brown, silt, ^{some} fine clay, ⁹⁻²¹⁻²⁰ saturated, dense roots
Bottom	---	---

Number of containers:	<input checked="" type="checkbox"/> bucket	<input checked="" type="checkbox"/> liner bag	<input checked="" type="checkbox"/> jar (6)	<input checked="" type="checkbox"/> other	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	NA			Vibracorer: See comments	4.0"	.50gal/ft
				Push Corer: Slambar	3.5"	.33gal/ft

Live Organisms present	NO	Comments Shooter shovel
Oil-Like Present	NO	
Odor Present	NO	
Debris Present	YES - roots	
Photo Numbers B. WEYER 9/22/2020		

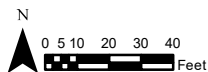
QC CHECK BY B. WEYER 9/22/2020



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- 25 foot radius buffer
- 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [W-17-High]
 Reach: [Frankfort Flats]



Penobscot River Estuary
 2020 Long Term Monitoring

Prepared/Date: ICD 12/20/20 | Checked/Date: BPW 12/21/20 | Maine State Plane CRS East Zone 1983



PHOTO 1:

CORE: W-17-High

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/21/2020



PHOTO 2:

CORE: W-17-High

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/21/2020

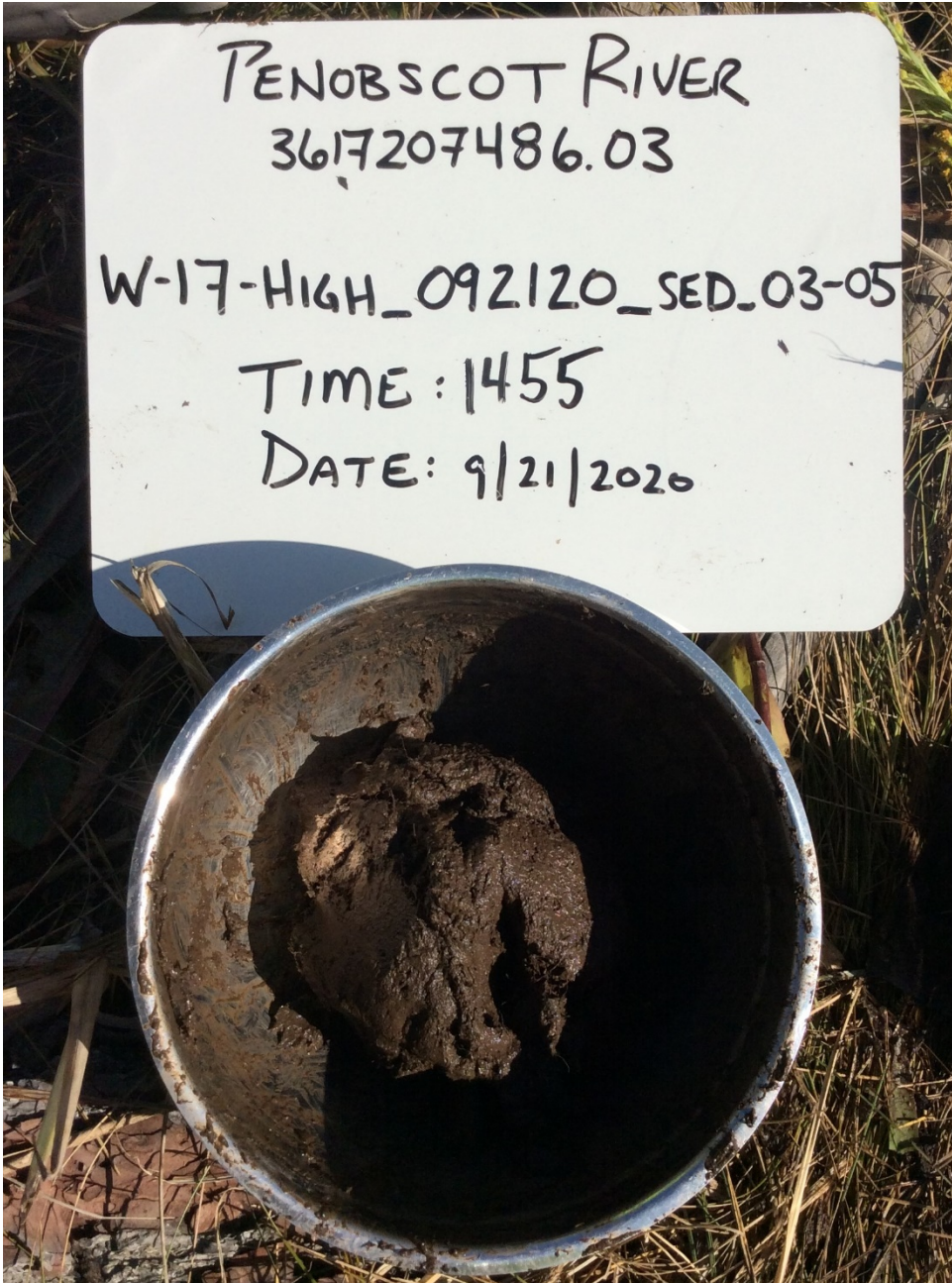


PHOTO 3:

CORE: W-17-High

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/21/2020



APPENDIX B – 2.07

Station Summary – W-17-Mid

STATION SUMMARY		
Station ID: W-17-Mid	Core collection and sample processing date: 21 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – W-17-Mid Collection Overview

On Monday, September 21, 2020, Wood scientists cored station W-17-Mid in the Winterport reach between 3:05pm and 3:30pm. The weather was clear with a temperature of 65°F and wind from the North. Sea conditions were negligible to sampling effort, as station was accessed by foot. A shooter shovel was utilized for sediment collection. The shooter shovel penetrated 0.85-ft into the subsurface and sediment was sampled directly from the shooter shovel.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and core(s) at station W-17-Mid.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station W-17-Mid represents the single collection point with the shooter shovel. The deployment represented a vegetated mid-marsh zone accessible at low tide within the Winterport reach.

D – Processing Overview

Same-day processing was performed on W-17-Mid by Wood scientists on location. Sediment was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

The appearance and textural properties of each push core was described using the Unified Soil Classification (USCS).

Sediment Core Logs are attached (See Attachment B).

W-17-Mid

There was acceptable recovery with the shooter shovel at station W-17-Mid, over 0.5-ft.

- 0.0 – 0.1 ft: medium brown, clayey SILT, very dense roots, saturated
- 0.1 – 0.3 ft: medium brown, clayey SILT, very dense fine and medium roots, saturated
- 0.3 – 0.5 ft: medium brown, clayey SILT, very dense fine to medium roots, saturated
- 0.5 – 0.85 ft: medium brown, clayey SILT, decreasing root density with depth, saturated

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC - ~~Penobscot~~ ^{BW} 9/22/20
 Sub: ~~WOOD ESTS~~ ^{None} ~~BW~~ 9/22/20
 Project No.: 36172074816
 WO: ~~_____~~
 Date: 9.21.20
 Time: 1505
 Logger: S. Coulter
 Crew: H. Platt, T. G. School, C. Godfrey
 Vessel: NA
 Coordinates: Lat 44.618732 Long -68.856397
 Plan Volume: 0.140 gal
 Sampling Station: W-17-MID
 Deploy No.: 1
 Sub-tidal Location? NO

Weather: 65°F, clear Winds: north Waters: NA Traffic: NA Water Temp: NA
 Measured Water Depth (NAVD88): NA
 Correction to NAVD88 (+/- ft. from NAVD88): -
 Mudline (Corrected Depth) @ NAVD88: -
 Study Depth (-NAVD88): -
 Required Penetration Length: 0.5'
 Core Penetration Length (ft.): 1.0'
 Recovered Core Length (ft.): 0.85'
 Sample Length Retained (ft.): 0.5'
 Acceptable Core (80% recovery): YES
 Core Volume Retained (gal.): 0.140

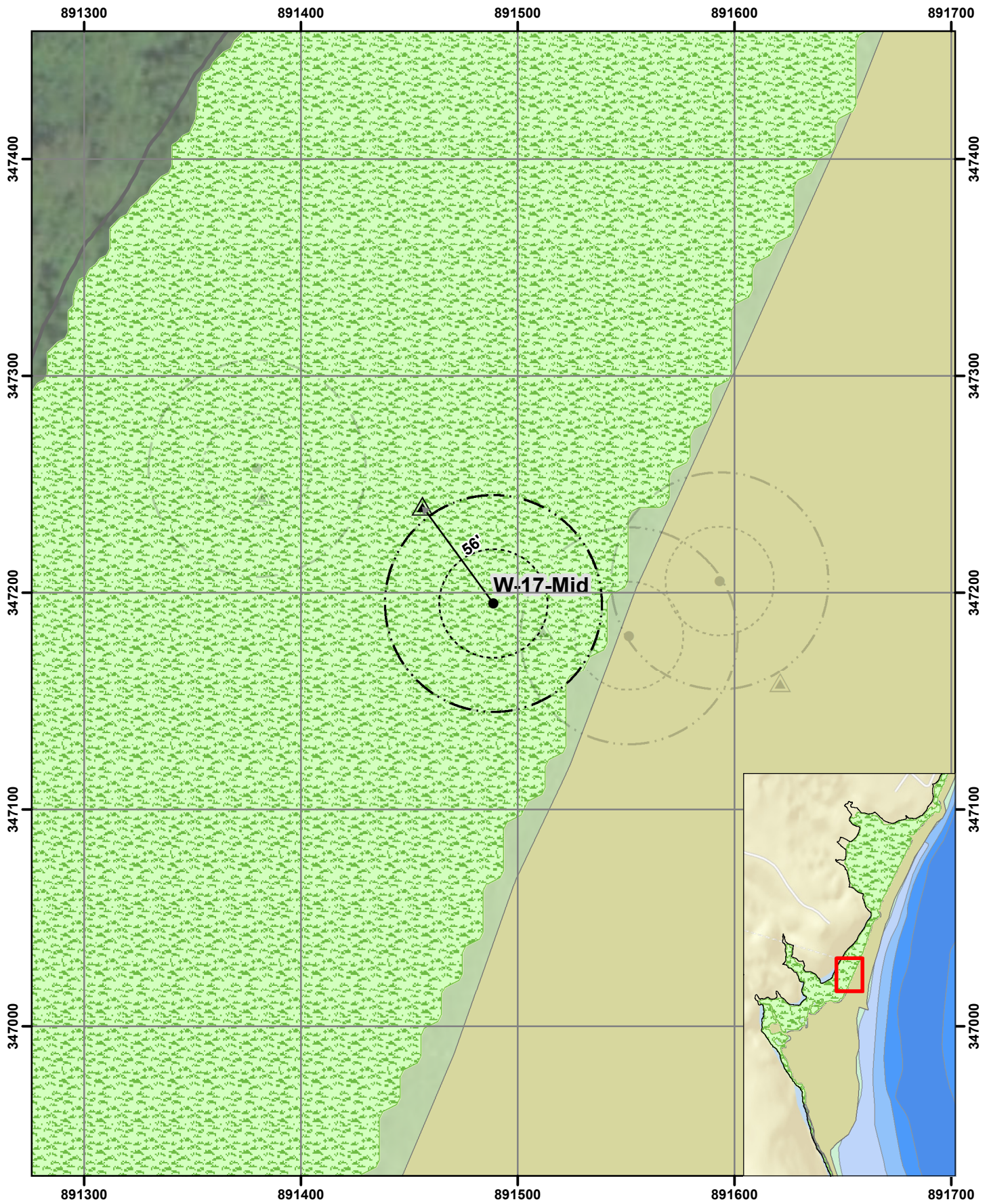
All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0-0.1	W-17-MID-092120 -SED-00-01 @ 1510	medium brown, clayey silt, very dense roots, saturated
0.1-0.3	W-17-MID-092120 -SED-01-03 @ 1520	medium brown, clayey silt, very dense fine and medium roots, saturated
0.3-0.5	W-17-MID-092120 -SED-03-05 @ 1530	medium brown, clayey silt, very dense fine to medium roots, saturated
0.5-0.85	_____ (SC) 9-21-20	Same as above, decreasing root density with depth
Bottom	_____ (SC) 9-21-20	

Number of containers:				Core Volumes		
Type of container:	bucket	liner bag	6 jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	NA	Vibracorer:	SEE COMMENTS		4.0"	.50gal/ft
		Push Corer	Slambar		3.5"	.33gal/ft

Live Organisms present	NO	Comments Shower spore!
Oil-Like Present	NO	
Odor Present	NO	
Debris Present	NO	
Photo Numbers	B. WEYER 9/22/2020	

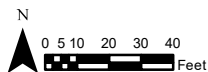
QC CHECK BY B. WEYER 9/22/2020



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- 25 foot radius buffer
- 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [W-17-Mid]
 Reach: [Frankfort Flats]



Penobscot River Estuary
 2020 Long Term Monitoring

Prepared/Date: ICD 12/20/20

Checked/Date: BPW 12/21/20

Maine State Plane CRS East Zone 1983



PHOTO 1:

CORE: W-17-Mid

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/21/2020



PHOTO 2:

CORE: W-17-Mid

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/21/2020



PHOTO 3:

CORE: W-17-Mid

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/21/2020



APPENDIX B – 2.08

Station Summary – W-17-Low

STATION SUMMARY		
Station ID: W-17-Low	Core collection and sample processing date: 18 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – W-17-Low Collection Overview

On Friday, September 18, 2020, Wood scientists cored station W-17-Low in the Winterport reach between 12:10pm and 12:40pm aboard the *R/V Tesla*. The weather was overcast with temperatures in the 50s°F and varying winds ranging from 5 to 8-knots from the North. Sea conditions were mild, with a wave height of 0.5-1.0-ft, providing acceptable conditions to stay on location for coring. A Watermark Universal Core Head Kit (Watermark) was utilized for sediment collection via push coring. Sediment was collected with the Watermark directly into a 1-ft x 3-in diameter acetate liner. One (1) 1-ft push core was collected from a single attempted with the Watermark, designated in the field as W-17-Low. Core was preserved on wet ice while awaiting to be processed.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and cores at station W-17-Low.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station W-17-Low represents the single deployment of the Watermark push corer. The deployment represented a vegetated low-marsh zone accessible at highest high tide within the Winterport reach.

D – Processing Overview

Same-day processing was performed on W-17-Low by Wood scientists at the Wood Field Station, Winterport, Maine. The core was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

Same-day processing was performed on W-17-Low on September 18, 2020 by Wood scientists at the Wood Field Station, Winterport, Maine. Core W-17-Low was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) with a designated extruder. Extruder was decontaminated between individual aliquots. The appearance and textural properties of each push core was described using the Unified Soil Classification (USCS). There was a sulfur-like odor present noted during processing, which increased downcore.

Sediment Core Logs are attached (See Attachment B).

W-17-Low

Push core W-17-Low had an acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: dark olive gray (5Y 3/2) silty CLAY with organic-like and clastic fines, dense in-situ root-matting and in-situ live marsh plants, peat: MARSH
- 0.1 – 0.3 ft: dark olive gray (5Y 3/2) silty CLAY, organic-like and clastic fines, sediment matrix with dense in-situ root matting, low plasticity, peat: MARSH
- 0.3 – 0.5 ft: dark olive gray (5Y 3/2) silty CLAY, organic-like and clastic fines make up sediment matrix with dense in-situ root matting, low plasticity, peat: MARSH
- 0.5 – 0.8 ft: dark olive gray (5Y 3/2) silty CLAY, organic-like and clastic fines make up sediment matrix with dense in-situ root matting, low plastic: MARSH

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 3617207486	Logger: C. LAUBACK
Sub: ASI	WO: -	Crew: B. WEYER
Date: 9/18/20	Time: 1220	Vessel: R/V TESLA
Coordinates: Lat 44.618575	Long -68.856182	Plan Volume: 0.140gal
Sampling Station: W-17-LOW	Deploy No. 1	Sub-tidal Location? NO
Weather: OVERCAST, 50s	Winds: 5-8mph	Waters: 0.5-1.0'
	Traffic:	Water Temp: -
Measured Water Depth [NAVD88]: 1.6	Core Penetration Length (ft.): ^{CL 1/8} 1.0	
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): ^{CL 9/18} 0.9	
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5	
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES	
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140gal	

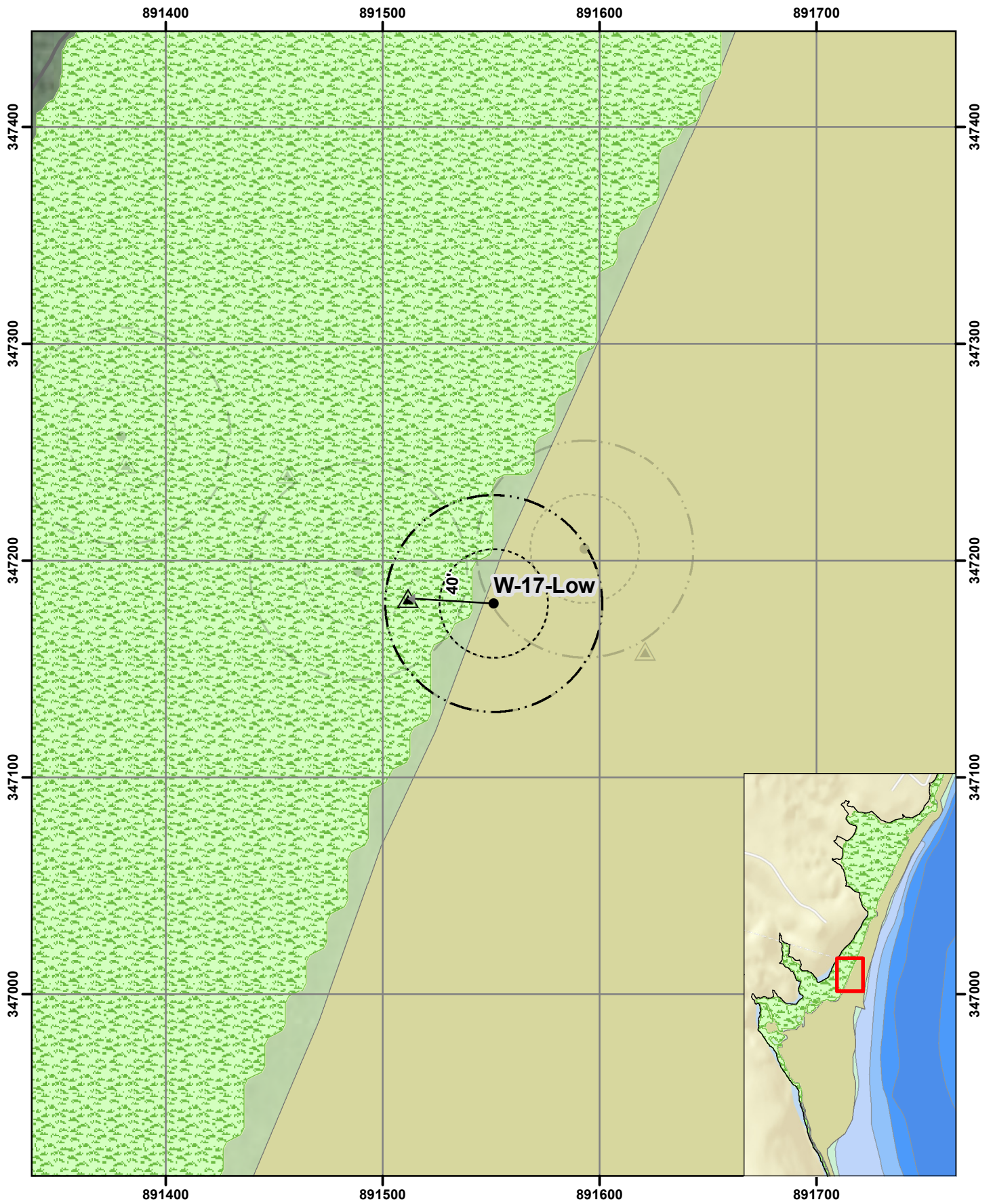
All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01 @1733	DARK OLIVE GRAY (SY 3/2) SILTY CLAY, ORGANIC-LIKE AND CLASTIC FINES, DENSE ROOT-MATTING - IN SITU LIVING MARSH PLANTS, MARSH, PE.
0.1' - 0.3'	01-03 @1735	DARK OLIVE GRAY (SY 3/2) SILTY CLAY, ORGANIC-LIKE AND CLASTIC FINES SEDIMENT MATRIX WITH DENSE ROOT MATTING (LIVE/IN SITU), LOW PLASTIC, MARSH, PE.
0.3' - 0.5'	03-05 @1737	DARK OLIVE GRAY (SY 3/2) SILTY CLAY, ORGANIC-LIKE AND CLASTIC FINES SEDIMENT MATRIX WITH DENSE ROOT MATTING (LIVE IN SITU), LOW PLASTIC, MARSH, PE.
0.5' - 0.8'	—	DARK OLIVE GRAY (SY 3/2) SILTY CLAY, ORGANIC-LIKE AND CLASTIC FINES SEDIMENT MATRIX WITH DENSE ROOT MAT, LOW PLASTIC
Bottom		

Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibracorer: Push Corer			Slambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

Live Organisms present	Comments - COORDINATES RECORDED W/TABLET - SULFUR-LIKE ODOR INCREASES DOWNCORE
Oil-Like Present NO	
Odor Present YES, ORGANIC-LIKE	
Debris Present NO	
Photo Numbers	
B. WEYER 9/22/2020	

QC CHECK BY B. WEYER 9/22/2020



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- ⊖ 25 foot radius buffer
- ⊖ 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [W-17-Low]
Reach: [Frankfort Flats]

Penobscot River Estuary
2020 Long Term Monitoring

Prepared/Date: ICD 12/20/20 Checked/Date: BPW 12/21/20 Maine State Plane CRS East Zone 1983

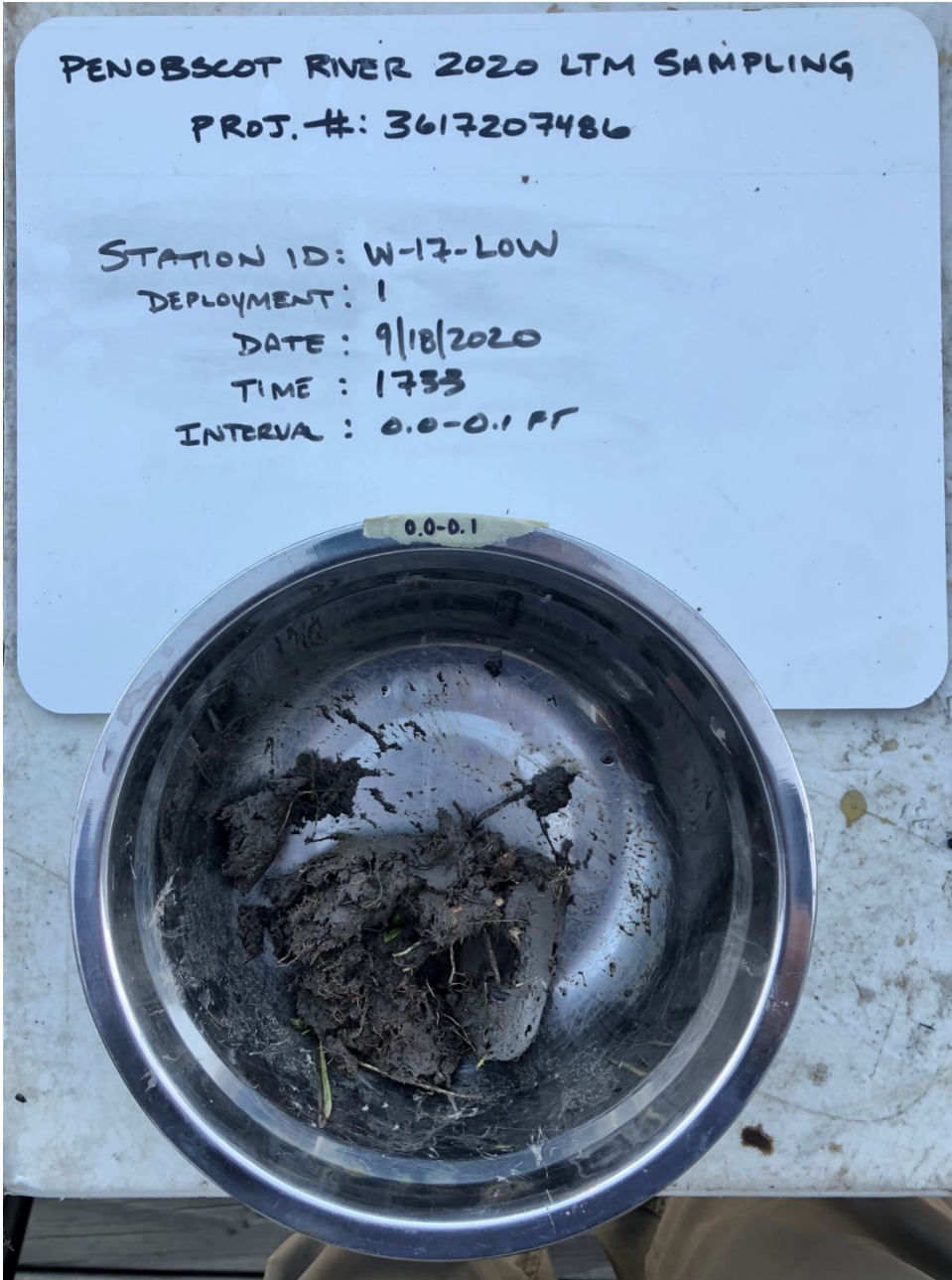


PHOTO 1:

CORE: W-17-Low

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/18/2020

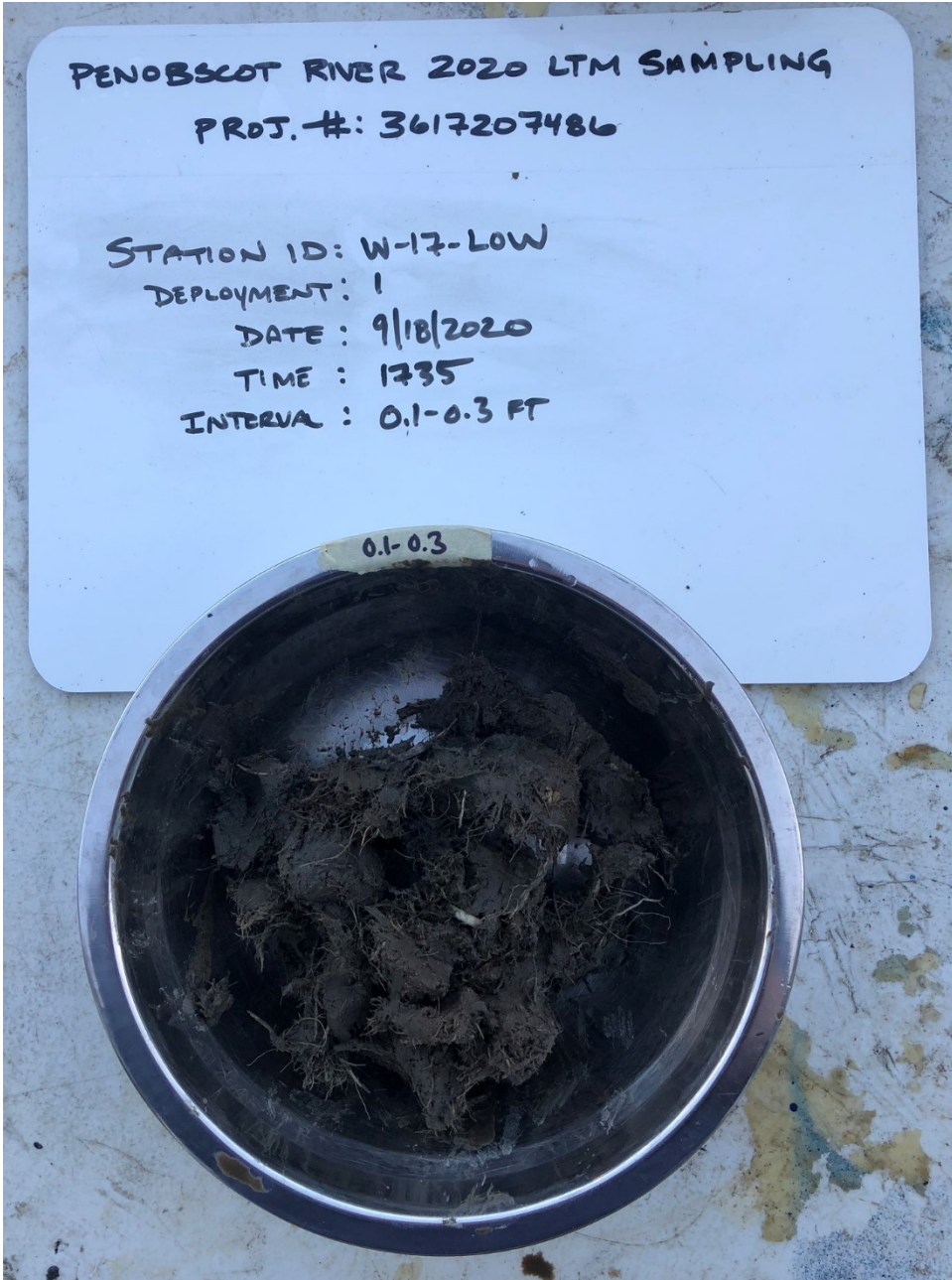


PHOTO 2:

CORE: W-17-Low

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/18/2020

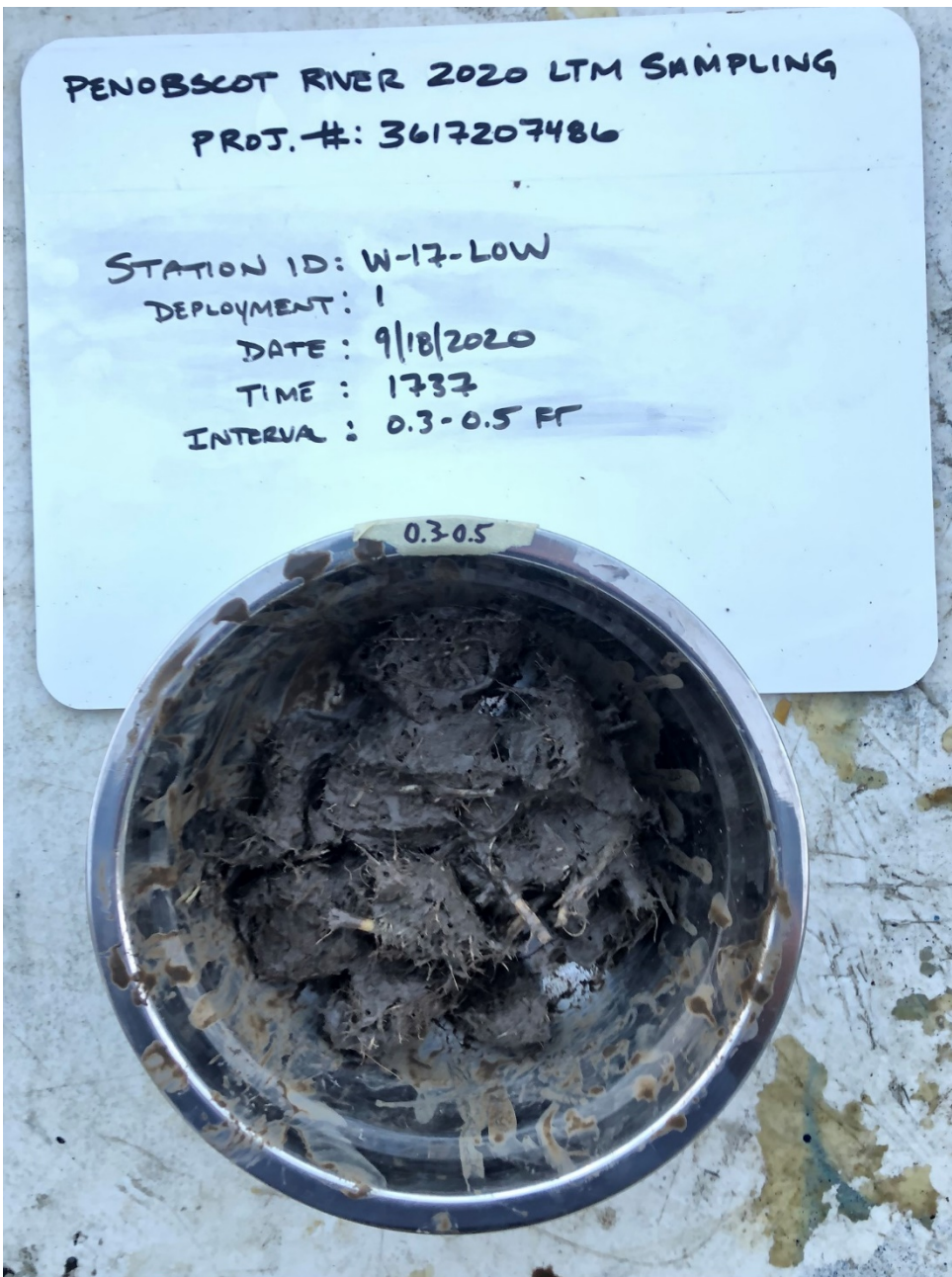


PHOTO 3:

CORE: W-17-Low

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/18/2020



APPENDIX B – 2.09

Station Summary – W-17-Intertidal

STATION SUMMARY		
Station ID: W-17-Intertidal	Core collection and sample processing date: 18 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – W-17-Intertidal Collection Overview

On Friday, September 18, 2020, Wood scientists cored station W-17-Intertidal in the Winterport reach between 12:10pm and 12:40pm aboard the *R/V Tesla*. The weather was overcast with temperatures in the 50's (°F) and varying winds ranging from 5 to 8-knots from the North. Sea conditions were smooth, with a wave height of 0.5-1.0-ft, providing acceptable conditions for vessel to hold on location for sampling. A Watermark Universal Core Head Kit (Watermark) was utilized for sediment collection via push coring. Sediment was collected with the Watermark directly into a 1-ft x 3-in diameter acetate liner. One (1) 1-ft push core was collected from a single attempted with the Watermark, designated in the field as W-17-Intertidal. The core was preserved on wet ice while awaiting to be processed.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and cores at station W-17-Intertidal.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station W-17-Intertidal represents the single deployment with the Watermark push corer. The deployment represented a non-vegetated intertidal zone accessible at high tide within the Winterport reach.

D – Processing Overview

Same-day processing was performed on W-17-Intertidal by Wood scientists at the Wood Field Station, Winterport, Maine. Core W-17-Intertidal was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

The appearance and textural properties of each push core was described using the Unified Soil Classification (USCS). There was a sulfur-like odor observed during processing, which increased downcore to termination.

Sediment Core Logs are attached (See Attachment B).

W-17-Intertidal

Push core W-17-Intertidal had an acceptable recover over 0.5-ft.

- 0.0 – 0.1 ft: very dark gray (5Y 3/1) clayey SILT, rich in organic-like material, some very fine clastic sands with trace wood chip, low plasticity: ALLUVIUM
- 0.1 – 0.3 ft: black (5Y 2.5/1) clayey SILT, some very dark blue-black (GLEY 2 2.5/PB) lenses, one articulated bivalve present, low to medium plasticity: ALLUVIUM
- 0.3 – 0.5 ft: black (5Y 2.5/1) clayey SILT, organic-like fines, low to medium plasticity: ALLUVIUM

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B WEYER
 Date: 9/18/20 Time: 1230 Vessel: RV TESLA
 Coordinates: Lat 44.618510 Long -68.855762 Plan Volume: 0.140gal
 Sampling Station: W-17 - INTERTIDAL Deploy No. 1 Sub-tidal Location? NO

Weather: OVERCAST 503 Winds: 5-8mph Waters: 0.5-1.0' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 9.0'	Core Penetration Length (ft.): 0.60
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.58
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5
Study Depth (-NAVD88):	Acceptable Core (80% recovery) : YES
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01 @ 1606	VERY DARK GRAY (5Y 3/1) CLAYEY SILT, ORGANIC-LIKE RICH, SOME VERY FINE CLASTIC SANDS WITH TR WOOD CHIP, LOW PLASTIC ALLUVIUM
0.1' - 0.3'	01-03 @ 1608	BLACK (5Y 2.5/1) CLAYEY SILT, SOME VERY DARK BLUE/BLACK LENSES (GLEY 2.5/1.5PB), ONE ARTICULATED BI-VALVE PRESENT, LOW TO MED. PLASTIC ALLUVIUM
0.3' - 0.5'	03-05 @ 1610	BLACK (5Y 2.5/1) CLAYEY SILT, ORGANIC-LIKE FINES, LOW TO MED. PLASTICITY, ALLUVIUM.
	CL 9/18/20	CL 9/18/20
	CL 9/18/20	CL 9/18/20
Bottom		

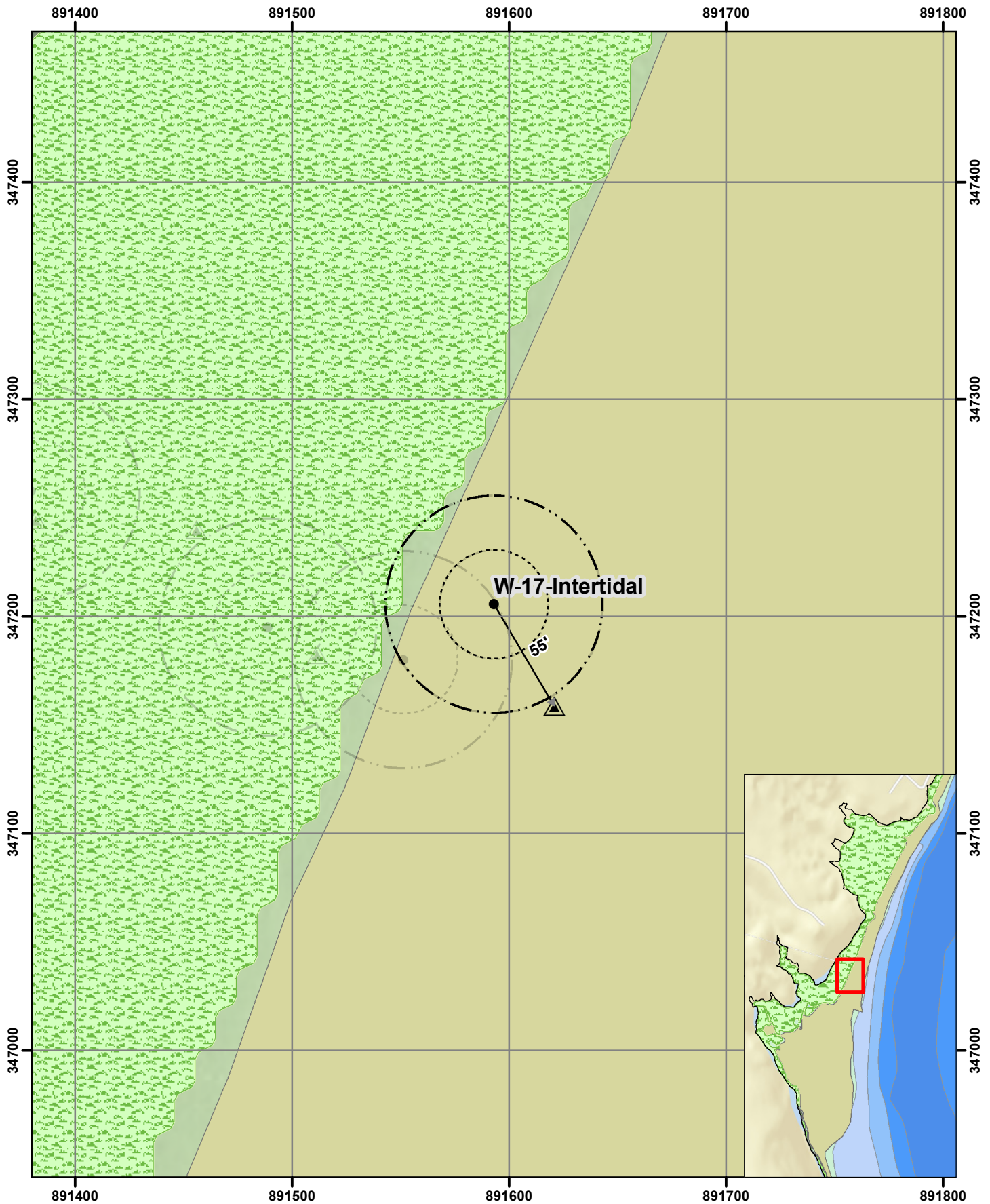
Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibrator: Push Corer			Slambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

Live Organisms present	YES
Oil-Like Present	NO
Odor Present	YES
Debris Present	NO

Photo Numbers
 B. WEYER
 9/22/2020

Comments
 - COORDINATES RECORDED W/ TABLET
 - SULFUR-LIKE ODOR INCREASES DOWN CORE

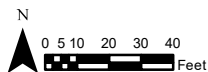
QC CHECK BY B. WEYER 9/22/2020



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- ⋯ 25 foot radius buffer
- ⋯ 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [W-17-Intertidal]
 Reach: [Frankfort Flats]



Penobscot River Estuary
 2020 Long Term Monitoring

Prepared/Date: ICD 12/20/20 | Checked/Date: BPW 12/21/20 | Maine State Plane CRS East Zone 1983

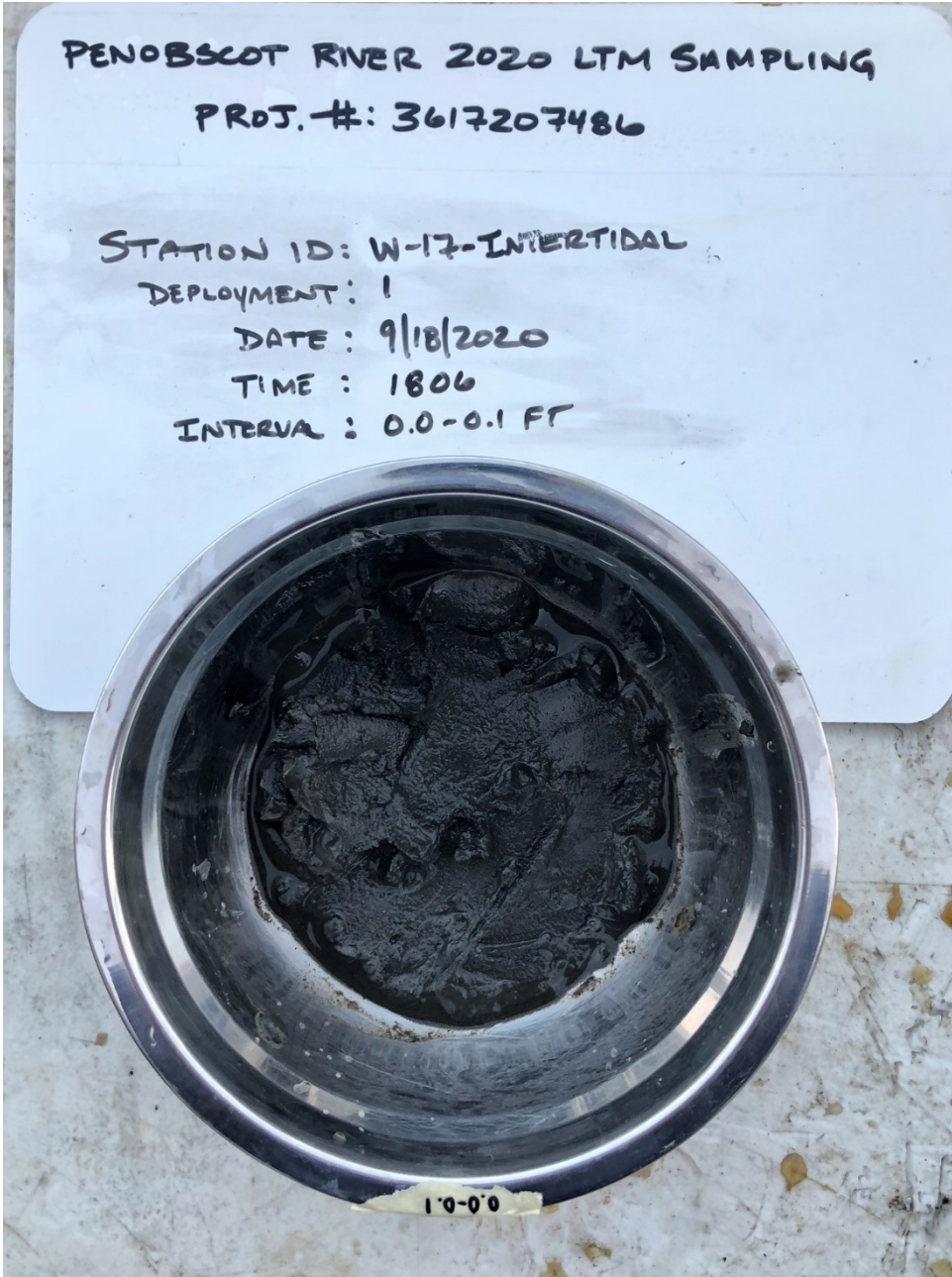


PHOTO 1:

CORE: W-17-Intertidal

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/18/2020

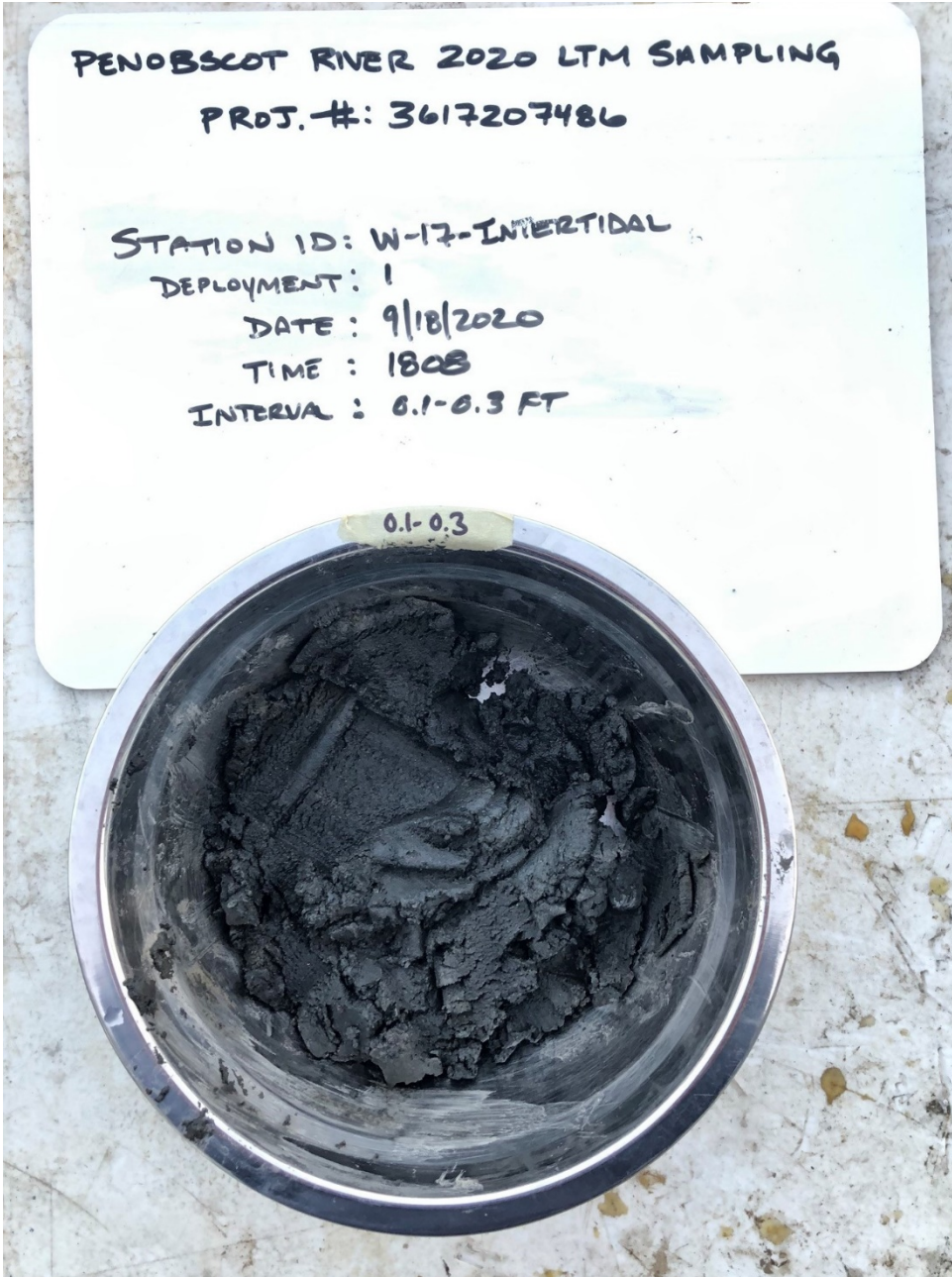


PHOTO 2:

CORE: W-17-Intertidal

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/18/2020

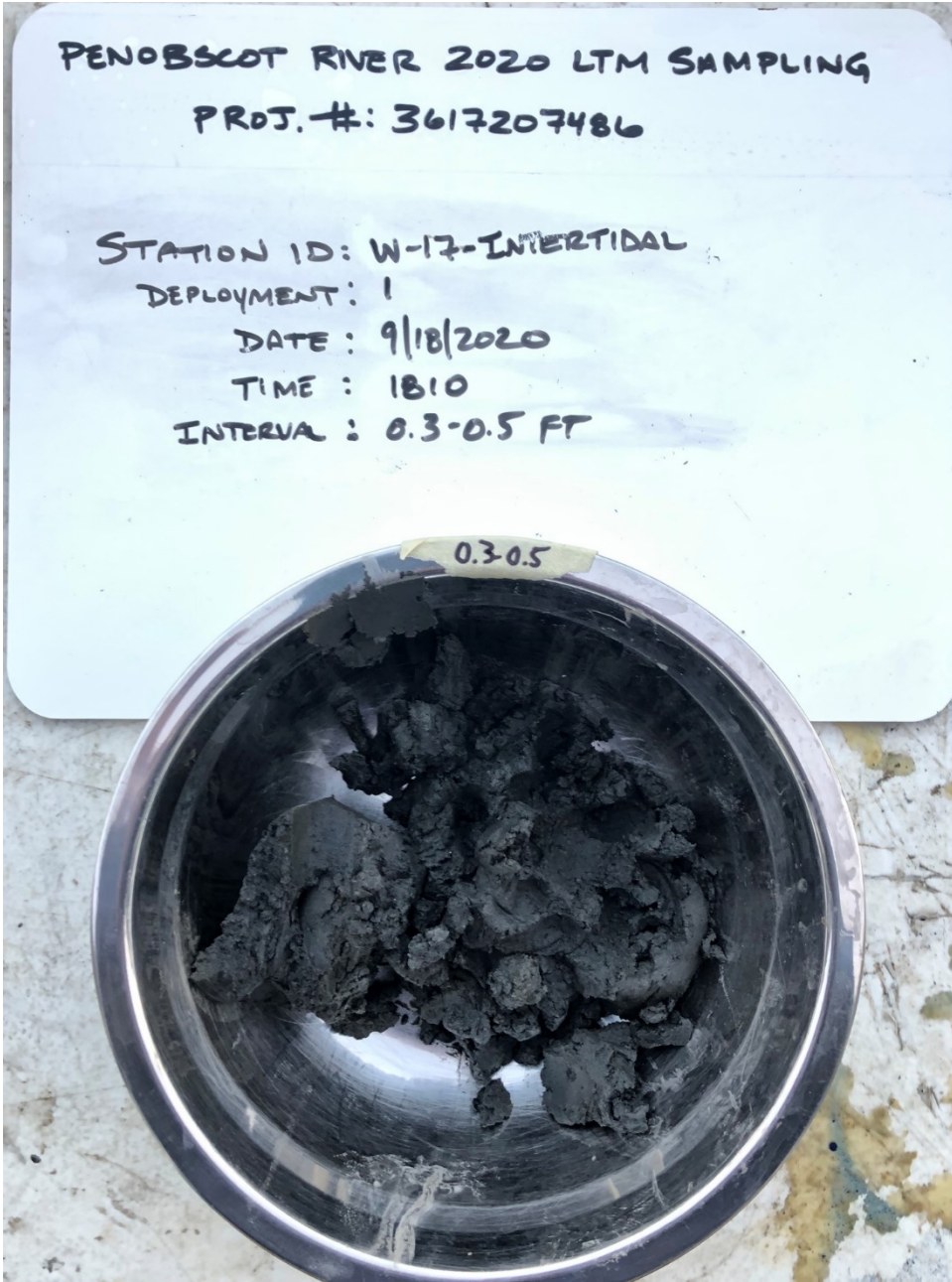


PHOTO 3:

CORE: W-17-Intertidal

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/18/2020



APPENDIX B – 2.10

Station Summary – FF-08-02

STATION SUMMARY		
Station ID: FF-08-02	Core collection and sample processing date: 18 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – FF-08-02 Collection Overview

On Friday, September 18, 2020, Wood scientists cored station FF-08-02 in the Frankfort Flats reach between 11:40am and 12:10pm aboard the *R/V Tesla*. The weather was overcast with temperatures in the 50's (°F) and varying winds ranging from 5 to 8-knots from the North. Sea conditions were smooth, with a wave height of 0.5-1.0-ft, providing acceptable conditions for the vessel to hold on location for sampling. A box corer was utilized for sediment collection. Sediment was sampled from the box corer by 1-ft hand push cores with 3-in diameter acetate liners. One (1) deployment of the box corer was attempted at FF-08-02 to obtain two (2) 1-ft hand push cores, designated in the field as FF-08-02-A and FF-08-02-B. Cores were preserved on wet ice while awaiting to be processed

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and cores at station FF-08-02.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station FF-08-02 represents the single deployment of the box corer. The deployment represented a non-vegetated intertidal zone accessible at high tide within the Frankfort Flats reach.

D – Processing Overview

Same-day processing was performed on FF-08-02-A and FF-08-02-B by Wood scientists at the Wood Field Station, Winterport, Maine. Cores FF-08-02-A and FF-08-02-B, designated during processing as FF-08-02 and FF-08-02_DUP, were sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC). Station FF-08-02 was used for laboratory duplicate analyses.

The appearance and textural properties of each push core was described using the Unified Soil Classification (USCS).

Sediment Core Logs are attached (See Attachment B).

FF-08-02

Push core FF-08-02 had an acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: olive gray (5Y 4/2) clayey SILT, wet, low plasticity, heterogeneous with trace fibrous organic root-like strands and a lense of black, organic-rich clayey SILT: ALLUVIUM.
- 0.1 – 0.3 ft: very dark greenish gray (GLEY 1 3/1 10Y) silty, organic-like CLAY, with trace small fibrous root-like material (0.05') and trace wood chip, one (1) articulated bivalve (~0.05'), medium plasticity: ALLUVIUM
- 0.3 – 0.5 ft: very dark greenish gray (GLEY 1 3/1 5 GY) clayey SILT with trace very fine fibrous root-like organic-like material, one (1) articulated bivalve, no observed wood chip, medium plasticity: ALLUVIUM
- 0.5 – 0.62 ft: very dark greenish gray (GLEY 1 3/1 10Y) silty CLAY, homogenous with trace wood chip one (1) articulated bivalve, medium plasticity: ALLUVIUM

FF-08-02 DUP

Push core FF-08-02_DUP had an acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: dark olive gray (5Y 3/2) clayey SILT, wet, non-plastic, heterogeneous with organic-like fines: ALLUVIUM.
- 0.1 – 0.3 ft: greenish black (GLEY 1 2.5/1 10Y) clayey SILT, homogenous, with trace fine fibrous root-like material, and trace bivalve shell hash, plastic: ALLUVIUM
- 0.3 – 0.5 ft: greenish black (GLEY 1 2.5/1 10Y) clayey SILT, homogenous, with trace wood chip and trace bivalve shell hash, medium plasticity: ALLUVIUM
- 0.5 – 0.60 ft: very dark greenish gray (GLEY 1 2.5/1 10Y) slightly clayey SILT with minimal very fine-grained clastic sands, trace woodchip, low plasticity: ALLUVIUM

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/18/20 Time: 1205 Vessel: R/V TESLA
 Coordinates: Lat 44.614478 Long -68.830012 Plan Volume: 0.140gal
 Sampling Station: FF-08-02 Deploy No. 1 Sub-tidal Location? NO

Weather: OVERCAST WS Winds: 5-8mph Waters: 0.5-1.0' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 9.2	Core Penetration Length (ft.): 0.70'
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.62'
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5'
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01 @ 1624	OLIVE GRAY (SY 4/2) CLAYEY SILT, HETEROGENEOUS LENSE OF BLACK CLAYEY SILT (ORGANIC RICH) TRACE FIBROUS ORGANIC STRANDS. ALLUVIUM, LOW PLASTICITY
0.1' - 0.3'	01-03 @ 1626	VERY DARK GREENISH GRAY (GLEY 1 3/10Y) SILTY ORGANIC-LIKE CLAY, WITH TRACE SMALL FIBROUS ROOT-LIKE MATERIAL (0.05') AND TR WOOD CHIP, ONE ARTICULATED BIVALVE (0.05')
—	—	ALLUVIUM, MED. PLASTICITY
0.3' - 0.5'	03-05 @ 1628	VERY DARK GREENISH GRAY (GLEY 1 3/10GY) CLAYEY SILT WITH TRACE VERY FINE FIBROUS ROOT-LIKE ORGANIC-LIKE MATERIAL, ONE BIVALVE FOUND (ARTICULATED), NO OBSERVED WOOD CHIP, ALLUVIUM, MED. PLASTICITY, ALLUVIUM
Bottom 0.5' - 0.62	—	VERY DARK GREENISH GRAY (GLEY 1 3/10Y) SILTY CLAY, HOMOGENEOUS TR WOOD CHIP, ONE ARTICULATED BIVALVE, MED. PLASTIC ALLUVIUM

Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	ALETATE			Vibracorer: BOX	4.0"	.50gal/ft
				Push Corer	3.5"	.33gal/ft

Live Organisms present	NO YES	Comments -TABLET DID NOT RECORD COORDINATES, WILL USE GPS COORDINATES COLLECTED BY ASI'S ON BOARD GPS.
Oil-Like Present	NO	
Odor Present	YES	
Debris Present	NO	
Photo Numbers		

B. WEYER
9/22/2020

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/18/20 Time: 1205 Vessel: R/V TESLA
 Coordinates: Lat 44.614478 Long -68.830012 Plan Volume: 0.140gal
 Sampling Station: FF-08-02-DUP Deploy No. 1 Sub-tidal Location? NO

Weather: OVERCAST, 50s Winds: ~~SE~~ 9/18 5-8 MPH Waters: 0.5-1.0' Traffic: NONE Water Temp: —
 Measured Water Depth [NAVD88]: 9.2 Core Penetration Length (ft.): 0.65'
 Correction to NAVD88 (+/- ft. from NAVD88): Recovered Core Length (ft.): 0.6'
 Mudline (Corrected Depth) @ NAVD88: Sample Length Retained (ft.): 0.5'
 Study Depth (-NAVD88): Acceptable Core (80% recovery): YES
 Required Penetration Length: 0.5' Core Volume Retained (gal.): 0.140gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0'-0.1'	00-01 @1706	DARK OLIVE GRAY (5Y 3/2) CLAYEY SILT; ORGANIC-LIKE FINES, NON-PLASTIC ALLUVIUM.
0.1'-0.3'	01-03 @1708	GREENISH BLACK (6.5Y 12.5/10Y) CLAYEY SILT, HOMOGENOUS, TR. FINE FIBROUS ROOT-LIKE MATERIAL, TR. BI-VALVE SHELL HASH, MED. PLASTIC ALLUVIUM
0.3'-0.5'	03-05 @1710	GREENISH BLACK (6.5Y 12.5/10Y) CLAYEY SILT, HOMOGENOUS, MED PLASTIC WITH TR WOOD CHIP & BI-VALVE SHELL HASH
0.5'-0.6'	—	VERY DARK GREENISH GRAY (6.5Y 12.5/10Y) SLIGHTLY CLAYEY SILT WITH MINIMAL VERY FINE GRAINED CLASTIC SANDS, TRACE WOOD CHIP, LOW PLASTIC ALLUVIUM
CL 9/18/20	CL 9/18/20	CL 9/18/20
Bottom		

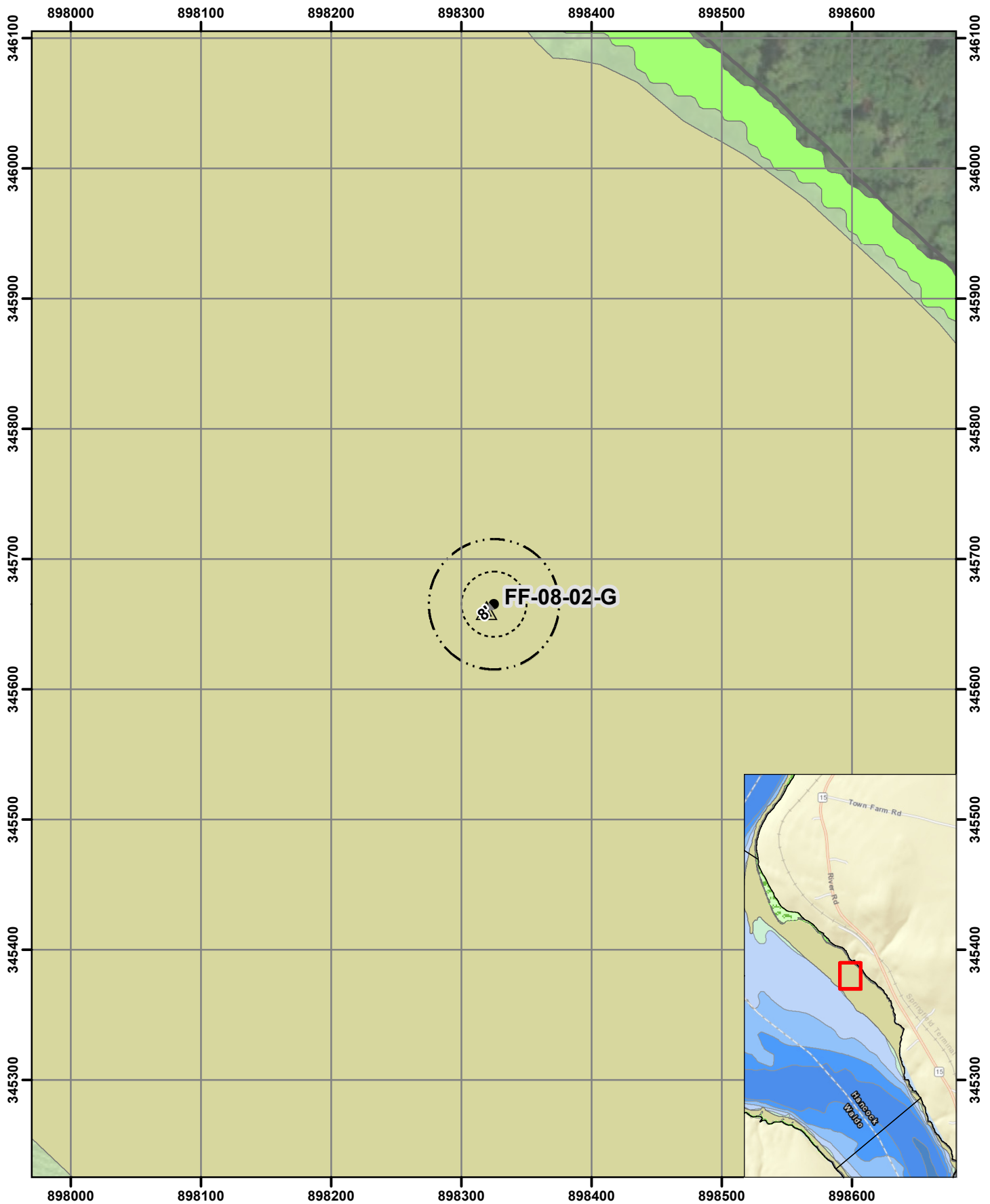
Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	ACETATE			Vibracorer:	4.0"	.50gal/ft
				Push Corer	3.5"	.33gal/ft

Live Organisms present NO
 Oil-Like Present NO
 Odor Present YES
 Debris Present NO

Photo Numbers
 B. WEYER
 9/22/2020

Comments
 -TABLET DID NOT RECORD COORDINATES; WILL USE GPS COORDINATES COLLECTED BY ASI'S ONBOARD GPS.
 -SULFUR-LIKE ODOR INCREASING DOWN CORE

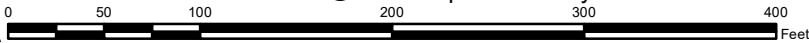
QC CHECK BY B. WEYER 9/22/2020



wood.

Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- ⋯ 25 foot radius buffer
- ⋯ 50 foot radius buffer
- Proposed/Actual (lateral feet)



Station ID: [FF-08-02-G]
 Reach: [Frankfort Flats]

Penobscot River Estuary
 2020 Long Term Monitoring



PHOTO 1:

CORE: FF-08-02

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/18/2020

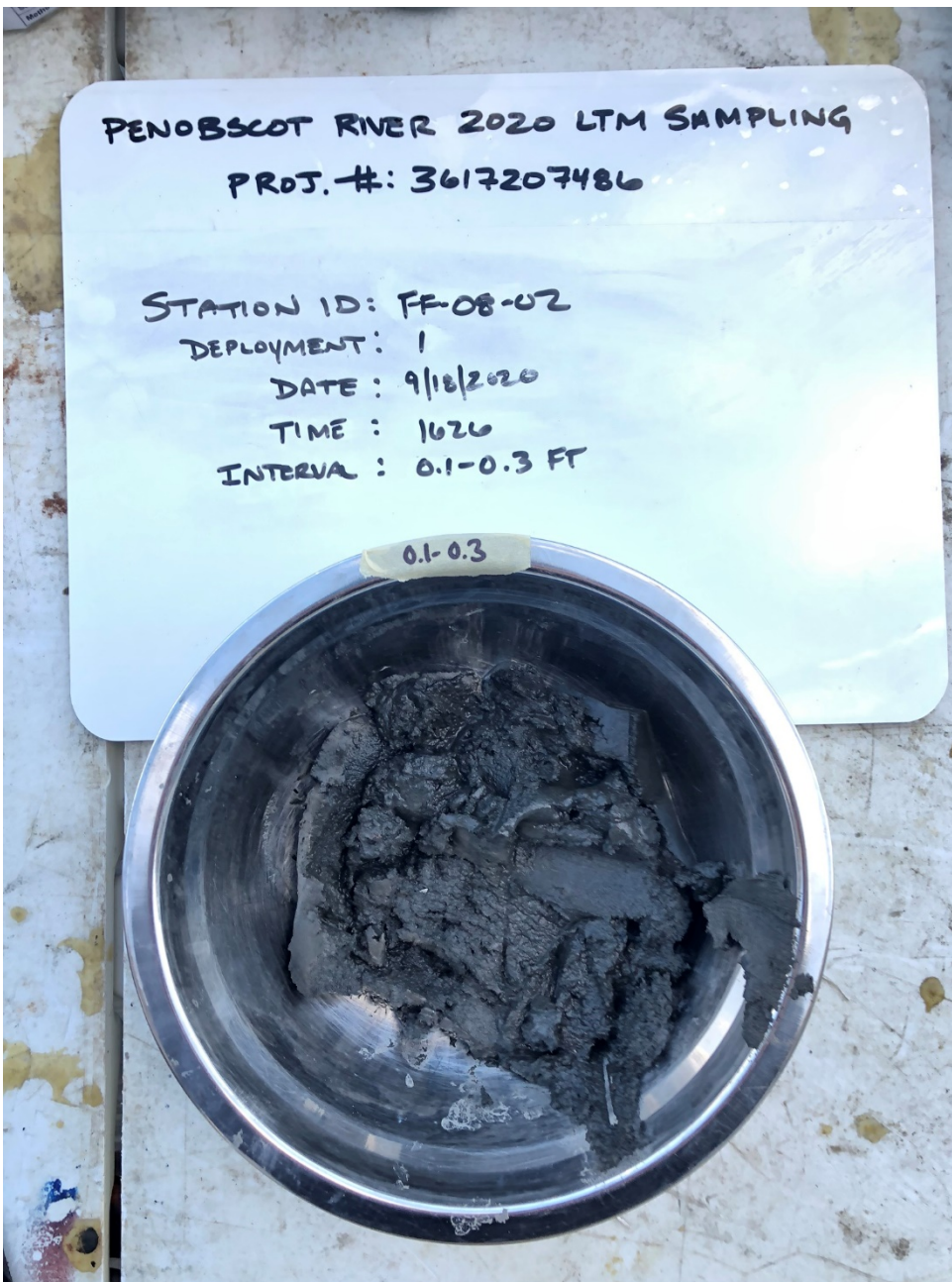


PHOTO 2:

CORE: FF-08-02

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/18/2020

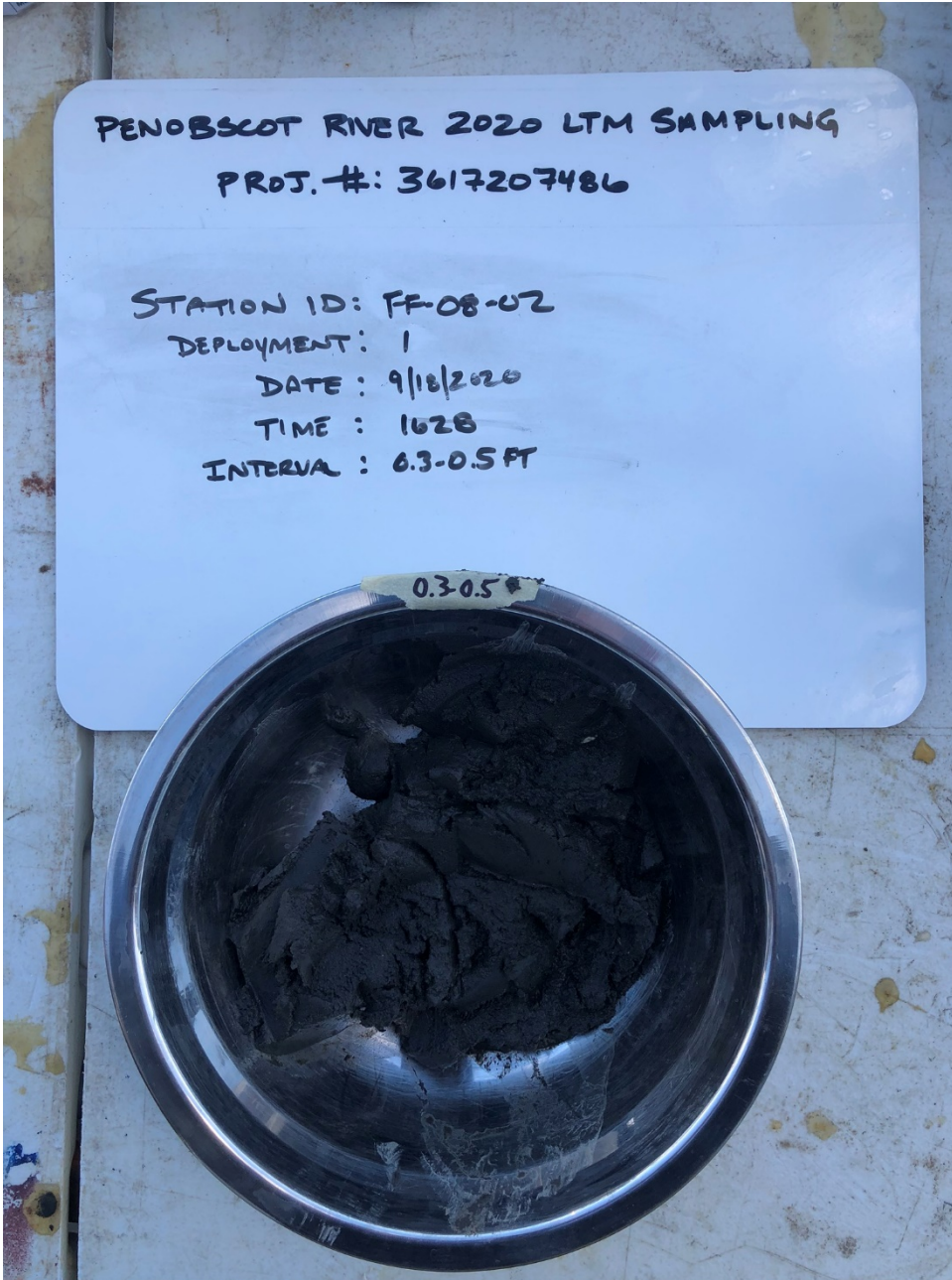


PHOTO 3:

CORE: FF-08-02

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/18/2020

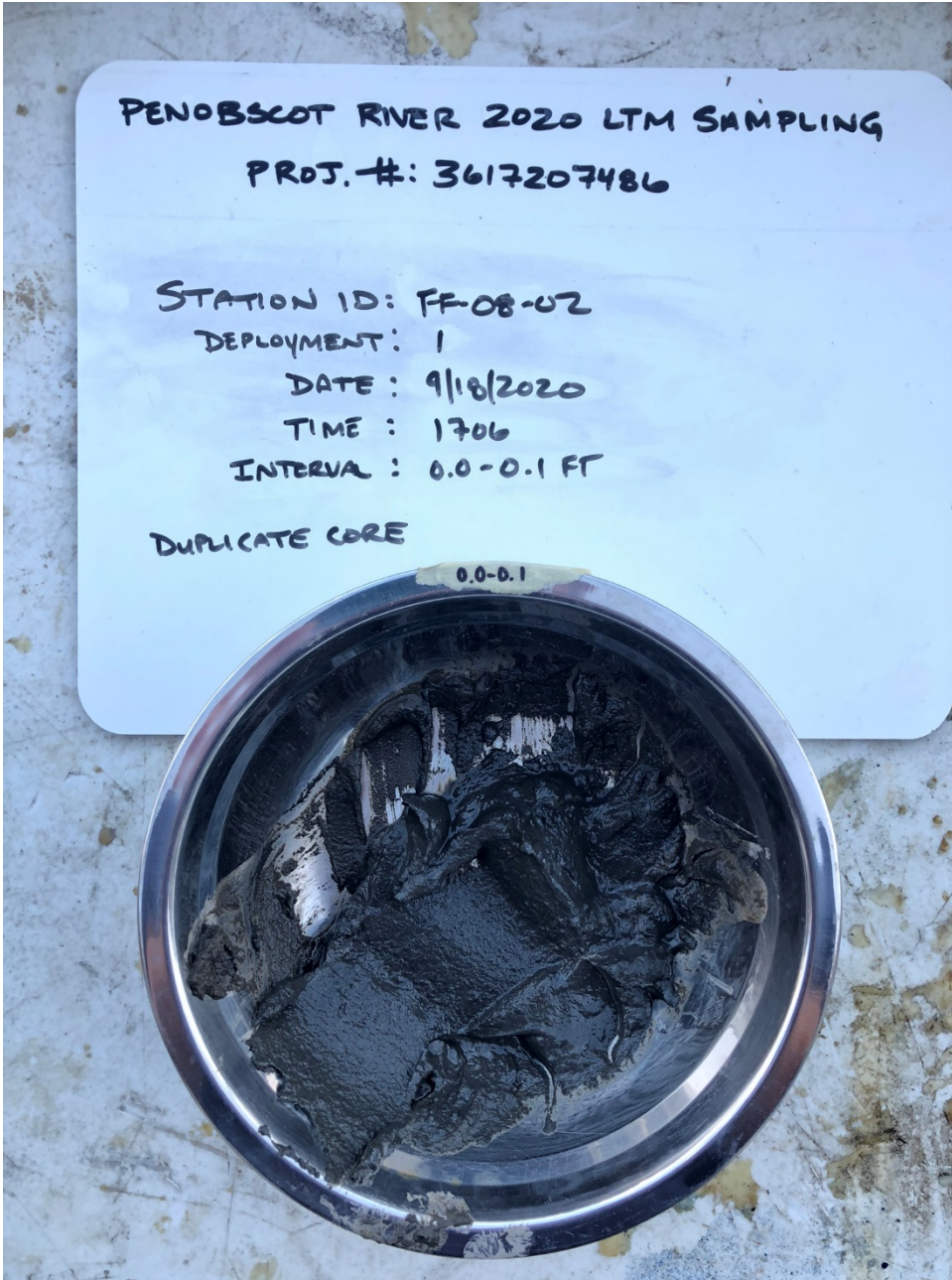


PHOTO 4:

CORE: FF-08-02_DUP

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/18/2020

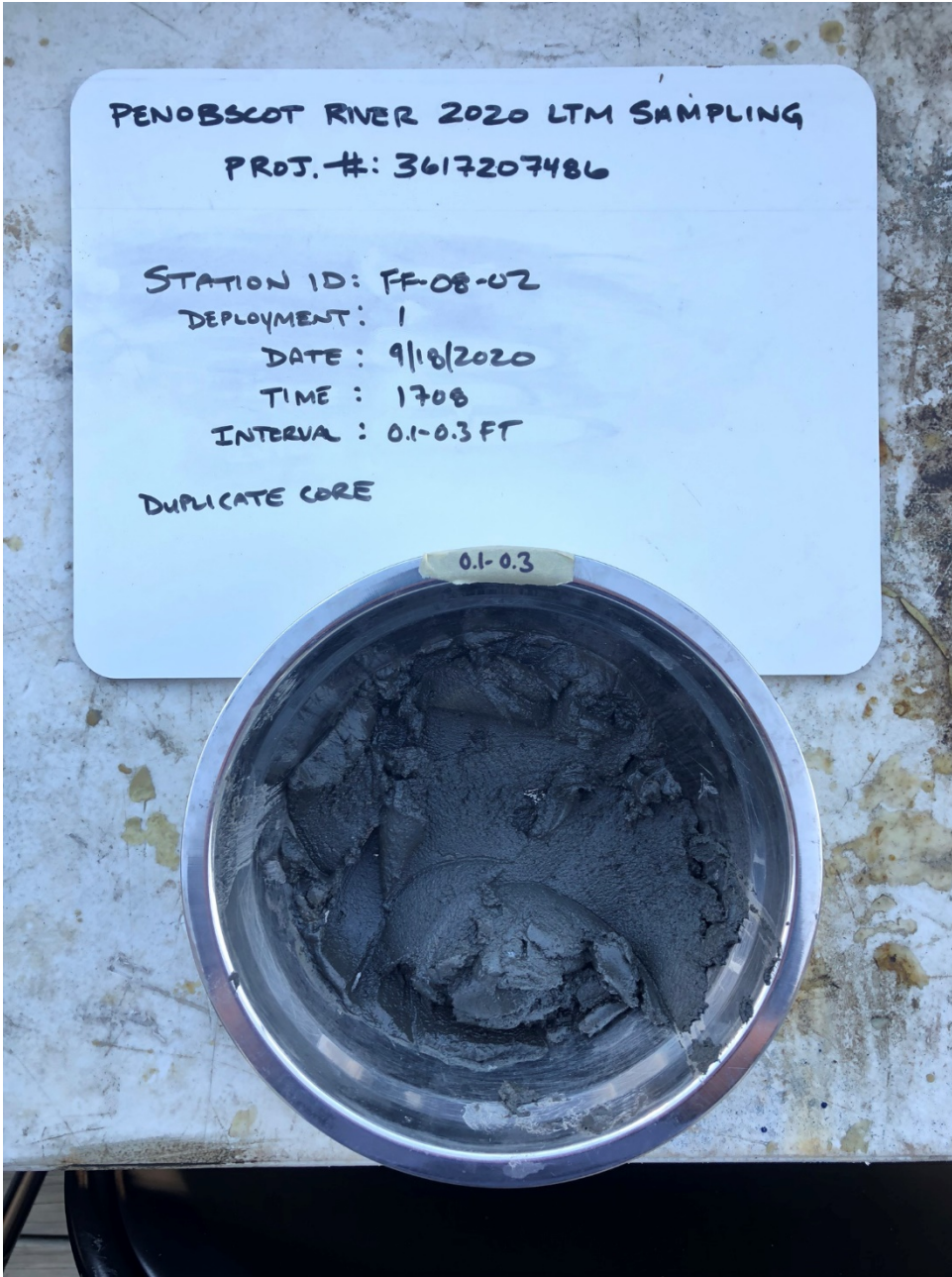


PHOTO 5:

CORE: FF-08-02_DUP

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/18/2020

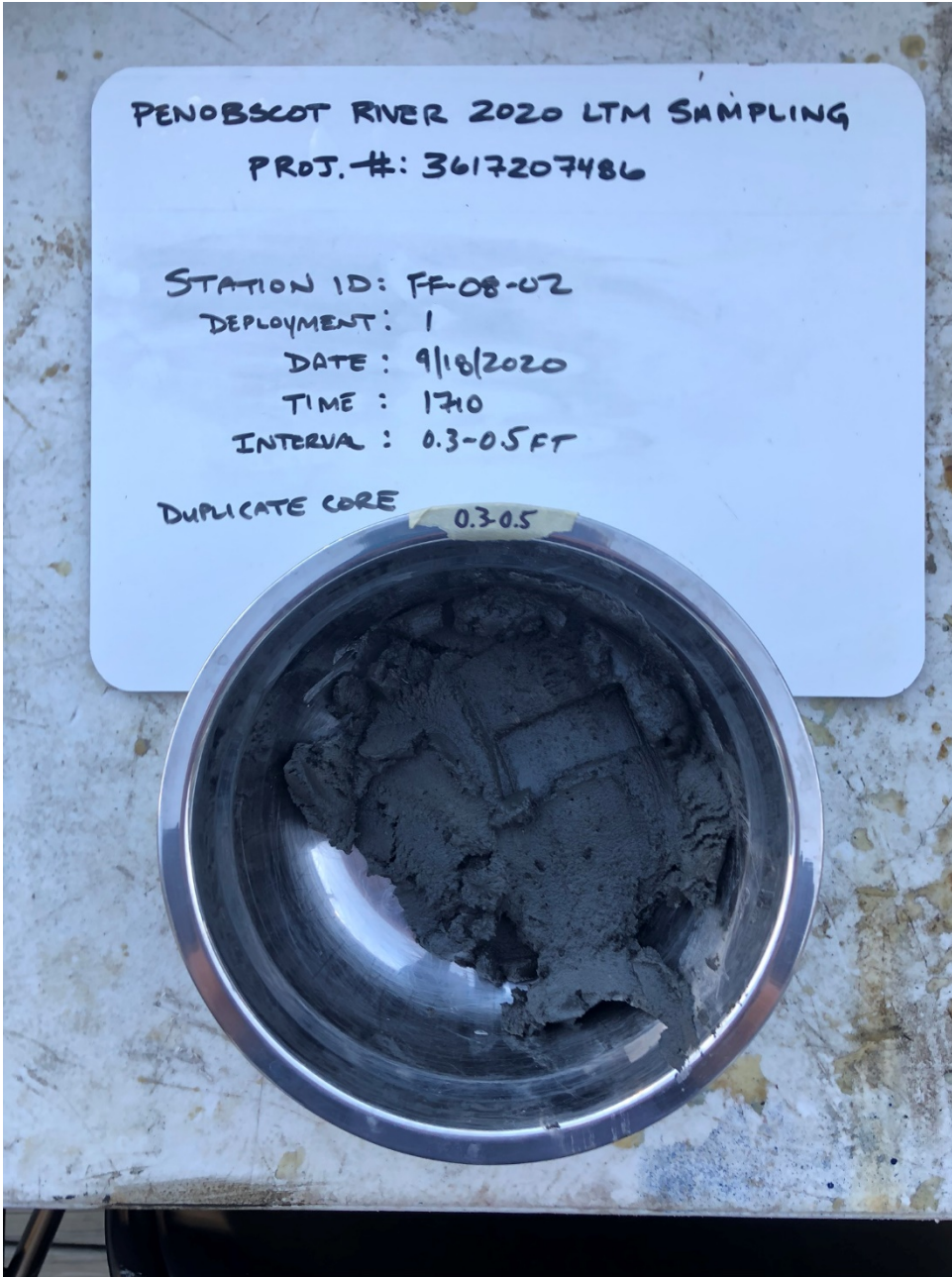


PHOTO 6:

CORE: FF-08-02_DUP

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/18/2020

APPENDIX B – 2.11

Station Summary – OB-01

STATION SUMMARY		
Station ID: OB-01	Core collection and sample processing date: 17 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – OB-01 Collection Overview

On Thursday, September 17, 2020, Wood scientists cored station OB-01 in the Frankfort Flats reach between 10:30am and 10:50am aboard the *R/V Tesla*. The weather was clear with temperatures in the 60's (°F) and varying winds ranging from 5 to 10-knots from the Southwest. Sea conditions were calm to smooth, with a maximum wave height of 0.5-ft, providing acceptable conditions for vessel to hold on location for sampling. A box corer was utilized for sediment collection. Sediment was sampled from the box corer by 1-ft hand push cores with 3-in diameter acetate liners. One (1) deployment of the box corer was attempted at OB-01 to obtain two (2) 1-ft hand push cores, designated in the field as OB-01-A and OB-01-B. Two cores were collected at this station in case sample integrity of a single core were to become compromised between collection and processing. Cores were preserved on wet ice while awaiting to be processed.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and cores at station OB-01.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station OB-01 represents the single deployment of the box corer. The deployment represented a non-vegetated intertidal zone accessible at high tide within the Frankfort Flats reach.

D – Processing Overview

Same-day processing was performed on OB-01 by Wood scientists at the Wood Field Station, Winterport, Maine. Core OB-01-A, designated during processing as OB-01, was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC). Intervals 0.1 – 0.3 ft and 0.3 – 0.5 ft of OB-01 were selected to be used for a MS/MSD laboratory control sample.

The appearance and textural properties of each push core was described using the Unified Soil Classification (USCS).

Sediment Core Logs are attached (See Attachment B).

OB-01

Push core OB-01 had an acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: dark olive gray (5Y 3/2) SILT with trace very fine sand-sized organic-like materials, no live organisms observed: ALLUVIUM.
- 0.1 – 0.3 ft: very dark gray (5Y 3/1) CLAY-SILT, no live organisms or larger detritus in sample: ALLUVIUM
- 0.3 – 0.5 ft: black (5Y 2.5/1) SILT-CLAY, one worm-like organism present: ALLUVIUM
- 0.5 – 0.74 ft: very dark gray (5Y 3/1) silty CLAY with trace very fine fibrous root-like material, one benthic worm-like organism present: ALLUVIUM

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486
 Sub: ASI WO: 1040
 Date: 9/17/20 Time: 1035
 Coordinates: Lat 44.603375 Long -68.847862
 Plan Volume: 0.140 gal.

Logger: C. LAUBACK
 Crew: B. WEYER
 Vessel: R/V TESLA

Sampling Station: OB-01 Deploy No. 1 Sub-tidal Location? NO

Weather: SUNNY, 60S Winds: 5-10 Waters: <0.5' CALM Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 22.3	Core Penetration Length (ft.): 0.85
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.74
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140 gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00 - 01 @ 1625	DARK OLIVE GRAY (5Y 3/2) SILT W/ TRACE VERY FINE SAND - SIZED ORGANIC-LIKE MATERIALS; NO LIVE ORGANISMS OBSERVED, ALLUVIUM
0.1' - 0.3'	01 - 03 @ 1627	VERY DARK GRAY (5Y 3/1) CLAYEY SILT - CLOSER TO 50% PER, NO LIVE ORG. ANISMS OR LARGER DETRITS IN SAMPLE, ALLUVIUM
0.3' - 0.5'	03 - 05 @ 1629	BLACK (5Y 2.5/1) SILT-CLAY, ONE WORM-LIKE ORGANISM PRESENT, ALLUVIUM
0.5' - 0.75' 0.5' - 0.74' CL 9/17/20 CL	— —	VERY DARK GRAY (5Y 3/1) SILTY CLAY WITH TRACE VERY FINE FIBROUS ROOT-LIKE MATERIAL, ONE BENTHIC WORM-LIKE ORGANISM PRESENT, ALLUVIUM
Bottom		

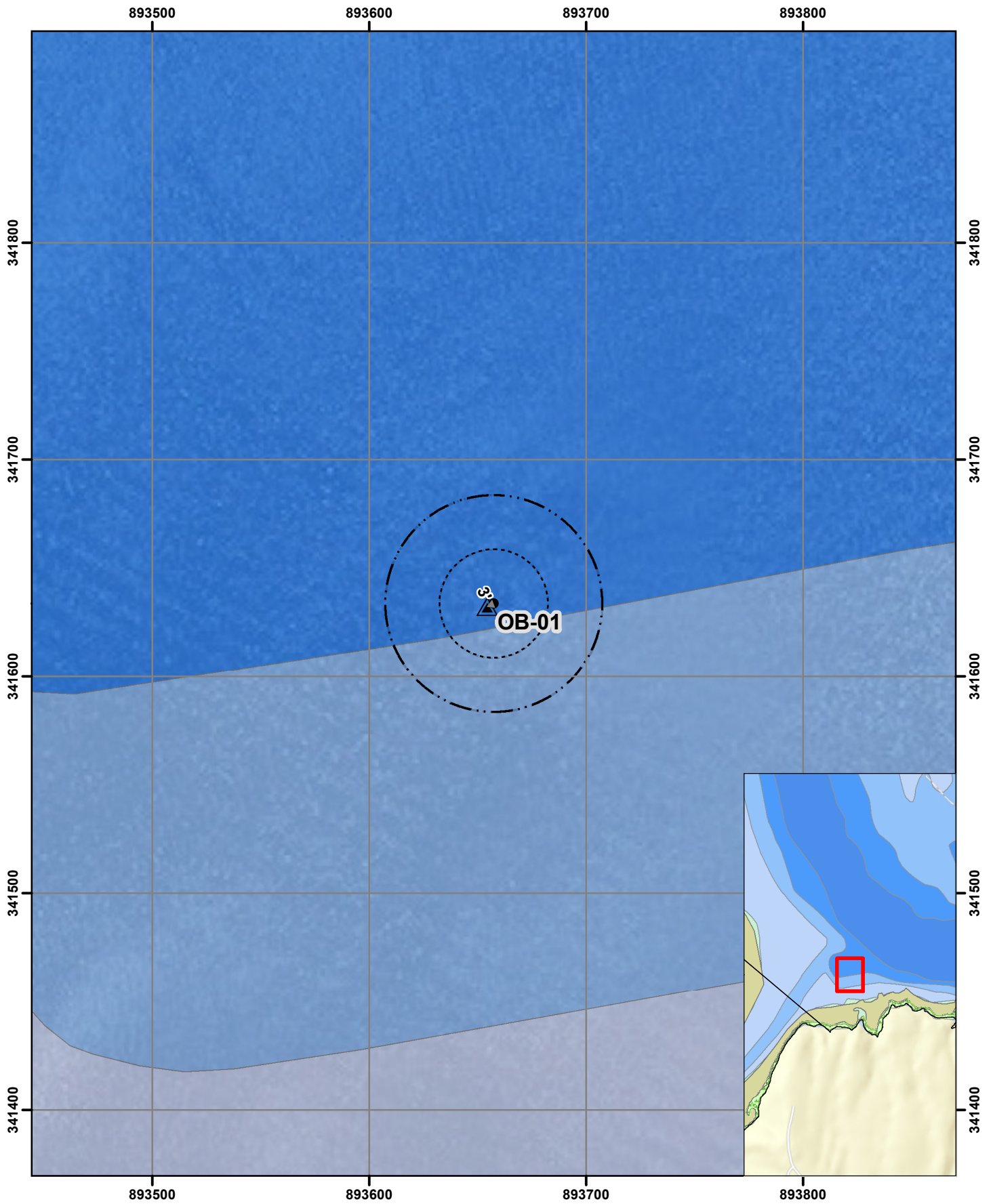
Number of containers: —	Core Volumes
Type of container: bucket	Nominal core-barrel diameter
Liner Type: ACETATE	EST. Volume
Vibracorer: BOX	4.0"
Push Corer: Slambar	3.5"
	.50gal/ft
	.33gal/ft

Live Organisms present	YES.
Oil-Like Present	NO
Odor Present	YES
Debris Present	NO

Photo Numbers
 B. WEYER
 9/22/2020

Comments
 - TWO CORES COLLECTED @ OB-01 TO HAVE ONE ON RESERVE; CORE "A" WILL B PROCESSED
 - CORE "B" HAD RECOVERED CORE LENGTH OF 0.72'
 - TABLET (COLLECTOR APPLICATION) AND R1 NOT CONNECTING - USE ASI COORDINATES (RECORDED ON VESSE)
 - SULFUR-LIKE SMELL THROUGH HOUR

BW 9/22/20
 QC CHECK BY B. WEYER 9/22/2020



Prepared/Date: ICD 12/20/20

Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- 25 foot radius buffer
- 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [OB-01]
Reach: [Frankfort Flats]

Penobscot River Estuary
2020 Long Term Monitoring

Checked/Date: BPW 12/21/20

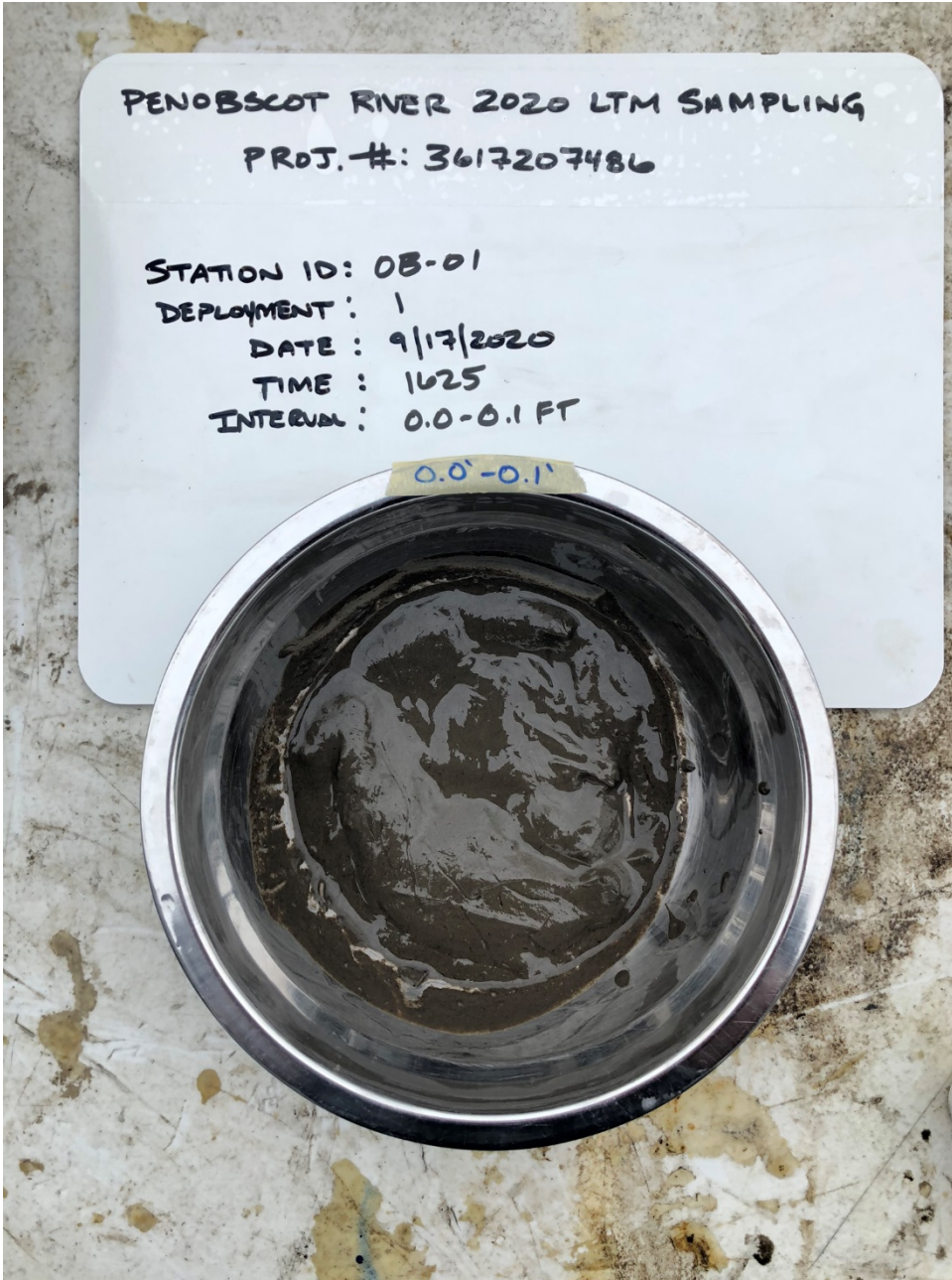


PHOTO 1:

CORE: OB-01

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/17/2020

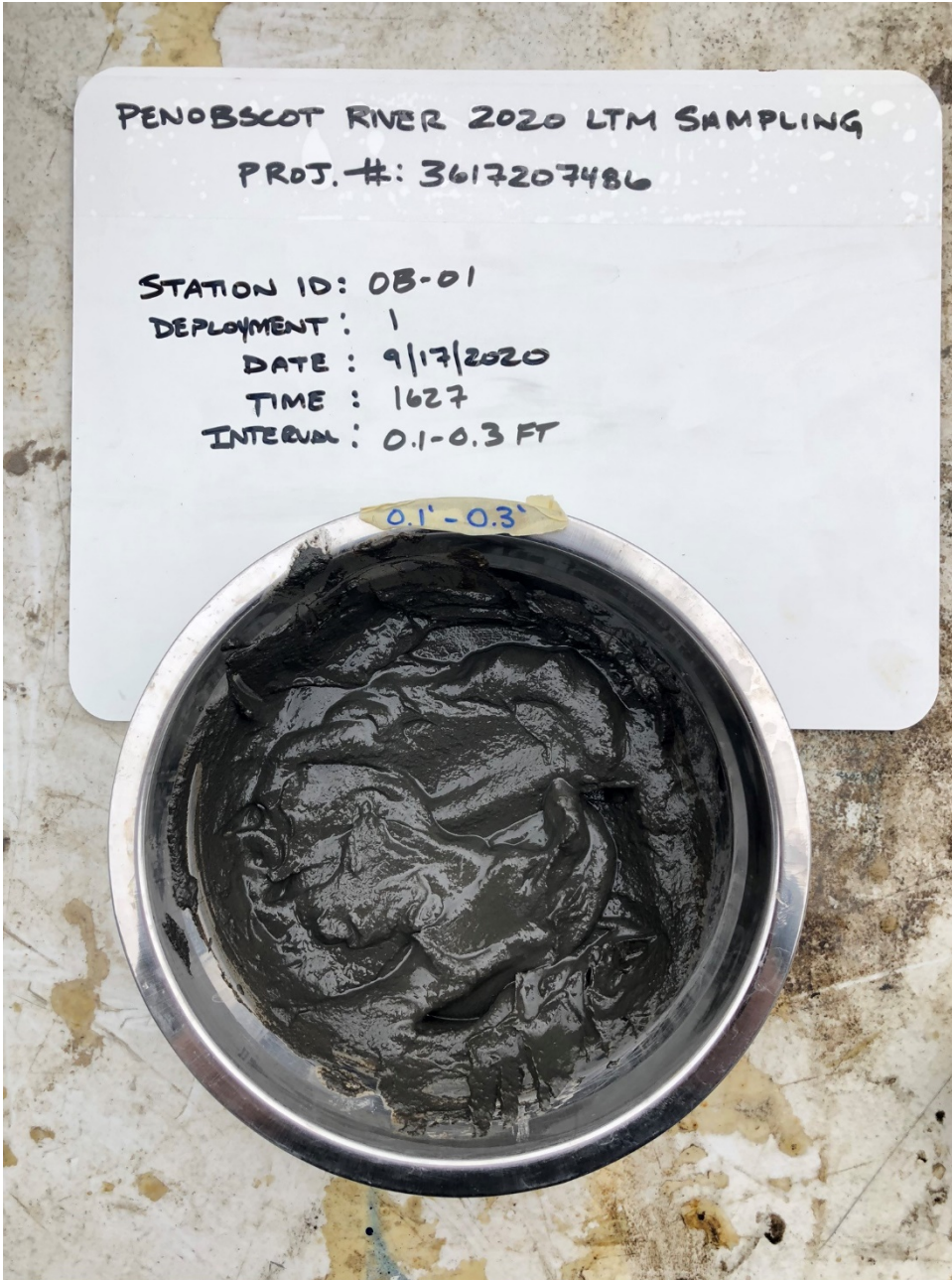


PHOTO 2:

CORE: OB-01

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/17/2020

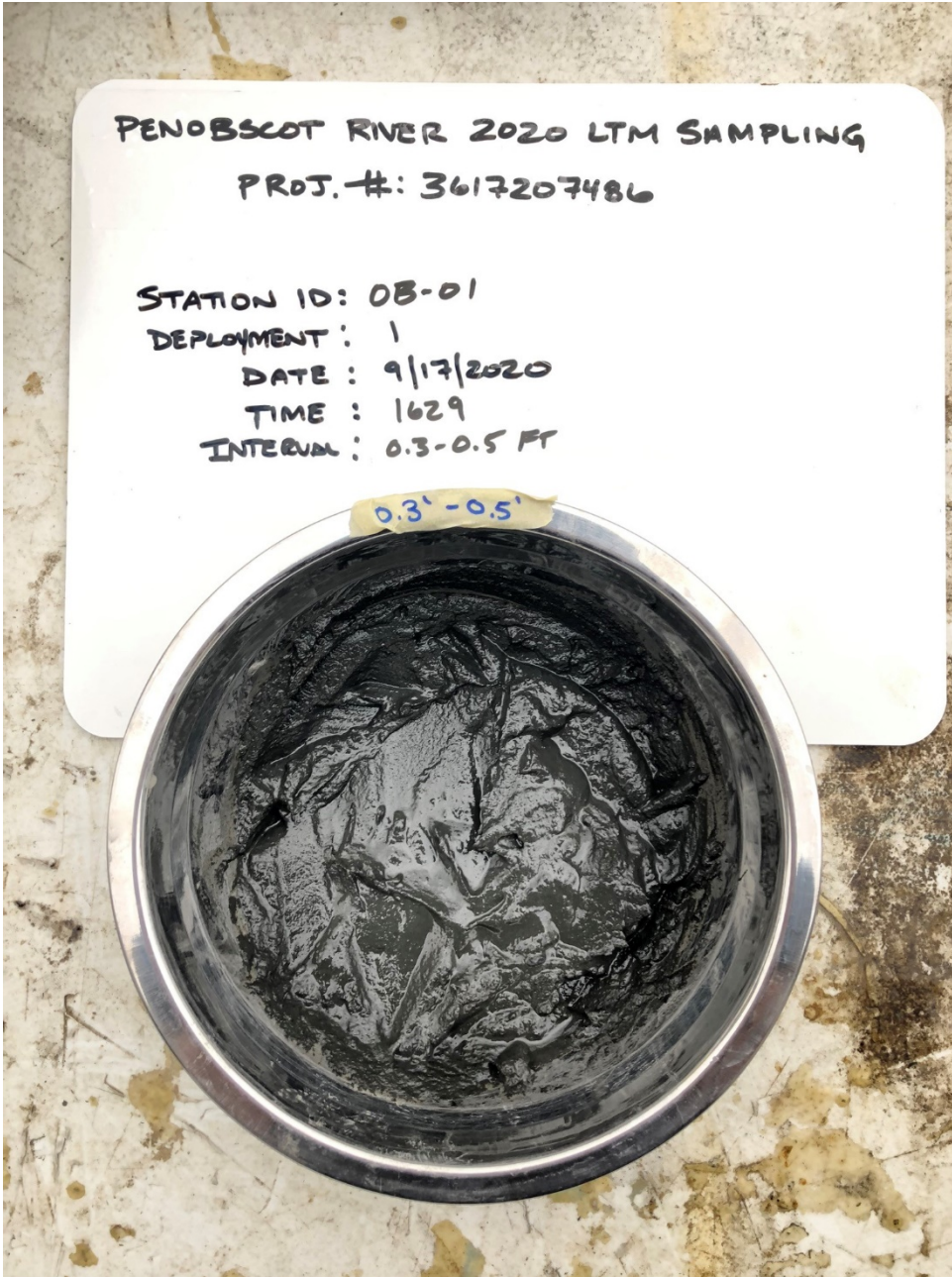


PHOTO 3:

CORE: OB-01

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/17/2020

STATION SUMMARY		
Station ID: BU-01-01	Core collection and sample processing date: 17 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – BU-01-01 Collection Overview

On Thursday, September 17, 2020, Wood scientists cored station BU-01-01 in the Bucksport reach between 10:50am and 11:24am aboard the *R/V Tesla*. The weather was clear with temperatures in the 60's (°F) and varying winds ranging from 5 to 10-knot from the Southwest. Sea conditions were calm with ripples, with a maximum wave height of 0.5-ft, providing acceptable conditions for the vessel to hold on location for sampling. A Watermark Universal Core Head Kit (Watermark) was utilized for sediment collection via push coring. Sediment was collected with the Watermark directly into a 1-ft x 3-in diameter acetate liner. Two (2) 1-ft push cores were collected from two attempts with the Watermark, designated in the field as BU-01-01-A and BU-01-01-B. Cores were preserved on wet ice while awaiting to be processed.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and cores at station BU-01-01.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station BU-01-01 represents the two deployments of the Watermark push corer. The deployments represented a non-vegetated intertidal zone accessible at high tide within the Bucksport reach.

D – Processing Overview

Same-day processing was performed on BU-01-01-A and BU-01-01-B by Wood scientists at the Wood Field Station, Winterport, Maine. Cores BU-01-01-A and BU-01-01-B, designated during processing as BU-01-01 and BU-01-01_DUP, were sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC). Station BU-01-01 was used for laboratory duplicate analyses.

The appearance and textural properties of each push core was described using the Unified Soil Classification (USCS). Cores contained a strong sulfur-like odor, which increased with depth.

Sediment Core Logs are attached (See Attachment B).

BU-01-01

Push core BU-01-01 had an acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: dark olive gray (5Y 3/2) SILT with very fine sand, trace wood chip, very wet: ALLUVIUM.
- 0.1 – 0.3 ft: dark olive gray (5Y 3/2) SILT with trace, very fine sand and minimal clay, minimal wood chip and trace organic-like material, articulated bivalve (~0.03-ft in diameter) present: ALLUVIUM
- 0.3 – 0.5 ft: very dark gray (5Y 3/1) clayey SILT with minimal medium sand-sized wood chip and fibrous root-like material, organic rich: ALLUVIUM
- 0.5 – 0.78 ft: black (5Y 2.5/1) fine sandy SILT with some fibrous root-like material and some wood chips, strong sulfur odor: ALLUVIUM

BU-01-01 DUP

Push core BU-01-01_DUP had an acceptable recover over 0.5-ft.

- 0.0 – 0.1 ft: dark olive gray (5Y 3/2) SILT with trace clay, minimal medium sand-sized wood chip, minimal fibrous root-like material, contains benthic organisms: ALLUVIUM.
- 0.1 – 0.3 ft: very dark gray (5Y 3/1) clayey SILT with trace wood chip and minimal fibrous root-like material, live benthic worm, trace very coarse angular sands: ALLUVIUM
- 0.3 – 0.5 ft: black (5Y 2.5/1) clayey SILT with trace medium sand-sized wood chip and fibrous root-like material, no organisms observed: ALLUVIUM
- 0.5 – 0.78 ft: black (5Y 2.5/1) SILT with some very fine sand and clay, some medium sand-sized wood chips and fibrous root-like material, minimal larger, gravel-sized woody debris: ALLUVIUM

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 361720 7486 1110 Logger: C. LAUBACK
 Sub: ASI WO: — Date: 9/17/20 Time: 1105 9/17 Crew: B. WEYER
 Coordinates: Lat 44.587312 Long -68.825354 Plan Volume: 0.140gal.
 Sampling Station: BU-01-01 Deploy No. 1 Sub-tidal Location? NO

Weather: SUNNY, 60s Winds: — Waters: CALM (<0.2) Traffic: NONE Water Temp: —
 Measured Water Depth (NAVD88): 10.8 Core Penetration Length (ft.): 0.85
 Correction to NAVD88 (+/- ft. from NAVD88): — Recovered Core Length (ft.): 0.78
 Mudline (Corrected Depth) @ NAVD88: — Sample Length Retained (ft.): 0.50
 Study Depth (-NAVD88): — Acceptable Core Recovery (80% recovery): YES
 Required Penetration Length: 0.5' Core Volume Retained (gal.): 0.140gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01 @1521	DARK OLIVE GRAY (SY 2 1/2) SILT WITH VERY FINE SAND; TR WOOD PULP, VERY WET, ALLUVIUM
0.1' - 0.3'	01-03 @1523	DARK OLIVE GRAY (SY 3/2) SILT WITH TRACE VERY FINE SAND AND MINIMAL CLAY; MINIMAL WOOD CHIP AND TR ORGANIC-LIKE MATERIAL; ALLUVIUM
0.3' - 0.5'	03-05 @1525	VERY DARK GREY (SY 3/1) CLAYEY SILT WITH MINIMAL MED. SAND-SIZED WOOD PULP AND FIBROUS ROOT-LIKE MATERIAL; ORGANIC-LIKE RICH, ALLUVIUM
0.5' - 0.78	—	BLACK (SY 2.5/1) FINE SANDY SILT WITH SOME FIBROUS ROOT-LIKE MATERIAL AND SOME WOOD CHIPS - STRONG SULFUR-LIKE ODOR
Bottom		* ARTICULATED BIVALVE (~0.03') IN DIAM. PRESENT

Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	ACETATE			Vibracorer: Push Corer	4.0"	.50gal/ft
				Slambar	3.5"	.33gal/ft

Live Organisms present	YES	Comments - COORDINATES COLLECTED W/ ASI'S ONBOARD GPS SYSTEM - COORDINATES WERE ATTEMPTED TO BE COLLECTED W/ TABLET - BUT WOULD NOT CONNECT IN TIME FOR RECORDING. DUE TO MOVEMENT OF RESEARCH VESSEL
Oil-Like Present	NO	
Odor Present	NO	
Debris Present	NO	
Photo Numbers		
B. WEYER 9/22/2020		

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/17/20 Time: 1115 Vessel: R/V TESLA
 Coordinates: Lat 44.587303 Long -68.825370 Plan Volume: 0.140gal
 Sampling Station: BU-01-01-DUP Deploy No. 2 Sub-tidal Location? NO

Weather: SUNNY, 60s Winds: Waters: CALM (<0.2) Traffic: NONE Water Temp: —
 Measured Water Depth (NAVD88): 10.8 Core Penetration Length (ft.): 0.9
 Correction to NAVD88 (+/- ft. from NAVD88): Recovered Core Length (ft.): 0.70
 Mudline (Corrected Depth) @ NAVD88: Sample Length Retained (ft.): 0.5
 Study Depth (-NAVD88): Acceptable Core (80% recovery): YES
 Required Penetration Length: 0.5' Core Volume Retained (gal.): 0.140

All Length Measurements are in Decimal Feet

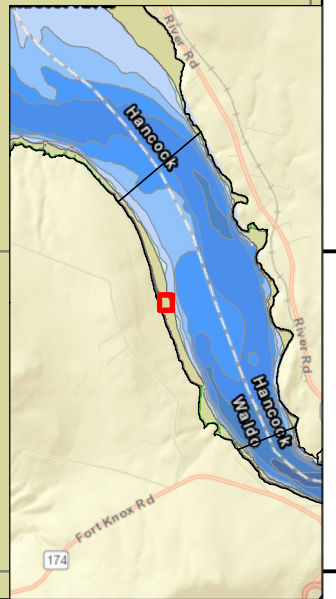
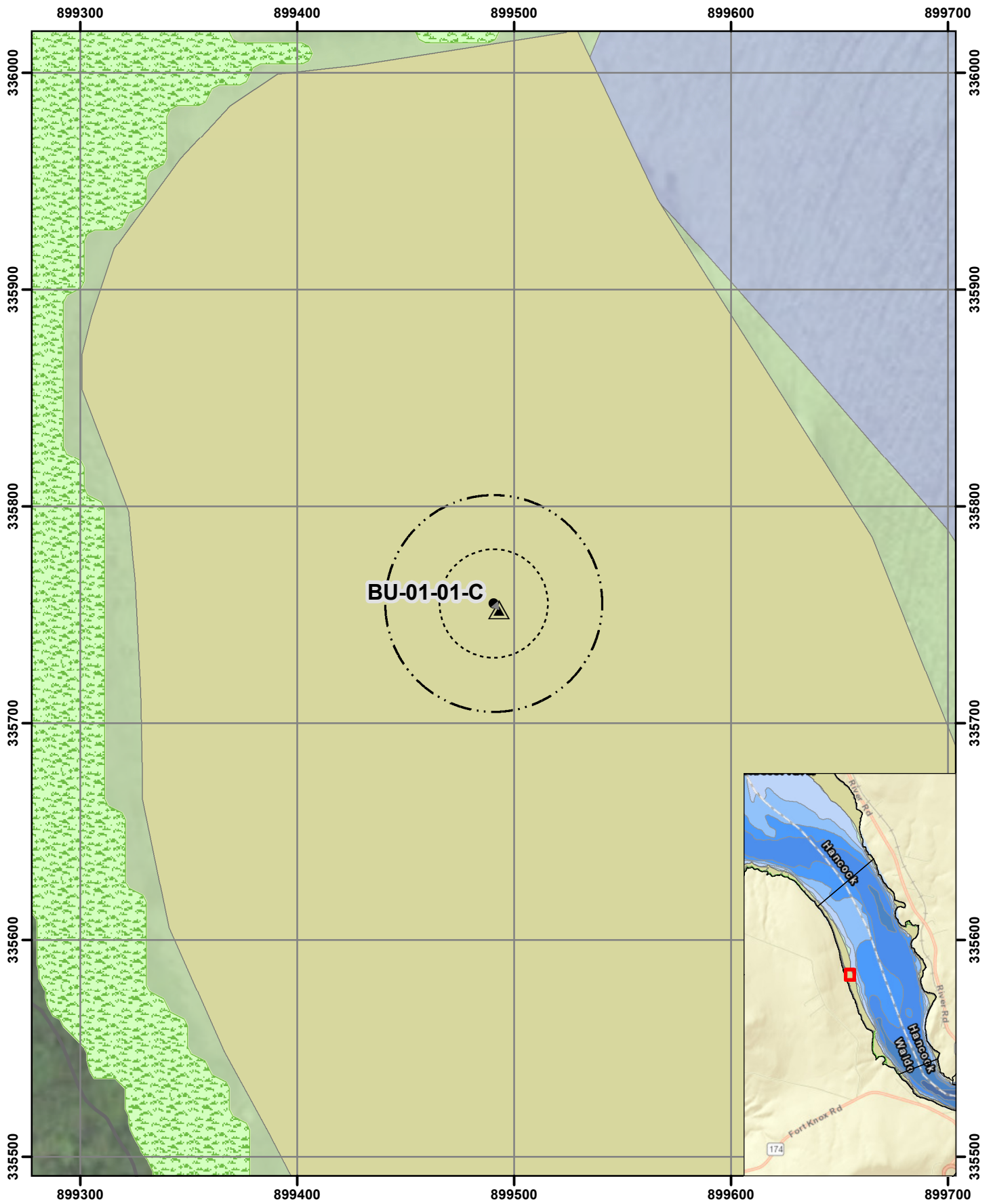
Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01-DUP @1554	DARK OLIVE GRAY (SY 3/2) SILT WITH TR CLAY, MINIMAL MED-SAND SIZED WOOD CHIP, MIN. FIBROUS MATERIAL. CL 9/17/20 ROOT-LIKE MATERIAL CONTAINS BENTHIC ORGANISMS. ALLUVIUM
0.1' - 0.3'	01-03-DUP @1556	VERY DARK GRAY (SY 3/1) CLAYEY SILT WITH TR WOOD CHIP AND MINIMAL FIBROUS ROOT-LIKE MATERIAL, LIVE BENTHIC WORMS(XI), TR VERY COARSE ANGULAR SANDS, ALLUVIUM
0.3' - 0.5'	03-05-DUP @1558	BLACK (SY 2.5/1) CLAYEY SILT WITH TR MED SAND-SIZED WOOD CHIP AND FIBROUS ROOT-LIKE MATERIAL, NO ORGANISMS OBSERVED, ALLUVIUM.
0.5' - 0.7'	— @1600	BLACK (SY 2.5/1) SILT W/ SOME VERY FINE SAND AND CLAY, SOME MED-SAND-SIZED WOOD CHIPS AND FIBROUS ROOT-LIKE MATERIAL, MINIMAL LARVAE, GRAVEL-SIZED WOODY DEBRIS, ALLUVIUM
Bottom		


Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	ACETATE			Vibracorer:	4.0"	.50gal/ft
				Push Corer	3.5"	.33gal/ft

Live Organisms present YES.
 Oil-Like Present NO
 Odor Present YES
 Debris Present NO
 Photo Numbers
 B. WEYER
 9/22/2020

Comments
 - COORDINATES COLLECTED WITH ASI GPS (ON VESSEL)
 - ATTEMPTED TO USE TABLET & TRIMBLE R1, BUT RECORDED POINT DID NOT HAVE ANY LAT. OR LONG, RECORDED
 - CORE HAS A STRONG SULFUR-LIKE ODOR

QC CHECK BY B. WEYER 9/22/2020





0 5 10 20 30 40
Feet

Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- 25 foot radius buffer
- 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [BU-01-01-C]
Reach: [Bucksport]

Prepared/Date: ICD 12/20/20

Checked/Date: BPW 12/21/20

Maine State Plane CRS East Zone 1983

Penobscot River Estuary
2020 Long Term Monitoring

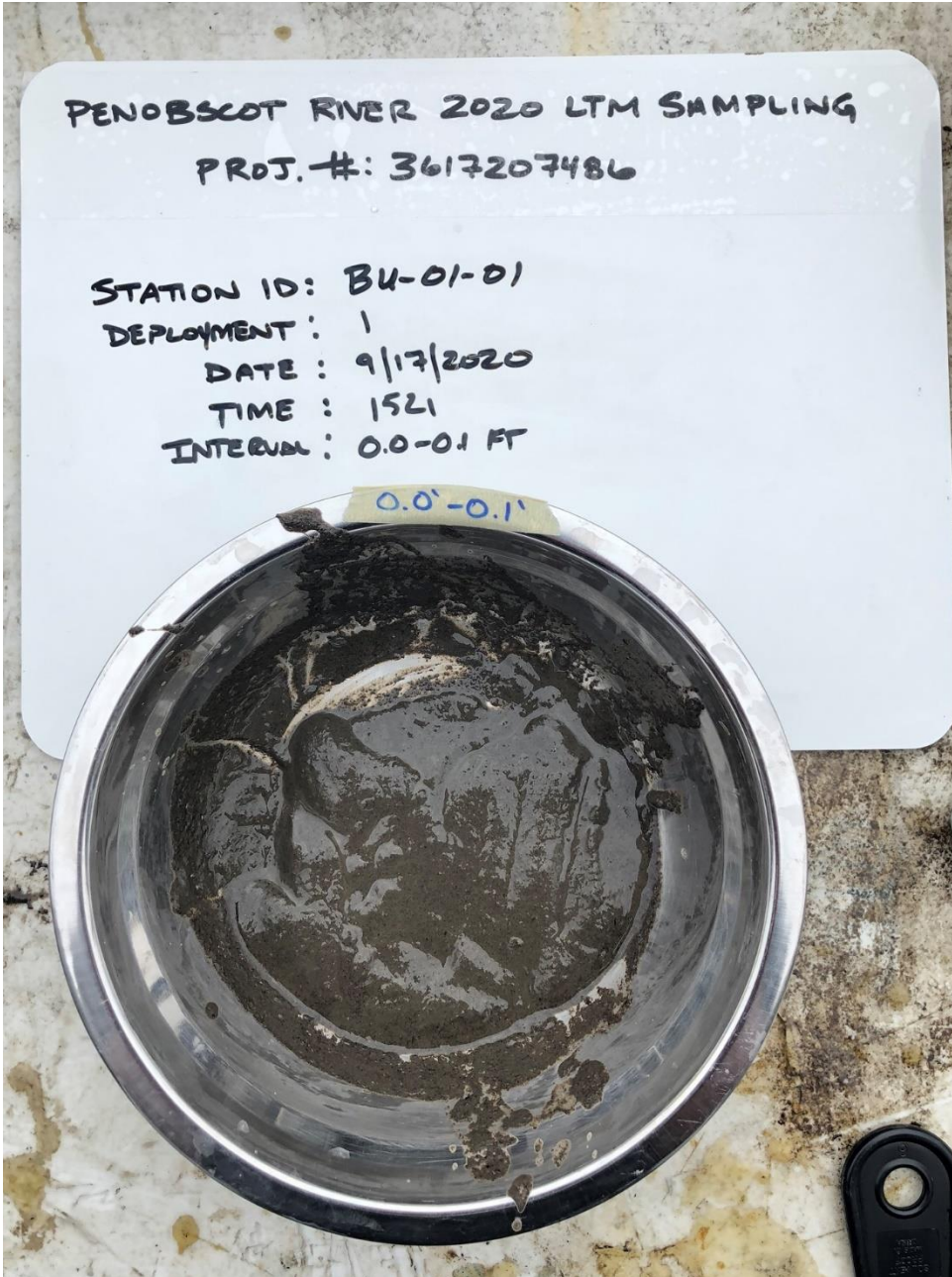


PHOTO 1:

CORE: BU-01-01

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/17/2020

STATION ID: BU-01-01
DEPLOYMENT: 1
DATE: 9/17/2020
TIME: 1521
INTERVAL: 0.0-0.1 FT

0.0'-0.1'

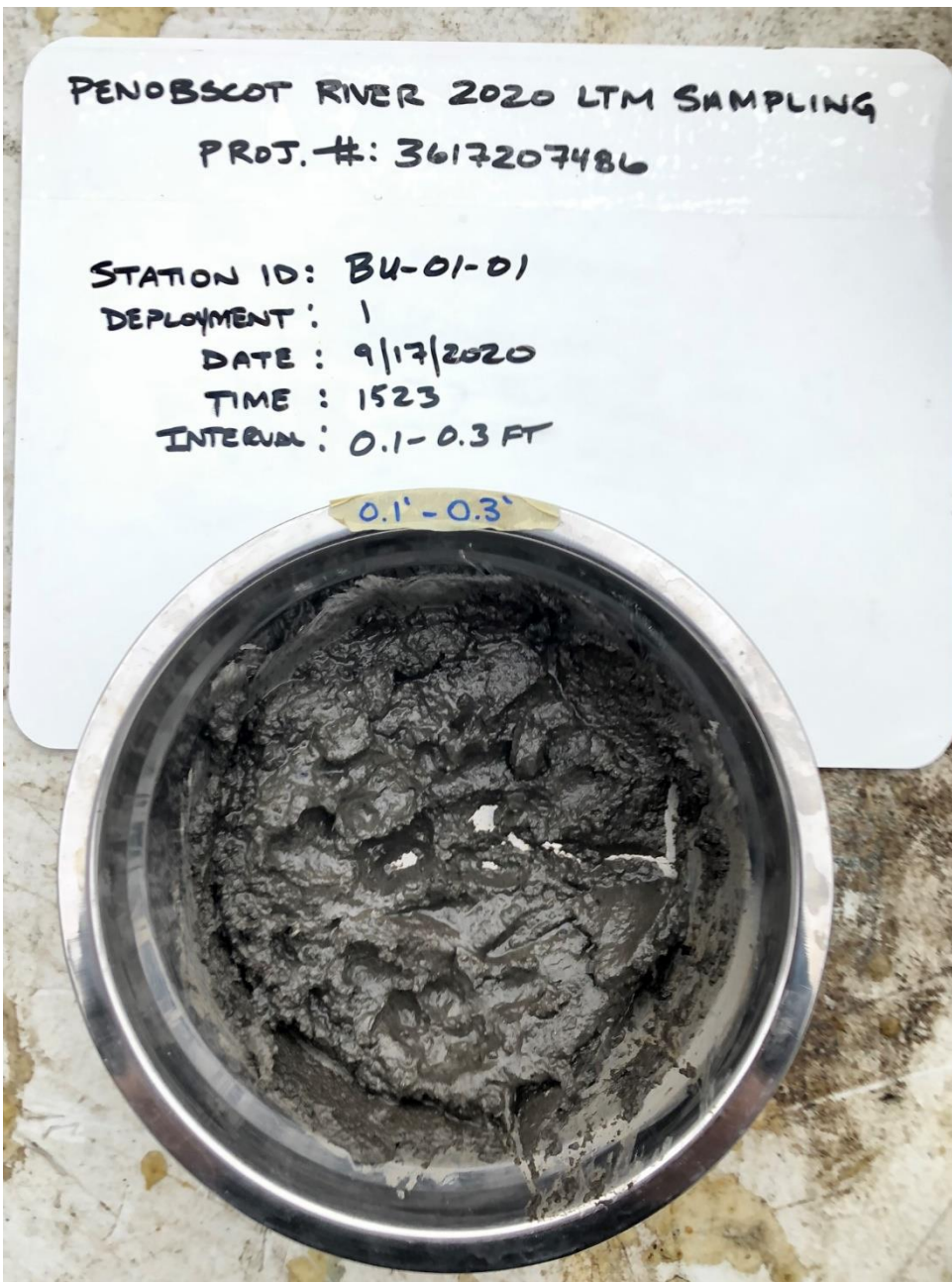


PHOTO 2:

CORE: BU-01-01

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/17/2020

PHOTO 3:

CORE: BU-01-01

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/17/2020

Interval not photographed. See BU-01-01_DUP (0.3-0.5 FT) for representative photograph (Page 6 of this photo log).

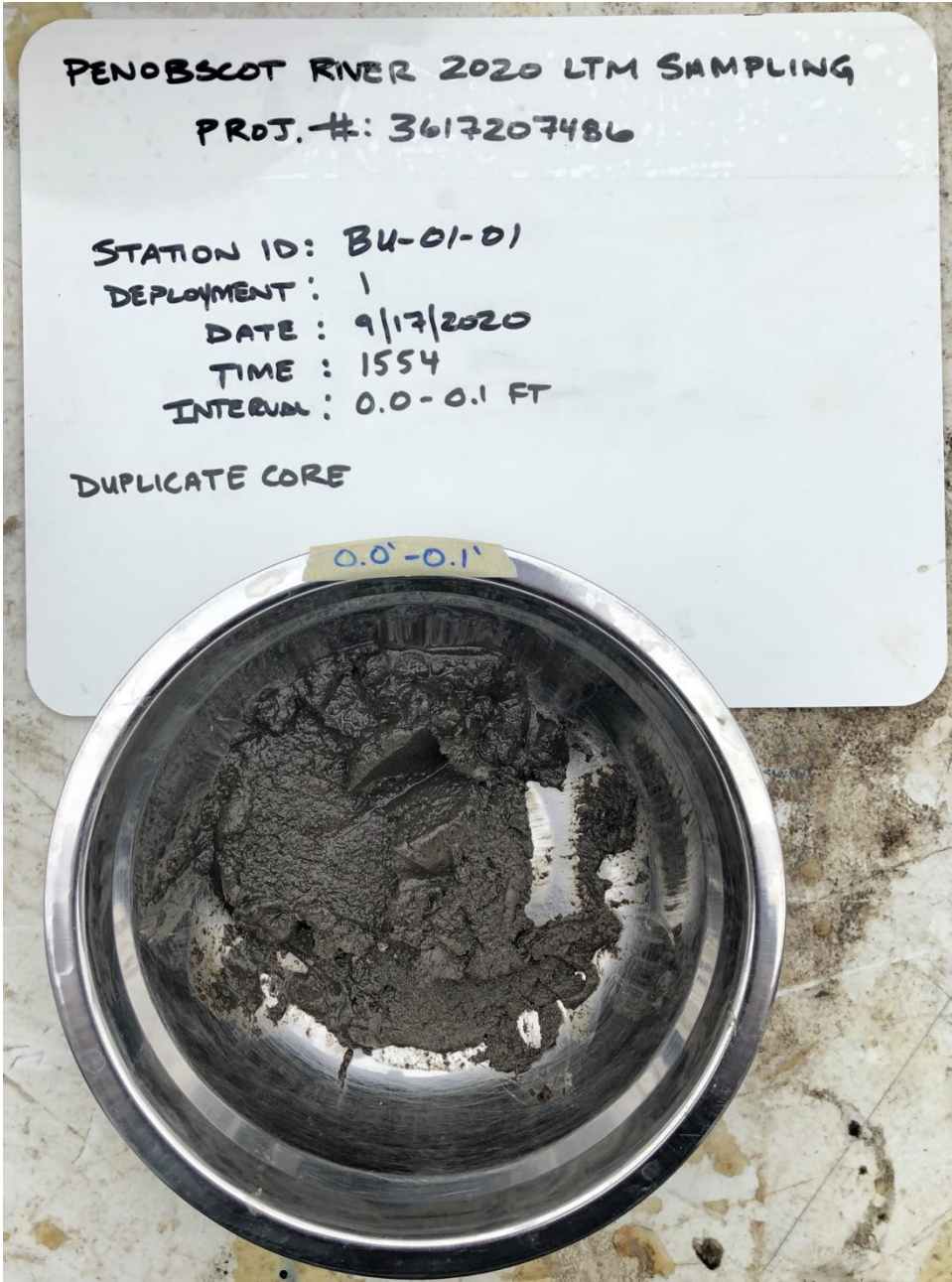


PHOTO 4:

CORE: BU-01-01_DUP

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/17/2020

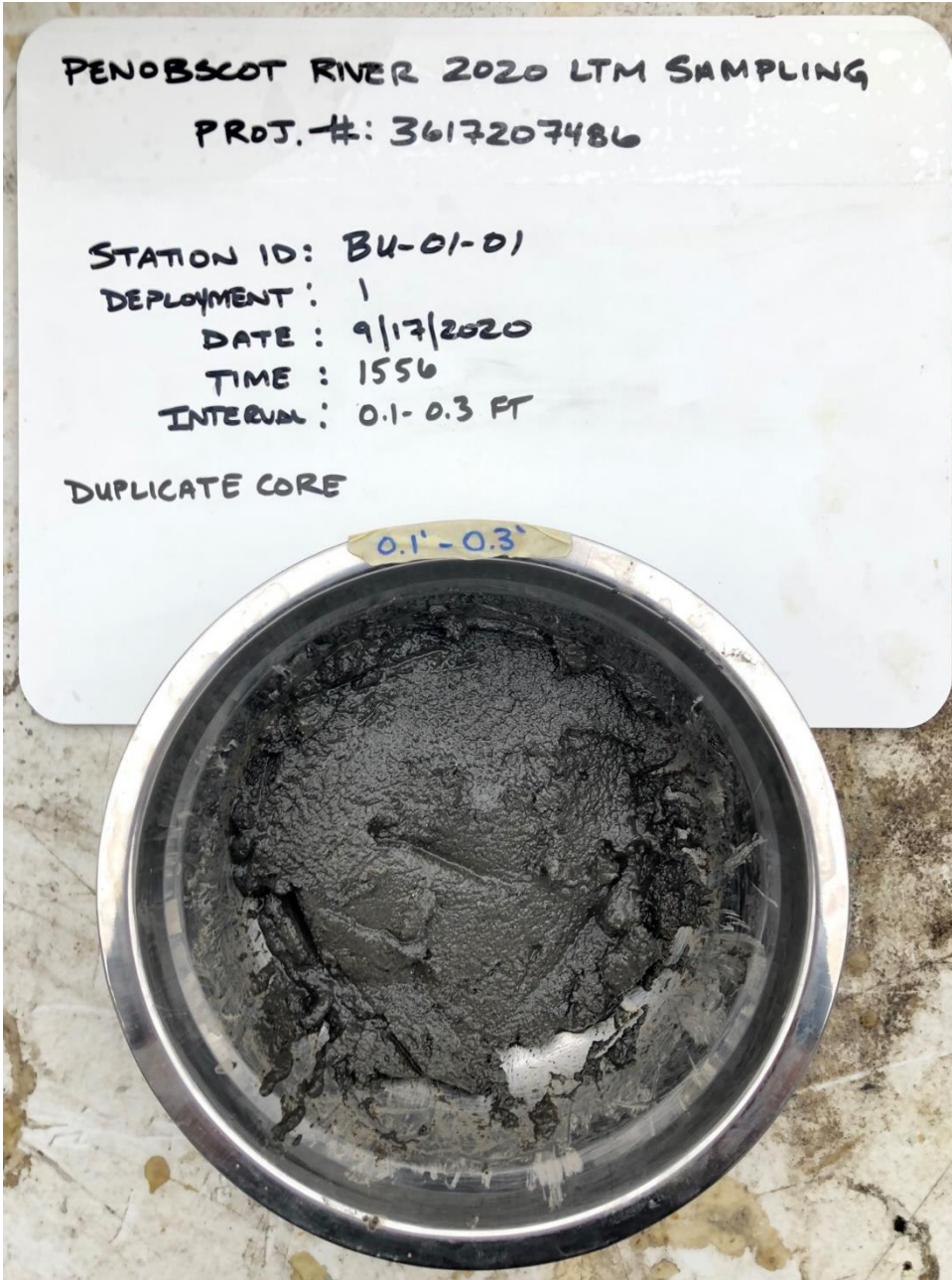


PHOTO 5:

CORE: BU-01-01_DUP

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/17/2020

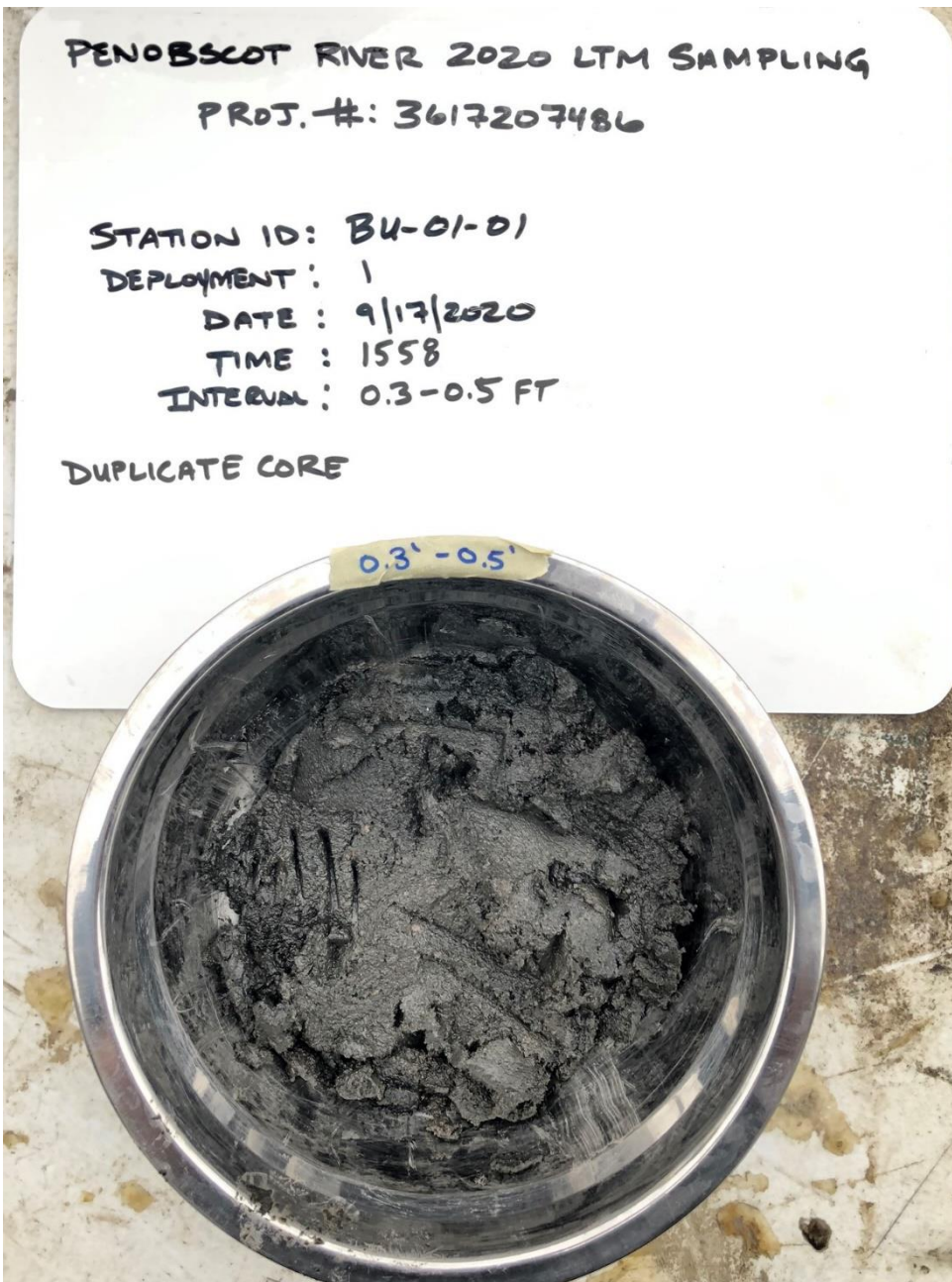


PHOTO 6:

CORE: BU-01-01_DUP

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/17/2020

STATION SUMMARY		
Station ID: BU-02	Core collection and sample processing date: 17 and 20 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – BU-02 Collection Overview

On Thursday, September 17, 2020, Wood scientists attempted coring at station BU-02 in the Bucksport reach between 11:24am and 11:46pm aboard the *R/V Tesla*. The weather was clear with temperatures in the 60's (°F) and varying winds ranging from 10 to 15-knots from the Southwest. Sea conditions were calm to smooth, with a wave height of less than 0.5-ft, providing acceptable conditions for the vessel to hold on location for sampling. A box corer was utilized for attempted sediment collection. Four (4) unsuccessful deployments of the box corer were attempted at BU-02. Large pieces of woody debris, approximately 0.4 to 0.8-ft in length, and other leafy organic-like detritus were present in deployments one (1) and two (2). Deployments three and four contained insufficient quantities of sediment, with approximately 2 to 3-in of sediment in one corner of the box corer. Further attempts were postponed until further review of historical sampling campaigns in the area.

After review of historical sampling information, on Sunday, September 20, 2020, Wood scientists returned to station BU-02 in the Bucksport reach between 14:35pm and 15:35pm aboard the *R/V Tesla*. The weather was clear with temperatures in the 50's (°F) and varying winds ranging from 10 to 15-knots from the Northeast. Sea conditions were smooth, with wave heights of 0.5 to 1.0-ft, providing acceptable conditions for the vessel to hold on location for sampling. A box corer was utilized for attempted sediment collection. An additional seven (7) unsuccessful deployments were attempted at multiple coordinates around the proposed location. Deployments five (5) through seven (7), nine (9), and eleven (11) had no recovery in the box corer. Deployment eight (8) contained one large piece of wood debris (approximately 6x2x4-in), but no sediment. Deployment ten (10) contained a few inches of sediment in the box corer, however quantities were insufficient for bulk sampling.

All attempts for sediment collection for the 2020 September sampling at station BU-02 in the Bucksport reach were unsuccessful. No sediment was collected.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) at station BU-02.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the locations of box coring attempts at station BU-02 are represented. The deployments represented a shallow subtidal zone accessible at any time within the Bucksport reach.

D – Processing Overview

No sediment was collected for BU-02 for processing.

E-Photo Log

Due to no sample recovery, no photo log was developed for this station.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 36FZ07486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/17/20 Time: 1131 Vessel: R/V TESLA
 Coordinates: Lat 44.575291 Long -68.816383 Plan Volume: 0.140 gal

Sampling Station: BU-02 Deploy No. 1-4 Sub-tidal Location? **NO YES** *BW 9/22/20*

Weather: SUNNY, 60s Winds: 5-10 mph Waters: <0.3' CALM Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 57.3'	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): CL 9/17/20
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 6.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/17/20

Number of containers: —					Core Volumes	
Type of container: bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume	
Liner Type: ACETATE	Vibracorer: BOX			4.0"	.50gal/ft	
	Push Corer			3.5"	.33gal/ft	

Live Organisms present —	<p style="text-align: center;">Comments</p> <p>NO RECOVERED SEDIMENT; ONLY RECOVERED LARGER (0.4'-0.8') PIECES OF WOODY DEBRIS AND OTHER LEAFY-ORGANIC-LIKE DETRITS FOR FIRST TWO ATTEMPTS.</p> <p>THIRD AND FOURTH ATTEMPT HAD INSUFFICIENT QUANTITIES OF SEDIMENT, WITH 2-3" OF SED. IN ON CORNER OF THE BOX</p>
Oil-Like Present —	
Odor Present —	
Debris Present —	
Photo Numbers	

CL 9/17/20

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: VSDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: AS1 WO: - Crew: B. WEYER
 Date: 9/17/20 Time: 1133 Vessel: R/V TESLA

Coordinates: Lat 44.574958 Long -68.816462 Plan Volume: 0.140gal

Sampling Station: BU-02 Deploy No. 2 Sub-tidal Location? NO

Weather: SUNNY, 60S Winds: 5-10mph Waters: <0.3'/CALM Traffic: NONE Water Temp: -

YES
BW
9/22/20

Measured Water Depth [NAVD88]: 57.3	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

CL
9/17/20

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL
9/17/20

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	Vibracorer: <u>Box</u>			Push Corer	4.0"	.50gal/ft
				Stambar	3.5"	.33gal/ft

Live Organisms present
Oil-Like Present
Odor Present
Debris Present
Photo Numbers

CL
9/17/20

Comments
 - INSUFFICIENT RECOVERY
 - INCLUDED WOODY DEBRIS AND OTHER LEAFY-ORGANIC-LIKE DETRITUS.

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: VSDC Project No.: 361207486 Logger: C. LARBACK
 Sub: AS1 WO: — Crew: B. WEYER
 Date: 9/17/20 Time: 1135 Vessel: R/V TESLA
 Coordinates: Lat 44.575944 Long -68.817294 Plan Volume: 0.140 gal
 Sampling Station: BU-03 ^{CL 9/17} BU-02 Deploy No. 3 Sub-tidal Location? NO
 Weather: SUNNY, 60s Winds: 5-10 mph Waters: CALM Traffic: NONE Water Temp: —

YES BW 9/22/20

Measured Water Depth [NAVD88]: <u>57.3</u>	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: <u>0.5'</u>	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/17/20

Number of containers:	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	<u>—</u>	Vibracorer:	<u>BOX</u>	Slambar	4.0"	.50gal/ft
		Push Corer			3.5"	.33gal/ft

Live Organisms present	<u>—</u>	Comments <u>- INSUFFICIENT RECOVERY</u> <u>- 2-3" OF SED. IN CORNER OF THE BOX</u>
Oil-Like Present	<u>—</u>	
Odor Present	<u>—</u>	
Debris Present	<u>—</u>	
Photo Numbers	<u>CL 9/17/20</u>	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LATUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/17/20 Time: 1140 Vessel: R/V TESLA
 Coordinates: Lat 44.576166 Long -68.816116 Plan Volume: 0.140gal

Sampling Station: BU-02 Deploy No. 4 Sub-tidal Location? ~~NO~~

YES
 SW 9/24/20

Weather: SUNNY, 60s Winds: 5-10 mph Waters: <0.3' CALM Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 57.3'	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

CL
 9/17/20

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/17/20

Number of containers: —	Core Volumes
Type of container: bucket	Nominal core-barrel diameter
Liner Type: —	EST. Volume
Vibracorer: —	4.0" .50gal/ft
Push Corer: BOX	3.5" .33gal/ft
Slambar: —	

Live Organisms present —	Comments
Oil-Like Present —	
Odor Present —	
Debris Present —	
Photo Numbers	

-INSUFFICIENT RECOVERY
 -2-3" OF SED. IN CORNER OF THE BOX

CL
 9/17/20



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: CLIMBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/20/20 Time: 1454 Vessel: R/V TESLA
 Coordinates: Lat 44.575445 Long -68.816525 Plan Volume: 0.140
 Sampling Station: BU-02 Deploy No. ^{CL 9/20/20} 75 Sub-tidal Location? NO

Weather: CLEAR 50s Winds: 10-15 mph Waters: 0'-1' Traffic: NONE Water Temp: —
 Measured Water Depth [NAVD88]: 39.3 Core Penetration Length (ft.):
 Correction to NAVD88 (+/- ft. from NAVD88): Recovered Core Length (ft.):
 Mudline (Corrected Depth) @ NAVD88: Sample Length Retained (ft.):
 Study Depth (-NAVD88): Acceptable Core (80% recovery):
 Required Penetration Length: 0.5' Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/20/20

Number of containers:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	Vibracorer: BOX			4.0"	.50gal/ft	
	Push Corer			Slambar	3.5"	.33gal/ft

Live Organisms present	Comments - INSUFFICIENT RECOVERY
Oil-Like Present	
Odor Present	
Debris Present	
Photo Numbers	
<i>CL 9/20/20</i>	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 3617207486	Logger: C. LAURACK
Sub: ASI	WO: —	Crew: B. WEYER
Date: 9/20/20	Time: 1450	Vessel: R/V TESLA
Coordinates: Lat 44.574977	Long -68.816464	Plan Volume: 0.140gal
Sampling Station: BU-02	Deploy No. 20	Sub-tidal Location? No
Weather: CLEAR, 50s	Winds: 10-15 mph	Waters: 0.0-9.0'
	Traffic: NONE	Water Temp: —

Measured Water Depth [NAVD88]: 24.3	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	—	Vibracorer:		Slambar	4.0"	.50gal/ft
		Push Corer			3.5"	.33gal/ft

Live Organisms present	—	Comments - INSUFFICIENT RECOVERY
Oil-Like Present	—	
Odor Present	—	
Debris Present	—	
Photo Numbers	CL 9/20/20	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
Sub: ASI WO: - Crew: B. WEYER
Date: 9/20/20 Time: 1500 Vessel: R/V TESLA

Coordinates: Lat 44.575958 Long -68.817241 Plan Volume: 0.140gal

Sampling Station: BU-02 Deploy No. 37 Sub-tidal Location? NO

Weather: CLEAR, 50 Winds: 10-15MPH Waters: 0.0'-1.0' Traffic: NONE Water Temp: -

Table with 2 columns: Measured Water Depth [NAVD88]: 28.3, Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):, Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:, Sample Length Retained (ft.):
Study Depth (-NAVD88):, Acceptable Core (80% recovery):
Required Penetration Length: 0.5', Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Table with 3 columns: Sample Interval (ft.), Sample Id #, Description. Includes a vertical line from 'Top' to 'Bottom' and handwritten 'CL 9/20/20'.

Table with 5 columns: Number of containers, Type of container, Liner Type, Vibracorer, Push Corer, Core Volumes (Nominal core-barrel diameter, EST. Volume).

Live Organisms present -
Oil-Like Present -
Odor Present -
Debris Present -

Comments
INSUFFICIENT RECOVERY
Photo Numbers
CL 9/20/20

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: ~~AS~~ CL 9/20/20 USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Date: 9/20/20 Time: 1505 Crew: B. WEYER
 Vessel: R/R TESLA
 Coordinates: Lat 44.576488 Long -68.814730 Plan Volume: 0.140gal
 Sampling Station: BU-02 Deploy No. 48 Sub-tidal Location? NO
 Weather: CLEAR, 50s Winds: 10-15 mph Waters: 0.0'-1.0' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 52.9	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/20/20

Number of containers: —	Core Volumes
Type of container: bucket	Nominal core-barrel diameter
Liner Type: —	EST. Volume
Vibracorer: —	4.0" .50gal/ft
Push Corer: BOX	3.5" .33gal/ft

Live Organisms present —
 Oil-Like Present —
 Odor Present —
 Debris Present —

Photo Numbers
 CL 9/20/20

Comments
 -NO RECOVERY OTHER THAN ONE LARGE PIECE OF WOODY DEBRIS (6" X 2" X 4")

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC
Sub: ASI

Project No.: 361774
WO: —
Date: 9/20/20

Logger: C. LAUBACK
Crew: B. WEYER
Vessel: R/V TESLA

Coordinates: Lat 44.576011

Long -68.815615

Plan Volume: 0.140gal

Sampling Station: BU-02

Deploy No. 59

Sub-tidal Location? NO

Weather: CLEAR, 50s Winds: 10-15 mph Waters: 0.0' - 1.0' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 58.9	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers: —	Type of container: bucket	Liner Type: —	Core Volumes			
			Nominal core-barrel diameter	EST. Volume		
	liner bag	Vibracorer: <u>Box</u>	4.0"	.50gal/ft		
	jar	Push Corer	3.5"	.33gal/ft		
	other	Slambar				

Live Organisms present	Comments — NO RECOVERY
Oil-Like Present	
Odor Present	
Debris Present	
Photo Numbers	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 36172074 B6	Logger: C. LABACK
Sub: AS1	WO: —	Crew: B. WEYER
Date: 9/20/20	Time: 1510	Vessel: R/V TESLA
Coordinates: Lat 44.578941	Long -68.817482	Plan Volume: 0.140gal
Sampling Station: BU-03 BU-02	Deploy No. 610	Sub-tidal Location? No
Weather: CLEAR, 50s	Winds: 10-15 mph	Waters: 0.5-1.0
	Traffic: NONE	Water Temp: —
Measured Water Depth [NAVD88]: 39.3	Core Penetration Length (ft.):	
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):	
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):	
Study Depth (-NAVD88):	Acceptable Core (80% recovery):	
Required Penetration Length: 0.5'	Core Volume Retained (gal.):	

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/20/20

Number of containers:	—	—	—	—	Core Volumes	
	Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter
Liner Type:	—	Vibracorer:	BOX		4.0"	.50gal/ft
	—	Push Corer		Slambar	3.5"	.33gal/ft

Live Organisms present	—	Comments - INSUFFICIENT RECOVERY, A FEW INCHES OF SEDIMENT IN BOX
Oil-Like Present	—	
Odor Present	—	
Debris Present	—	
Photo Numbers	CL 9/20/20	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617267486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/20/20 Time: 1515 Vessel: R/V TESLA
 Coordinates: Lat 44.579932 Long -68.817902 Plan Volume: 0.140gal
 Sampling Station: ~~BU-05~~ ^{CL 9/20/20} BU-02 Deploy No. 711 Sub-tidal Location? NO

Weather: Winds: 10-15mph Waters: 0.5'-1.0' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 36.4	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

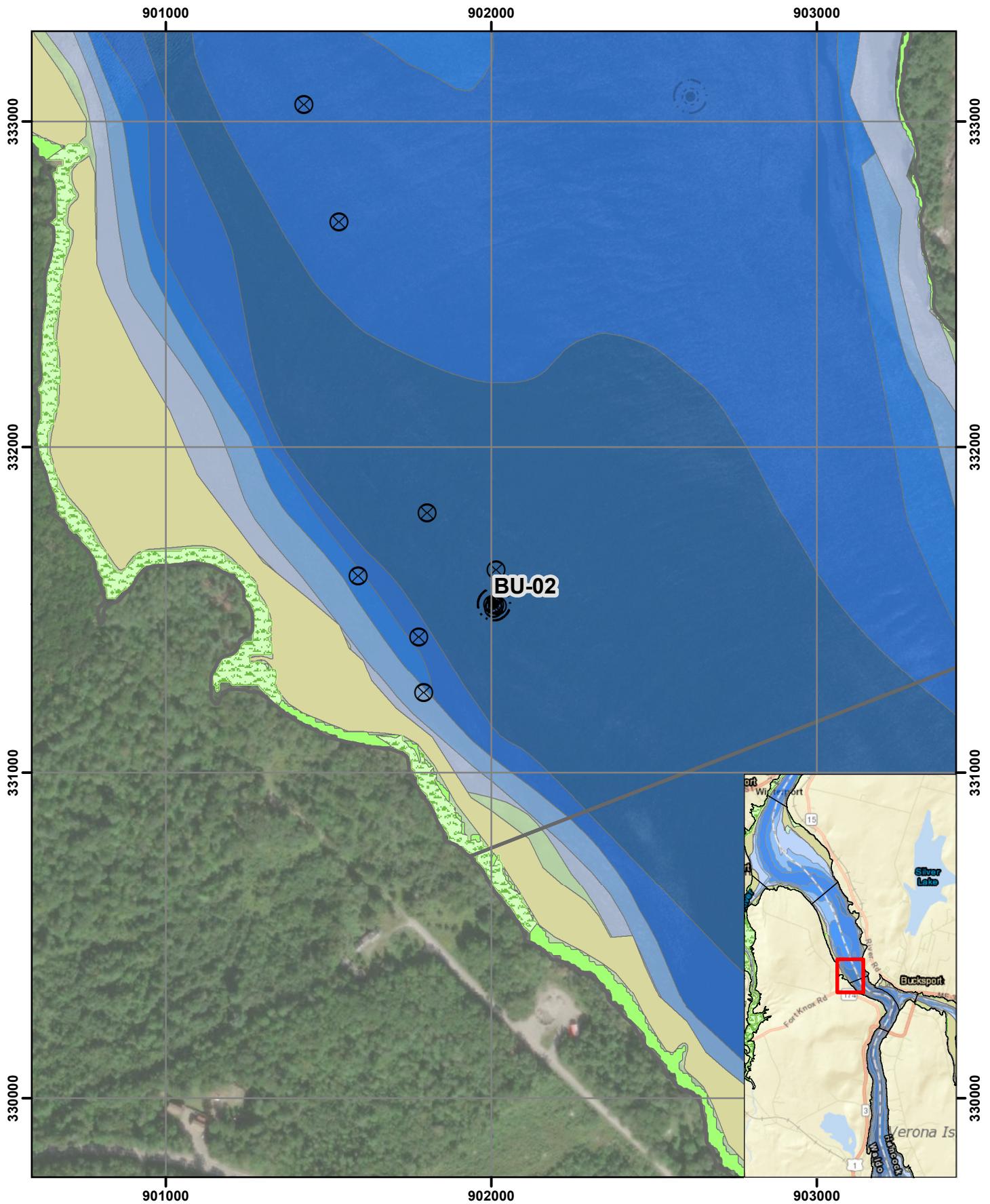
Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/20/20

Number of containers: —	—	—	—	Core Volumes		
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: —	Vibracorer: <u>Box</u>				4.0"	.50gal/ft
	Push Corer			Slambar	3.5"	.33gal/ft

Live Organisms present —	Comments - INSUFFICIENT RECOVERY
Oil-Like Present —	
Odor Present —	
Debris Present —	
Photo Numbers	
	CL 9/20/20

QC CHECK BY B. WEYER 9/21/2020

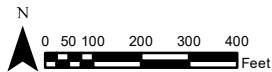


wood.

Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- ⋯ 25 foot radius buffer
- - - 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [BU-02]
Reach: [Bucksport]



Prepared/Date: ICD 12/20/20

Checked/Date: BPW 12/21/20

Maine State Plane CRS East Zone 1983

Penobscot River Estuary
2020 Long Term Monitoring

STATION SUMMARY		
Station ID: MM-T1-C2	Core collection and sample processing date: 21 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – MM-T1-C2 Collection Overview

On Monday, September 21, 2020, Wood scientists cored station MM-T1-C2 in the Mendall Marsh reach between 4:40pm and 5:00pm. The weather was clear with a temperature of 60°F and wind from the North. Sea conditions were negligible to the sampling effort, as the station was accessed by foot. Sediment was sampled by 1-ft hand push cores with 3-in diameter acetate liners. One (1) 1-ft push core was collected at station MM-T1-C2.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and core(s) at station MM-T1-C2.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station MM-T1-C2 represents the single collection point of the push core. The deployment represented a vegetated marsh platform accessible at low tide within the Mendall Marsh reach.

D – Processing Overview

Same-day processing was performed on MM-T1-C2 by Wood scientists on location. Core MM-T1-C2 was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

The appearance and textural properties of all recovered sediment was described using the Unified Soil Classification (USCS). An organic sulfur-like odor was observed during processing, which increased with depth.

Sediment Core Logs are attached (See Attachment B).

MM-T1-C2

Push core M-T1-C2 had an acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: brown to dark brown silty CLAY, wet, slight sheen
- 0.1 – 0.3 ft: dark brown silty CLAY with some black streaks, wet, slight sheen
- 0.3 – 0.5 ft: dark brown with black silty CLAY, wet, slight sheen, organic sulfur-like odor
- 0.5 – 0.82 ft: dark brown with black streaks clayey SILT, moist, low plasticity, slight sheen, strong organic sulfur-like odor

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: ~~USDC - Penobscot~~ **BW 9/22/20** Project No.: 3617207486 Logger: S. Caplin
 Sub: ~~WOOD ERTS None~~ **BW 9/22/20** WO: _____ Crew: H. Plante, T. Gerhard, C. Godfrey
 Date: 9-21-20 Time: 1635 Vessel: NA
 Coordinates: Lat **44.597156** Long **-68.855359** Plan Volume: **0.140 gal**
 Sampling Station: **mm-T1-C2** Deploy No. **1** Sub-tidal Location? **NO**

Weather: 60°F, (16k)	Winds: North	Waters: NA	Traffic: NA	Water Temp: NA
Measured Water Depth [NAVD88]: NA	Core Penetration Length (ft.): 1.0'			
Correction to NAVD88 (+/- ft. from NAVD88): -	Recovered Core Length (ft.): 0.82'			
Mudline (Corrected Depth) @ NAVD88: -	Sample Length Retained (ft.): 0.54'			
Study Depth (-NAVD88): -	Acceptable Core (80% recovery): YES			
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140			

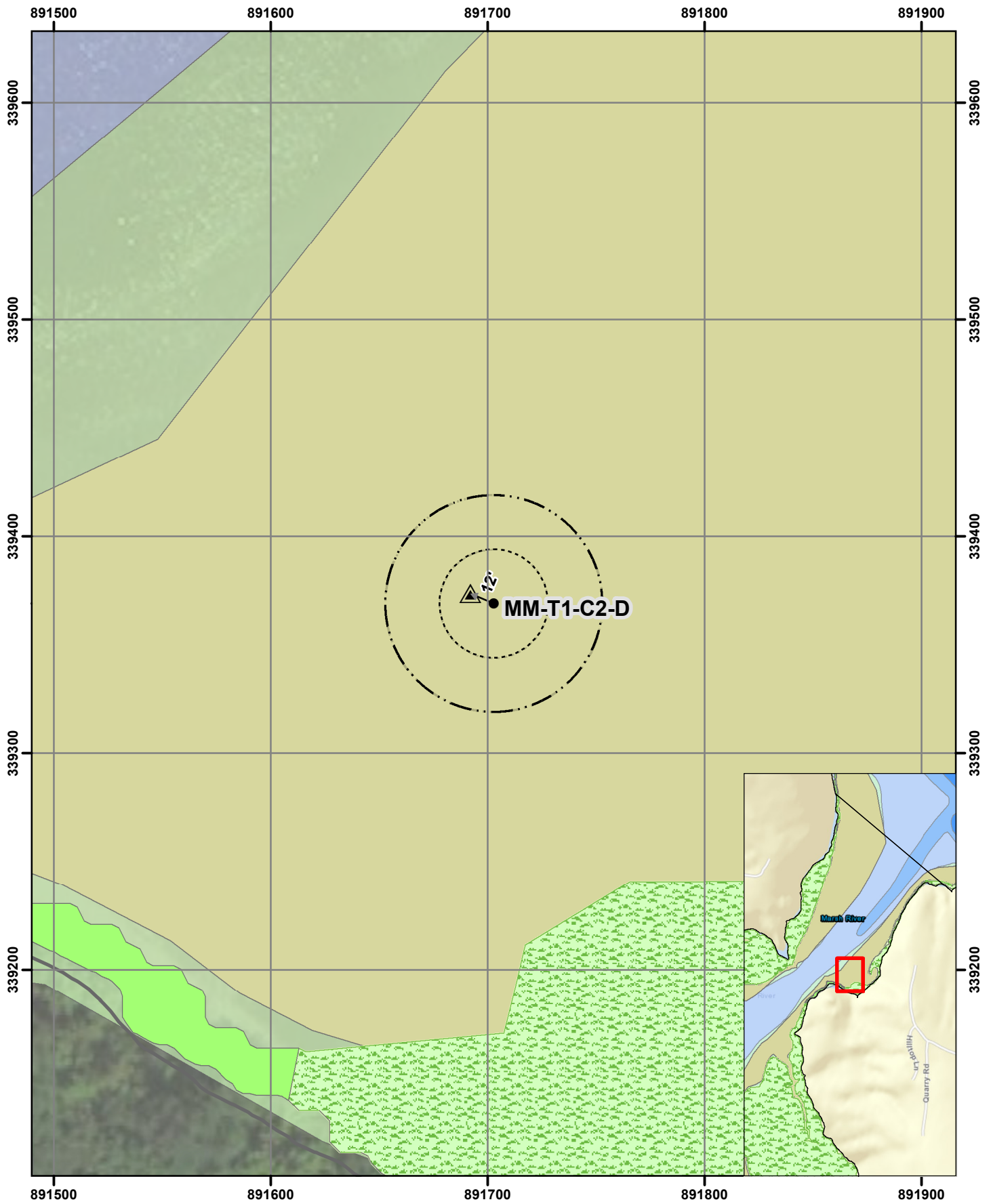
All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
0.0 - 0.1	mm-T1-C2-012120 -SED-00-01 @1640	Brown to dark brown silty clay, wet, slight sheen
0.1 - 0.3	mm-T1-C2-012120 -SED-01-03 @1650	Brown to dark brown, silty clay, ^{some} black streaks, ⁹⁻²¹⁻²⁰ silty clay, wet, slight sheen
0.3 - 0.5	mm-T1-C2-012120 -SED-03-05 @1700	Dark brown with black, silty clay, wet, slight sheen, odor - organic sulfur-like
0.5 - 0.82	mm-T1-C2-012120 -SED-05-05 @1750	Dark brown with black streaks, clayey silt, moist, low plasticity, slight sheen strong odor - organic sulfur-like
Bottom		see 9-21-20

Number of containers: <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Core Volumes	
Type of container: bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: Acetate	Vibracorer: Push Corer	Slambar		4.0"	.50gal/ft
				3.5"	.33gal/ft

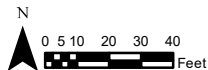
Live Organisms present NO	Comments Odor increased with depth, collected with Extruder
Oil-Like Present YES	
Odor Present YES	
Debris Present NO	
Photo Numbers B. WEYER 9/22/2020	

QC CHECK BY B. WEYER 9/22/2020



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- 25 foot radius buffer
- 50 foot radius buffer
- Proposed/Actual (lateral feet)



Station ID: [MM-T1-C2-D]
 Reach: [Mendall Marsh]

Penobscot River Estuary
 2020 Long Term Monitoring

Prepared/Date: ICD 12/20/20 | Checked/Date: BPW 12/21/20 | Maine State Plane CRS East Zone 1983



PHOTO 1:

CORE: MM-T1-C2

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/21/2020

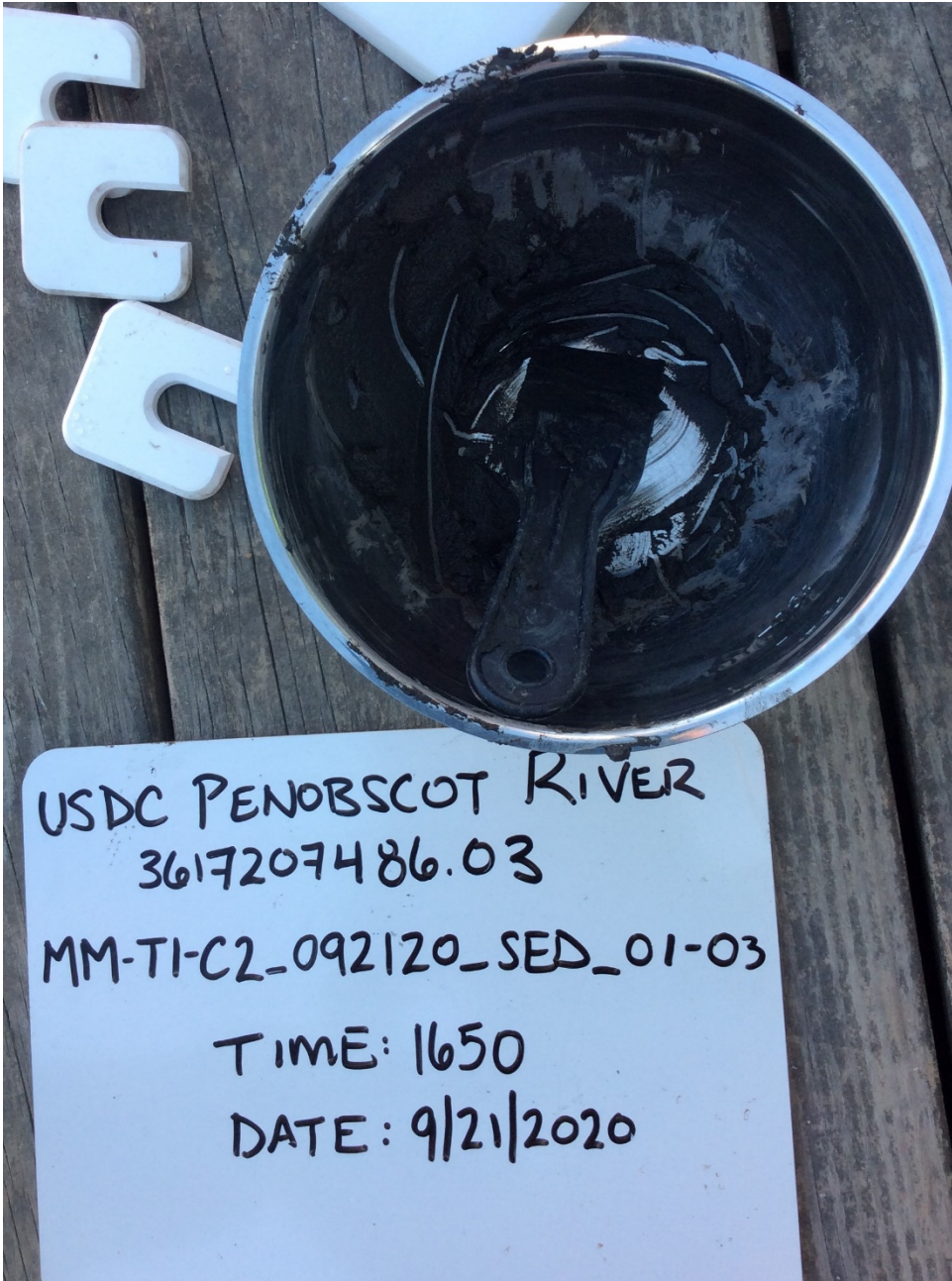


PHOTO 2:

CORE: MM-T1-C2

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/21/2020



PHOTO 3:

CORE: MM-T1-C2

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/21/2020

STATION SUMMARY		
Station ID: MM-T2-C3	Core collection and sample processing date: 21 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – MM-T2-C3 Collection Overview

On Monday, September 21, 2020, Wood scientists cored station MM-T2-C3 in the Mendall Marsh reach between 11:30am and 11:13pm. The weather was clear with a temperature of 60 °F and wind from the North. A small craft vessel was used to access the marsh platform where the sampling crew disembarked on foot to the sampling location. A shooter shovel was utilized for sediment collection. The shooter shovel penetrated one foot into the subsurface and sediment was sampled directly from the shooter shovel.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and core(s) at station MM-T2-C3.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station MM-T2-C3 represents the single collection point with the shooter shovel. The deployment represented a vegetated marsh platform accessible at low tide within the Mendall Marsh reach.

D – Processing Overview

Same-day processing was performed on MM-T2-C3 by Wood scientists on location. Sediment was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC). Intervals 0.1 – 0.3 ft and 0.3 – 0.5 ft of MM-T2-C3 were selected to be used for a MS/MSD laboratory control sample.

The appearance and textural properties of all recovered sediment was described using the Unified Soil Classification (USCS). A sulfur-like odor was present throughout the core.

Sediment Core Logs are attached (See Attachment B).

MM-T2-C3

There was acceptable recovery with the shooter shovel at MM-T2-C3, over 0.5-ft.

- 0.0 – 0.1 ft: brown clayey SILT, medium to high plasticity, wet, trace fine roots, trace large roots, sulfur-like odor
- 0.1 – 0.3 ft: brown clayey SILT, medium to high plasticity, wet, trace fine roots, trace large roots, sulfur-like odor
- 0.3 – 0.5 ft: brown clayey SILT, medium to high plasticity, saturated, trace fine roots, trace large roots, root density increases with depth, sulfur-like odor
- 0.5 – 0.8 ft: brown clayey SILT, medium to high plasticity, saturated, trace fine roots, trace large roots, root density increases with depth, sulfur-like odor
- 0.8 – 1.0 ft: brown clayey SILT, medium to high plasticity, saturated, trace fine roots, trace large roots, root density decreases with depth, sulfur-like odor

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC - ~~PENOBSCOT~~ ^{BW} 9/22/20 Project No.: 3617 207486 Logger: H. PLANTE
 Sub: ~~WOOD ETS~~ ^{NONE} ~~BN~~ 9/22/20 WO: _____ Crew: T. Gerhard, S. Cardin, C. Goffrey
 Date: 9/21/20 Time: 1145 Vessel: whaler

Coordinates: Lat 44.591424 Long -68.861980 Plan Volume: 0.140 gal

Sampling Station: MM-T2-C3 Deploy No. 1 Sub-tidal Location? NO

Weather: 60°F CLEAR Winds: NORTH Waters: NA Traffic: NA Water Temp: NA

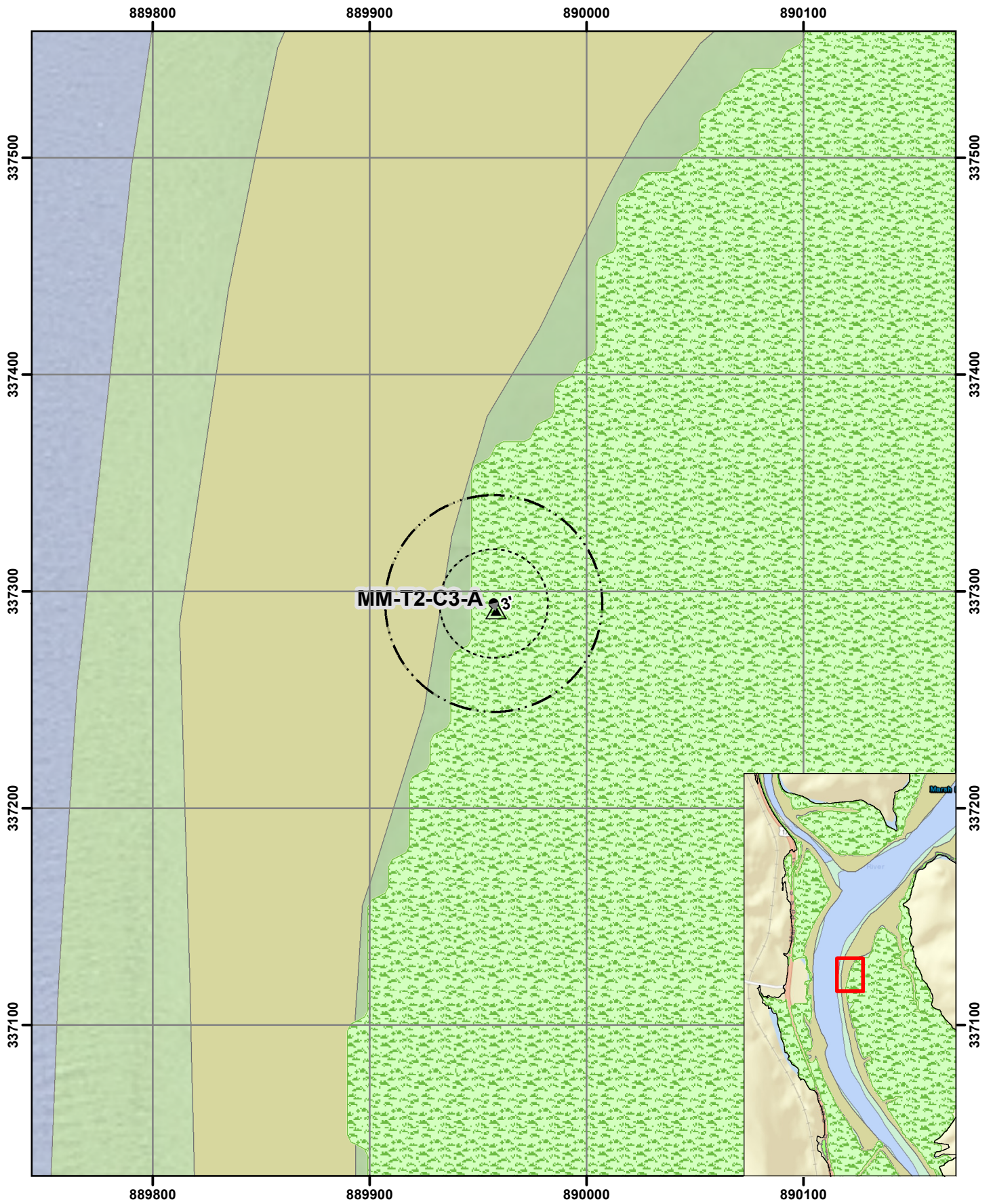
Measured Water Depth [NAVD88]:	NA	Core Penetration Length (ft.):	1.0
Correction to NAVD88 (+/- ft. from NAVD88):	-	Recovered Core Length (ft.):	1.0
Mudline (Corrected Depth) @ NAVD88:	-	Sample Length Retained (ft.):	0.5
Study Depth (-NAVD88):	-	Acceptable Core (80% recovery):	YES
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	0.140

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
0.0-0.1	MM-T2-C3_092120_ SED_00-01 @ 1150	BROWN CLAYEY SILT. HIGH PLASTICITY MED TO WET. TRACE FINE ROOTS. GRACE LARGE ROOTS. SULFUR LIKE ODOA.
0.1-0.3	MM-T2-C3_092120_ SED_01-03 @ 1200	SAME AS 00-0.1
0.3-0.5	MM-T2-C3_092120_ SED_05-05 @ 1210	SAME AS 0.1-0.3. INCREASED ROOT DENSITY w/ DEPTH. LOWER MOISTURE CONTENT.
0.5-1.0	n/c	SAME AS 0.3-0.5. AFTER 0.8', DECREASING ROOT DENSITY w/ DEPTH.
Bottom		

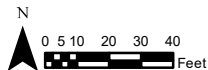
Number of containers:	6	Core Volumes	
Type of container:	bucket	liner bag	jar
Liner Type:	NA	Vibracorer:	Slambar
		Push Corer:	Slambar
		Nominal core-barrel diameter:	4.0"
		EST. Volume:	.50gal/ft
			3.5"
			.33gal/ft

Live Organisms present	NO	Comments SHOETER SHOVEL
Oil-Like Present	NO	
Odor Present	SULFUR	
Debris Present	NO	
Photo Numbers		
B. WEYER 9/22/2020		



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- ⋯ 25 foot radius buffer
- 50 foot radius buffer
- Proposed/Actual (lateral feet)



Station ID: [MM-T2-C3-A]
 Reach: [Mendall Marsh]

Penobscot River Estuary
 2020 Long Term Monitoring

Prepared/Date: ICD 12/20/20 | Checked/Date: BPW 12/21/20 | Maine State Plane CRS East Zone 1983



PHOTO 1:

CORE: MM-T2-C3

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/21/2020



PHOTO 2:

CORE: MM-T2-C3

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/21/2020



PHOTO 3:

CORE: MM-T2-C3

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/21/2020

STATION SUMMARY		
Station ID: MM-T2-C1	Core collection and sample processing date: 18 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – MM-T2-C1 Collection Overview

On Friday, September 18, 2020, Wood scientists cored station MM-T2-C1 in the Mendall Marsh reach between 10:55am and 11:05am. The weather was cloudy with a temperature of 55°F and winds from the South. A small craft vessel was used to access the marsh platform, where the sampling crew disembarked on foot to the sampling station. Sediment was sampled by 1-ft hand push cores with 3-in diameter acetate liners. One (1) 1-ft push core, designated in the field as MM-T2-C1, was collected at the station location and was preserved on wet ice, while awaiting to be processed.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and core(s) at station MM-T2-C1.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station MM-T2-C1 represents the single collection point with the push corer. The deployment represented a vegetated marsh platform accessible at low tide within the Mendall Marsh reach.

D – Processing Overview

Same-day processing was performed on MM-T2-C1 by Wood scientists at the Wood Field Station, Winterport, Maine. Core MM-T2-C1 was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

The appearance and textural properties of all recovered sediment was described using the Unified Soil Classification (USCS).

Sediment Core Logs are attached (See Attachment B).

MM-T2-C1

Push core MM-T2-C1 had an acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: medium to dark brown clayey SILT, saturated, high organic content, fine-dense roots
- 0.1 – 0.3 ft: medium brown clayey SILT, saturated, very high organic fine-dense roots
- 0.3 – 0.5 ft: medium brown clayey SILT, saturated, very high organic fine-dense roots
- 0.5 – 0.65 ft: medium brown clayey SILT, saturated, very high organic fine-dense roots

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486.3 ^{BW} 9/22/20 Logger: H. PLANTE
 Sub: ~~WOOD ETTS~~ ^{None} ^{BW 9/22/20} WO: _____ Crew: HP, TG
 Date: 9/18/20 Time: 1055 Vessel: WHALER
 Coordinates: Lat 44.590543 Long -68.859621 Plan Volume: 0.140 gal
 Sampling Station: MM-T2-C1 Deploy No. 1 Sub-tidal Location? NO

Weather: 55°F cloudy Winds: South Waters: NA Traffic: N Water Temp: NA

Measured Water Depth [NAVD88]:	NA	Core Penetration Length (ft.):	0.95
Correction to NAVD88 (+/- ft. from NAVD88):	-	Recovered Core Length (ft.):	0.65
Mudline (Corrected Depth) @ NAVD88:	-	Sample Length Retained (ft.):	0.5
Study Depth (-NAVD88):	-	Acceptable Core (80% recovery):	YES
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	0.140

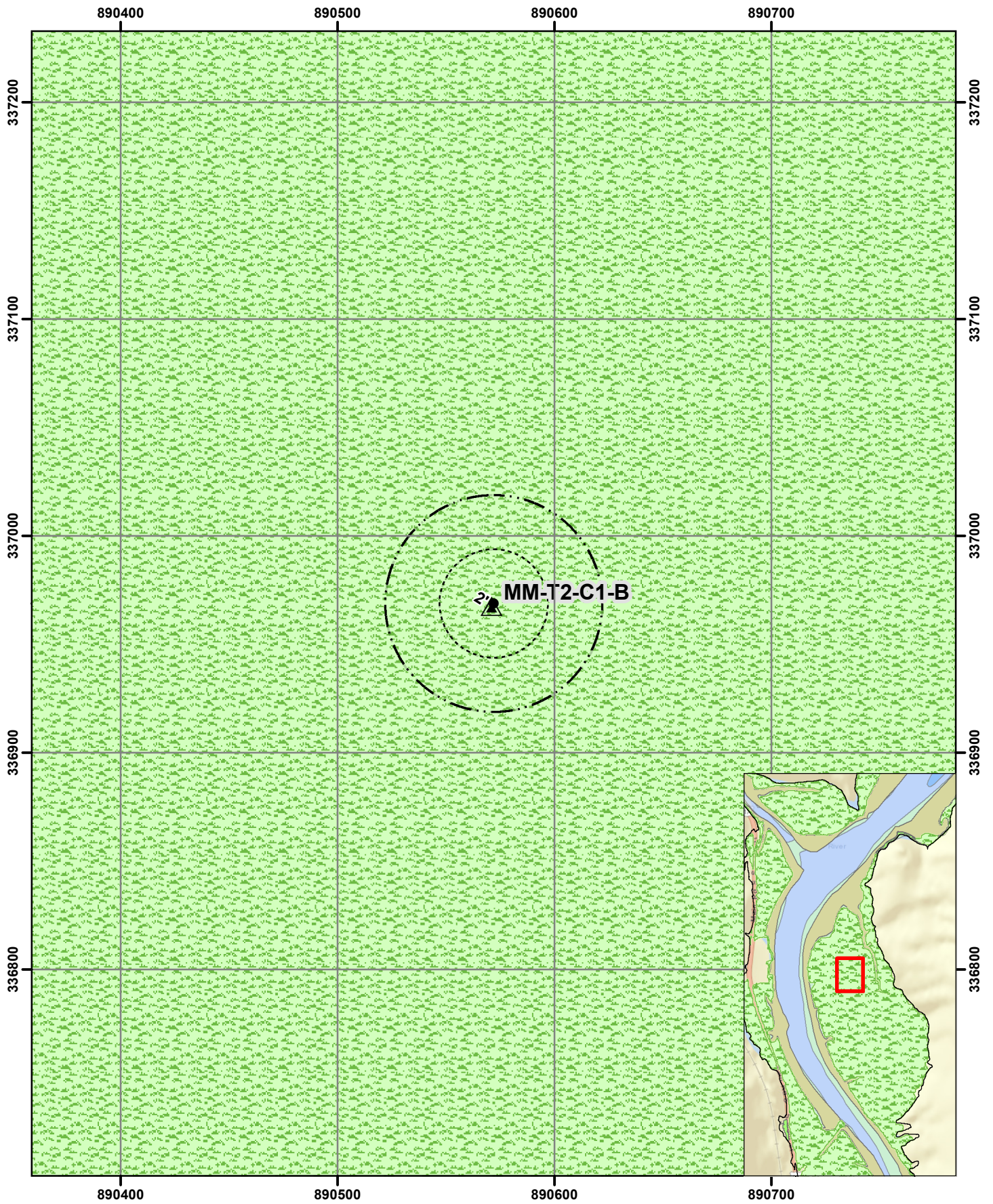
All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 00-0.1	MM-T2-C1-091820-SED-00-01 @1235	medium to dark brown clayey silt saturated, high organic content, dense fine roots
0.1-0.3	MM-T2-C1-091820-SED-01-03 @1245	medium brown clayey silt, saturated, very high organic dense fine roots
0.3-0.5	MM-T2-C1-091820-SED-03-05 @1255	same as 0.1-0.3
0.5-0.65	MM-T2-C1-091820-SED-04-06 SC 9-18-20	same as 0.3-0.5
Bottom	SC 9-18-20	

Number of containers:	6				Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibracorer: Push Corer			Slambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

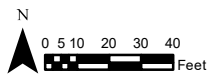
Live Organisms present NO
 Oil-Like Present NO
 Odor Present Yes, organic
 Debris Present roots
 Photo Numbers
 B. WEYER
 9/22/2020

Comments
 Extruder



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- 25 foot radius buffer
- 50 foot radius buffer
- Proposed/Actual (lateral feet)



Station ID: [MM-T2-C1-B]
 Reach: [Mendall Marsh]

Penobscot River Estuary
 2020 Long Term Monitoring

Prepared/Date: ICD 12/20/20 | Checked/Date: BPW 12/21/20 | Maine State Plane CRS East Zone 1983



PHOTO 1:

CORE: MM-T2-C1

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/18/2020



PHOTO 2:

CORE: MM-T2-C1

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/18/2020



PHOTO 3:

CORE: MM-T2-C1

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/18/2020

APPENDIX B – 2.17

Station Summary – MM-T5-C1

STATION SUMMARY		
Station ID: MM-T5-C1	Core collection and sample processing date: 18 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – MM-T5-C1 Collection Overview

On Friday, September 18, 2020, Wood scientists cored station MM-T5-C1 in the Mendall Marsh reach between 10:45am and 10:55am. The weather was clear with a temperature of 55°F and wind from the North. A small craft vessel was used to access the marsh platform, where the sampling crew disembarked on foot to the sampling location. Sediment was collected by 1-ft hand push cores with 3-in diameter acetate liners. One (1) 1-ft push core, designated in the field as MM-T5-C1, was collected at the station location and was preserved on wet ice while awaiting to be processed.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and core(s) at station MM-T5-C1.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station MM-T5-C1 represents the single collection point with the push core. The deployment represented a vegetated marsh platform accessible at low tide within the Mendall Marsh reach.

D – Processing Overview

Same-day processing was performed on MM-T5-C1 by Wood scientists at the Wood Field Station, Winterport, Maine. Core MM-T5-C1 was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

The appearance and textural properties of all recovered sediment was described using the Unified Soil Classification (USCS).

Sediment Core Logs are attached (See Attachment B).

MM-T5-C1

Push core MM-T5-C1 had an acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: brown clayey SILT, dense fine roots, saturated, live organisms
- 0.1 – 0.3 ft: brown clayey SILT, less dense, fine roots, saturated
- 0.3 – 0.5 ft: brown clayey SILT, less dense than overlying root mass
- 0.5 – 0.89 ft: brown clayey SILT, dense fine roots, saturated

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: ~~3617207486~~ ^{BW 9/22/20} 7
 Sub: ~~WOOD E + IS~~ ^{None} _{BW 9/22/20} WO: _____ 1105 Crew: HP, TG
 Date: 9/18/20 Time: 1305 Vessel: WHALER
 Coordinates: Lat 44.590001 Long -68.858305 ^{2E 9/18} Plan Volume: ~~0.140~~ ^{BW 9/22/20} 0.140 gal
 Sampling Station: MM-T5-C1 Deploy No. 1 Sub-tidal Location? ND

Weather: 55°F cloudy Winds: south light Waters: NA Traffic: NA Water Temp: NA

Measured Water Depth [NAVD88]:	NA	Core Penetration Length (ft.):	0.9
Correction to NAVD88 (+/- ft. from NAVD88):	-	Recovered Core Length (ft.):	0.8
Mudline (Corrected Depth) @ NAVD88:	-	Sample Length Retained (ft.):	0.5
Study Depth (-NAVD88):	-	Acceptable Core (80% recovery):	89% YES
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	0.140

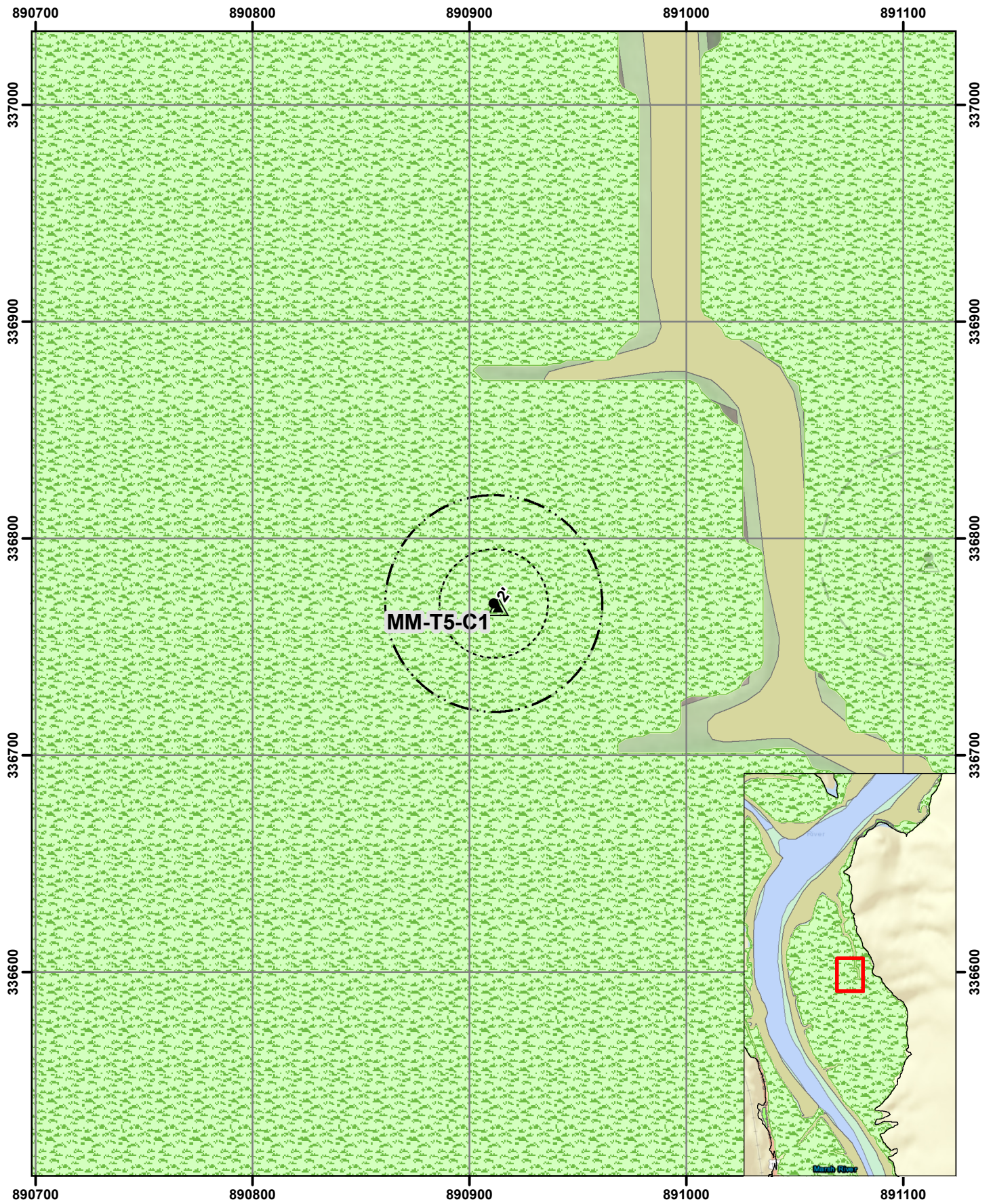
All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0 - 0.1	mm-T5-C1-091820 -SED-00-01 @1310	Brown clayey silt, dense fine roots, saturated, live organisms
0.1 - 0.3	mm-T5-C1-091820 -SED-01-03 @1320	Brown clayey silt, less dense fine roots, saturated
0.3 - 0.5	mm-T5-C1-091820 -SED-03-05 @1330	same as 0.1-0.3, slightly less roots, less dense
0.5 - 0.8	mm-T5-C1-091820 -SED-05-08 @1340	Brown clayey silt, dense fine roots, saturated
Bottom	mm-T5-C1-091820 -SED-08-09 @1350	

Number of containers:	6				Core Volumes	
	Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter
Liner Type:	ACETATE				4.0"	.50gal/ft
	Vibracorer: <u>Push Corer</u>				Slambar	3.5"

Live Organisms present	YES, TOP	Comments Extruder
Oil-Like Present	NO	
Odor Present	↓	
Debris Present	↓	
Photo Numbers		
<u>B. WEYER</u> 9/22/2020		

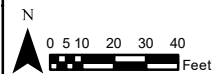
QC CHECK BY B. WEYER 9/22/2020



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- 25 foot radius buffer
- 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [MM-T5-C1]
 Reach: [Mendall Marsh]



Penobscot River Estuary
 2020 Long Term Monitoring

Prepared/Date: ICD 12/20/20 | Checked/Date: BPW 12/21/20 | Maine State Plane CRS East Zone 1983

MXD: \PLD2-FS1\Project\Projects\USDC - Penobscot River 2020 Monitoring-3617207486\4.0_Deliverables\4.5_Databases\MXD\2020_REPORTING\PENOB_2020_LOC_ACC_vf_12202020_8.5x11P.mxd
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PHOTO 1:

CORE: MM-T5-C1

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/18/2020

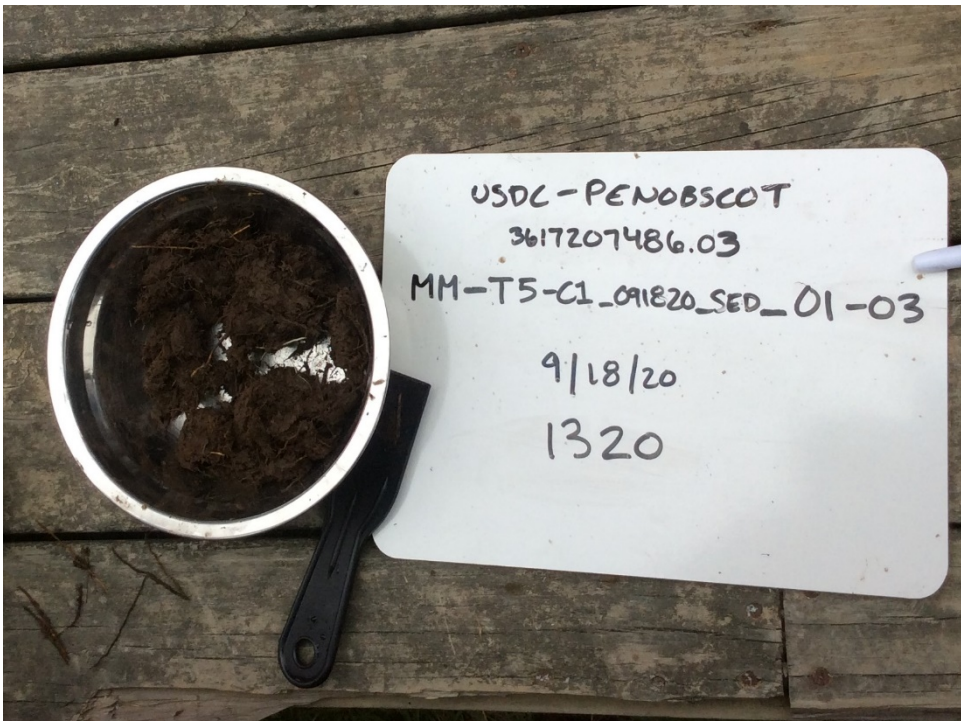


PHOTO 2:

CORE: MM-T5-C1

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/18/2020



PHOTO 3:

CORE: MM-T5-C1

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/18/2020

STATION SUMMARY		
Station ID: MM-T5-C3	Core collection and sample processing date: 21 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – MM-T5-C3 Collection Overview

On Monday, September 21, 2020, Wood scientists cored station MM-T5-C3 in the Mendall Marsh reach between 12:15pm and 1:40pm. The weather was clear with a temperature of 60 °F and wind from the North. Sea conditions were negligible to sampling effort, as station was accessed by foot. A shooter shovel was utilized for sediment collection. The shooter shovel penetrated 0.9-ft into the subsurface and sediment was sampled directly from the shooter shovel.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and core(s) at station MM-T5-C3.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station MM-T5-C3 represents the single collection point with the shooter shovel. The deployment represented a vegetated marsh platform accessible at low tide within the Mendall Marsh reach.

D – Processing Overview

Same-day processing was performed on MM-T5-C3 by Wood scientists on location. Sediment was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

The appearance and textural properties of all recovered sediment was described using the Unified Soil Classification (USCS).

Sediment Core Logs are attached (See Attachment B).

MM-T5-C3

There was acceptable recovery with the shooter shovel at station MM-T5-C3, over 0.5-ft.

- 0.0 – 0.1 ft: brown, clayey SILT, saturated high plasticity, fine roots throughout, some woody roots
- 0.1 – 0.3 ft: brown clayey SILT, saturated, fine roots and woody roots matted, very dense
- 0.3 – 0.5 ft: brown clayey SILT, saturated, fine roots, less dense than overlying sediment
- 0.5 – 0.9 ft: brown clayey SILT, saturated, fine roots, decreasing density with depth

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC - ~~Penobscot~~ ^{BW} 9/22/20 Project No.: 507207480 Logger: S. Caplin

Sub: ~~WOOD 6815~~ ^{BW} 9/22/20 WO: _____ Crew: H. Plante, T. Gerhardt, C. Godfrey
~~NONE~~ Date: 9-21-20 Time: 1305 Vessel: N/A

Coordinates: Lat 44.590059 Long -68.857543 Plan Volume: 0.140 gal.

Sampling Station: mm-T5-C3 Deploy No. 1 Sub-tidal Location? NO

Weather: 60°F Clear Winds: North Waters: NA Traffic: NA Water Temp: NA

Measured Water Depth [NAVD88]:	NA	Core Penetration Length (ft.):	1.0
Correction to NAVD88 (+/- ft. from NAVD88):	-	Recovered Core Length (ft.):	0.9
Mudline (Corrected Depth) @ NAVD88:	-	Sample Length Retained (ft.):	0.95
Study Depth (-NAVD88):	-	Acceptable Core (80% recovery):	Yes
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	0.140

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0-0.1	mm-T5-C3-092120 -SED-00-01 @1310	Brown clayey silt, saturated, high plasticity, fine roots throughout
0.1-0.3	mm-T5-C3-092120 -SED-01-03 @1320	Brown clayey silt, saturated, fine roots and woody roots matted, very dense.
0.3-0.5	mm-T5-C3-092120 -SED-03-05 @1330	Brown clayey silt, saturated, fine roots, less dense, ^{FC} a-21-20
0.5-0.9	mm-T5-C3-092120 -SED-05-09 @1340	Same as above, decreasing root density with depth
Bottom	mm-T5-C3-092120 -SED-09-09 @1350	

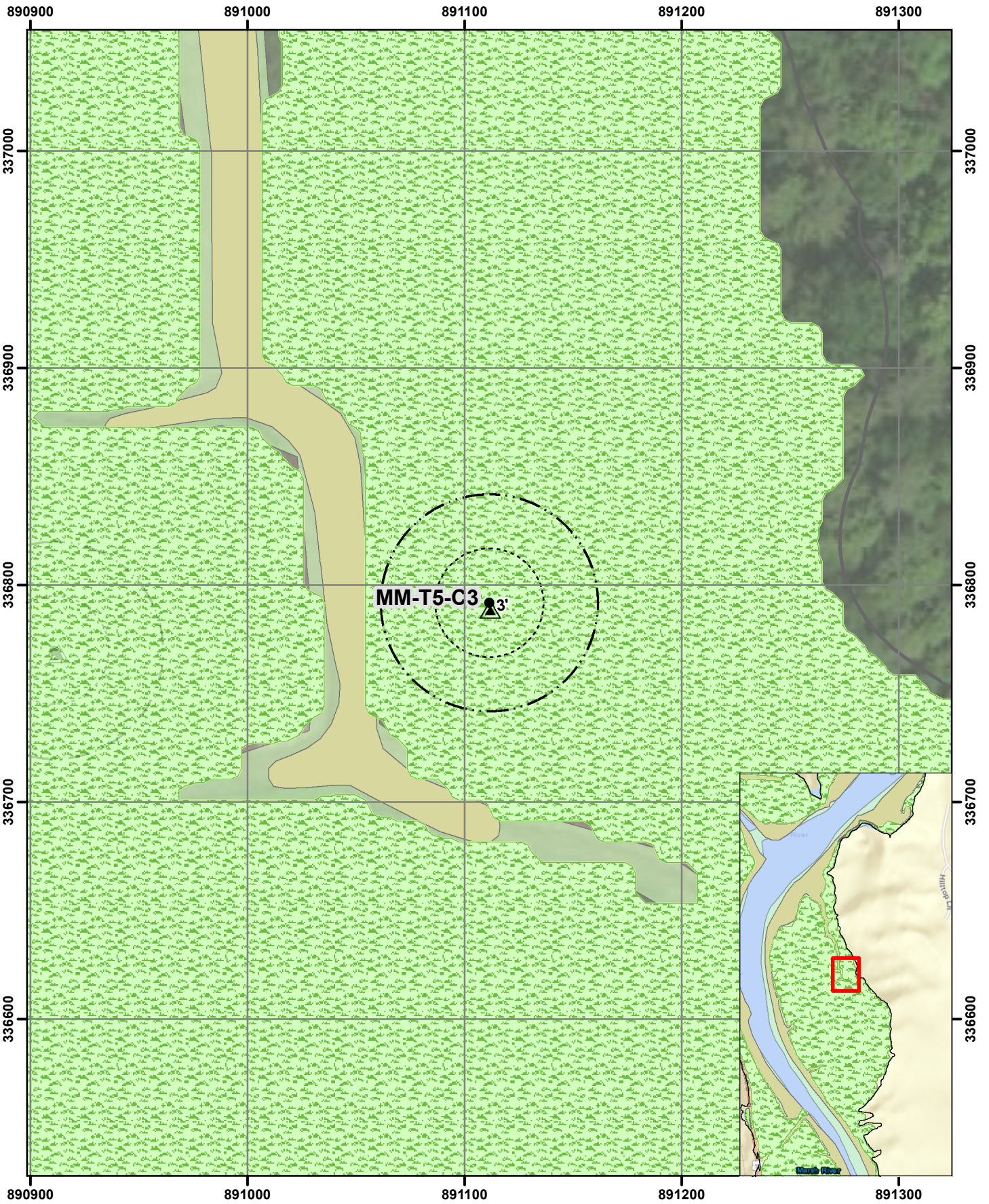
some woody roots

Number of containers:	✓	✓	✓	✓	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	N/A	Vibracorer:	See comments		4.0"	.50gal/ft
		Push Corer		Siambar	3.5"	.33gal/ft

Live Organisms present	NO
Oil-Like Present	NO
Odor Present	NO
Debris Present	NO

Comments
Shouter shovel

Photo Numbers
~~B. Weyer
9/22/2020~~



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- 25 foot radius buffer
- 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [MM-T5-C3]
 Reach: [Mendall Marsh]

**Penobscot River Estuary
 2020 Long Term Monitoring**

Prepared/Date: ICD 12/20/20

Checked/Date: BPW 12/21/20

Maine State Plane CRS East Zone 1983

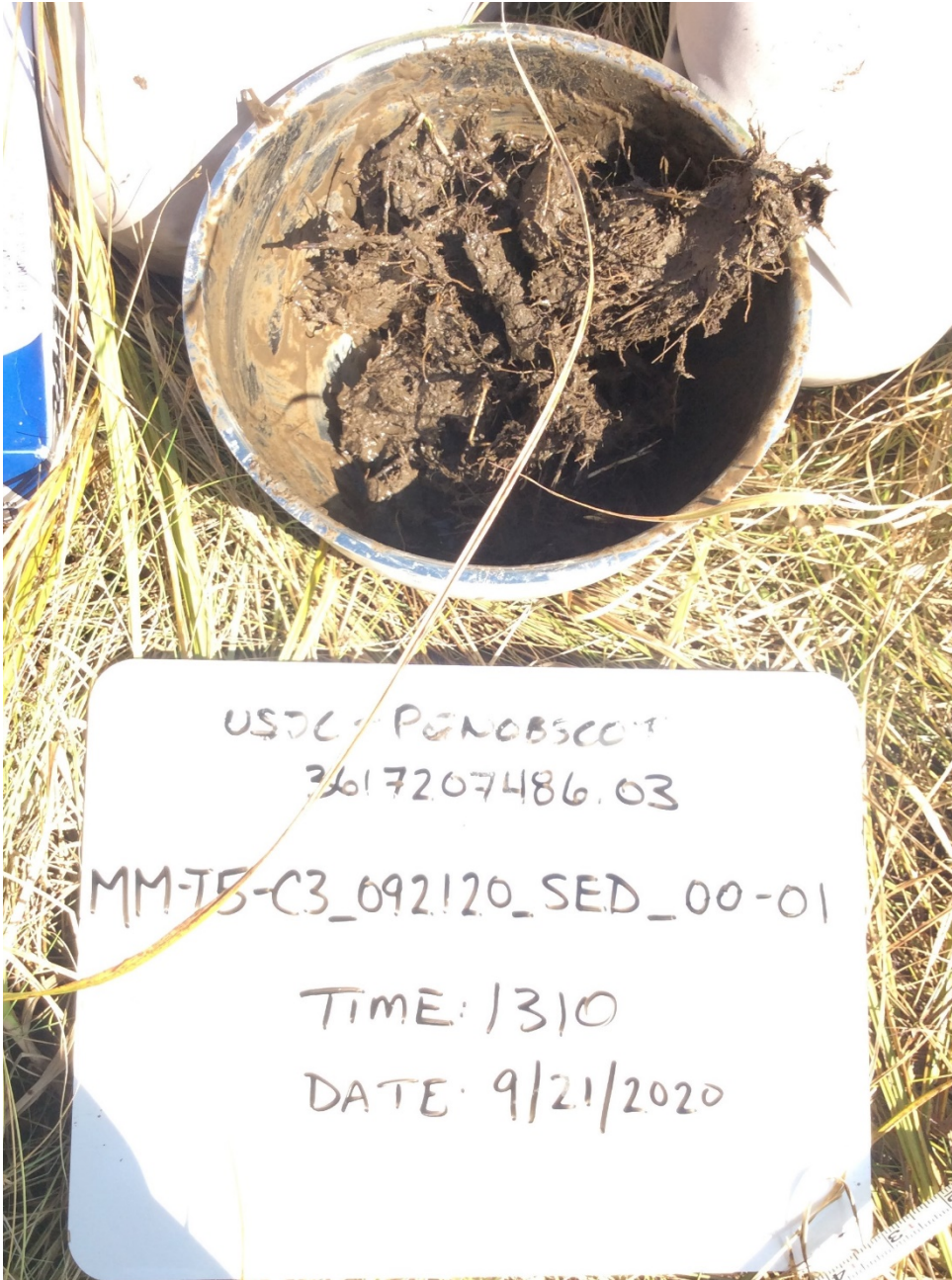


PHOTO 1:

CORE: MM-T5-C3

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/21/2020



PHOTO 2:

CORE: MM-T5-C3

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/21/2020



PHOTO 3:

CORE: MM-T5-C3

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/21/2020

STATION SUMMARY		
Station ID: MMSW-C	Core collection and sample processing date: 17 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – MMSW-C Collection Overview

On Thursday, September 17, 2020, Wood scientists cored station MMSW-C in the Mendall Marsh reach between 10:10am and 10:50am. The weather was clear with a temperature of 65°F and light wind. Sea conditions were negligible to sampling effort, as station was accessed by foot. A shooter shovel was utilized for sediment collection. The shooter shovel penetrated 1.6-ft into the subsurface and sediment was sampled directly from the shooter shovel.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and core(s) at station MMSW-C.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station MMSW-C represents the single collection point with the shooter shovel. The deployment represented a vegetated marsh platform accessible at low tide within the Mendall Marsh reach.

D – Processing Overview

Same-day processing was performed on MMSW-C by Wood scientists on location. Sediment was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

The appearance and textural properties of all recovered sediment was described using the Unified Soil Classification (USCS).

Sediment Core Logs are attached (See Attachment B).

MMSW-C

There was acceptable recovery with the shooter shovel at station MMSW-C over 0.5-ft.

- 0.0 – 0.1 ft: brown CLAY, roots throughout, trace fine sand, wet, high plasticity
- 0.1 – 0.3 ft: brown CLAY, roots throughout, roots denser and finer than overlying root material, wet
- 0.3 – 0.6 ft: brown CLAY, fine roots, less dense with depth, saturated

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USPC Project No.: 3617207486.4^{BW} 1/9/20^{1/2} Logger: H. PLANTE
 Sub: ~~WOOD ETIS~~ ^{BW} 9/22/20^{1/2} WO: _____ Crew: TG, HP,
 None Date: 9/17/20 Time: 1020 Vessel: NA

Coordinates: Lat 44.579978 Long -68.860386 Plan Volume: 0.140 GAL
 Sampling Station: MMSW-C Deploy No. 1 Sub-tidal Location? NO

Weather: 65° SO Winds: Slight breeze Waters: NA Traffic: NA Water Temp: NA

Measured Water Depth [NAVD88]:	NA	Core Penetration Length (ft.):	1.6'
Correction to NAVD88 (+/- ft. from NAVD88):	-	Recovered Core Length (ft.):	1.6'
Mudline (Corrected Depth) @ NAVD88:	-	Sample Length Retained (ft.):	6" - 0.5'
Study Depth (-NAVD88):	-	Acceptable Core (80% recovery):	YES
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	0.140

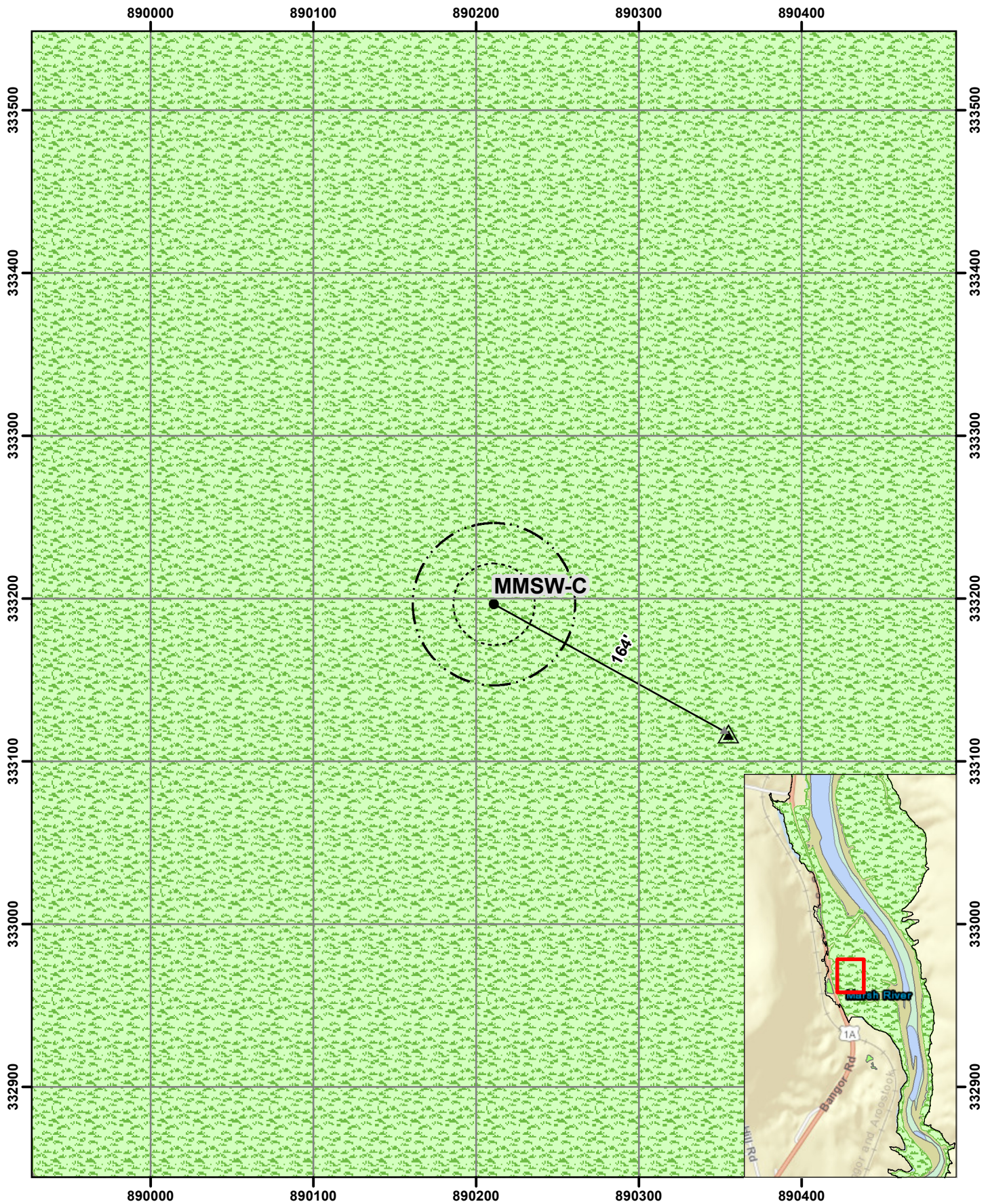
All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0-0.1	MMSW-C_091720_ SED_00-01 @1030	Brown CLAY, roots throughout, trace fine sand, wet, high plasticity
0.1-0.3	MMSW-C_091720_ SED_01-03 @1040	SAA, more dense + fine roots, wet, compacted roots
0.3-0.5	MMSW-C_091720_ SED_03-05	SAA, saturated, fine roots, less dense
(SC) 9-17-20		
Bottom		

Number of containers:	6			Core Volumes	
Type of container:	bucket	liner bag	jar	Nominal core-barrel diameter	EST. Volume
Liner Type:	ACETATE			4.0"	.50gal/ft
	Vibracorer: (See comments)			3.5"	.33gal/ft
	Push Corer: Slamber				

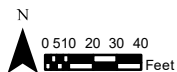
Live Organisms present	YES	Comments SHOOTER SHOVEL
Oil-Like Present	NO	
Odor Present	YES-ORGANIC	
Debris Present	NO	
Photo Numbers		
B. WYSEK 9/22/2020		

QC CHECK BY B WYSEK 9/22/2020



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- ⋯ 25 foot radius buffer
- - - 50 foot radius buffer
- Proposed/Actual (lateral feet)



Station ID: [MMSW-C]
Reach: [Mendall Marsh]

Penobscot River Estuary
2020 Long Term Monitoring

Prepared/Date: ICD 12/20/20 | Checked/Date: BPW 12/21/20 | Maine State Plane CRS East Zone 1983



PHOTO 1:

CORE: MMSW-C

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/17/2020



PHOTO 2:

CORE: MMSW-C

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/17/2020



PHOTO 3:

CORE: MMSW-C

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/17/2020



APPENDIX B – 2.20

Station Summary – W-22-Mid

STATION SUMMARY		
Station ID: W-22-Mid	Core collection and sample processing date: 18 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – W-22-Mid Collection Overview

On Friday, September 18, 2020, Wood scientists cored station W-22-Mid in the Mendall Marsh reach between 10:10am and 10:50am. The weather was cloudy with a temperature of 50°F and winds from the South. Sea conditions were negligible to sampling effort, as station was accessed by foot. A small craft vessel was used to access the marsh platform, where the sampling crew disembarked on foot to the sampling station. A shooter shovel was utilized for sediment collection. The shooter shovel penetrated 0.9-ft into the subsurface and sediment was sampled directly from the shooter shovel.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and core(s) at station W-22-Mid.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station W-22-Mid represents the single collection point with the shooter shovel. The deployment represented a vegetated marsh zone accessible at low tide within the Mendall Marsh reach.

D – Processing Overview

Same-day processing was performed on W-22-Mid by Wood scientists on location. Sediment was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

The appearance and textural properties of all recovered sediment was described using the Unified Soil Classification (USCS). A sulfur-like odor was observed at final depth of the core.

Sediment Core Logs are attached (See Attachment B).

W-22-Mid

There was acceptable recovery with the shooter shovel at W-22-Mid, over 0.5-ft.

- 0.0 – 0.1 ft: brown clayey SILT, some organic-like material and roots, wet, organisms present, low plasticity
- 0.1 – 0.3 ft: brown clayey SILT, dense fine roots throughout, some organic-like material, wet, low plasticity
- 0.3 – 0.6 ft: brown clayey SILT, very dense fine roots, wet, low plasticity
- 0.5 – 0.9 ft: brown clayey SILT, very dense fine roots, wet low, plasticity, sulfur-like odor

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDL Project No.: 3617207486 Logger: HP, TG
 Sub: ~~WOODS~~ **None** WO: _____ Crew: HP, TG
BW 9/22/20 Date: 9/10/20 Time: 953 Vessel: WHALER
 Coordinates: Lat 44.565808 Long -68.856275 Plan Volume: 0.140 gal
 Sampling Station: **WW-22-MID** Deploy No. 1 Sub-tidal Location? **NO**
 Weather: **150F cloudy** Winds: **SWTH** Waters: **CALM** Traffic: **N/A** Water Temp: **NA**

Measured Water Depth [NAVD88]:	N/A - MARSH	Core Penetration Length (ft.):	0.9'
Correction to NAVD88 (+/- ft. from NAVD88):	-	Recovered Core Length (ft.):	0.9'
Mudline (Corrected Depth) @ NAVD88:	-	Sample Length Retained (ft.):	0.5'
Study Depth (-NAVD88):	-	Acceptable Core (80% recovery):	YES
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	0.140 NA

All Length Measurements are in Decimal Feet

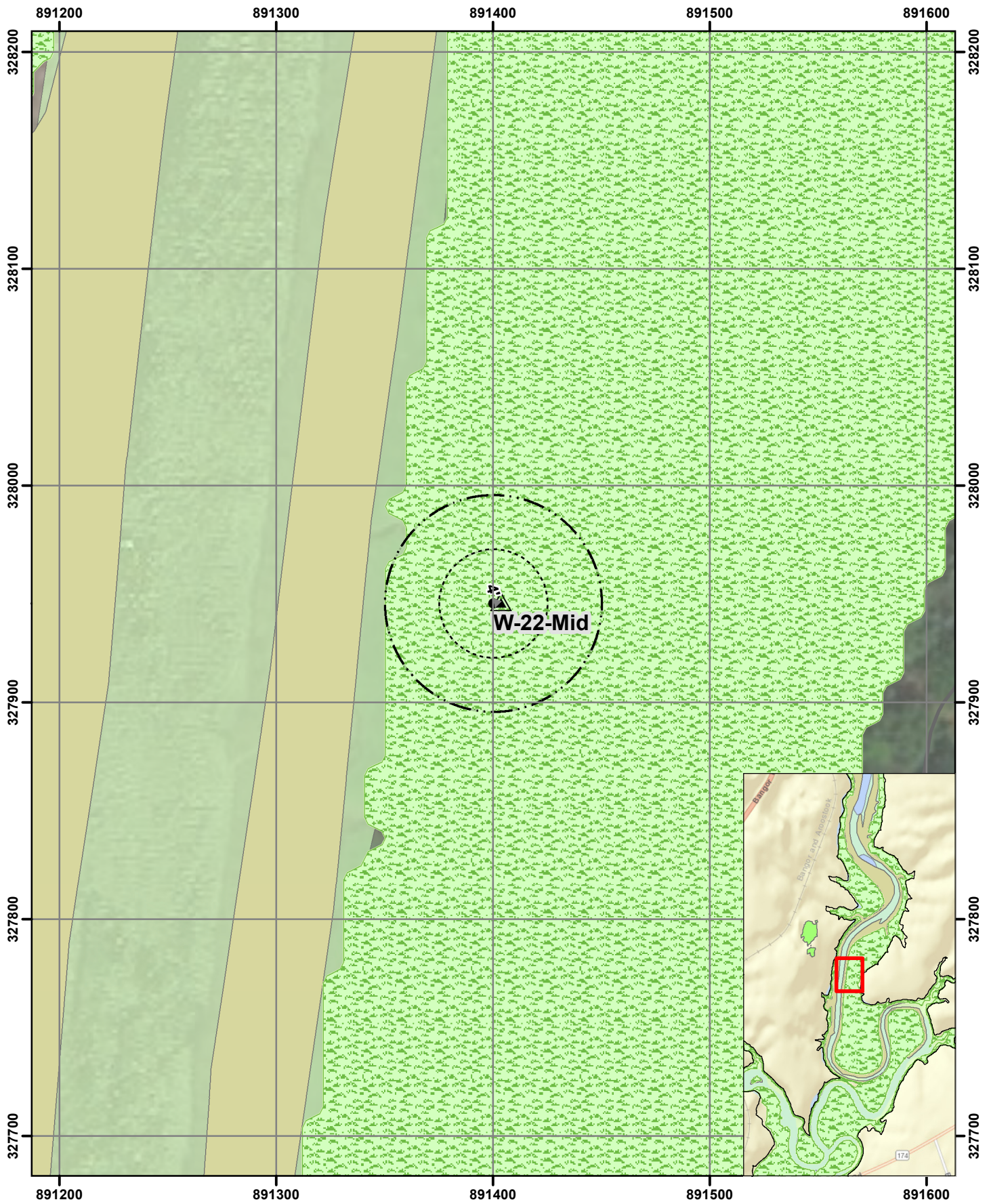
Sample Interval (ft.)	Sample Id #	Description
Top	WW-22-MID_091820	BROWN CLAYEY SILT, SOME ORGANICS + ROOTS. WET. ORGANISMS PRESENT, LOW PLASTICITY.
0.0-0.1	SED-00-01 @1000	
0.1-0.3	WW-22-MID_091820	BROWN CLAYEY SILT, DENSE FINE ROOTS THROUGHOUT. SOME ORGANICS, WET LOW PLASTICITY.
0.3-0.5	SED-01-03 @1010	
0.3-0.5	WW-22-MID_091820	BROWN CLAYEY SILT, VERY DENSE FINE ROOTS. WET. LOW PLASTICITY.
0.5-0.9	SED-03-05 @1020	
	N/A	SAME AS 0.3-0.5, SULFUR LIKE ODOR
Bottom		

Number of containers:	6 TG	Core Volumes	
Type of container:	bucket	Nominal core-barrel diameter	EST. Volume
Liner Type:	NA	4.0"	.50gal/ft
		3.5"	.33gal/ft

Live Organisms present	YES-TOP
Oil-Like Present	NO
Odor Present	SULFUR LIKE
Debris Present	NO

Photo Numbers
B. Weyer
9/22/2020

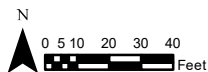
Comments
shovel
SHOULDER SHOVEL USED TO SAMPLE MARSH PLATFORM.



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- 25 foot radius buffer
- 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [W-22-Mid]
 Reach: [Mendall Marsh]



Penobscot River Estuary
 2020 Long Term Monitoring

Prepared/Date: ICD 12/20/20 | Checked/Date: BPW 12/21/20 | Maine State Plane CRS East Zone 1983



PHOTO 1:

CORE: W-22-Mid

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/18/2020



PHOTO 2:

CORE: W-22-Mid

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/18/2020



PHOTO 3:

CORE: W-22-Mid

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/18/2020

APPENDIX B – 2.21

Station Summary – PBR-28

STATION SUMMARY		
Station ID: PBR-28	Core collection and sample processing date: 17 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – PBR-28 Collection Overview

On Thursday, September 17, 2020, Wood scientists cored station PBR-28 in the Verona Northeast reach between 3:10pm and 4:05pm. The weather was clear with a temperature of 65 °F and breezy. Sea conditions were negligible to sampling effort, as station was accessed by foot. Sediment was sampled by 1-ft hand push cores with 3-in diameter acetate liners. Two (2) 1-ft push cores, designated in the field as PBR-28 and PBR-28_DUP, were collected at the station location and were preserved on wet ice while awaiting to be processed.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and core(s) at station PBR-28.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the collection location of station PBR-28 and its duplicate are represented. The deployments represented a vegetated marsh zone accessible at low tide within the Verona Northeast reach.

D – Processing Overview

Same-day processing was performed on PBR-28 on September 17, 2020 by Wood scientists at the Wood Field Station, Winterport, Maine. Cores PBR-28 and PBR-28_DUP were sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC). Station PBR-28 was used for laboratory duplicate analyses.

The appearance and textural properties of all recovered sediment was described using the Unified Soil Classification (USCS). A sulfur-like odor was observed in both cores during processing, increasing with depth.

Sediment Core Logs are attached (See Attachment B).

PBR-28

Push core PBR-28 had acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: dark brown CLAY, some silt, wet, odor
- 0.1 – 0.3 ft: dark brown CLAY, some silt, wet, odor
- 0.3 – 0.5 ft: dark brown CLAY, some silt, moist to wet, organic sulfur-like odor
- 0.5 – 0.86 ft: medium brown CLAY, high plasticity, some silt, moist to wet, organic sulfur-like odor

PBR-28_DUP

Push core PBR-28_DUP had acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: dark brown CLAY, some silt, wet, odor
- 0.1 – 0.3 ft: dark brown CLAY, some silt, wet, odor
- 0.3 – 0.5 ft: dark brown CLAY, some silt, moist to wet, organic sulfur-like odor
- 0.5 – 0.87 ft: medium brown CLAY, high plasticity, some silt, moist to wet, organic sulfur-like odor

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: S. L. O'Neil
 Sub: ~~WOOD LHS~~ ^{BW} 9/22/20 WO: ~~_____~~ Crew: SL, HP, TB
^{Nine} Date: 9-17-20 Time: 1530 Vessel: N/A
^{BW} Coordinates: Lat 44.50660696 Long -68.764433 Plan Volume: 0.140 gal

Sampling Station: PBR-28 Deploy No. 1 Sub-tidal Location? YES

Weather: 65°F, Sun Winds: Breeze Waters: N/A Traffic: N/A Water Temp: N/A

Measured Water Depth [NAVD88]:	NA	Core Penetration Length (ft.):	0.95'
Correction to NAVD88 (+/- ft. from NAVD88):	-	Recovered Core Length (ft.):	0.86'
Mudline (Corrected Depth) @ NAVD88:	-	Sample Length Retained (ft.):	0.5'
Study Depth (-NAVD88):	-	Acceptable Core (80% recovery):	91%
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	0.140

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0-0.1	PBR-28-091720-SED-00-01 @1745	Dark Brown, clay, some silt, wet, odor
0.1-0.3	PBR-28-091720-SED-01-03 @1800	Dark brown clay, some silt, wet, odor
0.3-0.5	PBR-28-091720-SED-03-05 @1815	Dark brown clay, ^{some} silt, moist ^{to} wet, odor organic-sulfur-like
0.5-0.86	N/A	medium brown clay, high plasticity, some silt, moist to wet, odor organic-sulfur-like
Bottom	(SC) 9-17-20	

Number of containers:	/	/	6	/	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	Acetate	Vibracorer: Push Corer		Slambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

Live Organisms present	NO	Comments Extruder
Oil-Like Present	NO	
Odor Present	YES	
Debris Present	N/A	
Photo Numbers		
B. Weyer 9/22/2020		

QC CHECK By B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDL Project No.: 3617207480 Logger: S. COUPLIN
 Sub: ~~WOOD ETTS~~ None WO: _____ Crew: SC, HP, TCG
 Date: 9-17-20 Time: 1530 Vessel: N/A
 Coordinates: Lat 44.560696 Long -68.764433 Plan Volume: 0.140 gal

Sampling Station: PBR-28 DOP Deploy No. 1 Sub-tidal Location? YES
 Weather: 65°F, Sun Winds: Breeze Waters: N/A Traffic: N/A Water Temp: N/A

Measured Water Depth [NAVD88]:	NA	Core Penetration Length (ft.):	0.95'
Correction to NAVD88 (+/- ft. from NAVD88):	-	Recovered Core Length (ft.):	0.87'
Mudline (Corrected Depth) @ NAVD88:	-	Sample Length Retained (ft.):	0.5'
Study Depth (-NAVD88):	-	Acceptable Core (80% recovery):	92.7 92.7 ^{SW 9/22/20} YES
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	0.140

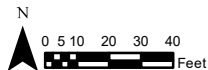
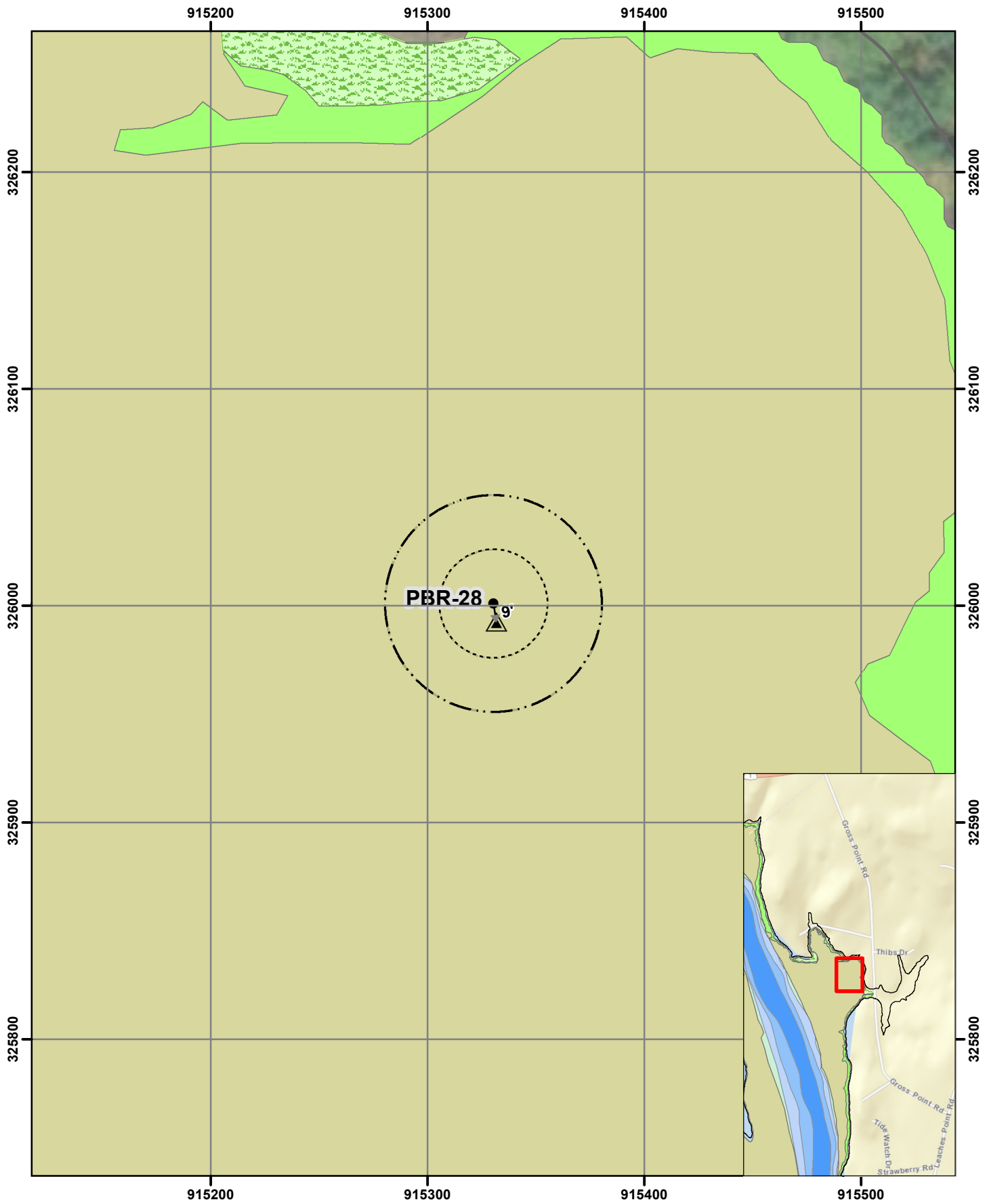
All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0 - 0.1	PBR-28-091720-SED -00-01-DUP @1825	Dark Brown Clay, some silt, wet, odor
0.1 - 0.3	PBR-28-091720-SED -01-03-DUP @1835	Dark Brown clay, some silt, wet, odor
0.3 - 0.5	PBR-28-091720-SED -03-01-DUP @1845	Dark brown clay, some silt, moist to wet, odor organic-sulfur
0.5 - 0.87	N/A	medium brown clay, ^{like} high plasticity, some silt, moist to wet, odor organic-sulfur like
Bottom	(50) 9-17-20	

Number of containers:	/	/	6	/	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	Acetate	Vibracorer:	Push Corer	Slambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

Live Organisms present	NO	Comments Extruder
Oil-Like Present	NO	
Odor Present	NO YES	
Debris Present	NO	
Photo Numbers		
B. Wajser 9/22/2020		

QC CHECK BY B. Wajser 9/22/2020



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- 25 foot radius buffer
- 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [PBR-28]
 Reach: [Verona Northeast]

Penobscot River Estuary
 2020 Long Term Monitoring

Prepared/Date: ICD 12/20/20 | Checked/Date: BPW 12/21/20 | Maine State Plane CRS East Zone 1983

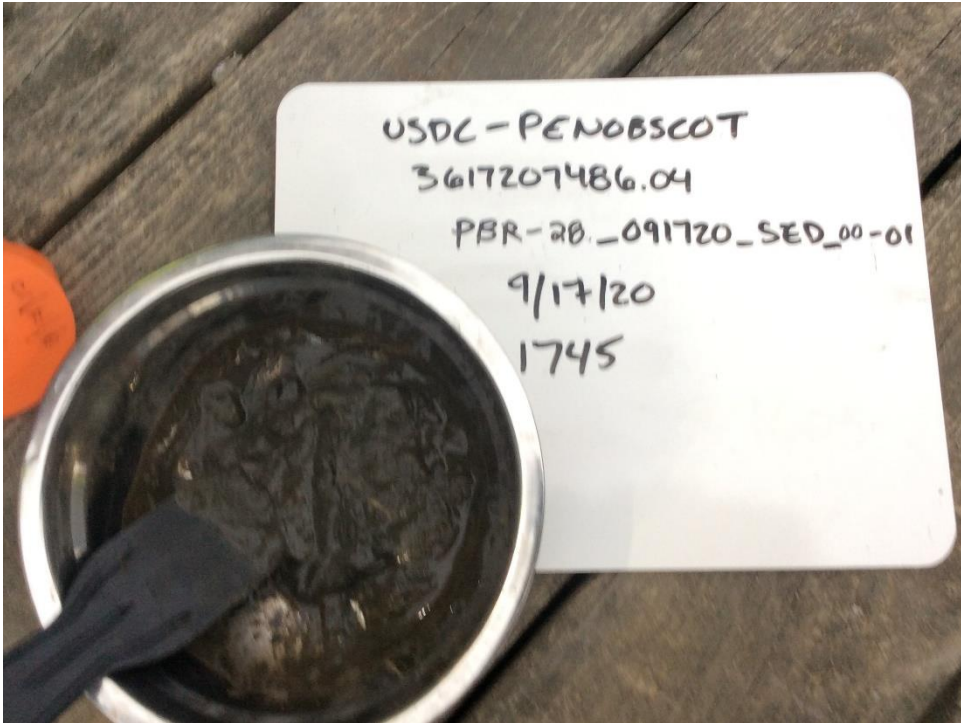


PHOTO 1:

CORE: PBR-28

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/17/2020

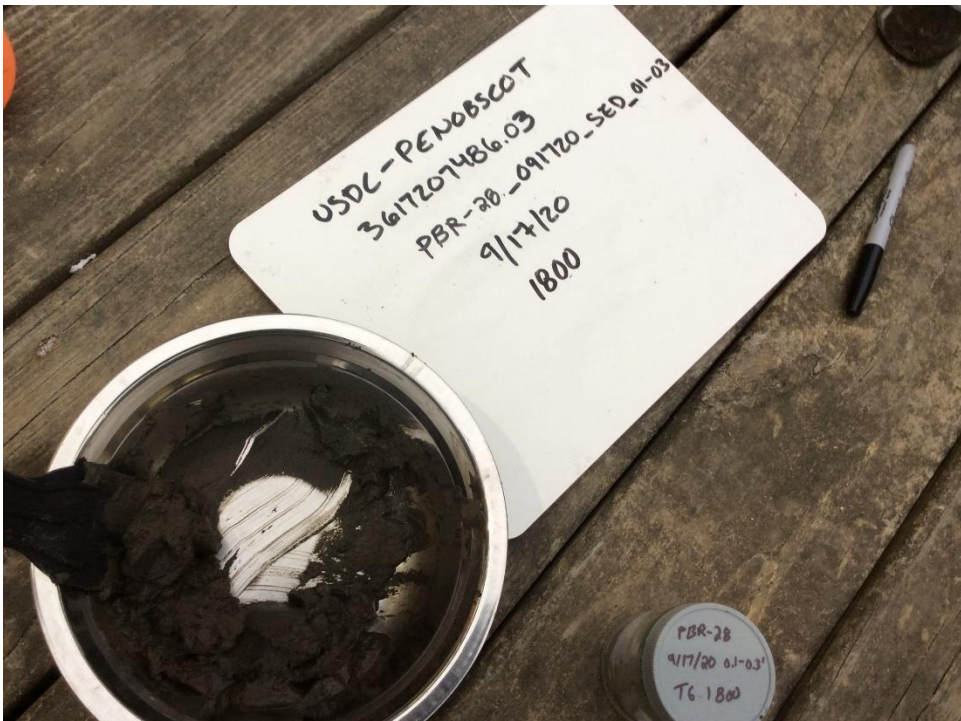


PHOTO 2:

CORE: PBR-28

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/17/2020

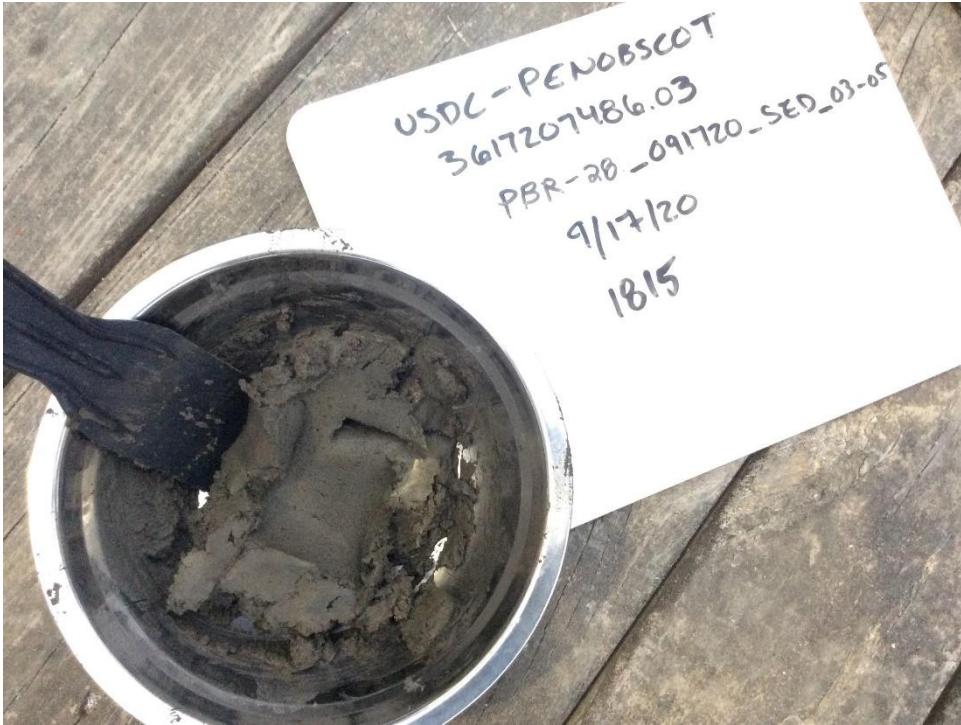


PHOTO 3:

CORE: PBR-28

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/17/2020



PHOTO 4:

CORE: PBR-28_DUP

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/17/2020

PHOTO 5:

CORE: PBR-28_DUP

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/17/2020

Interval not photographed. See PBR-28 (0.1-0.3 FT) for representative photograph
(Page 1 of this photo log).



PHOTO 6:

CORE: PBR-28_DUP

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/17/2020

STATION SUMMARY		
Station ID: VN-02-04	Core collection and sample processing date: 16 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – VN-02-04 Collection Overview

On Wednesday, September 16, 2020, Wood scientists cored station VN-02-04 in the Verona Northeast reach between 9:35am and 9:50am aboard the *R/V Tesla*. The weather was clear with temperatures in the 50's (°F) and varying winds ranging from 10 to 15-knots from the Southwest. Sea conditions were slight to moderate, with a wave height of 1.0-2.0-ft, providing acceptable conditions for the vessel to hold on location for sampling. A box corer was utilized for sediment collection. Sediment was sampled from the box corer by 1-ft hand push cores with 3-in diameter acetate liners. One (1) deployment of the box corer was attempted at VN-02-04 to obtain two (2) 1-ft hand push cores, designated in the field as VN-02-04-A and VN-02-04-B. Two cores were collected at this station in case sample integrity of a single core were to become compromised between collection and processing. Cores were preserved on wet ice while awaiting to be processed.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and core(s) at station VN-02-04.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station VN-02-04 represents the single deployment of the box corer. The deployment represented a non-vegetated intertidal zone accessible at high tide within the Verona Northeast reach.

D – Processing Overview

Same-day processing was performed on VN-02-04-A and VN-02-04-B by Wood scientists at the Wood Field Station, Winterport, Maine. Core VN-02-04-A, designated during processing as VN-02-04, was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

The appearance and textural properties of each push core was described using the Unified Soil Classification (USCS).

Sediment Core Logs are attached (See Attachment B).

VN-02-04

Push core VN-02-04 had an acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: very dark olive gray clayey SILT
- 0.1 – 0.3 ft: very dark gray clayey SILT
- 0.3 – 0.5 ft: very dark gray clayey SILT
- 0.5 – 0.57 ft: no sample recovered for description

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: <u>USDC</u>	Project No.: <u>3617207486</u>	Logger: <u>C. LAURACK</u>
Sub: <u>AS1</u>	WO: <u> </u>	Crew: <u>B. WEYER</u>
Date: <u>9/16/20</u>	Time: <u>0940</u>	Vessel: <u>R/V TESLA</u>
Coordinates: Lat <u>44.559835</u>	Long <u>-68.774383</u>	Plan Volume: <u>0.140gal</u>
Sampling Station: <u>VN-02-04</u>	Deploy No. <u>1</u>	Sub-tidal Location? <u>NO</u>

Weather: <u>SUNNY, 50s</u>	Winds: <u>10-15</u>	Waters: <u>1-2'</u>	Traffic: <u>NONE</u>	Water Temp: <u> </u>
Measured Water Depth [NAVD88]: <u>3.5'</u>	Core Penetration Length (ft.): <u>0.6'</u>			
Correction to NAVD88 (+/- ft. from NAVD88): <u> </u>	Recovered Core Length (ft.): <u>0.6 0.57'</u>			
Mudline (Corrected Depth) @ NAVD88: <u> </u>	Sample Length Retained (ft.): <u>0.5'</u>			
Study Depth (-NAVD88): <u> </u>	Acceptable Core (80% recovery): <u>YES</u>			
Required Penetration Length: <u>6"</u>	Core Volume Retained (gal.): <u>0.140gal</u>			

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01	CLAYEY SILT; VERY DARK OLIVE GRAY (5Y 3/2)
0.1' - 0.3'	01-03	CLAYEY SILT, VERY DARK GRAY
0.3' - 0.5'	03-05	CLAYEY SILT, VERY DARK GRAY
0.5' - 0.57'	—	NO SAMPLE RECOVERED FOR DESCRIPTION
<i>ck</i>	<i>ck</i>	<i>ck</i>
Bottom		

Number of containers:	<u>—</u>	<u>—</u>	<u>6</u>	<u>—</u>	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: <u>N/A</u> ^{CL 9/16} <u>ACETATE</u>	Vibracorer: <u>BOX</u>			Slambar	4.0"	.50gal/ft
	Push Corer				3.5"	.33gal/ft

Live Organisms present	<u>NO</u>
Oil-Like Present	<u>NO</u>
Odor Present	<u>NO</u>
Debris Present	<u>NO</u>

Photo Numbers
B. WEYER
9/22/2020

Comments
COORDINATES RECORDED w/ AS1'S GPS (ON VESSEL)

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC

Project No.: 3617207486

Logger: C. LAUBACK

Sub: ASI

WO: —

Crew: B. WEYER

Date: 9/16/20

Time: 0940

Vessel: R/V TESLA

Coordinates: Lat 44.559835

Long -68774383

Plan Volume: 0.140gal

Sampling Station: VN-02-04-DUP

Deploy No. 1

Sub-tidal Location? NO

Weather: SUNNY, 50s

Winds: 10-15

Waters: 1-2'

Traffic: NONE

Water Temp: —

Measured Water Depth [NAVD88]: 3.5'

Core Penetration Length (ft.): 0.6'

Correction to NAVD88 (+/- ft. from NAVD88):

Recovered Core Length (ft.): 0.5'

Mudline (Corrected Depth) @ NAVD88:

Sample Length Retained (ft.): 0.5'

Study Depth (-NAVD88):

Acceptable Core (80% recovery): YES

Required Penetration Length: 0.5'

Core Volume Retained (gal.): 0.140gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0 - 0.1'	00-01-DUP	CLAYEY SILT; VERY DARK GRAY, SLIGHTLY OLIVE
0.1 - 0.3'	01-03-DUP	CLAYEY SILT; MINIMAL VERY FINE SAND; VERY DARK GRAY
0.3 - 0.5'	05-03 CL 9/16/20 03-05-DUP	CLAYEY SILT, VERY DARK GRAY
CY 9/16/20		
Bottom		

Number of containers: —	—	6	—	Core Volumes	
Type of container: bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ALCATE CL 9/16	Vibracorer: <u>BOX</u>	Push Corer	Slambar	4.0"	.50gal/ft
				3.5"	.33gal/ft

Live Organisms present	NO
Oil-Like Present	NO
Odor Present	NO
Debris Present	NO

Comments

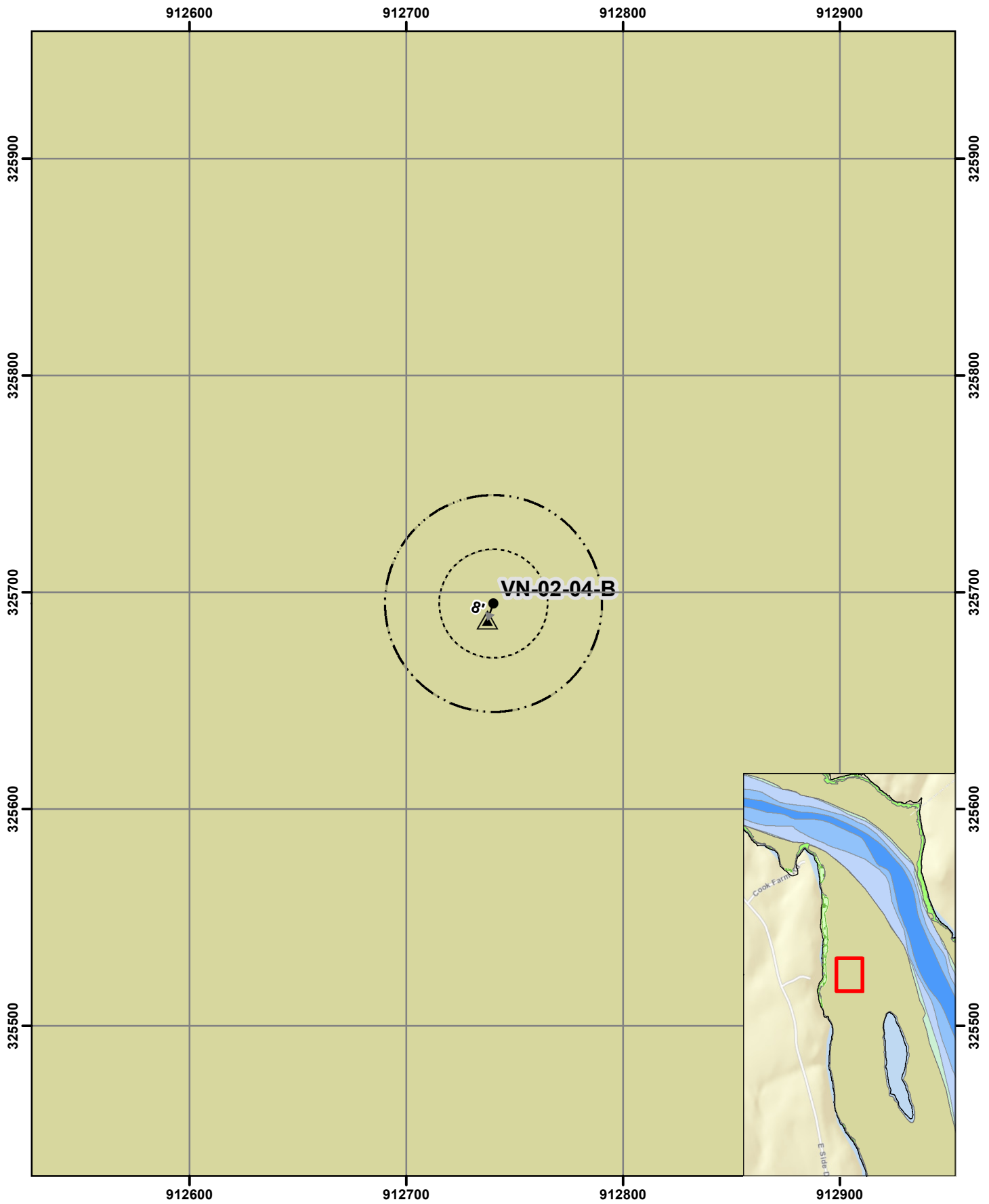
YES @ 0.3-0.5 (HAD A SULFUR-LIKE SMELL)

(COORDINATES RECORDED W/ ASI'S GPS (ON VESSEL))

Photo Numbers

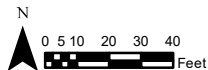
B. WEYER
9/22/2020

QC CHECK BY B. WEYER 9/22/2020



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- 25 foot radius buffer
- 50 foot radius buffer
- Proposed/Actual (lateral feet)



Station ID: [VN-02-04-B]
Reach: [Verona Northeast]

Penobscot River Estuary
2020 Long Term Monitoring

Prepared/Date: ICD 12/20/20 | Checked/Date: BPW 12/21/20 | Maine State Plane CRS East Zone 1983

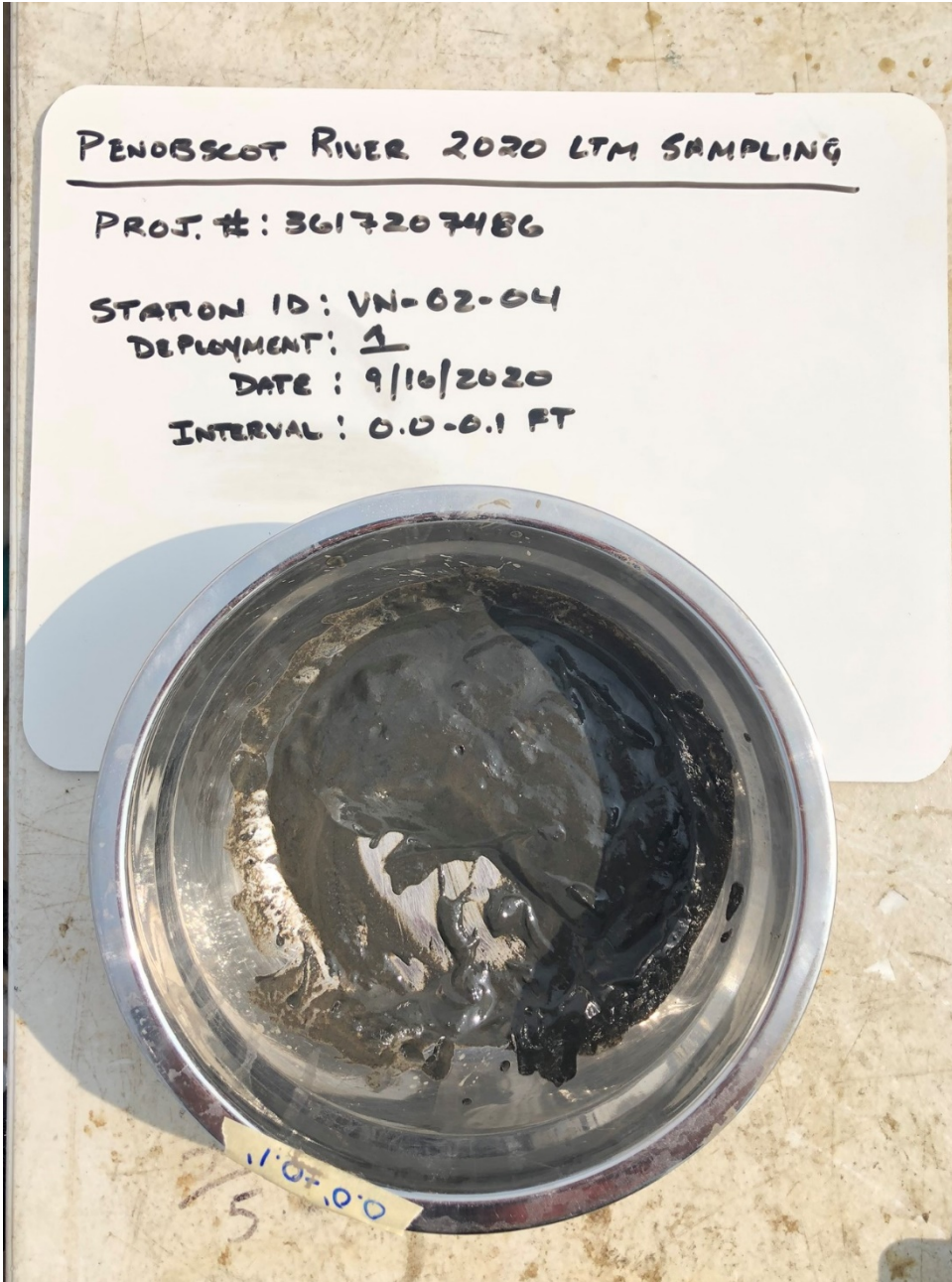


PHOTO 1:

CORE: VN-02-04

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/16/2020

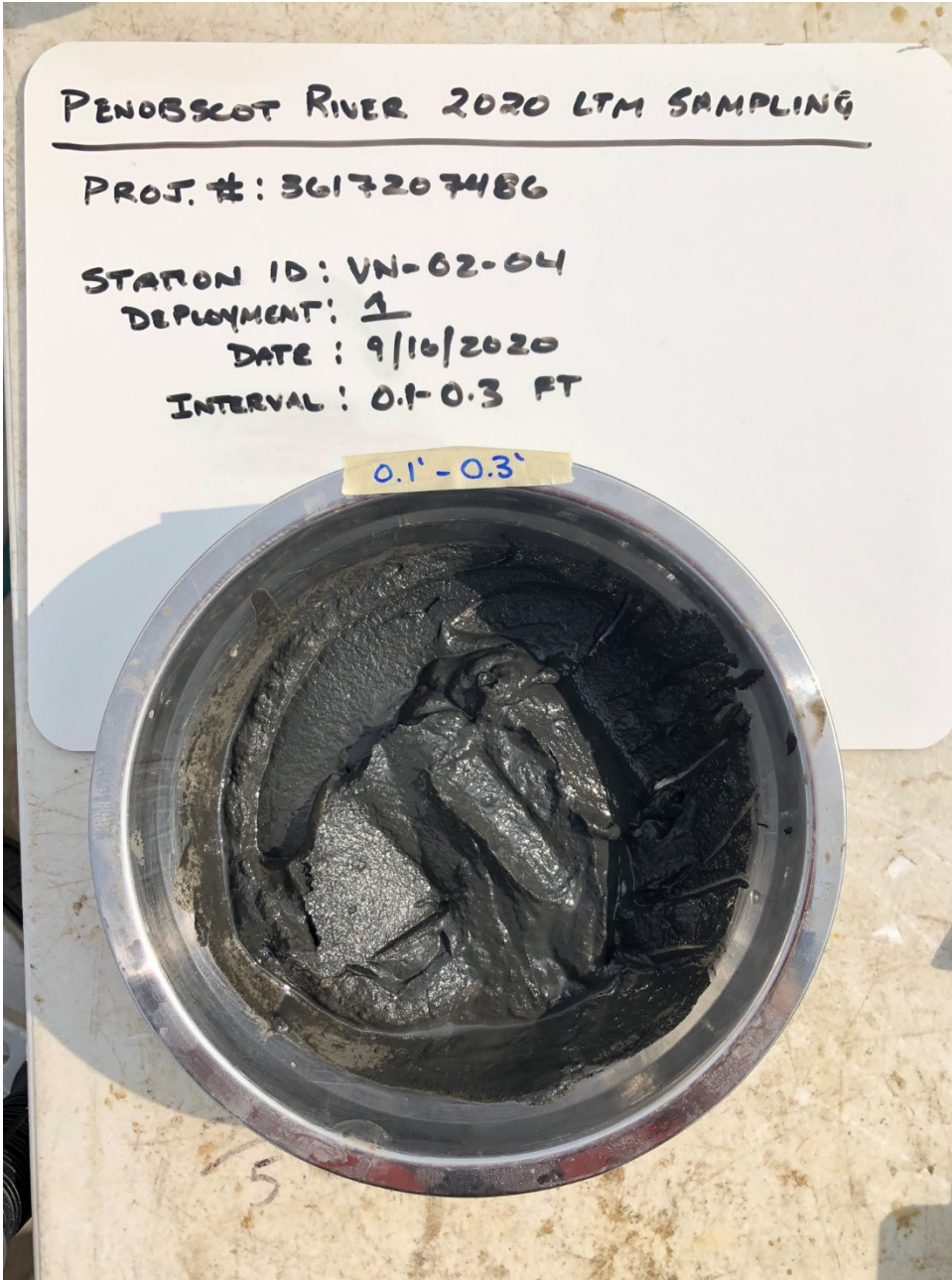


PHOTO 2:

CORE: VN-02-04

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/16/2020

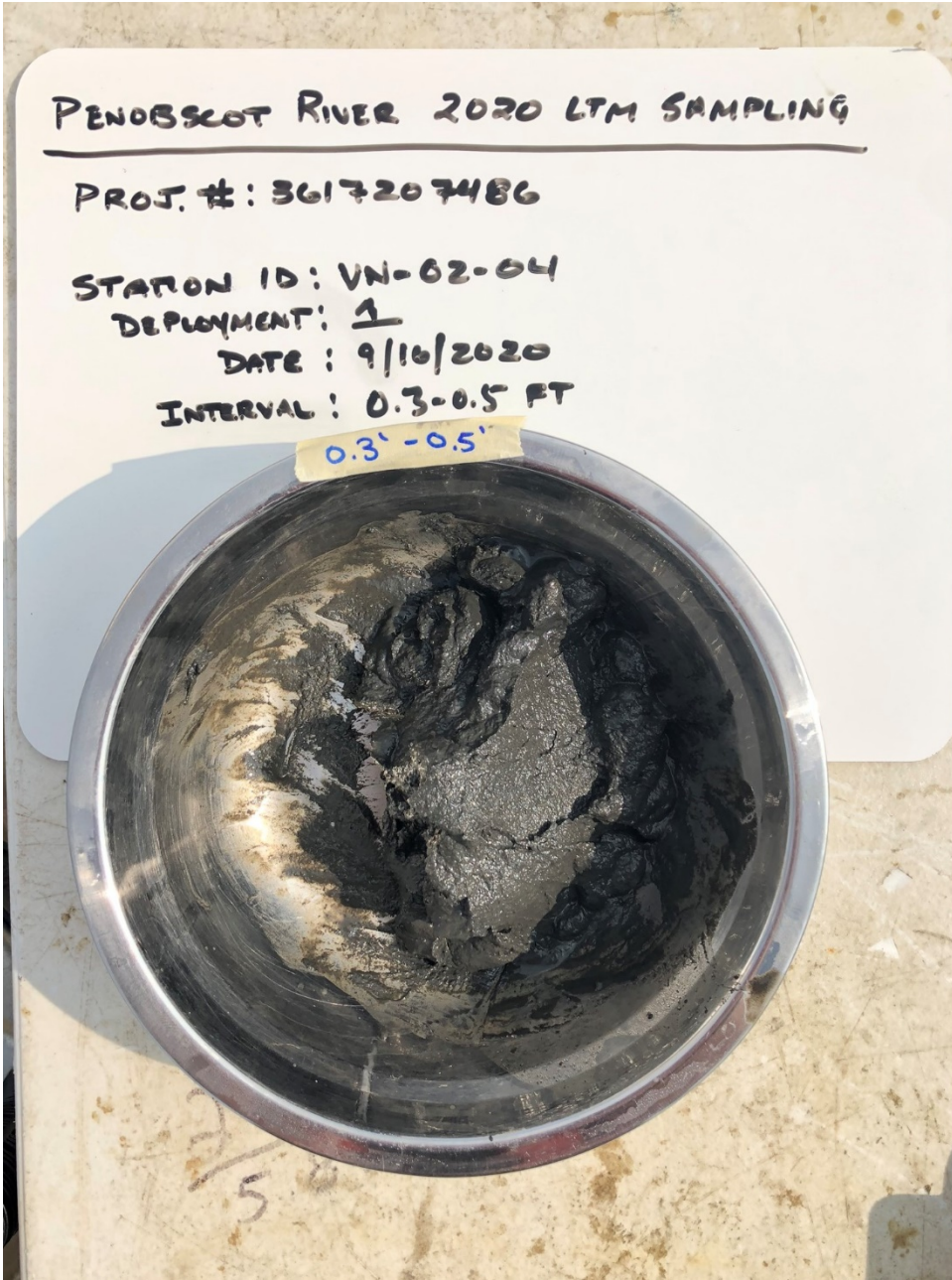


PHOTO 3:

CORE: VN-02-04

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/16/2020

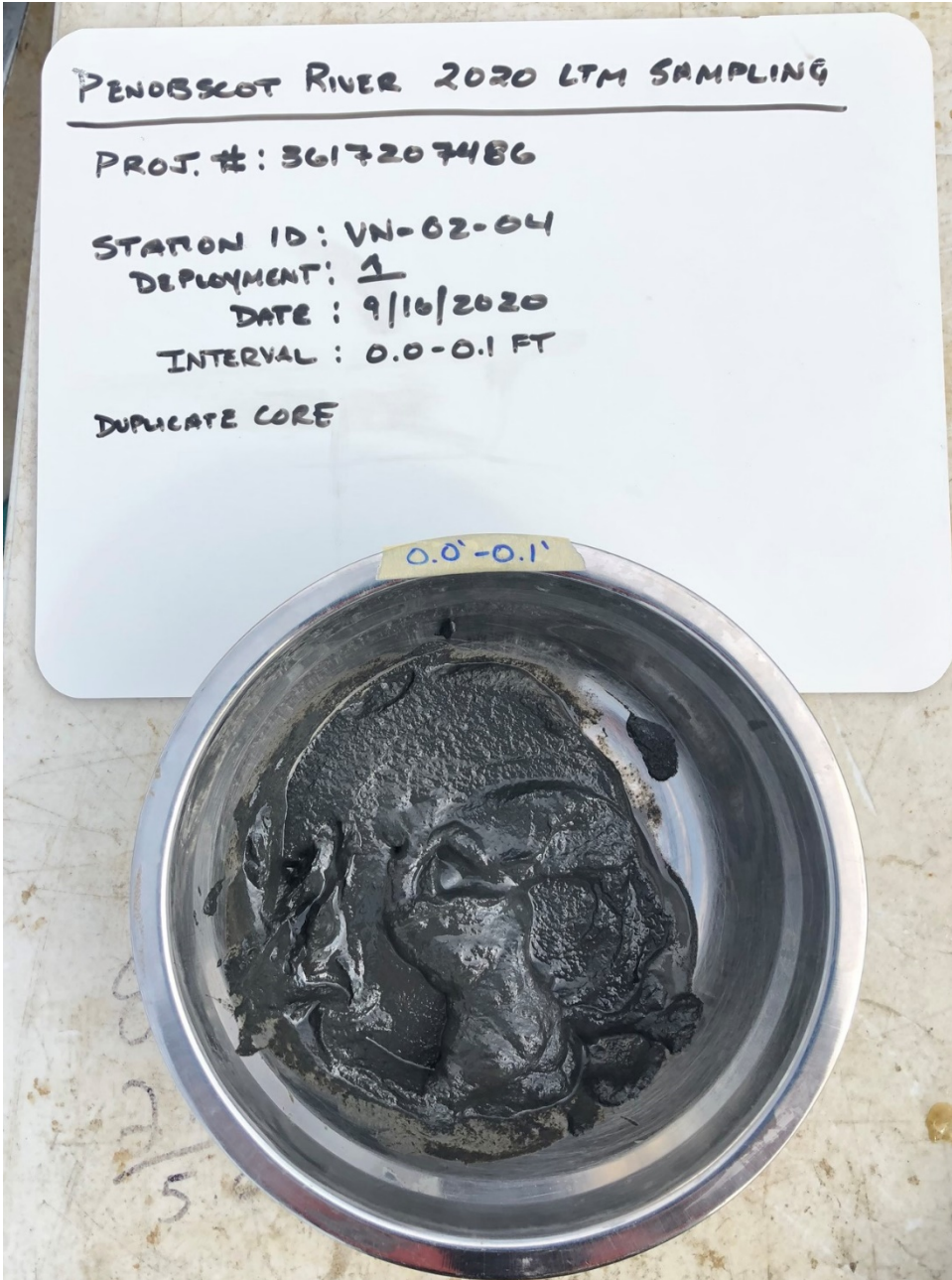


PHOTO 4:

CORE: VN-02-04_DUP

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/16/2020

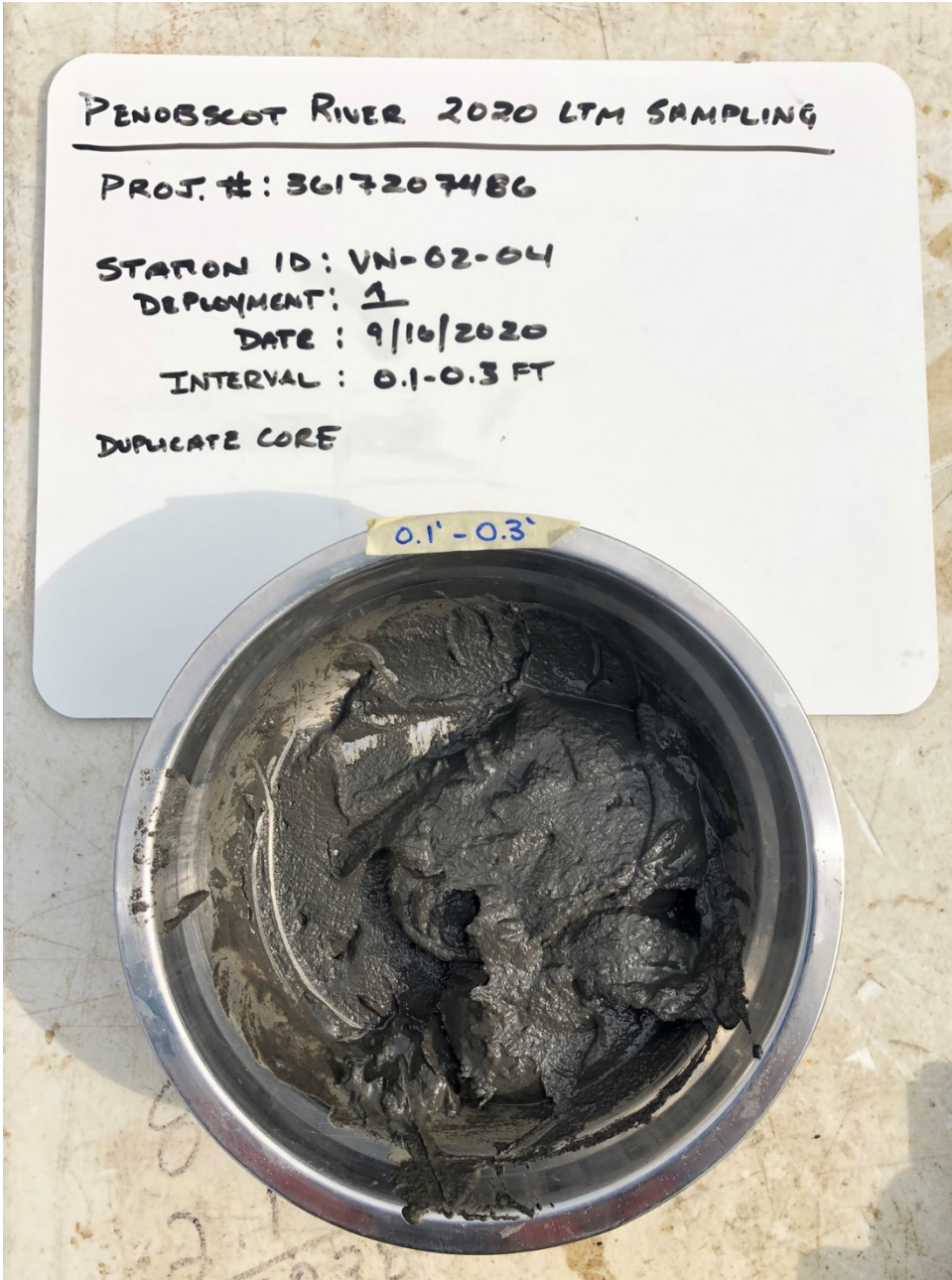


PHOTO 5:

CORE: VN-02-04_DUP

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/16/2020

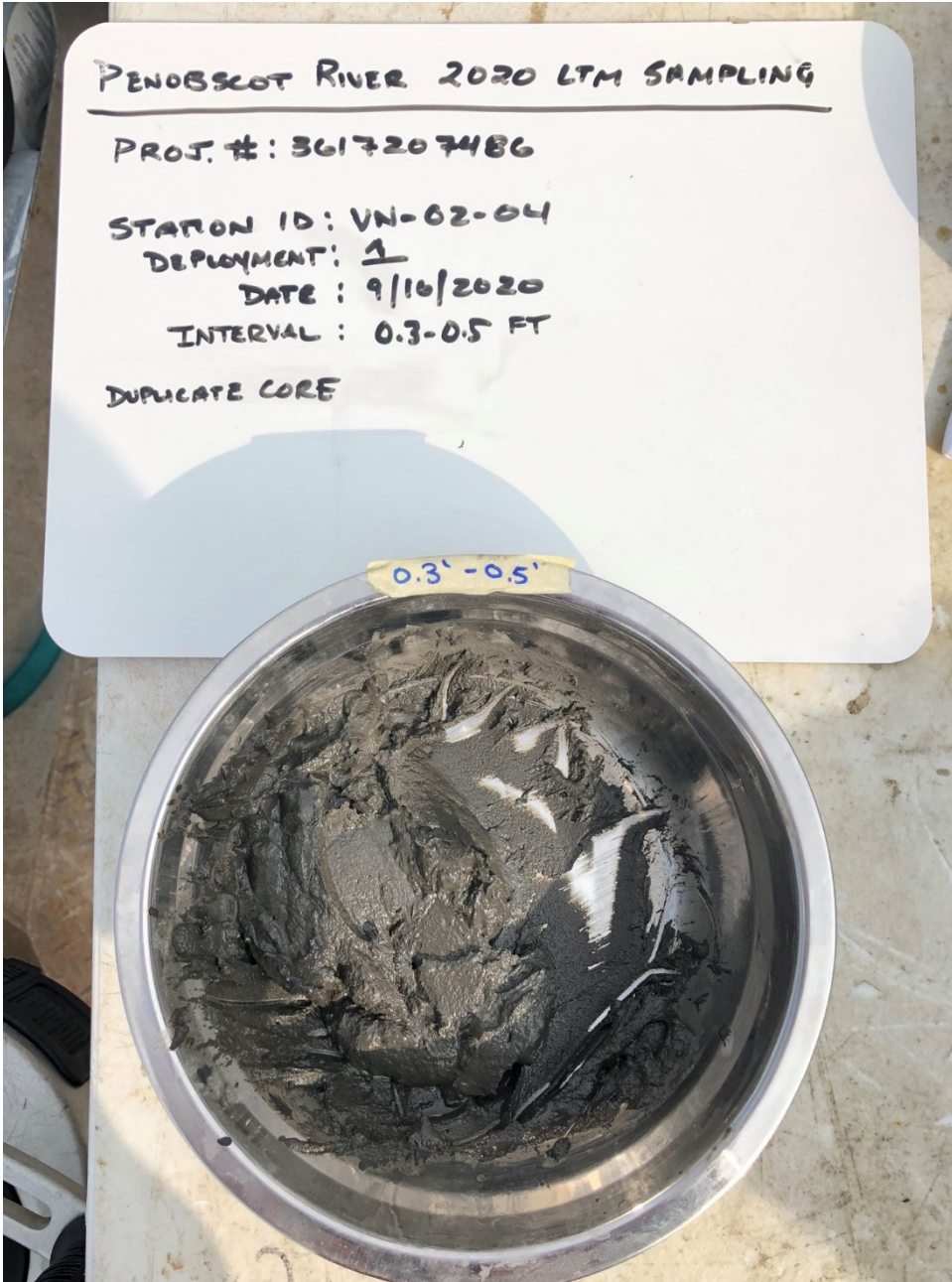


PHOTO 6:

CORE: VN-02-04_DUP

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/16/2020

STATION SUMMARY		
Station ID: VN-MU3-GC-1	Core collection and sample processing date: 16 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – VN-MU3-GC-1 Collection Overview

On Wednesday, September 16, 2020, Wood scientists cored station VN-MU3-GC-1 in the Verona Northeast reach between 9:50am and 10:05am aboard the *R/V Tesla*. The weather was clear with temperatures in the 50's (°F) and varying winds ranging from 10 to 15-knots from the Southwest. Sea conditions were slight to moderate, with a wave height of 1.0-2.0-ft, providing acceptable to marginal conditions for vessel to hold on location for sampling. A box corer was utilized for sediment collection. Sediment was sampled from the box corer by 1-ft hand push cores with 3-in diameter acetate liners. One (1) deployment of the box corer was attempted at VN-MU3-GC-1 to obtain two (2) 1-ft hand push cores, designated in the field as VN- MU3-GC-1_A and VN-MU3-GC-1_B. Two cores were collected at this station in case sample integrity of a single core was to become compromised between collection and processing. Cores were preserved on wet ice while awaiting to be processed.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and core(s) at station VN-MU3-GC-1.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station VN-MU3-GC-1 represents the single deployment of the box corer. The deployment represented a non-vegetated intertidal zone accessible at high tide within the Verona Northeast reach.

D – Processing Overview

Same-day processing was performed on VN-MU3-GC-1-A by Wood scientists at the Wood Field Station, Winterport, Maine. Core VN-MU3-GC-1-A, designated during processing as VN-MU3-GC-1, was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

The appearance and textural properties of each push core was described using the Unified Soil Classification (USCS).

Sediment Core Logs are attached (See Attachment B).

VN-MU3-GC-1

Push core VN-MU3-GC had an acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: very dark gray clayey SILT, fines, no sands
- 0.1 – 0.3 ft: very dark gray clayey SILT with some very fine sands, contained articulated bivalve
- 0.3 – 0.5 ft: very dark gray clayey SILT with some very fine sands, wood chips present in sample
- 0.5 – 0.65 ft: very dark gray clayey SILT with brown medium sand sized wood chips, some vegetative root mass fibers

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 3617207486	Logger: C. LAURACK
Sub: ASI	WO: _____	Crew: B. WEYER
Date: 9/16/20	Time: 0958	Vessel: R/V TESLA
Coordinates: Lat 44.548556	Long -68768846	Plan Volume: 0.140gal
Sampling Station: VN-MU3-GC-1	Deploy No. 1	Sub-tidal Location? NO

Weather: SUNNY, 50s	Winds: 10-15	Waters: 3.4' / 1-2'	Traffic: NONE	Water Temp: -
Measured Water Depth [NAVD88]: 3.4'	Core Penetration Length (ft.): 0.7'			
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.65'			
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5'			
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES			
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140gal			

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0'-0.1'	00-01	CLAYEY SILT, VERY DARK GRAY, FINES, NO SANDS.
0.1'-0.3'	01-03	CLAYEY SILT W/ SOME VERY FINE SANDS; ARTICULATED BIVALVE VERY DARK GRAY
0.3'-0.5'	03-05	CLAYEY SILT W/ SOME VERY FINE SANDS (MINIMAL); WOODCHIPS PRESENT IN SAMPLE; VERY DARK GRAY SED.
0.5'-0.65'	CL 9/16/20	CLAYEY SILT W/ BROWN MED. SAND-SIZED WOODCHIPS; VERY DARK GRAY SEDIMENT MATRIX; SOME VEGETATIVE ROOT-MASS-LIKE FIBERS PRESENT
CL 9/16/20	CL 9/16/20	CL 9/16/20
Bottom		

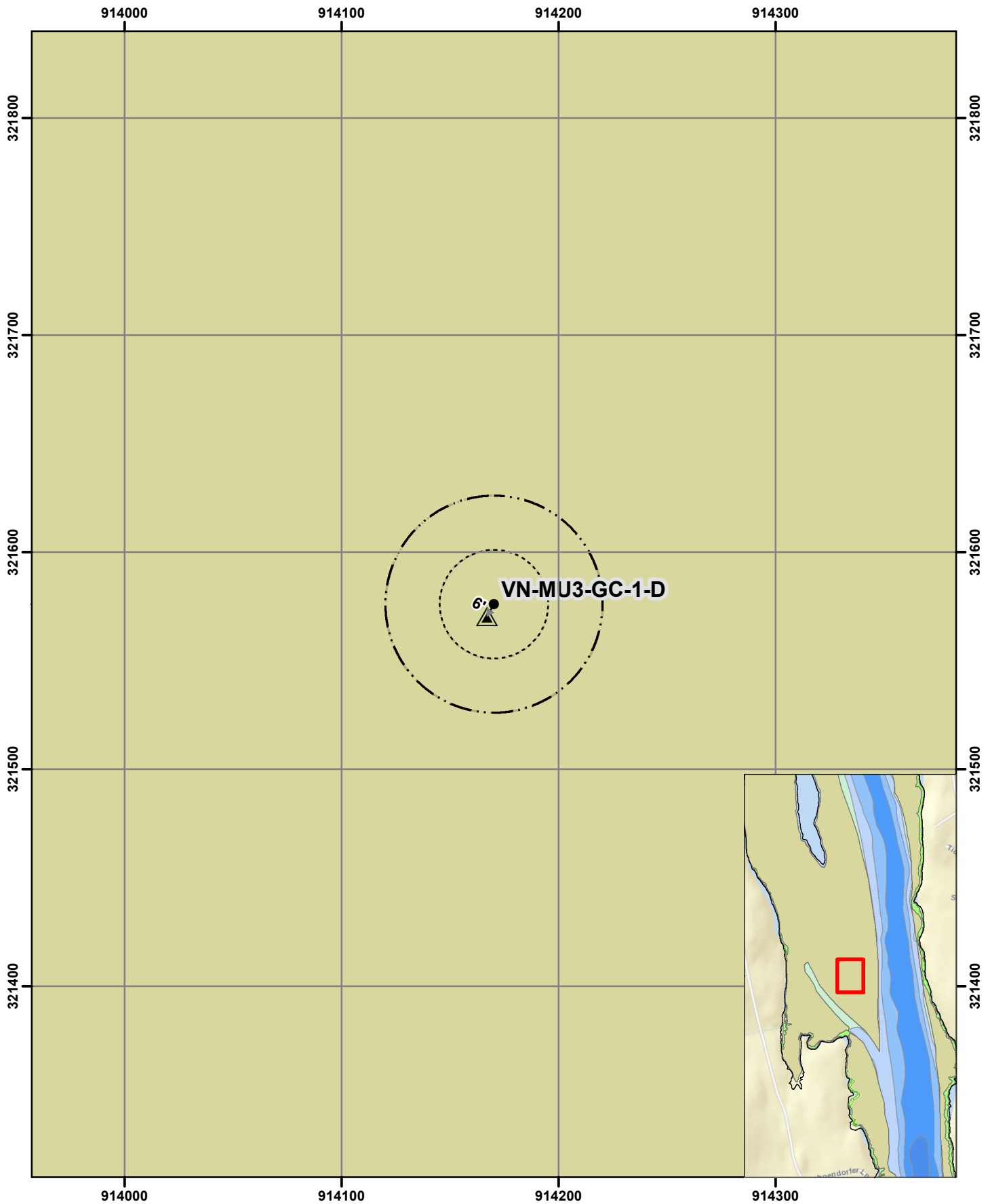
Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: N/A 9/16/20 ACETATE	Vibracorer: Push Corer		Box	Slambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

Live Organisms present	YES.
Oil-Like Present	NO
Odor Present	NO
Debris Present	NO

Photo Numbers
B. WEYER
9/22/2020

Comments
COORDINATES RECORDED W/ ASI'S BOAT GPS

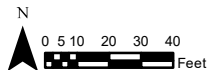
QC CHECK BY B. WEYER 9/22/2020



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- 25 foot radius buffer
- 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [VN-MU3-GC-1-D]
 Reach: [Verona Northeast]



Penobscot River Estuary
 2020 Long Term Monitoring

Prepared/Date: ICD 12/20/20 | Checked/Date: BPW 12/21/20 | Maine State Plane CRS East Zone 1983

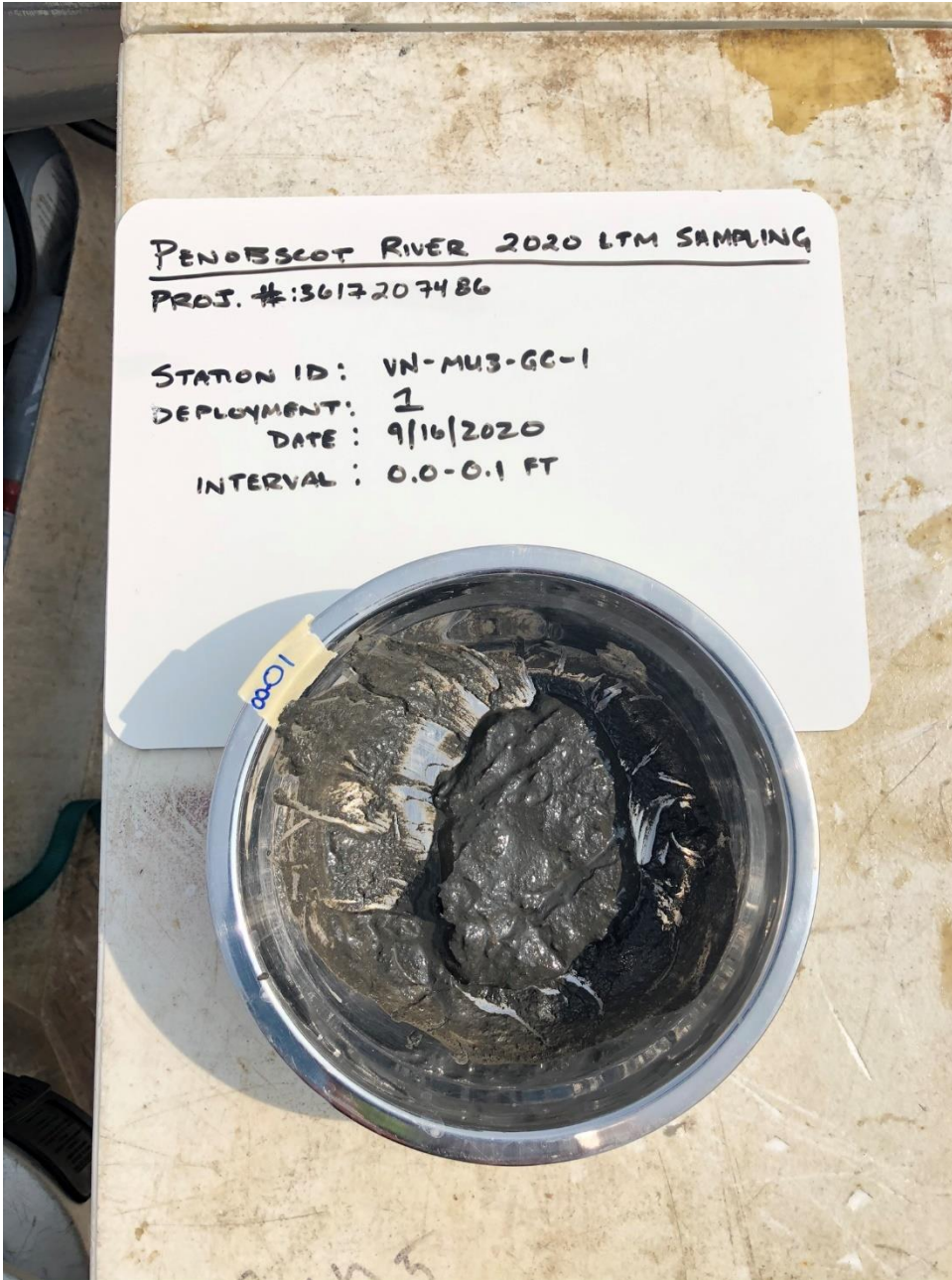


PHOTO 1:

CORE: VN-MU3-GC-1

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/16/2020

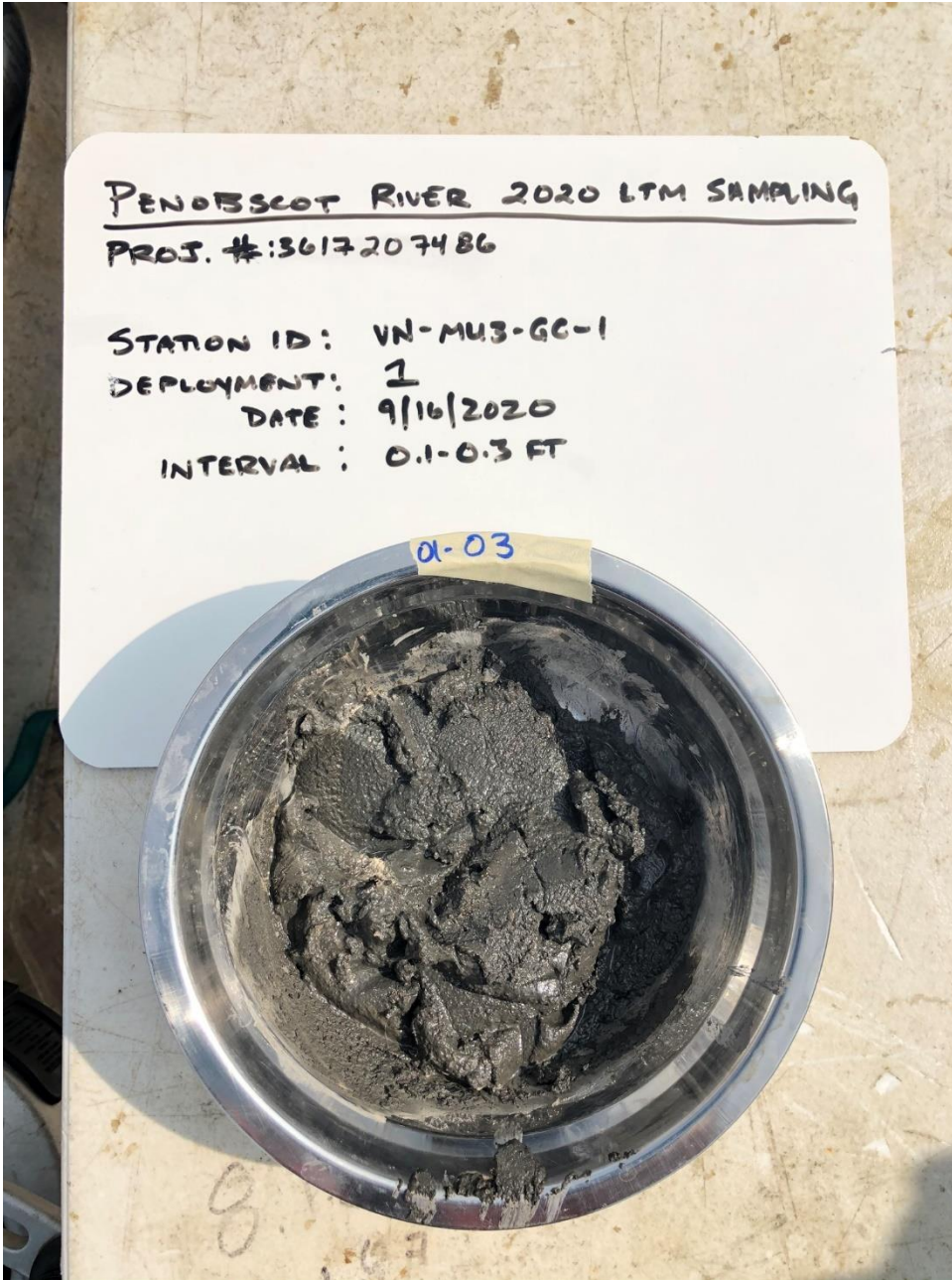


PHOTO 2:

CORE: VN-MU3-GC-1

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/16/2020

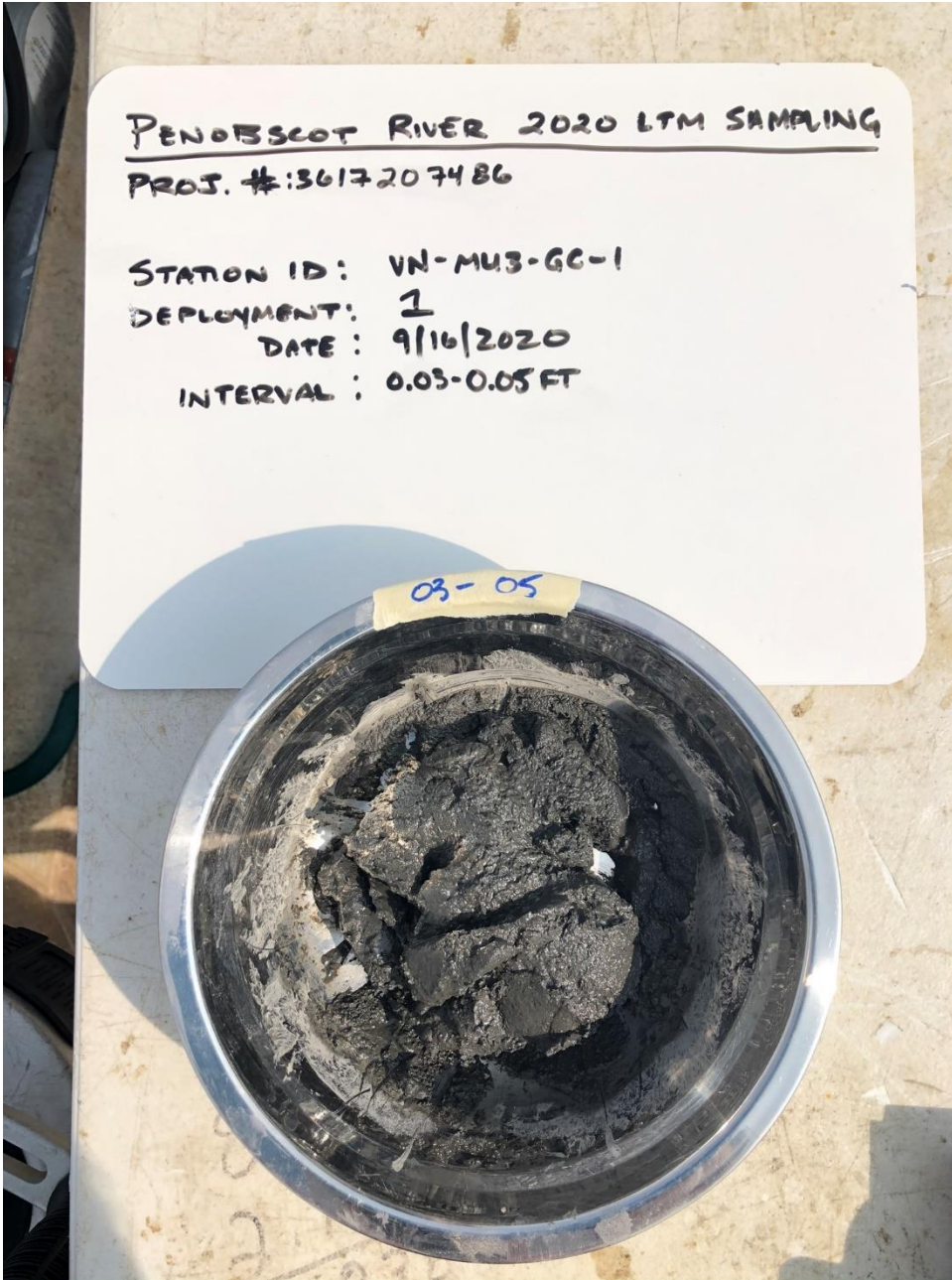


PHOTO 3:

CORE: VN-MU3-GC-1

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/16/2020

STATION SUMMARY		
Station ID: ES-02	Core collection and sample processing date: 16 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – ES-02 Collection Overview

On Wednesday, September 16, 2020, Wood scientists cored station ES-02 in the Verona Northeast reach between 10:05am and 10:29am aboard the *R/V Tesla*. The weather was clear with temperatures in the 50's (°F) and varying winds ranging from 10 to 15-knots from the Southwest. Sea conditions were slight to moderate, with a wave height of 1.0-2.0-ft, providing marginal conditions for the vessel to hold on location for sampling. A box corer was utilized for sediment collection. Sediment was sampled from the box corer by 1-ft hand push cores with 3-in diameter acetate liners. One (1) deployment of the box corer was attempted at ES-02 to obtain one (1) 1-ft hand push core, designated in the field as ES-02. Station ES-02 was a biota collocate location. Location was established proximal to lobster pot deployment location with a confirmed harvest. The core was preserved on wet ice while awaiting to be processed.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and core(s) at station ES-02.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station ES-02 represents the single deployment of the box corer. The deployment represented a non-vegetated intertidal zone accessible at high tide within the Verona Northeast reach.

D – Processing Overview

Same-day processing was performed on ES-02 by Wood scientists at the Wood Field Station, Winterport, Maine. Core ES-02 was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

The appearance and textural properties of each push core was described using the Unified Soil Classification (USCS). A strong sulfur-like odor was present throughout the core.

Sediment Core Logs are attached (See Attachment B).

ES-02

Push core ES-02 had an acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: dark olive gray very fine sandy SILT: ALLUVIUM
- 0.1 – 0.3 ft: dark olive gray very fine sandy SILT: ALLUVIUM
- 0.3 – 0.5 ft: very dark olive gray fine sandy SILT with medium to coarse sand-sized brown wood chip: ALLUVIUM
- 0.5 – 0.6 ft: dark olive gray silty very fine SAND with brown coarse sand-sized wood chip: ALLUVIUM

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/16/20 Time: 1018 Vessel: R/V TESLA

Coordinates: Lat 44.541013 Long -68.764729 Plan Volume: 0.140gal

Sampling Station: ES-02 Deploy No. 1 Sub-tidal Location? NO

Weather: SUNNY 60s Winds: 10-15 Waters: 30' / 1-2' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 30.0'	Core Penetration Length (ft.): 0.75'
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.6'
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5'
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0'-0.1'	00-01	VERY FINE SANDY SILT; DARK OLIVE GRAY
0.1'-0.3'	01-03	VERY FINE SANDY SILT; DARK OLIVE GRAY
0.3'-0.5'	03-05	FINE SANDY SILT W/ MED. TO COARSE SAND-SIZED WOOD CHIP (BROWN); VERY DARK OLIVE GRAY SED. MATRIX
0.5'-0.6'	—	SILTY VERY FINE SAND W/ COARSE-SAND-SIZED WOOD CHIP (BROWN); DARK OLIVE GRAY SEDIMENT MATRIX
Bottom	CL 9/16/20	CL 9/16/20

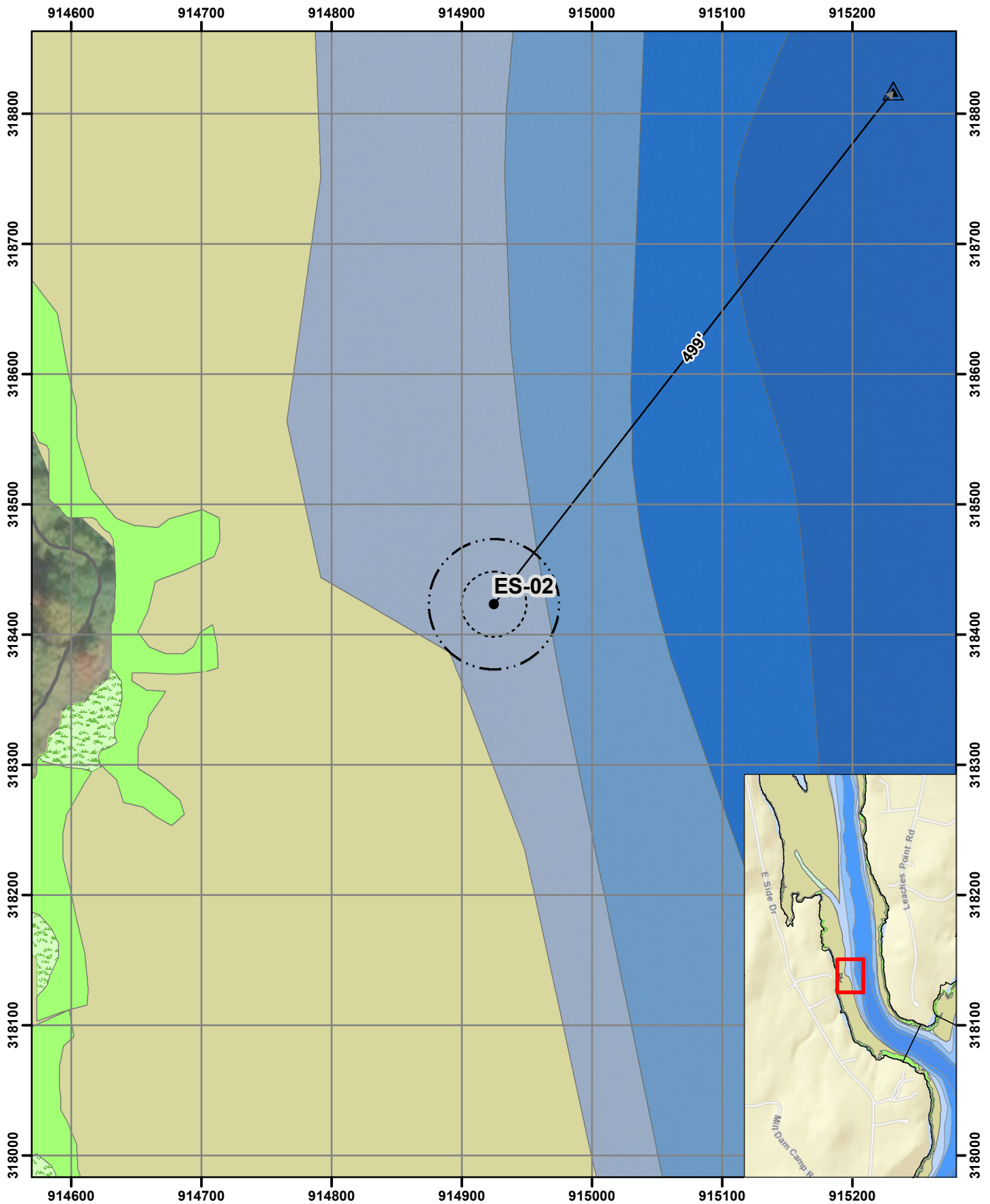
Number of containers: 6	Core Volumes	
Type of container: bucket / liner bag / jar / other	Nominal core-barrel diameter	EST. Volume
Liner Type: ALETATE	4.0"	.50gal/ft
Vibracorer: Push Corer	3.5"	.33gal/ft

Live Organisms present	NO
Oil-Like Present	NO
Odor Present	YES
Debris Present	NO

Photo Numbers
 B. WEYER
 9/22/2020

Comments
 - LOCATION TAKEN WHERE LOBSTER POT WAS SET; CONFIRMED CATCH W/ SHAWNA (WOOD)
 - ONLY ONE CORE COLLECTED @ LOCATION
 - IS A BIOTA CO-LOCATE SAMPLE
 - SULFUR-LIKE SMELL - STRONG.
 - COORDINATES RECORDED W/ ASI GPS (ABOARD VESSEL)

QC CHECK BY B. WEYER 9/22/2020



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- 25 foot radius buffer
- 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [ES-02]
Reach: [Verona Northeast]

0 50 100 200 300 400
Feet

**Penobscot River Estuary
2020 Long Term Monitoring**

Prepared/Date: ICD 12/20/20

Checked/Date: BPW 12/21/20

Maine State Plane CRS East Zone 1983

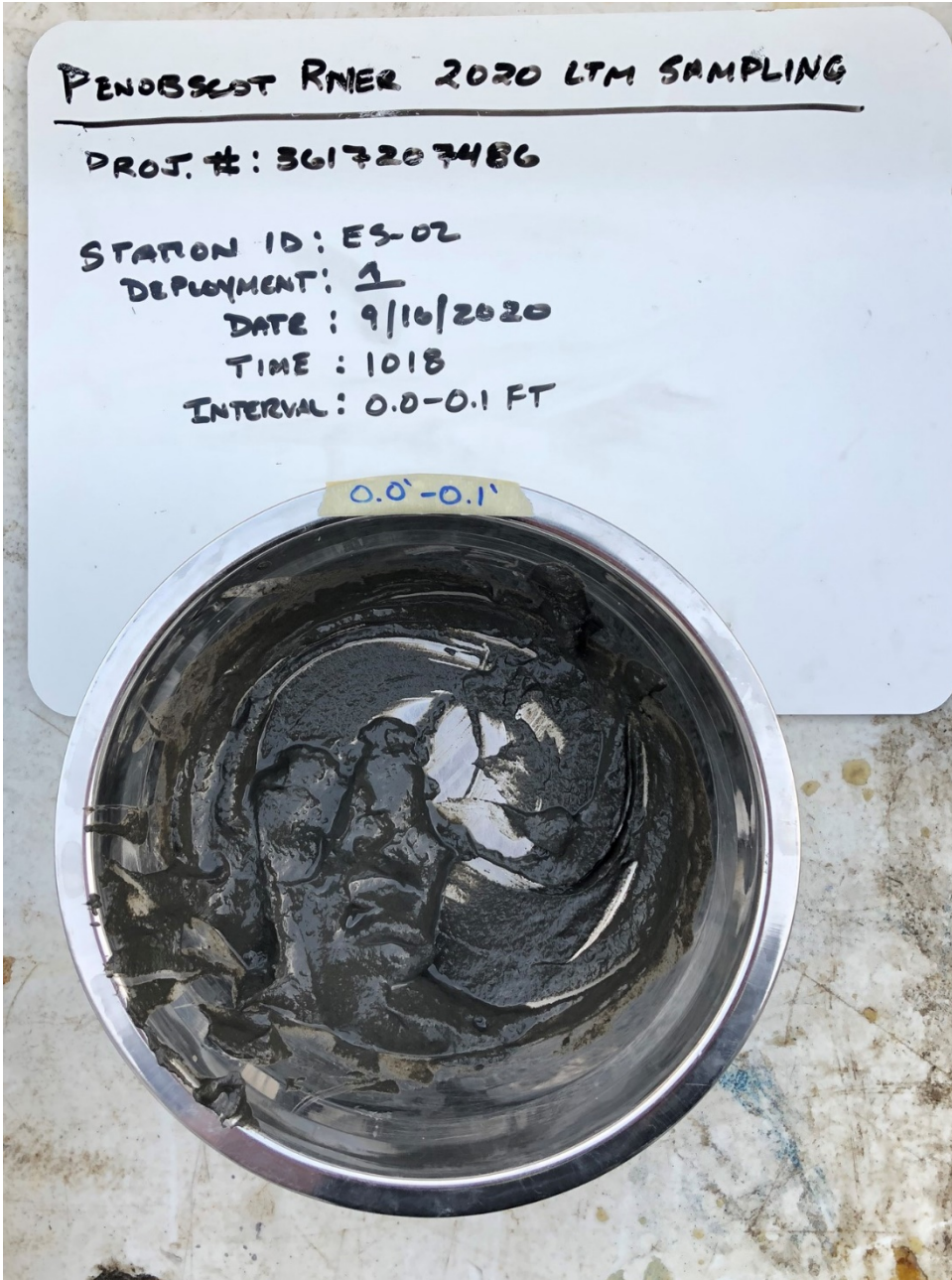


PHOTO 1:

CORE: ES-02

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/16/2020

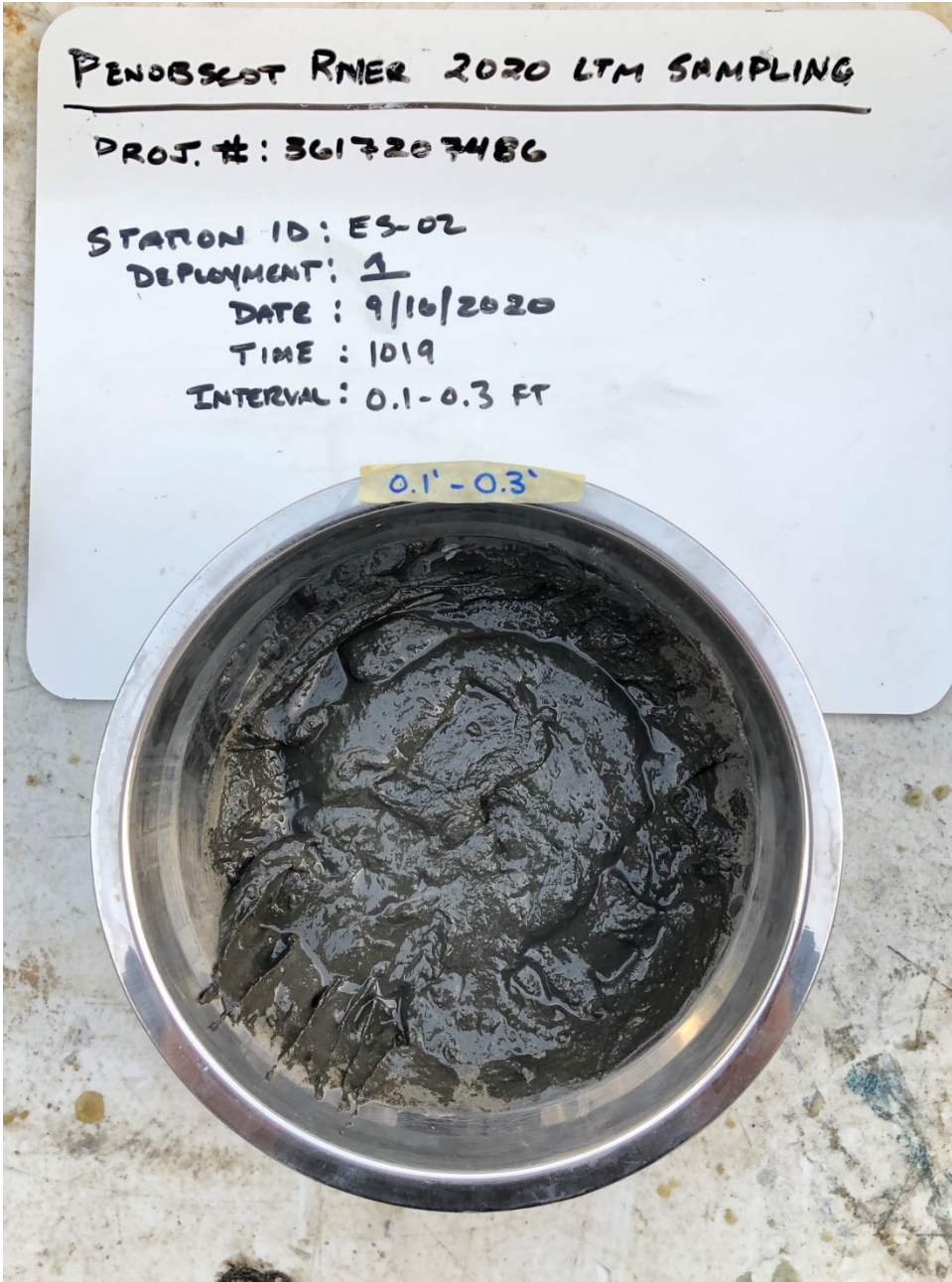


PHOTO 2:

CORE: ES-02

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/16/2020



PHOTO 3:

CORE: ES-02

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/16/2020

APPENDIX B – 2.25

Station Summary – OR-T1-C5

STATION SUMMARY		
Station ID: OR-T1-C5	Core collection and sample processing date: 16 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – OR-T1-C5 Collection Overview

On Wednesday, September 16, 2020, Wood scientists cored station OR-T1-C5 in the Orland River reach between 10:56am and 11:12am aboard the *R/V Tesla*. The weather was clear with temperatures in the 50's (°F) and varying winds ranging from 10 to 15-mph from the Southwest. Sea conditions were slight, with a wave height of 2.0-4.0-ft, providing marginal conditions for the vessel to hold on location for sampling. A box corer was utilized for sediment collection. Sediment was sampled from the box corer by 1-ft hand push cores with 3-in diameter acetate liners. One (1) deployment of the box corer was attempted at OR-T1-C5 to obtain one (1) 1-ft hand push cores, designated in the field as OR-T1-C5. The core was preserved on wet ice while awaiting to be processed.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and core(s) at station OR-T1-C5.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station OR-T1-C5 represents the single deployment of the box corer. The deployment represented a non-vegetated intertidal zone accessible at high tide within the Orland River reach.

D – Processing Overview

Same-day processing was performed on OR-T1-C5 on September 16, 2020 by Wood scientists at the Wood Field Station, Winterport, Maine. Core OR-T1-C5 was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

The appearance and textural properties of each push core was described using the Unified Soil Classification (USCS). A strong sulfur-like odor was present throughout the core.

Sediment Core Logs are attached (See Attachment B).

OR-T1-C5

Push core OR-T1-C5 had an acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: dark olive gray SILT with some clay-sized fines and fine to medium sand-sized wood chip: ALLUVIUM
- 0.1 – 0.3 ft: dark olive gray clayey SILT with fine and medium sand-sized wood chip: ALLUVIUM
- 0.3 – 0.5 ft: very dark black-gray clayey SILT, broken bivalves (not articulated) minimal fine to medium sand-sized wood pulp: ALLUVIUM

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAIBACK
 Sub: ASI WO: _____ Crew: B. WEYER.
 Date: 9/16/20 Time: 1056 Vessel: R/V TESLA

Coordinates: Lat 44.542543 Long -68.752126 Plan Volume: 0.140gal

Sampling Station: OR-T1-C5 Deploy No. 1 Sub-tidal Location? NO

Weather: SUNNY 50s Winds: 10-15 Waters: 9.5' / 2.4' Traffic: NONE Water Temp: -

Measured Water Depth [NAVD88]: 9.5'	Core Penetration Length (ft.): 0.7
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.62
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5'
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01	SILT W/ SOME CLAY-SIZED FINES (MINIMAL) AND FIN TO MED SAND-SIZED WOOD CHIPS, DARK OLIVE GRAY
0.1' - 0.3' ^{10/16}		
0.3' - 0.5'		
0.1' - 0.3'	01-03	CLAYEY SILT W/ FINE & MED-SAND-SIZED WOOD CHIP, DARK OLIVE GRAY
0.3' - 0.5'	03-05	SILT CLAYEY SAND, VERY DARK BLACK GRAY, BROKEN BIVALVES (NOT ARTICULATE), MINIMAL FIN TO MED SAND-SIZED WOOD PULP
Bottom		

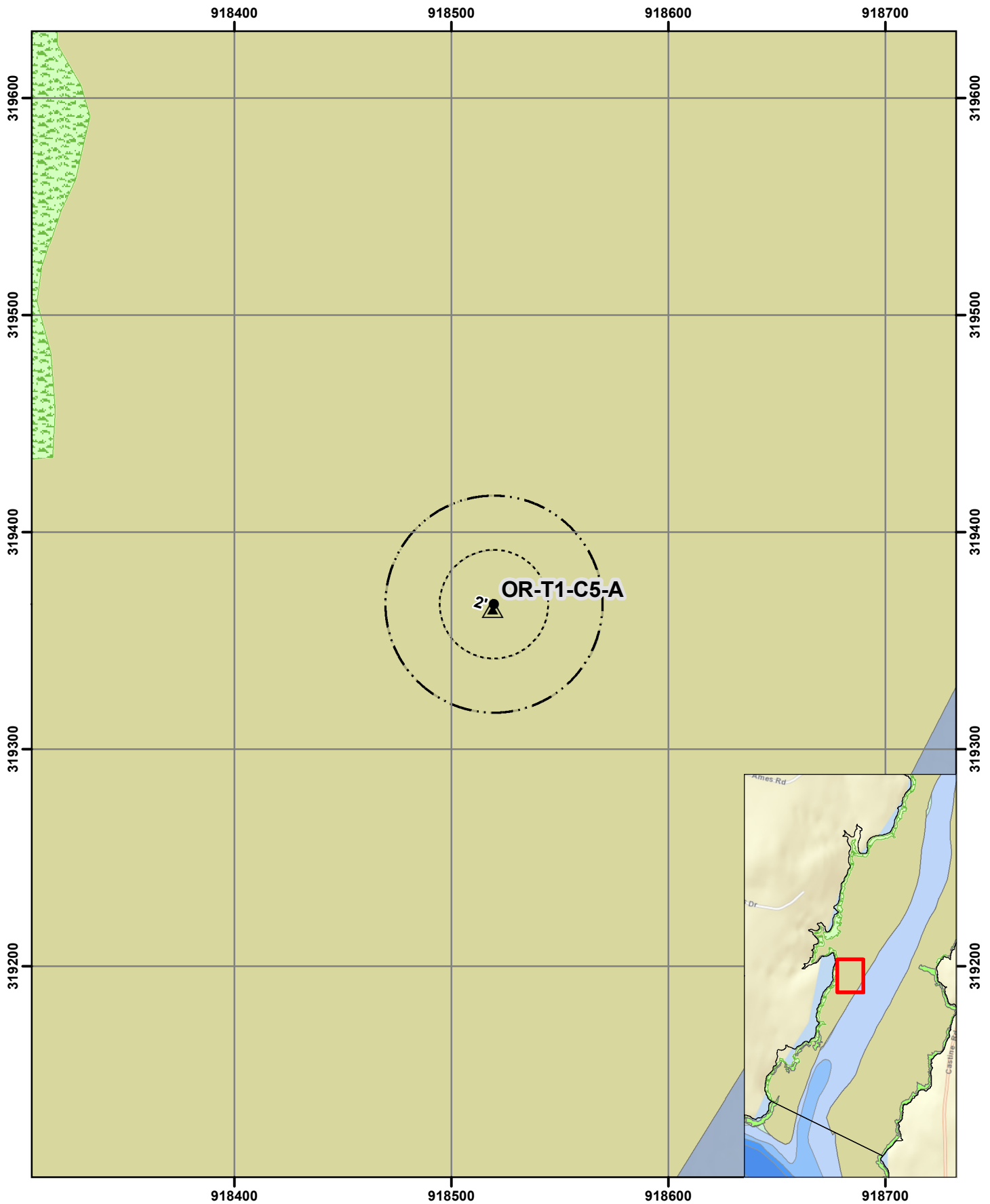
Number of containers:	6				Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ^{2 9/16} N/A ACETATE	Vibracorer: (BOX) Push Corer			Stambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

Live Organisms present	YES
Oil-Like Present	NO
Odor Present	NO
Debris Present	NO

Photo Numbers
 B. weyer
 9/22/2020

Comments
 - ONLY ONE CORE COLLECTED HERE;
 NOT ENOUGH RECOVERY IN "BACKUP" CORE
 - COORDINATES RECORDED W/ ASI BOAT

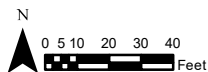
QC CHECK BY B. WEYER 9/22/2020



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- 25 foot radius buffer
- 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [OR-T1-C5-A]
 Reach: [Orland River]



Penobscot River Estuary
 2020 Long Term Monitoring

Prepared/Date: ICD 12/20/20

Checked/Date: BPW 12/21/20

Maine State Plane CRS East Zone 1983



PHOTO 1:

CORE: OR-T1-C5

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/16/2020

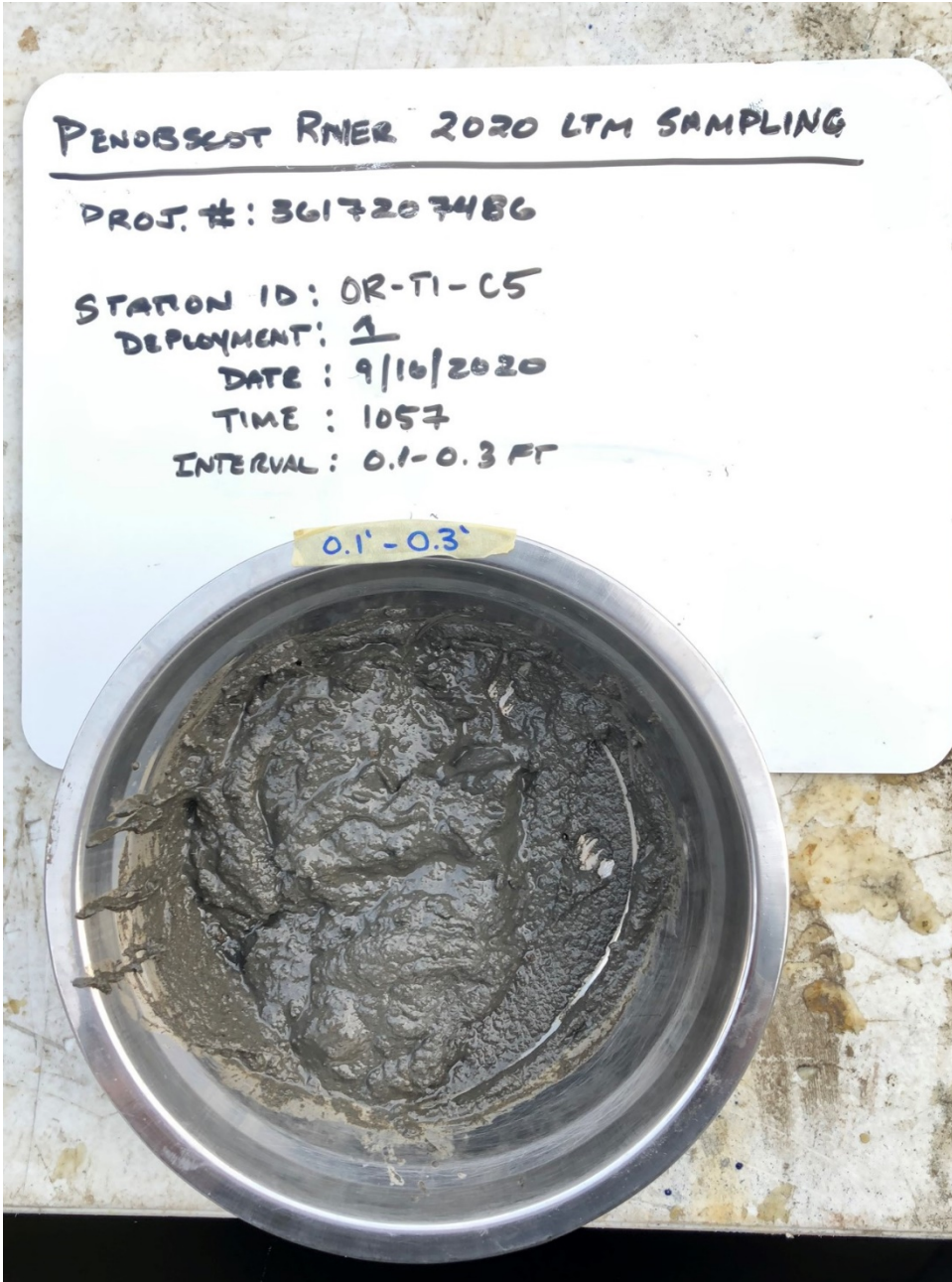


PHOTO 2:

CORE: OR-T1-C5

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/16/2020

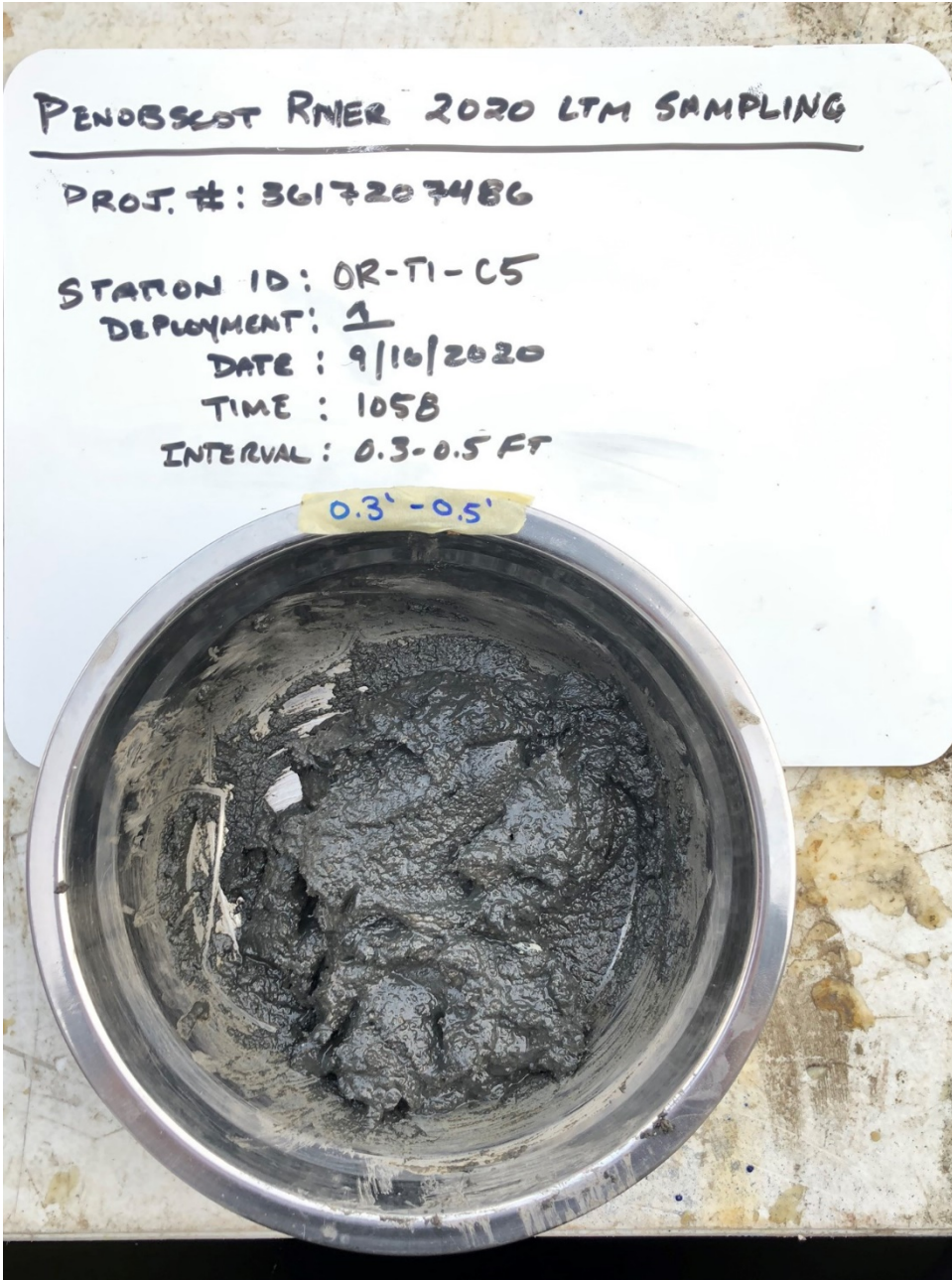


PHOTO 3:

CORE: OR-T1-C5

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/16/2020

STATION SUMMARY		
Station ID: OR-T1-C3	Core collection and sample processing date: 16 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – OR-T1-C3 Collection Overview

On Wednesday, September 16, 2020, Wood scientists cored station OR-T1-C3 in the Orland River reach between 10:29am and 10:56am aboard the *R/V Tesla*. The weather was clear with temperatures in the 50's (°F) and varying winds ranging from 10 to 15-knots from the Southwest. Sea conditions were slight, with a wave height of 2.0-4.0-ft, providing marginal to poor conditions for the vessel to hold on location for sampling. A box corer was utilized for sediment collection. Sediment was sampled from the box corer by 1-ft hand push cores with 3-in diameter acetate liners. Two (2) deployments of the box corer were attempted at OR-T1-C3 to obtain two (2) 1-ft hand push cores, designated in the field as OR-T1-C3-A and OR-T1-C3-B. The first deployment contained approximately 5-in of sediment within the box corer, which was insufficient for acceptable core volumes. The second deployment was successful; both push cores were collected from the second deployment. Two cores were collected at this station in case sample integrity of a single core were to become compromised between collection and processing. The cores were preserved on wet ice while awaiting to be processed.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and core(s) at station OR-T1-C3.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of both deployments for station OR-T1-C3 are represented. The deployments represented a non-vegetated intertidal zone accessible at high tide within the Orland River reach.

D – Processing Overview

Same-day processing was performed on OR-T1-C3-A and OR-T1-C3-B by Wood scientists at the Wood Field Station, Winterport, Maine. Cores OR-T1-C3-A and OR-T1-C3-B, designated during processing as OR-T1-C3 and OR-T1-C3_DUP, were sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC). Intervals 0.1 – 0.3 ft and 0.3 – 0.5 ft of OR-T1-C3 were selected to be used for a MS/MSD laboratory control sample.

The appearance and textural properties of each push core was described using the Unified Soil Classification (USCS). A strong sulfur-like odor was present throughout the core, though stronger between 0.1 and 0.5-ft.

Sediment Core Logs are attached (See Attachment B).

OR-T1-C3

Push core OR-T1-C3 had an acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: dark olive gray clayey SILT: ALLUVIUM
- 0.1 – 0.3 ft: dark gray black clayey SILT, some organic-like material that looked like root mass fibers, broken bivalve shells approximately 0.05-ft in diameter, strong sulfur-like odor: ALLUVIUM
- 0.3 – 0.5 ft: very dark gray-black clayey SILT, some wood chips, bivalve shell hash, some organic-like detritus, strong sulfur-like odor: ALLUVIUM

OR-T1-C3 DUP

Push core OR-T1-C3_DUP had an acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: dark olive gray clayey SILT, no wood chips present: ALLUVIUM
- 0.1 – 0.3 ft: very dark gray clayey SILT, minimal bi-valve shell hash material: ALLUVIUM
- 0.3 – 0.5 ft: very dark gray clayey SILT, minimal very fine sand, minimal medium sand-sized wood chip: ALLUVIUM

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. DRUBACK
 Sub: ASI WO: _____ Crew: B. WEYER
 Date: 9/16/20 Time: 1043 Vessel: RV TESLA

Coordinates: Lat 44.541135 Long -68.748969 Plan Volume: 0.140gal

Sampling Station: OR-T1-C3 Deploy No. 1 Sub-tidal Location? NO

Weather: SUNNY, 50S Winds: 10-15 Waters: 7.8' / 2-4' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 7.8'	Core Penetration Length (ft.): 1'
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): ^{CL 9/16} 5"
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): —
Study Depth (-NAVD88):	Acceptable Core (80% recovery): —
Required Penetration Length: 0.5'	Core Volume Retained (gal.): —

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CQ 9/16/20

Number of containers:	Ø	Ø	Ø	Ø	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibracorer: <u>BOX</u>				4.0"	.50gal/ft
	Push Corer			Slambar	3.5"	.33gal/ft

Live Organisms present	NO	Comments INSUFFICIENT RECOVERY (@5")
Oil-Like Present	NO	
Odor Present	NO	
Debris Present	NO	

Photo Numbers
 B. WEYER
 9/22/2020

COORDINATES RECORDED w/ ASI'S GPS (ABOARD VESSEL)

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207480 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/16/20 Time: 1050 Vessel: R/V TESLA
 Coordinates: Lat 44.541148 Long -68.748954 Plan Volume: 0.140gal
 Sampling Station: OR-T1-C3 Deploy No. 2 Sub-tidal Location? NO

Weather: SUNNY 50s Winds: 10-15 Waters: 7.8' / 2-4' Traffic: NONE Water Temp: —
 Measured Water Depth [NAVD88]: 7.8' Core Penetration Length (ft.): 0.7
 Correction to NAVD88 (+/- ft. from NAVD88): Recovered Core Length (ft.): 0.6
 Mudline (Corrected Depth) @ NAVD88: Sample Length Retained (ft.): 0.5
 Study Depth (-NAVD88): Acceptable Core (80% recovery): YES
 Required Penetration Length: 0.5' Core Volume Retained (gal.): 0.140gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01	CLAYEY SILT; DARK OLIVE GRAY MINIMAL WOOD CHIP.
0.1' - 0.3'	01-03	CLAYEY SILT; DARK GRAY BLACK SOME ORGANIC-LIKE MATERIAL THAT LOOKED LIKE ROOT MASS HAIRS; BROKEN BIVALVE SHELLS (0.05" IN DIAM.)
0.3' - 0.5'	03-05	CLAYEY SILT, VERY DARK GRAY-BLACK, SOME WOOD CHIPS, BI-VALVE SHELL HASH, SOME ORGANIC-LIKE DETRITUS.
Bottom		

CL 9/16/20

Number of containers: — — 6 —
 Type of container: bucket liner bag jar other
 Liner Type: ACETATE ~~PLA~~ CL 9/16/20 Vibracorer: (BOX) Push Corer Slambar
 Core Volumes: Nominal core-barrel diameter EST. Volume
 4.0" .50gal/ft
 3.5" .33gal/ft

Live Organisms present NO
 Oil-Like Present NO
 Odor Present YES
 Debris Present NO

Comments
 -SULFUR-LIKE SMELL (STRONGER BETWEEN 0.1'-0.5')
 COORDINATES RECORDED w/ ASI GPS (ABOARD VESSEL)

Photo Numbers
 B. WEYER
 9/22/2020

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/16/20 Time: 1050 Vessel: R/V TESLA
 Coordinates: Lat 44.541148 Long -68.748959 Plan Volume: 0.14gal
 Sampling Station: OR-T1-C3-DUP Deploy No. 2 Sub-tidal Location? NO

Weather: SUNNY, SDS Winds: 10-15 Waters: 7.8 / 2-4' Traffic: NONE Water Temp: —
 Measured Water Depth (NAVD88): 7.8 Core Penetration Length (ft.): 0.7
 Correction to NAVD88 (+/- ft. from NAVD88): Recovered Core Length (ft.): 0.6
 Mudline (Corrected Depth) @ NAVD88: Sample Length Retained (ft.): 0.5
 Study Depth (-NAVD88): Acceptable Core (80% recovery):
 Required Penetration Length: 0.5' Core Volume Retained (gal.): 0.140

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01-DUP	CLAYEY SILT; DARK OLIVE GRAY NO WOOD CHIPS PRESENT
0.1' - 0.3'	01-03-DUP	CLAYEY SILT; VERY DARK GRAY MINIMAL BI-VALVE SHELL HASH MATERIAL.
0.3' - 0.5'	03-05-DUP	CLAYEY SILT; VERY DARK GRAY MINIMAL VERY FINE SAND; MINIMAL WOOD CHIP (MED-SAND-SIZED)
CR	CR	CR
CR	CR	CR
CR	CR	CR
Bottom		

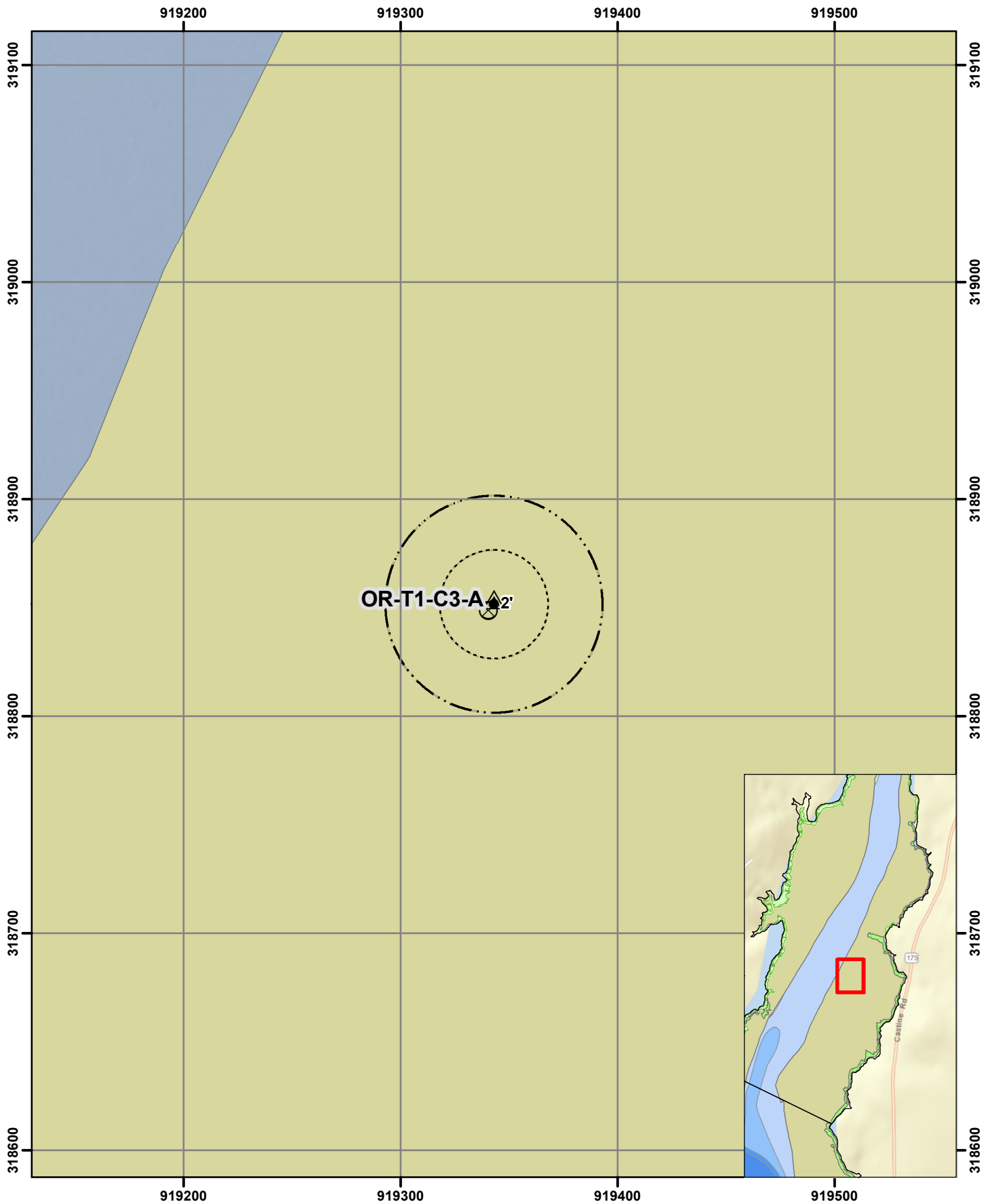
Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE 11/16 C.L. 9/16/20	Vibracorer: <u>BOX</u>				4.0"	.50gal/ft
	Push Corer			Slambar	3.5"	.33gal/ft


Live Organisms present NO
 Oil-Like Present NO
 Odor Present YES
 Debris Present NO

Comments
 SULFUR-LIKE SMELL PRESENT IN SAMPLES.
 COORDINATES RECORDED W/ ASI GPS (ABOARD VESSEL)

Photo Numbers
 B. WEYER
 9/22/2020

QC CHECK BY B. WEYER 9/22/2020





N
0 5 10 20 30 40
Feet

Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- 25 foot radius buffer
- ⊞ 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [OR-T1-C3-A]
Reach: [Orland River]

Prepared/Date: ICD 12/20/20

Checked/Date: BPW 12/21/20

Maine State Plane CRS East Zone 1983

**Penobscot River Estuary
2020 Long Term Monitoring**

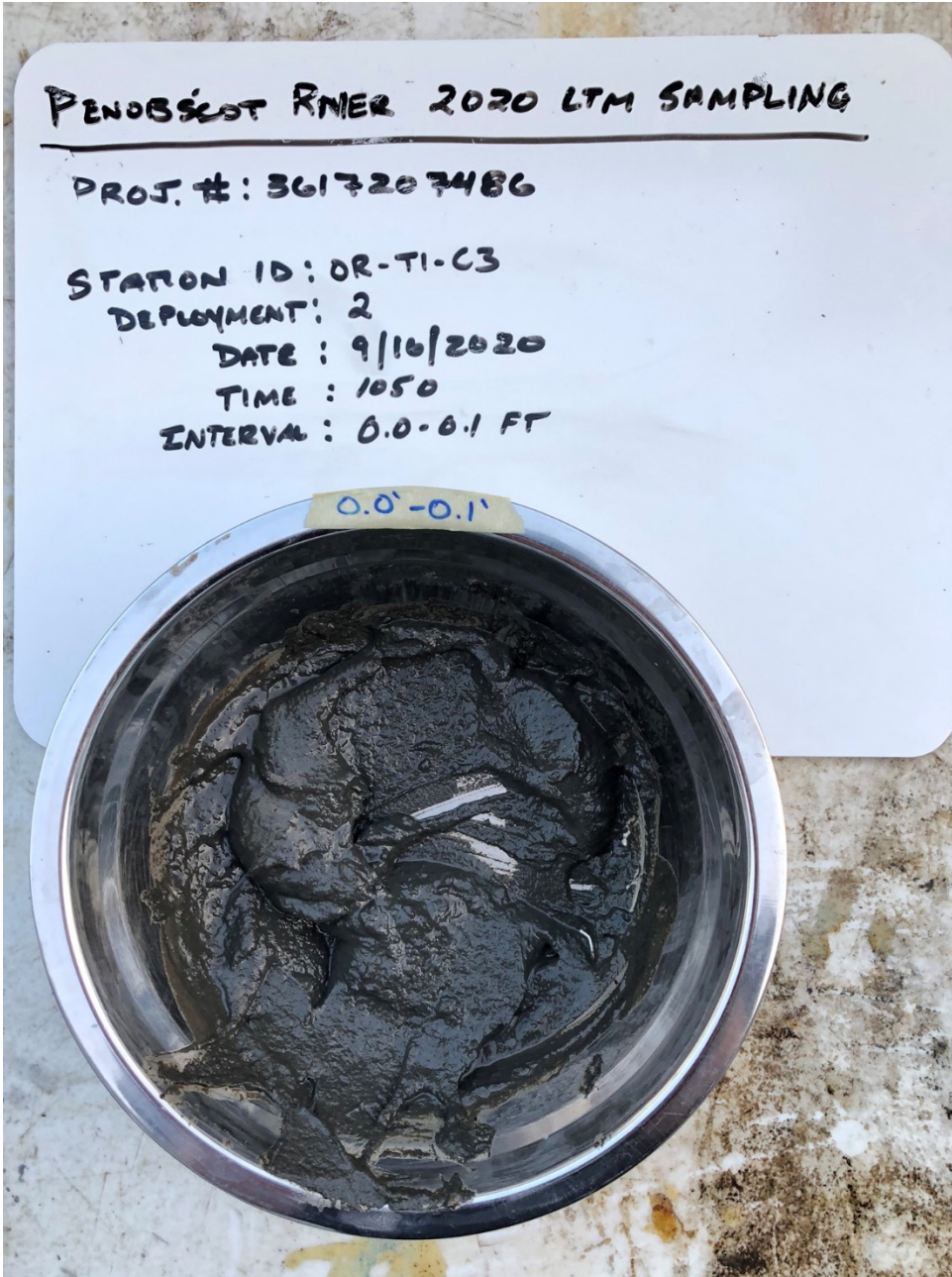


PHOTO 1:

CORE: OR-T1-C3

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/16/2020

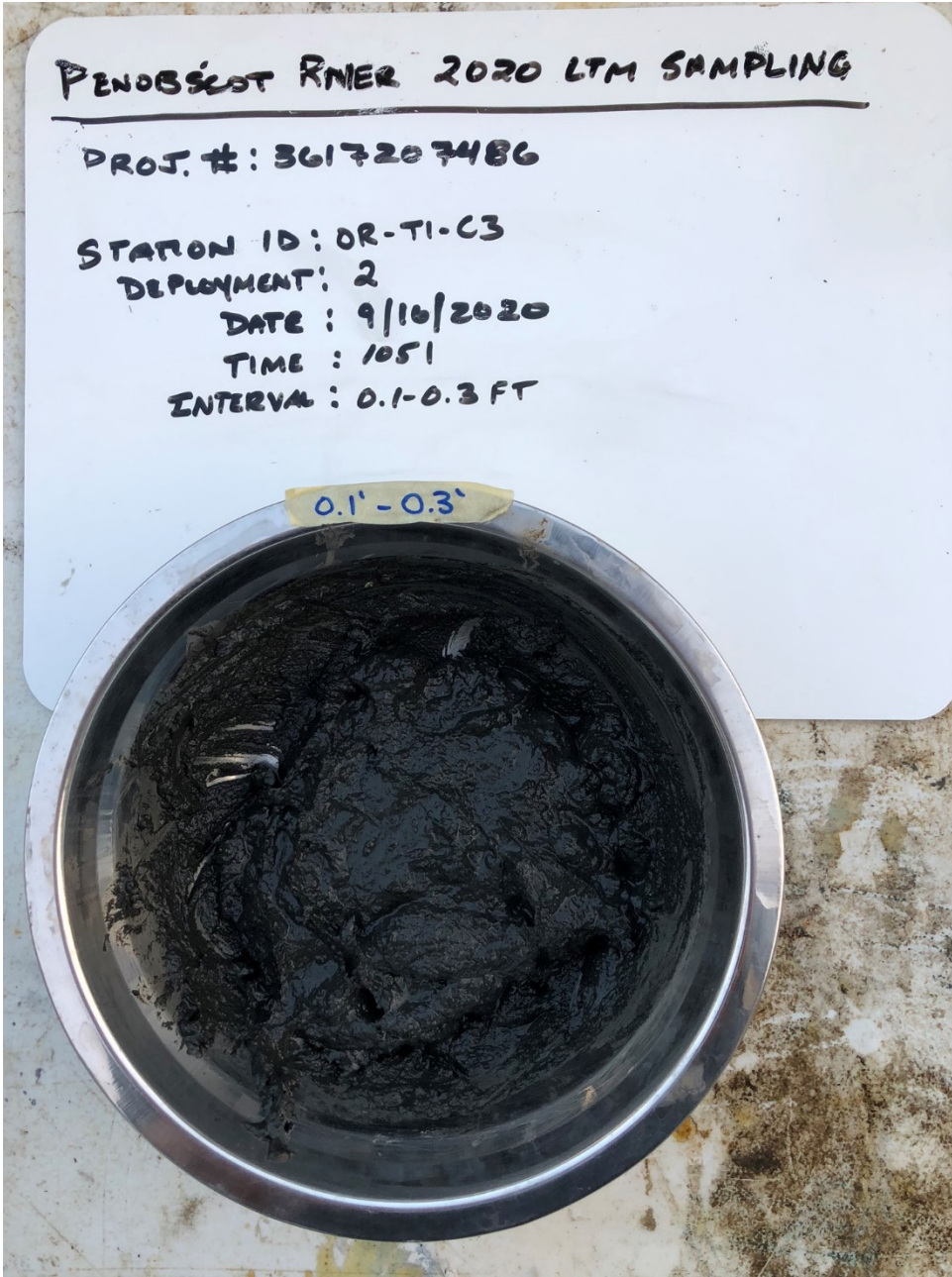


PHOTO 2:

CORE: OR-T1-C3

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/16/2020

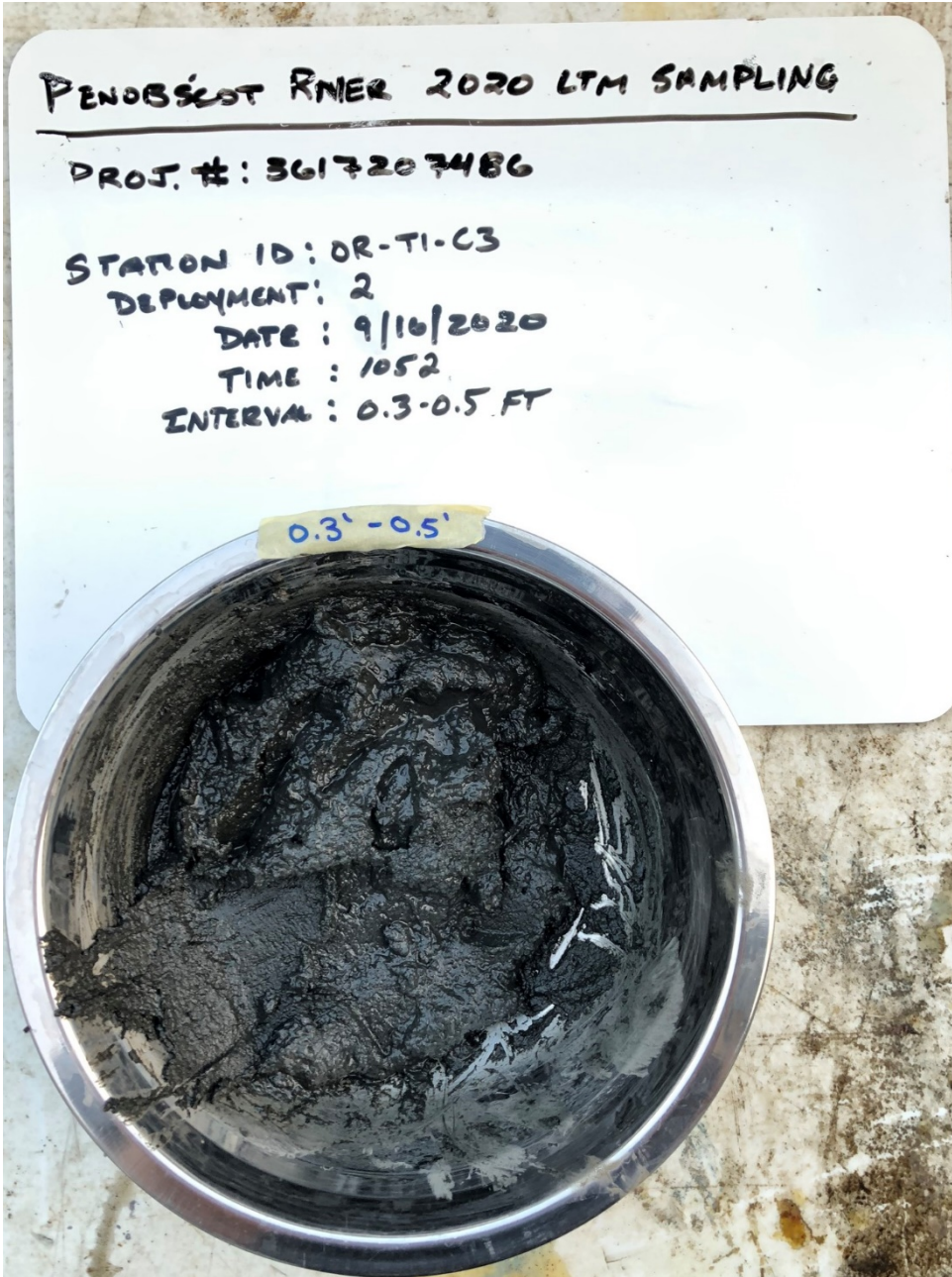


PHOTO 3:

CORE: OR-T1-C3

DEPLOYMENT: 2

INTERVAL: 0.3-0.5 FT

DATE: 9/16/2020

APPENDIX B – 2.27

Station Summary – OR-T1-C1

STATION SUMMARY		
Station ID: OR-T1-C1	Core collection and sample processing date: 17 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – OR-T1-C1 Collection Overview

On Thursday, September 17, 2020, Wood scientists cored station OR-T1-C1 in the Orland River reach between 1:00pm and 3:00pm. The weather was clear with a temperature of 65°F and breezy. Sea conditions were negligible to sampling effort, as station was accessed by foot. Sediment was sampled by 1-ft hand push cores with 3-in diameter acetate liners. Two (2) 1-ft push cores, designated in the field as OR-T1-C1 and OR-T1-C1_DUP, were collected at the station location and were preserved on wet ice, while awaiting to be processed.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and core(s) at station OR-T1-C1.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the collection location of station OR-T1-C1 and its duplicate are represented. The deployments represented a vegetated marsh zone accessible at low tide within the Orland River reach.

D – Processing Overview

Same-day processing was performed on OR-T1-C1 and OR-T1-C1_DUP by Wood scientists at the Wood Field Station, Winterport, Maine. Cores OR-T1-C1 and OR-T1-C1_DUP were sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC). Station OR-T1-C1 was used for laboratory duplicate analyses.

The appearance and textural properties of all recovered sediment was described using the Unified Soil Classification (USCS).

Sediment Core Logs are attached (See Attachment B).

OR-T1-C1

Push core OR-T1-C1 had an acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: dark brown CLAY, wet, trace silt and fine sand, organics on top
- 0.1 – 0.3 ft: dark brown CLAY wet, trace organics, trace silt
- 0.3 – 0.5 ft: dark brown CLAY, trace silt, wet, trace organics, organic-like odor

OR-T1-C1 DUP

Push core OR-T1-C1 had an acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: dark brown CLAY, wet trace organics on top, trace fine sand and silt
- 0.1 – 0.3 ft: dark brown CLAY wet, trace organics, trace silt, trace shells
- 0.3 – 0.5 ft: dark brown CLAY, trace silt, wet, trace organics, organic-like odor, trace shells

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: H. PLANTE
 Sub: ~~WOOD ETIS~~ **BW 9/22/20** WO: ~~1450~~ Crew: SCARP, IG
NONE Date: 9-17-2020 Time: ~~1300~~ Vessel: N/A

Coordinates: Lat 44.540301 Long -68.746707 Plan Volume: 0.140 gal
 Sampling Station: OR-T1-C1 Deploy No. 1 Sub-tidal Location? NO

Weather: 65°F, Sun Winds: Breeze Waters: N/A Traffic: N/A Water Temp: N/A

Measured Water Depth [NAVD88]:	NA	Core Penetration Length (ft.):	0.95'
Correction to NAVD88 (+/- ft. from NAVD88):	-	Recovered Core Length (ft.):	0.79'
Mudline (Corrected Depth) @ NAVD88:	-	Sample Length Retained (ft.):	0.5'
Study Depth (-NAVD88):	-	Acceptable Core (80% recovery):	83% - YES
Required Penetration Length:	0.5'	Core Volume Retained (gal.):	0.140

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0 - 0.1	OR-T1-C1-091720- SED-00-01 @1700	Dark brown clay, wet, trace silt + fine sand, organics on top
0.1 - 0.3	OR-T1-C1-091720- SED-01-03 @1715	Dark brown clay, wet, trace organics, trace silt
0.3 - 0.5	OR-T1-C1-091720- SED-03-05 @1730	Dark brown clay, trace silt, wet, trace organics, organic odor
(C) 9-17-20		
Bottom		

Number of containers:	/	/	6	/	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: Acetate	Vibracorer: Push Corer				4.0"	.50gal/ft
	Slambar				3.5"	.33gal/ft

Live Organisms present	NO	Comments Extruder 0.5-0.79 ft not logged
Oil-Like Present		
Odor Present	YES - ORG	
Debris Present	Roots	
Photo Numbers	BW 9/22/2020 BW 9/22/2020	

QC CHECK BY B. WAYSER 9/22/2020 BW 9/22/2020
 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207484 Logger: S. Couplin
 Sub: ~~WOOD ETTS~~ NONE WO: 1450 Crew: SL, HP, TG
 Date: 9-17-2020 Time: 9:17-20 Vessel: N/A
 Coordinates: Lat 44.540301 Long -68.746707 Plan Volume: 0.95 0.140 GAL

Sampling Station: OR-T1-C1 DUP Deploy No. 1 Sub-tidal Location? NO

Weather: WSP, sun Winds: Breeze Waters: N/A Traffic: N/A Water Temp: N/A

Measured Water Depth [NAVD88]: NA	Core Penetration Length (ft.): 0.95'
Correction to NAVD88 (+/- ft. from NAVD88): -	Recovered Core Length (ft.): 0.79'
Mudline (Corrected Depth) @ NAVD88: -	Sample Length Retained (ft.): 0.5'
Study Depth (-NAVD88): -	Acceptable Core (80% recovery): 83% - YES
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140

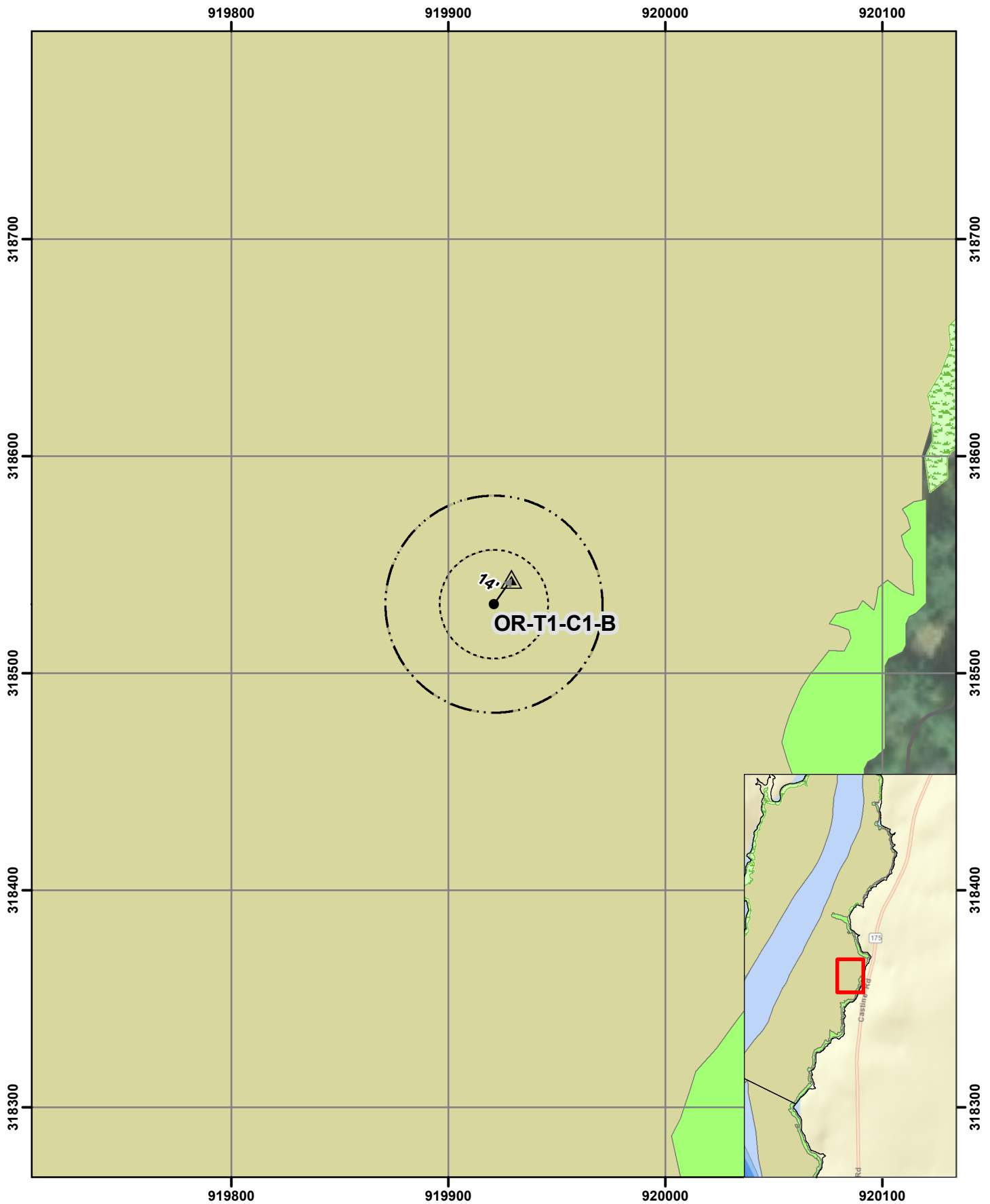
All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0-0.1 9-17-20 50	OR-T1-C1-091720- SED-00-01-01 (50) 9-17-20 9-17-20 @1705 @1740	Dark brown clay, wet, trace organics on top, trace fine sand + silt
0.1-0.3 50	OR-T1-C1-091720- SED-01-03-DUP (50) 9-17-20 @1715 1745	Dark Brown clay, wet, trace organics, trace silt, trace shells
0.3-0.5	OR-T1-C1-091720- SED-03-05-DUP @1718 @3050 (50) 9-17-20	Dark brown clay, trace silt, wet, trace organics, organic odor, trace shells
Bottom		

Number of containers: /	/	6	/	Core Volumes	
Type of container: bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: A-efate				4.0"	.50gal/ft
Vibracorer: Push Corer				3.5"	.33gal/ft
				Slambar	

Live Organisms present NO	Comments Extruder 0.5-0.79 ft not logged
Oil-Like Present NO	
Odor Present YES - org	
Debris Present Rocks, shells	
Photo Numbers B. WEYER 9/22/2020	

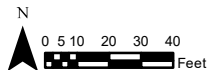
QC CHECK BY B. WEYER 9/22/2020



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- ⊘ 25 foot radius buffer
- ⊚ 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [OR-T1-C1-B]
 Reach: [Orland River]



Penobscot River Estuary
 2020 Long Term Monitoring

Prepared/Date: ICD 12/20/20

Checked/Date: BPW 12/21/20

Maine State Plane CRS East Zone 1983



PHOTO 1:

CORE: OR-T1-C1

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/17/2020



PHOTO 2:

CORE: OR-T1-C1

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/17/2020



PHOTO 3:

CORE: OR-T1-C1

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/17/2020



PHOTO 4:

CORE:
OR-T1-C1_DUP

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/17/2020



PHOTO 5:

CORE:
OR-T1-C1_DUP

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/17/2020



PHOTO 6:

CORE:
OR-T1-C1_DUP

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/17/2020

STATION SUMMARY		
Station ID: OL-01	Core collection and sample processing date: 18 Sept 2020 and 19 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – OL-01 Collection Overview

On Friday, September 18, 2020, Wood scientists attempted sediment collection at station OL-01 in the Verona West reach between 1:48pm and 2:17pm aboard the *R/V Tesla*. The weather was overcast with temperatures in the 50's (°F) and varying winds ranging from 5 to 8-knots. Sea conditions were smooth, with a wave height of 0.5-1.0-ft, providing acceptable conditions for the vessel to hold on location for sampling. A box corer was utilized for attempted sediment collection. Three (3) deployments of the box corer were attempted at OL-01. All three (3) deployments resulted in insufficient recovery of sediment. Attempted deployments recovered coarse grained sediment, (0-2-in) sandy gravel with some rock cobbles.

On Saturday, September 19, 2020, Wood scientists attempted sediment collection at an adjusted location from the proposed station OL-01 in the Verona West reach between 11:35pm and 12:10pm aboard the *R/V Tesla*. The adjusted sampling location was near biota traps where samples were successfully harvested. The weather was clear with temperatures in the 50's (°F) and 5-knot winds from the North. Sea conditions were smooth, with a wave height of 0.5-1.5-ft, providing acceptable to marginal conditions for the vessel to hold on location or sampling. Deployments four (4) through six (6) of the box corer were attempted at OL-01. One (1) grab sample was collected representative of the upper 0.0 – 0.3-ft of sediment on the sixth deployment due to insufficient recovery on previous attempts to obtain sufficient sediment quantity for a core. The grab sample was preserved on wet ice while awaiting to be processed.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and bulk sample at station OL-01.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station OL-01 represents the sixth (6th) deployment and location of the recovered grab sample. The deployment represented a non-vegetated subtidal zone accessible at any time within the Verona West reach.

D – Processing Overview

Same-day processing was performed on grab sample OL-01 by Wood scientists at the Wood Field Station, Winterport, Maine. Grab sample OL-01 was processed as sample interval 0.0-0.3-ft. All tools utilized for sampling were decontaminated before and after use. The sample interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury, and total organic carbon (TOC).

The appearance and textural properties of each push core was described using the Unified Soil Classification (USCS).

Sediment Core Logs are attached (See Attachment B).

OL-01

Grab sample at OL-01 did not have acceptable recovery (of 0.5-ft), though the sample was representative of the upper 0.0-0.3-ft.

- 0.0 – 0.3 ft: very dark olive gray (5Y 3/2) sandy SILT with large pieces of subrounded cobbles and gravels, non-plastic: ALLUVIUM

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: - Crew: B. WEYER
 Date: 9/18/20 Time: 1405 Vessel: R/V TESLA
 Coordinates: Lat 44.515787 Long -68.797812 Plan Volume: 0.140 gal
 Sampling Station: OL-81 Deploy No. 1 Sub-tidal Location? YES

Weather: OVERCAST, 50s Winds: 5-8mph Waters: 0.5'-1.0' Traffic: NONE Water Temp: -

Measured Water Depth [NAVD88]: 58 ^{CL 9/18} 56.3	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/18/20

Number of containers: —	—	—	—	Core Volumes	
Type of container: bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: —	Vibracorer: <u>BOX</u>	Push Corer	Slambar	4.0"	.50gal/ft
				3.5"	.33gal/ft

Live Organisms present —	<p>Comments</p> <p>- INSUFFICIENT RECOVERY</p> <p>- ~2" OF SEDIMENT COLLECTED IN BOX CORE</p> <p>- SANDY/GRAVELLY w/ SOME ROCK COBBLES</p>
Oil-Like Present —	
Odor Present —	
Debris Present —	
Photo Numbers	
<p>B. WEYER</p> <p>9/22/2020</p>	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: <u>USDC</u>	Project No.: <u>3617207486</u>	Logger: <u>C. LAUBACK</u>
Sub: <u>ASI</u>	WO: <u>—</u>	Crew: <u>B. WEYER</u>
Date: <u>9/18/20</u>	Time: <u>1408</u>	Vessel: <u>R/V TESLA</u>
Coordinates: Lat <u>44.515760</u>	Long <u>-68.797787</u>	Plan Volume: <u>0.140gal</u>
Sampling Station: <u>OL-61</u>	Deploy No. <u>2</u>	Sub-tidal Location? <u>YES</u>

Weather: <u>OVERCAST 50s</u>	Winds: <u>5-8 mph</u>	Waters: <u>0.5-1.0'</u>	Traffic: <u>NONE</u>	Water Temp: <u>—</u>
------------------------------	-----------------------	-------------------------	----------------------	----------------------

Measured Water Depth [NAVD88]: <u>53.4</u>	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: <u>0.5'</u>	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers:	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	<u>—</u>	Vibracorer:	<u>BOX</u>		4.0"	.50gal/ft
		Push Corer		Slambar	3.5"	.33gal/ft

Live Organisms present <u>—</u>	<p align="center">Comments</p> <p><u>-INSUFFICIENT RECOVERY - HAD ~2" OF SED IN A CORNER OF THE BOX</u></p> <p><u>-COORDINATES RECORDED W/ WOOD TABLET</u></p>
Oil-Like Present <u>—</u>	
Odor Present <u>—</u>	
Debris Present <u>—</u>	
Photo Numbers	
<u>B. WEYER</u>	
<u>9/22/2020</u>	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC

Project No.: 3617207486

Logger: C. LAUBACK

Sub: ASI

WO: -

Crew: B. WEYER

Date: 9/18/20

Time: 1412

Vessel: R/V TESLA

Coordinates: Lat 44.515780

Long -68.797798

Plan Volume: 0.140gal

Sampling Station: OL-01

Deploy No. 3

Sub-tidal Location? YES

Weather: OVERCAST 50s

Winds: 5-8mph

Waters: 0.5-1.0'

Traffic: NONE

Water Temp: -

Measured Water Depth [NAVD88]: 56.2

Core Penetration Length (ft.): CL

Correction to NAVD88 (+/- ft. from NAVD88):

Recovered Core Length (ft.): 9/18/20

Mudline (Corrected Depth) @ NAVD88:

Sample Length Retained (ft.):

Study Depth (-NAVD88):

Acceptable Core (80% recovery):

Required Penetration Length: 0.5'

Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers:	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	<u>-</u>	Vibracorer:	<u>BOX</u>	Slambar	4.0"	.50gal/ft
		Push Corer			3.5"	.33gal/ft

Live Organisms present	<u>-</u>	Comments - COORDINATES RECORDED BY ASI'S ONBOARD GPS - BATTERY ON TABLET DIED - DID NOT CHARGE OVERNIGHT, DESPITE BEING PLUGGED IN. - NO RECOVERY
Oil-Like Present	<u>-</u>	
Odor Present	<u>-</u>	
Debris Present	<u>-</u>	
Photo Numbers	<u>B. WEYER</u> <u>9/22/2020</u>	

QC CHECK BY B. WEYER 9/24/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC

Project No.: 3617207486

Logger: C. LAUBACK

Sub: ASI

WO: -

Crew: B. WEYER

Date: 9/19/20

Time: 1155

Vessel: R/V TESLA

Coordinates: Lat 44.514448

Long -68.784863

Plan Volume: 0.14 gal

Sampling Station: OL-01

Deploy No. 4

Sub-tidal Location? YES

Weather: CLEAR 50s

Winds: 5 mph

Waters: 0.5-1.5'

Traffic: NONE

Water Temp: -

Measured Water Depth [NAVD88]: 54.0

Core Penetration Length (ft.):

Correction to NAVD88 (+/- ft. from NAVD88):

Recovered Core Length (ft.):

Mudline (Corrected Depth) @ NAVD88:

Sample Length Retained (ft.):

Study Depth (-NAVD88):

Acceptable Core (80% recovery):

Required Penetration Length: 0.5'

Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/19/20

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	—	Vibracorer: BOX		Slambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

Live Organisms present	—
Oil-Like Present	—
Odor Present	—
Debris Present	—

Photo Numbers
 B. WEYER
 9/22/2020

Comments
 INSUFFICIENT RECOVERY, SEDIMENT CONTAINED ROCK LOBBLES, WOODY DEBRIS AND BIVALVES (0.5-1.0")

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 5617207486 Logger: C-LADBACK
 Sub: ASI WO: _____ Crew: B. WEYER
 Date: 9/19/20 Time: 1158 Vessel: R/V TESLA
 Coordinates: Lat 44.514538 Long -68.804682
 Plan Volume: 0.140gal
 Sampling Station: OL-01 Deploy No. 75 Sub-tidal Location? YES

Weather: CLEAR, 50S Winds: 5 MPH Waters: 0.5-1.5' Traffic: NONE Water Temp: _____

Measured Water Depth [NAVD88]: 52.3	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 6.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/19/20

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	Vibracorer: <u>BOX</u>			Slambar	4.0"	.50gal/ft
	Push Corer				3.5"	.33gal/ft

Live Organisms present —
 Oil-Like Present —
 Odor Present —
 Debris Present —
 Photo Numbers
 B. WEYER
 9/22/2020

Comments
 - INSUFFICIENT SEDIMENT, ABUNDANCE OF GRAVEL, SOME ~~CL~~ WOOD DEBRIS, BIVALVES, VERY SANDY

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/19/20 Time: 1207 Vessel: R/V TESLA
 Coordinates: Lat 44.514540 Long -68.804612 Plan Volume: 0.140 gal
 Sampling Station: OL-01 Deploy No. 6 Sub-tidal Location? YES

Weather: CLEAR, SWS Winds: 5mph Waters: 0.5-1.5' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 53.6	Core Penetration Length (ft.): —
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): —
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): —
Study Depth (-NAVD88):	Acceptable Core (80% recovery): —
Required Penetration Length: 0.5	Core Volume Retained (gal.): —

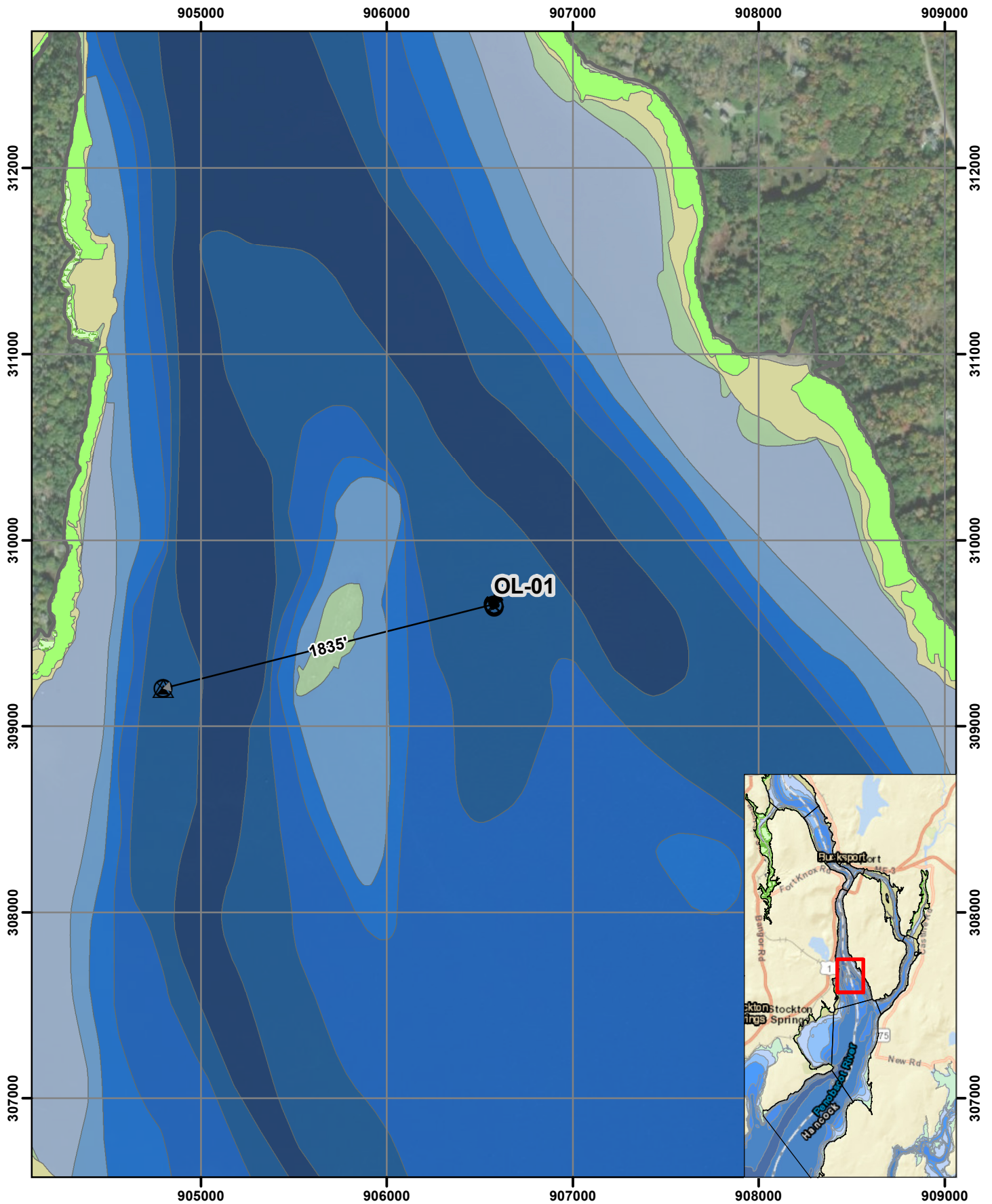
All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0-0.3'	00-03 @ 1654	VERY DARK OLIVE GRAY (5Y 3/2) SANDY SILT WITH LARGE PIECES OF SUBROUND COBBLES AND GRAVELS, NON-PLASTIC, ALLUVIUM
CL 9/19/20		
Bottom		

Number of containers:	—	—	2	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	Vibracorer:		BOX	Slambar	4.0"	.50gal/ft
	Push Corer				3.5"	.33gal/ft

Live Organisms present	NO	Comments - INSUFFICIENT RECOVERY - COLLECTED BULK SAMPLE OF MATERIAL IN BOX CORE - BOX CORE RECOVERED APPROXIMATELY 0.3' OF MATERIAL. Grab sample location.
Oil-Like Present	NO	
Odor Present	YES	
Debris Present	NO	
Photo Numbers	B. WEYER 9/22/2020	

QC CHECK BY B. WEYER 9/22/2020



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- ⊞ 25 foot radius buffer
- ⊞ 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [OL-01]
Reach: [Verona West]

**Penobscot River Estuary
2020 Long Term Monitoring**

Prepared/Date: ICD 12/20/20

Checked/Date: BPW 12/21/20

Maine State Plane CRS East Zone 1983

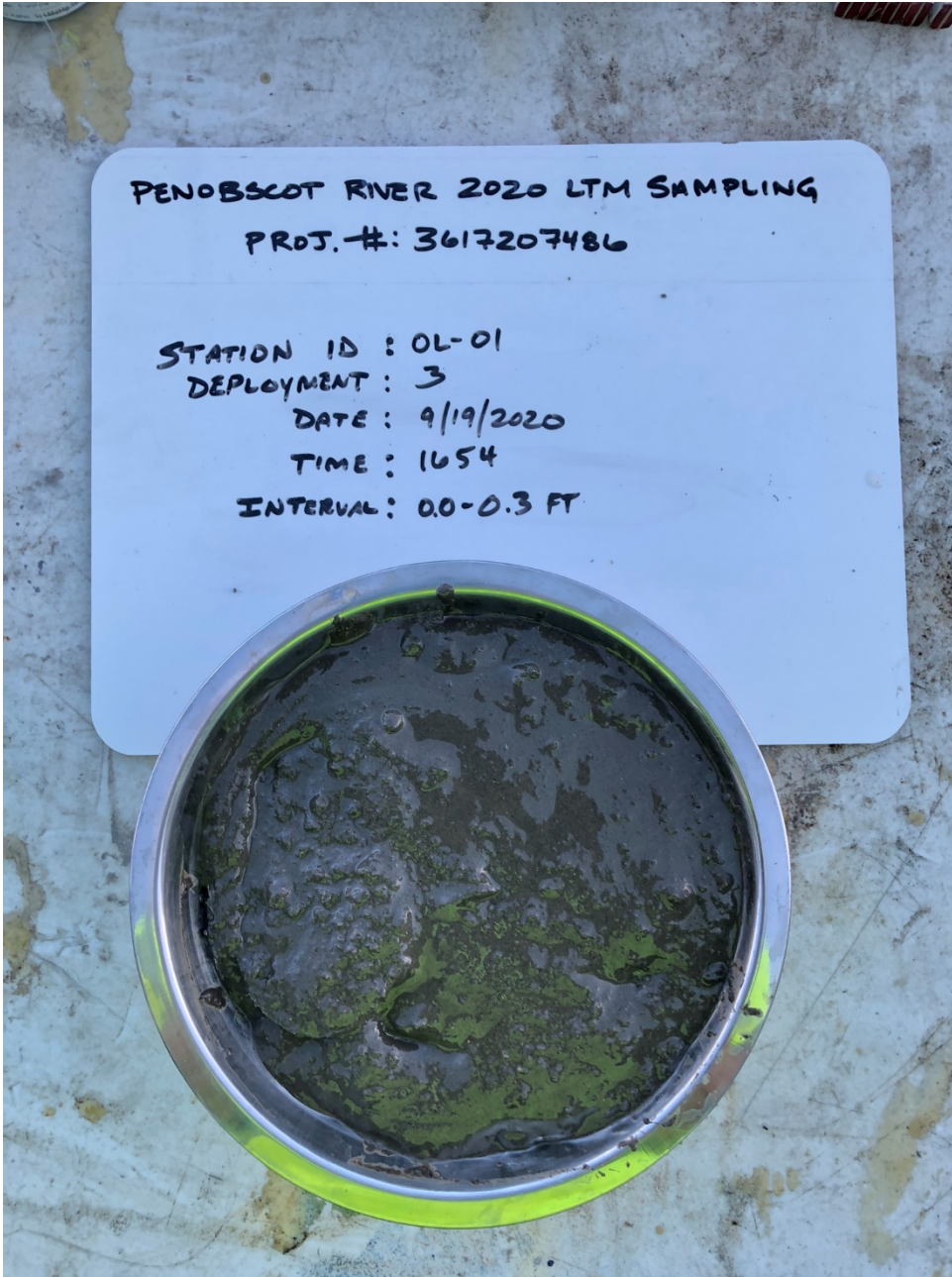


PHOTO 1:

CORE: OL-01

DEPLOYMENT: 3

INTERVAL: 0.0-0.3 FT

DATE: 9/19/2020

STATION SUMMARY		
Station ID: W-61-High	Core collection and sample processing date: 20 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – W-61-High Collection Overview

On Sunday, September 20, 2020, Wood scientists cored station W-61-High in the Verona East reach between 14:13pm and 14:13pm aboard a canoe. The canoe was deployed in nearby deeper waters from the *R/V Tesla*. The sampling crew rowed from the *R/V Tesla* to the sampling station. The weather was clear with temperatures in the 50's (°F) and light winds ranging from 0 to 5-knots. Sea conditions were calm, with ripples, providing acceptable conditions for the vessel to hold on location for sampling. A Watermark Universal Core Head Kit (Watermark) was utilized for sediment collection via push coring. Sediment was collected with the Watermark directly into a 1-ft x 3-in diameter acetate liner. One (1) 1-ft push core was collected from a single attempted with the Watermark, designated in the field as W-61-High. Station W-61-High is one of four stations in a transect spanning from the high marsh to intertidal zone. The core was preserved on wet ice while awaiting to be processed.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and cores at station W-61-High.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station W-61-High represents the single deployment of the Watermark. The deployment represented a vegetated high marsh zone accessible at high tide within the Verona East reach.

D – Processing Overview

Same-day processing was performed on W-61-High by Wood scientists at the Wood Field Station, Winterport, Maine. Core W-61-High was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

The appearance and textural properties of the push core were described using the Unified Soil Classification (USCS) throughout the core.

Sediment Core Logs are attached (See Attachment B).

W-61-High

Push core W-61-High had an acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: very dark grayish brown (2.5Y 3/2) silty SAND-sized wood chip, with some larger gravel-sized woody debris (0.5-0.75-in), non-plastic: MARSH
- 0.1 – 0.3 ft: very dark grayish brown (2.5Y 3/2) silty coarse SAND-sized wood chip, some fine leafy debris, non-plastic: MARSH
- 0.3 – 0.5 ft: dark gray (5Y 4/1) silty CLAY, trace organic-like leafy debris, trace larger woody detritus (1.0x0.5x0.5-in), medium plasticity: ALLUVIUM
- 0.5 – 0.8 ft: dark gray (5Y 4/1) silty CLAY, with trace isolated fine horizons of organic-rich black (5Y 2.1/1) silt and detritus

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 3617207486	Logger: C. LAUBACK
Sub: ASI	WO: —	Crew: B. WEYER
Date: 9/20/20	Time: 1425	Vessel: R/V TESLA
Coordinates: Lat 44.505928	Long -68.772911	Plan Volume: 0.140gal
Sampling Station: W-61 HIGH	Deploy No. 1	Sub-tidal Location? NO

Weather: CLEAR, SWS	Winds: 0-5mph	Waters: CALM	Traffic: NONE	Water Temp: —
Measured Water Depth (NAVD88): 1.0	Core Penetration Length (ft.): 0.8			
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.8			
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5			
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES			
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140gal			

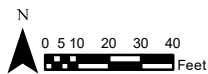
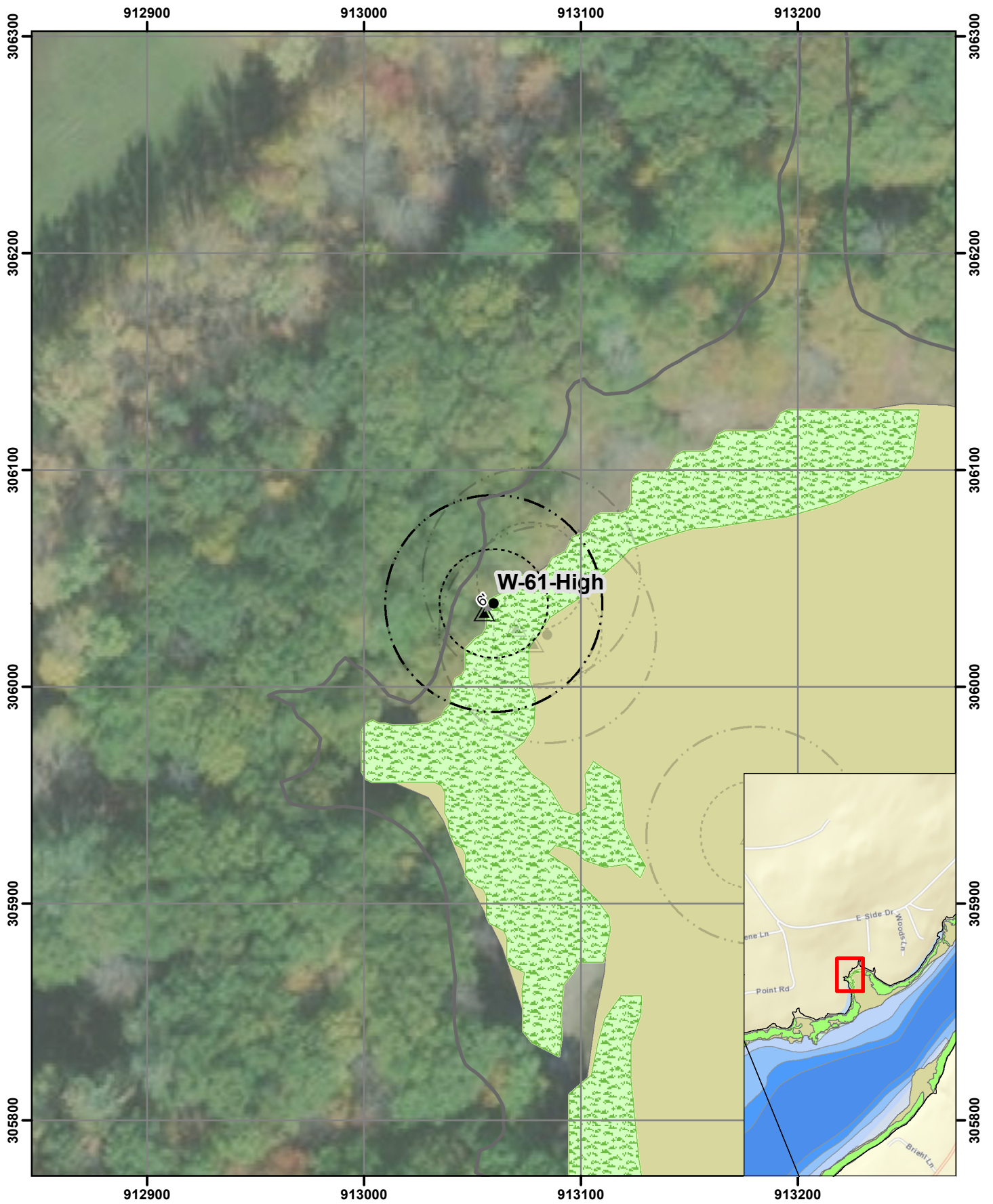
All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0 - 0.1	00-01 @1815	VERY DARK GRAYISH BROWN (2.5Y 3/2) ORGANIC-LIKE SILT AND COARSE SAND-SIZED WOODCHIP PREDOMINANTLY WOODCHIP, SOME LARGER WOODY-LIKE DEBRIS (0.5"-0.75") NON-PLASTIC
0.1 - 0.3	01-03 @1817	VERY DARK GRAYISH BROWN (2.5Y 3/2) ORGANIC-LIKE SILTY COARSE-SAND-SIZED WOODCHIPS, SOME FINE LEAFY DEBRIS, NON-PLASTIC
0.3 - 0.5	03-05 @1819	DARK GRAY (5Y 4/1) SILTY CLAY, TR ORGANIC-LIKE LEAFY DEBRIS, TR LARGER WOODY DEBRIS (0.1" X 0.05" X 0.05"), MEDIUM PLASTICITY, ALLUVIUM
0.5 - 0.8		DARK GRAY (5Y 4/1) SILTY CLAY, WITH TR ISOLATED PINE HORIZONS OF ORGANIC RICH-LIKE SILT AND DETRITS (BLACKSY 2.5/1)
Bottom		

Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ALETATE	Vibracorer: (Push Core)			Slambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

Live Organisms present	—	Comments
Oil-Like Present	—	
Odor Present	YES ORGANIC	
Debris Present	—	
Photo Numbers	B. WEYER 9/22/2020	

QC CHECK BY B. WEYER 9/22/2020



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- 25 foot radius buffer
- 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [W-61-High]
 Reach: [Verona East]

Penobscot River Estuary
 2020 Long Term Monitoring

Prepared/Date: ICD 12/20/20 | Checked/Date: BPW 12/21/20 | Maine State Plane CRS East Zone 1983

PENOBSCOT RIVER 2020 LTM SAMPLING
PROJ. #: 3617207486

STATION ID : W-61-HIGH
DEPLOYMENT : 1
DATE : 9/20/2020
TIME : 1815
INTERVAL : 0.0-0.1 FT

PHOTO 1:

CORE: W-61-High

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/20/2020



PHOTO 2:

CORE: W-61-High

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/20/2020

PENOBSCOT RIVER 2020 LTM SAMPLING
PROJ. #: 3617207486

STATION ID : W-61-HIGH
DEPLOYMENT : 1
DATE : 9/20/2020
TIME : 1817
INTERVAL : 0.1-0.3 FT

0.1-0.3



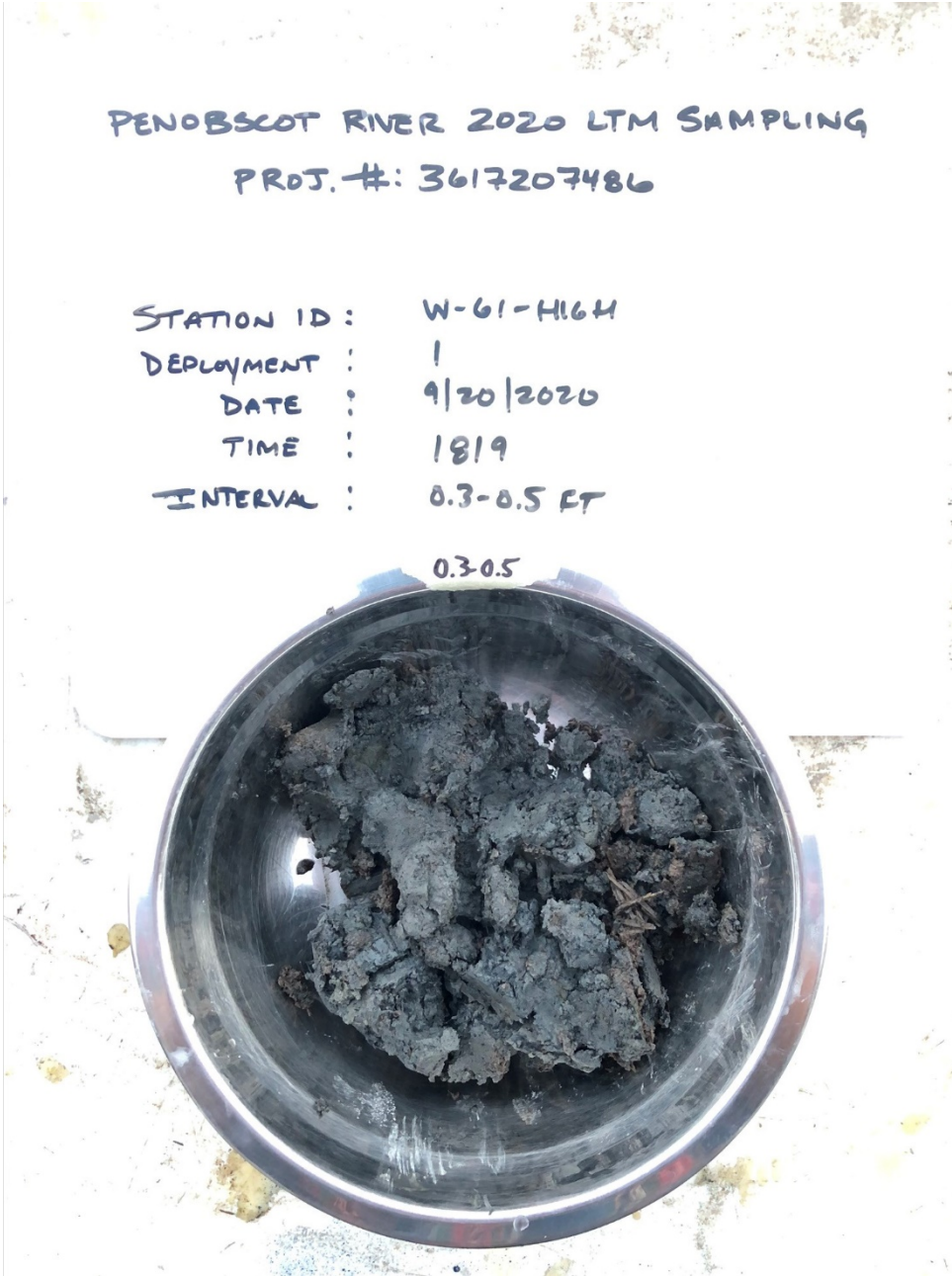


PHOTO 3:

CORE: W-61-High

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/20/2020

STATION SUMMARY		
Station ID: W-61-Mid	Core collection and sample processing date: 20 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – W-61-Mid Collection Overview

On Sunday, September 20, 2020, Wood scientists cored station W-61-MID in the Verona East reach between 14:04pm and 14:13pm aboard a canoe. The canoe was deployed in nearby deeper from the *R/V Tesla*. The weather was clear with temperatures in the 50's (°F) and light winds ranging from 0 to 5-knots. Sea conditions were calm, with ripples, providing acceptable conditions for the vessel to hold on location for sampling. A Watermark Universal Core Head Kit (Watermark) was utilized for sediment collection via push coring. Sediment was collected with the Watermark directly into a 1-ft x 3-in diameter acetate liner. One (1) 1-ft push core was collected from a single attempted with the Watermark, designated in the field as W-61-Mid. Station W-61-Mid, is one of four stations in a transect spanning from the high marsh to intertidal zone. Core was preserved on wet ice while awaiting to be processed.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and cores at station W-61-Mid.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station W-61-Mid represents the single deployment of the Watermark. The deployment represented a vegetated middle marsh zone accessible at high tide within the Verona East reach.

D – Processing Overview

Same-day processing was performed on W-61-Mid by Wood scientists at the Wood Field Station, Winterport, Maine. Core W-61-Mid was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

The appearance and textural properties of the push core were described using the Unified Soil Classification (USCS) throughout the core. There was a moderate sulfur-like odor observed during processing, increasing downcore to termination.

Sediment Core Logs are attached (See Attachment B).

W-61-Mid

Push core W-61-Mid had an acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: dark grayish brown (2.5Y 3/2) SILT with woody and leafy debris with some fine fibrous root material, abundant coarse sand-sized wood, marsh: PEAT
- 0.1 – 0.3 ft: dark grayish brown (2.5Y 4/2) SILT with abundant coarse sand-sized wood chip, some fibrous root-like material, low density, marsh: PEAT
- 0.3 – 0.5 ft: very dark gray (2.5Y 3/1) fine sandy SILT with some fine fibrous root material, higher sediment to root ratios than from 0.0-0.3-ft, marsh: PEAT
- 0.5 – 0.8 ft: very dark gray (2.5Y 3/1) fine sandy-SILT with some fibrous root-like fibers and trace wood-like pieces (approximately 1.0-1.5-in) less dense than 0.0-0.5-ft, marsh: PEAT

Each interval was homogenized and aliquoted for analyses of total mercury, methyl mercury (top two (2) intervals only) and total organic carbon (TOC). Any remaining excess sediment was disposed of.

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/20/20 Time: 1413 Vessel: R/V TESLA
 Coordinates: Lat 44.505909 Long -68.772855 Plan Volume: 0.140gal
 Sampling Station: W-61 MID Deploy No. 1 Sub-tidal Location? NO

Weather: CLEAR 50s Winds: 0-5mph Waters: CALM Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 1.5	Core Penetration Length (ft.): 0.8
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.2
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES
Required Penetration Length: 0.5	Core Volume Retained (gal.): 0.140 gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01 @1734	VERY DARK GRAYISH BROWN (2.5Y 3/2) SILT WOODY-LIKE AND LEAFY DEBRIS WITH SOME FINE FIBROUS ROOT-LIKE MATERIAL, ABUNDANT COARSE SAND SIZED WOOD CHIP
0.1' - 0.3'	01-03 @1736	DARK GRAYISH BROWN (2.5Y 4/2) SILT WITH ABUNDANT COARSE SAND-SIZED WOOD CHIP, SOME FIBROUS ROOT-LIKE MATERIAL, NOT DENSE,
0.3' - 0.5'	03-05 @1738	VERY DARK GRAY (2.5Y 3/1) FINE SANDY SILT WITH SOME FINE FIBROUS ROOT MATERIAL, HIGHER RATIO OF SED. TO ROOTS THAN OVERLYING LAYERS.
0.5' - 0.8'	CL 9/20/20	VERY DARK GRAY (2.5Y 3/1) FINE SANDY SILT WITH SOME FIBROUS ROOT-LIKE FIBERS AND TR WOOD-LIKE CHIPS (1.0"-1.5") LESS DENSE THAN OVERLYING LAYERS,
Bottom	CL 9/20/20	MARSH, PE.

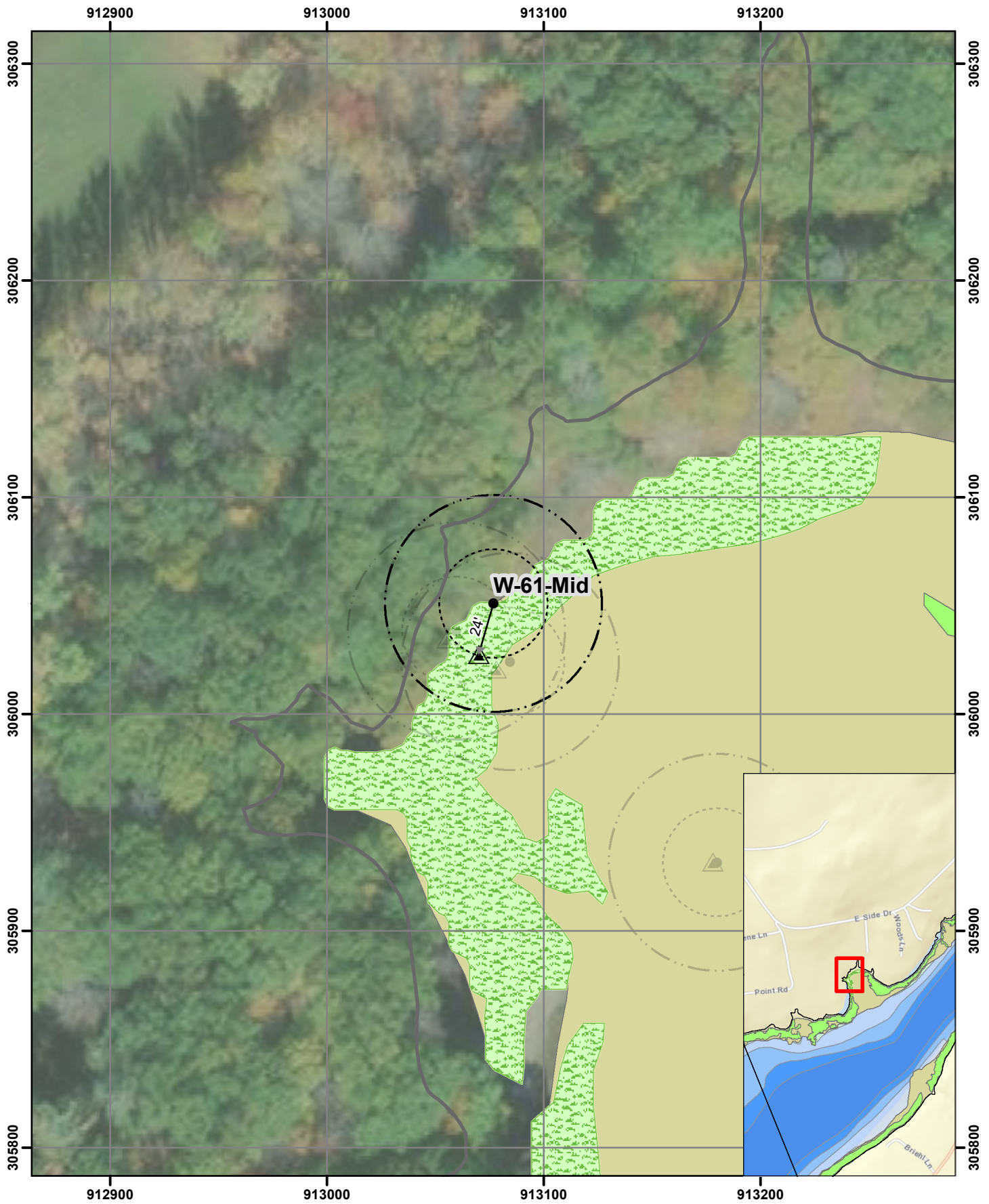
Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	ACETATE				4.0"	.50gal/ft
	Vibracorer: Push Corer				3.5"	.33gal/ft
	Slambar					

Live Organisms present —
 Oil-Like Present —
 Odor Present YES ORGANIC
 Debris Present NO

Photo Numbers
 B. WEYER
 9/22/2020

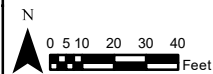
Comments
 - SOME SULFUR-LIKE ODOR, INCREASING DOWNCORE

QC CHECK BY B. WEYER 9/22/2020



- Symbol Key**
- Proposed Location
 - ▲ Sample Recovery
 - ⊗ No Sample Recovery
 - 25 foot radius buffer
 - 50 foot radius buffer
 - Proposed/Actual (lateral feet)

Station ID: [W-61-Mid]
 Reach: [Verona East]



Prepared/Date: ICD 12/20/20 | Checked/Date: BPW 12/21/20 | Maine State Plane CRS East Zone 1983 | Penobscot River Estuary 2020 Long Term Monitoring

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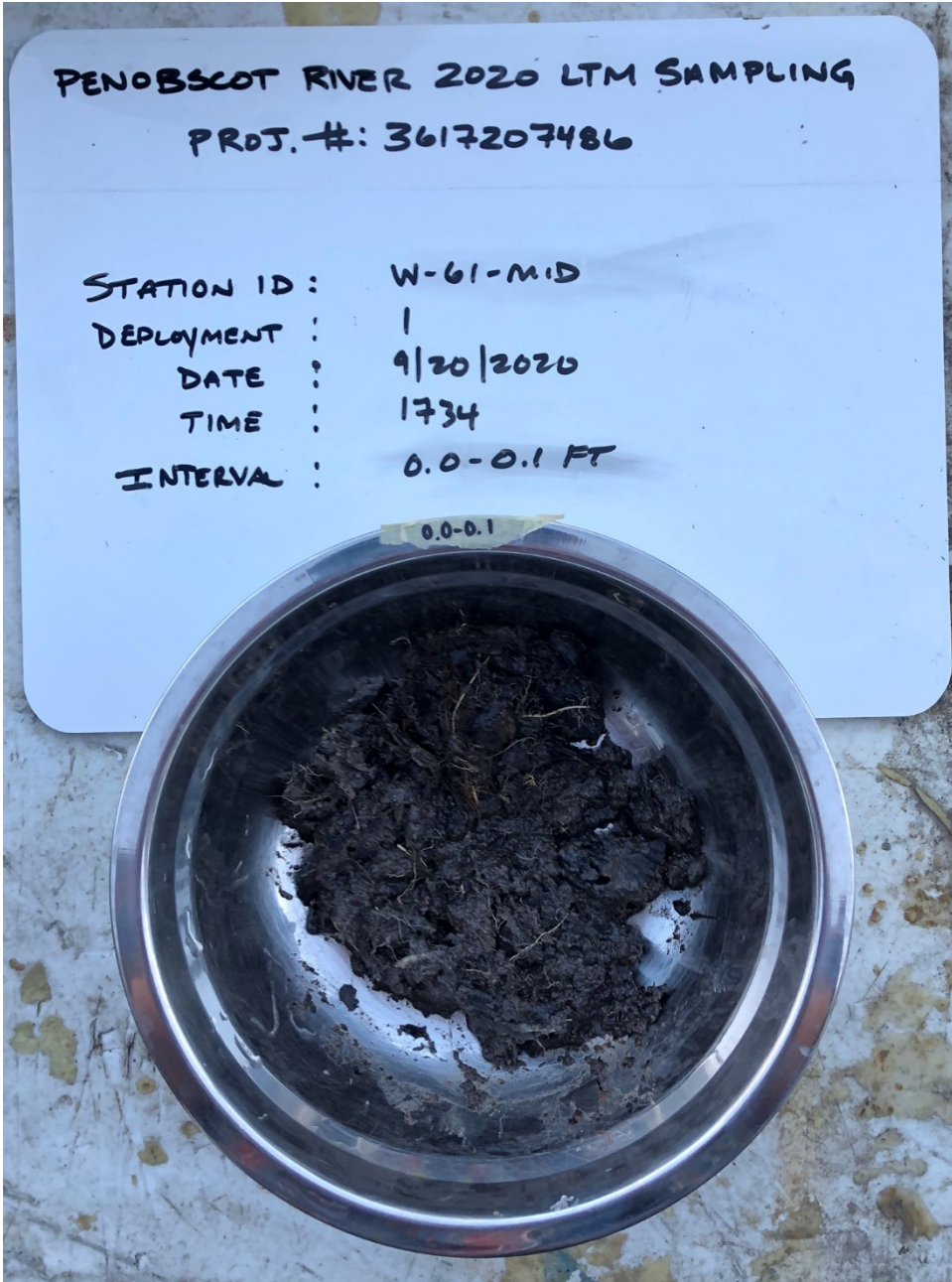


PHOTO 1:

CORE: W-61-Mid

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/20/2020

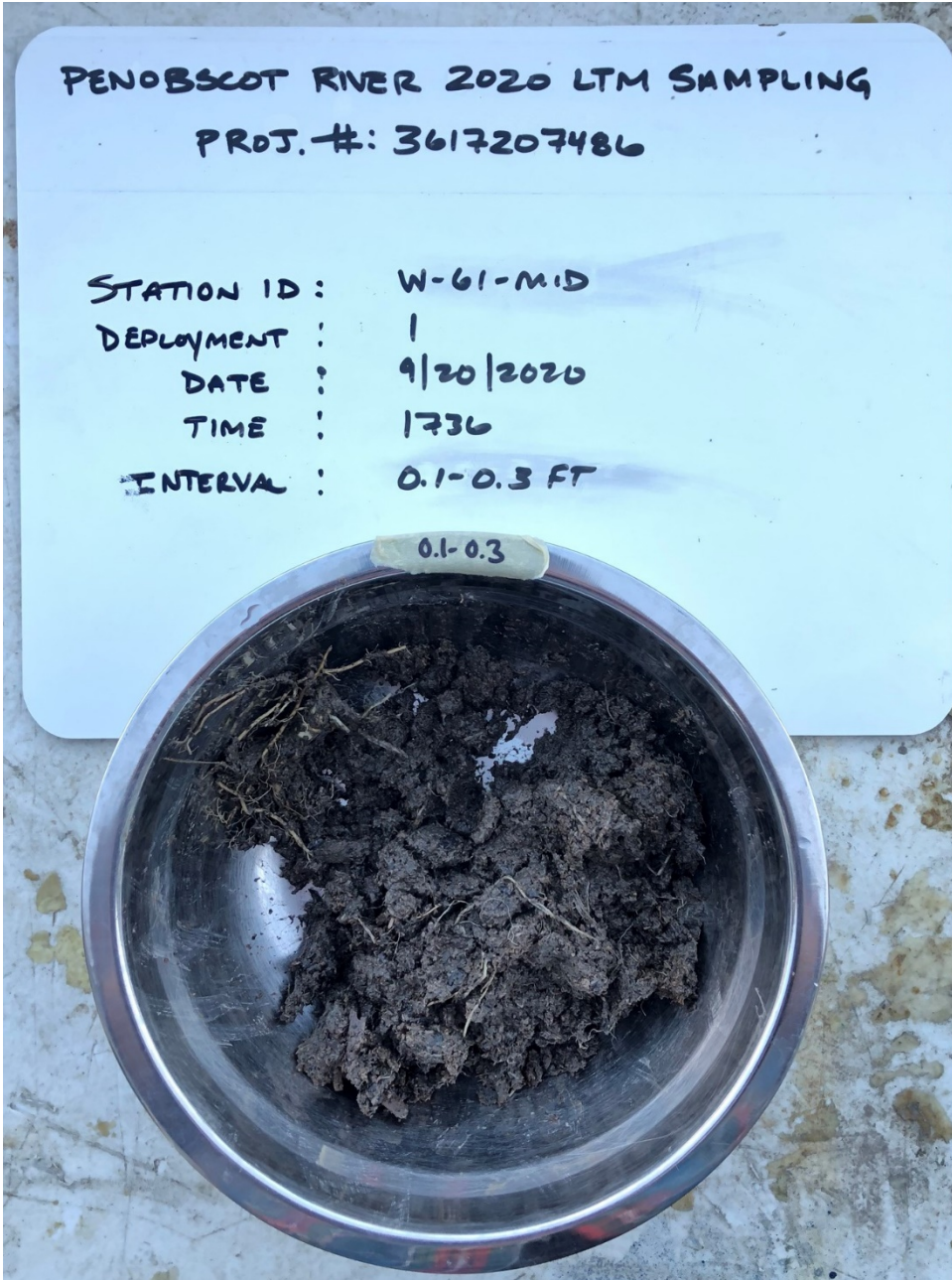


PHOTO 2:

CORE: W-61-Mid

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/20/2020

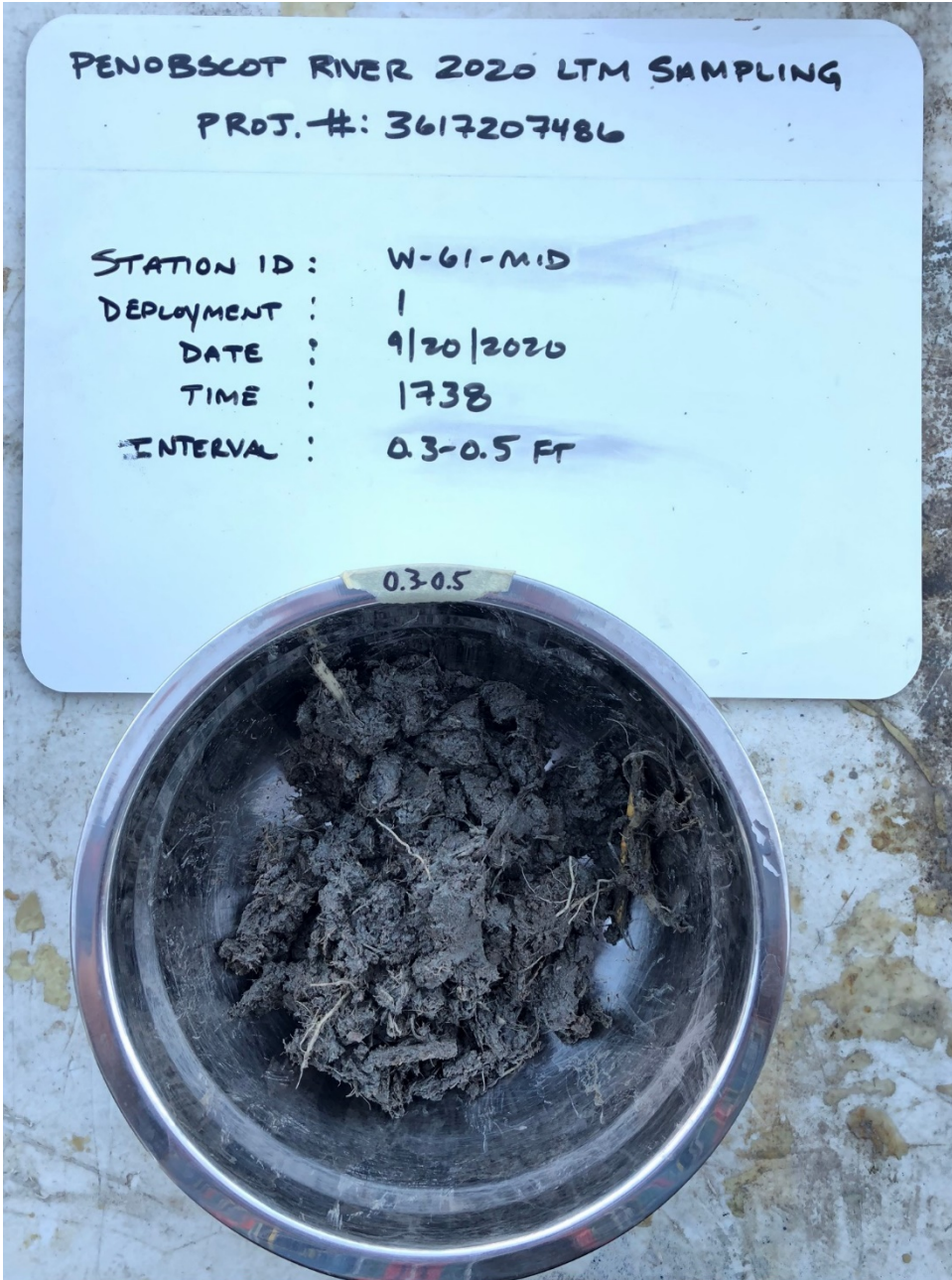


PHOTO 3:

CORE: W-61-Mid

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/20/2020

APPENDIX B – 2.31

Station Summary – W-61-Low

STATION SUMMARY		
Station ID: W-61-Low	Core collection and sample processing date: 20 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – W-61-Low Collection Overview

On Sunday, September 20, 2020, Wood scientists cored station W-61-Low in the Verona East reach between 13:54pm and 14:04pm aboard a canoe. The canoe was deployed in deeper, nearby waters from the *R/V Tesla*. The weather was clear with temperatures in the 50's (°F) and light winds ranging from 0 to 5-knots. Sea conditions were calm, with ripples, providing acceptable conditions for the vessel to hold on location for sampling. A Watermark Universal Core Head Kit (Watermark) was utilized for sediment collection via push coring. Sediment was collected with the Watermark directly into a 1-ft x 3-in diameter acetate liner. One (1) 1-ft push core was collected from a single attempted with the Watermark, designated in the field as W-61-Low. Station W-61-Low, is one of four stations in a transect spanning from the high marsh to intertidal zones. Core was preserved on wet ice while awaiting to be processed.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and cores at station W-61-Low.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station W-61-Low represents the single deployment of the Watermark. The deployment represented a vegetated low marsh zone accessible at high tide within the Verona East reach.

D – Processing Overview

Same-day processing was performed on W-61-Low by Wood scientists at the Wood Field Station, Winterport, Maine. Core W-61-Low was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

The appearance and textural properties of the push core were described using the Unified Soil Classification (USCS) throughout the core. There was a strong sulfur-like odor observed during processing starting at 0.3-ft increasing downcore to termination.

Sediment Core Logs are attached (See Attachment B).

W-61-Low

Push core W-61-Low had an acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: dark grayish brown (2.5Y 4/2) SILT, organic-rich fines, dense fine and fibrous in-situ root matting with greater ratio of root mass to sediment, marsh: PEAT
- 0.1 – 0.3 ft: very dark grayish brown (2.5Y 4/2) SILT and minimal clays, dense in-situ root matting, trace coarse clastic sands, marsh: PEAT
- 0.3 – 0.5 ft: very dark grayish brown (2.5Y 3/2) organic-like SILT in root matting, roots less dense than those found in 0.1-0.3-ft, marsh: PEAT
- 0.5 – 0.8 ft: very dark grayish brown (2.5Y 5/2) organic-like SILT in medium dense in-situ root matting; less dense than overlying layers, marsh: PEAT

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 3617207486	Logger: C. LAUBACK
Sub: ASI	WO: —	Crew: B. WEYER
Date: 9/20/20	Time: 1404	Vessel: RV TESLA
Coordinates: Lat 44.505648	Long -68.772441	Plan Volume: 0.140gal
Sampling Station: W-61 LOW	Deploy No. 1	Sub-tidal Location? NO

Weather: CLEAR, BCS	Winds: 0-5 MPH	Waters: CALM	Traffic: NONE	Water Temp: —
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Measured Water Depth [NAVD88]: 2.5	Core Penetration Length (ft.): 0.8
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.78
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0'-0.1'	00-01	DARK GRAYISH BROWN (2.5Y 4/2) SILT, ORGANIC RICH FINES, DENSE ROOT MATTING, (FINES FIBROUS), GREATER RATIO OF ORGANIC FIBERS TO SEDIMENT, MARSH, PE. (IN SITU - LIVE ROOT MASS)
0.1'-0.3'	01-03	DARK GRAYISH BROWN (2.5Y 4/2) SILT AND MINIMAL CLAYS, DENSE ROOT MATTING, TR COARSE CLASTIC SANDS. MARSH, PE. (IN SITU - LIVE ROOT MASS)
0.3'-0.5'	03-05	VERY DARK GRAYISH BROWN (2.5Y 3/2) ORGANIC-LIKE SILT IN ROOT MATTING, ROOTS LESS DENSE THAN FROM (0.0'-0.3') MARSH, PE.
0.5'-0.8'	CL 9/20/20	VERY DARK GRAYISH BROWN (2.5Y 3/2) ORGANIC-LIKE SILT IN MED. DENSE IN SITU ROOT MATTING, LESS DENSE THAN OVERLYING LAYERS, MARSH, PE.
Bottom	CL 9/20/20	CL 9/20/20

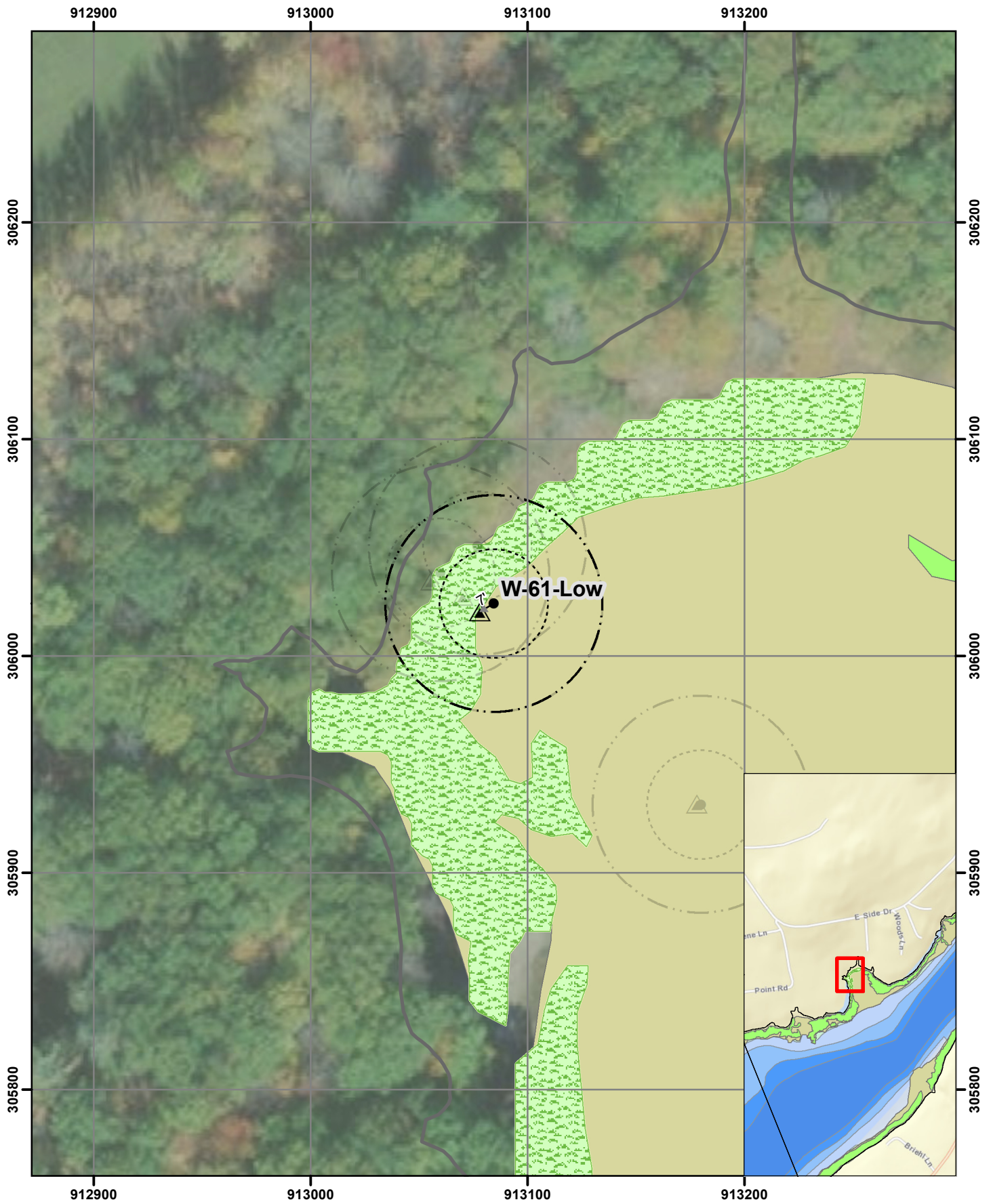
Number of containers: —	—	6	—	Core Volumes	
Type of container: bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibracorer: Push Corer			4.0"	.50gal/ft
	Slambar			3.5"	.33gal/ft

Live Organisms present	—
Oil-Like Present	—
Odor Present	YES, ORGANIC
Debris Present	—

Photo Numbers
B. WEYER
9/22/2020

Comments
— SULFUR-LIKE ODOR FROM 0.3 AND BELOW - INCREASING WITH DEPTH

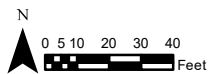
QC CHECK BY B. WEYER 9/22/2020



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- 25 foot radius buffer
- ⊘ 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [W-61-Low]
 Reach: [Verona East]



Prepared/Date: ICD 12/20/20 | Checked/Date: BPW 12/21/20 | Maine State Plane CRS East Zone 1983 | Penobscot River Estuary 2020 Long Term Monitoring



PHOTO 1:

CORE: W-61-Low

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/20/2020

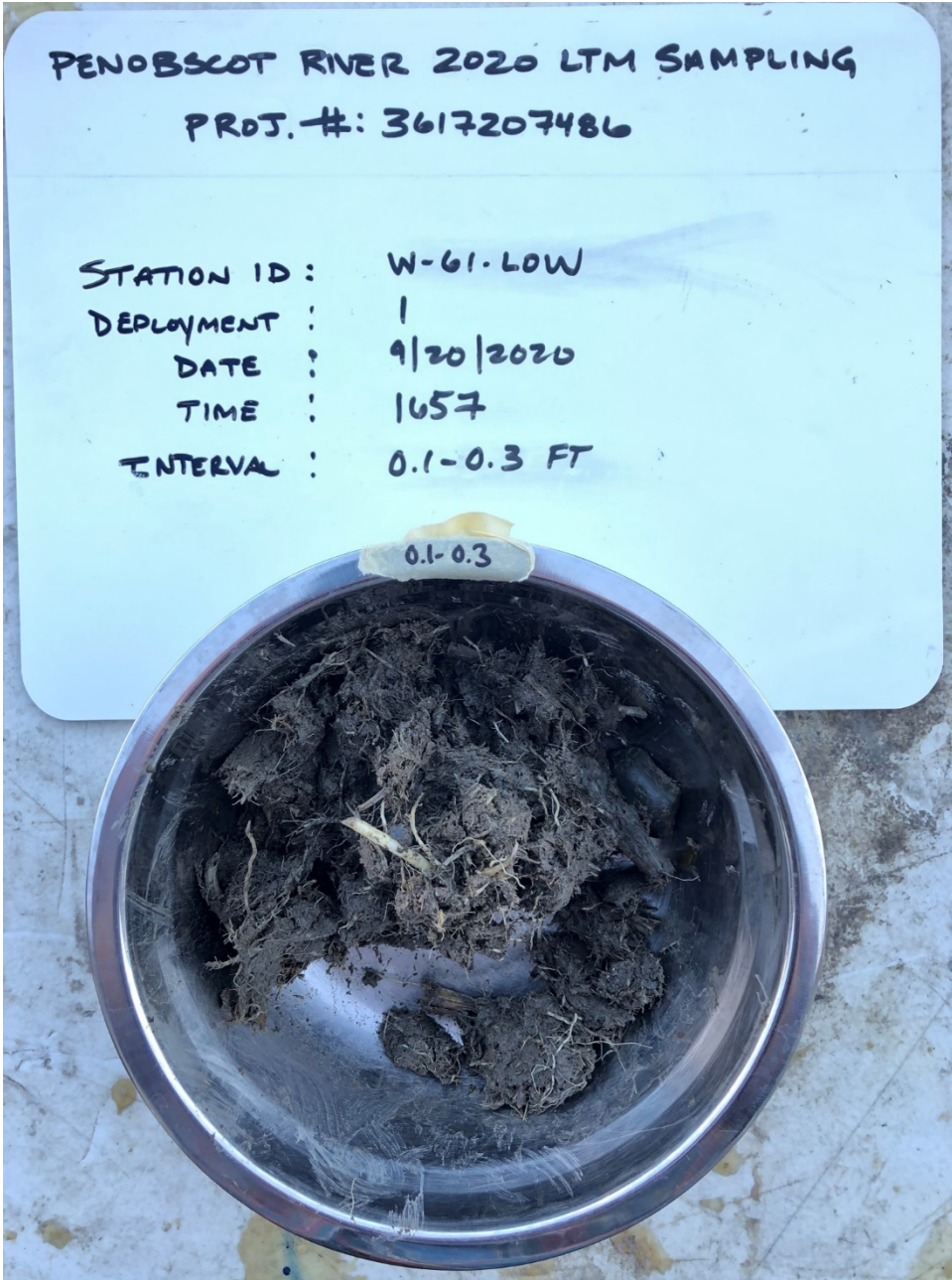


PHOTO 2:

CORE: W-61-Low

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/20/2020

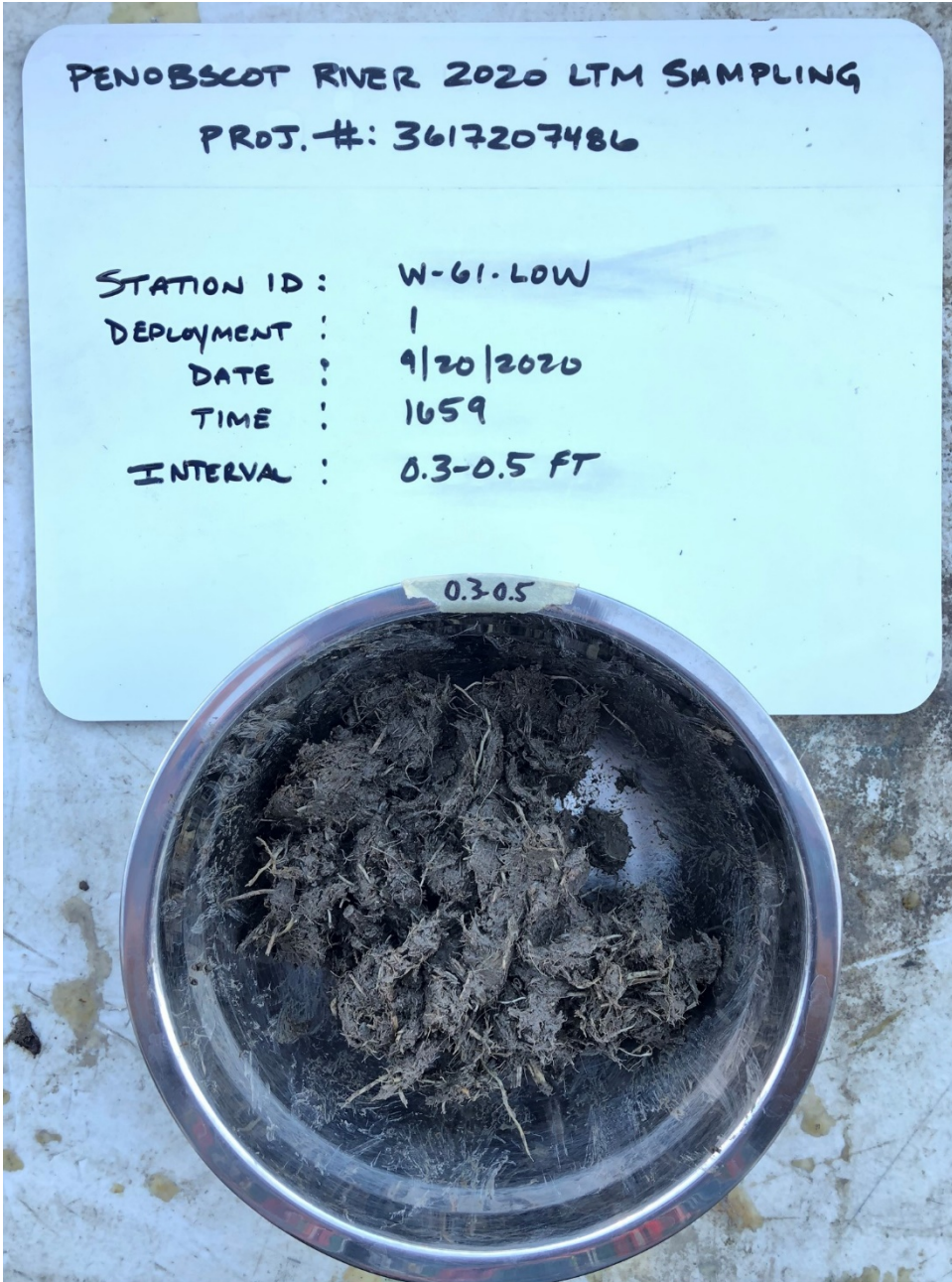


PHOTO 3:

CORE: W-61-Low

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/20/2020

STATION SUMMARY		
Station ID: W-61-Intertidal	Core collection and sample processing date: 18 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – W-61-Intertidal Collection Overview

On Friday, September 18, 2020, Wood scientists cored station W-61-Intertidal in the Verona East reach between 12:40pm and 1:00pm aboard the *R/V Tesla*. The weather was overcast with temperatures in the 50's (°F) and varying winds ranging from 5 to 8-knots. Sea conditions were smooth, with a wave height of 0.5-1.0-ft, providing acceptable conditions for the vessel to hold on location for sampling. A Watermark Universal Core Head Kit (Watermark) was utilized for sediment collection via push coring. Sediment was collected with the Watermark directly into a 1-ft x 3-in diameter acetate liner. One (1) 1-ft push core was collected from a single attempted with the Watermark, designated in the field as W-61-Intertidal. Station W-61-Intertidal is one of four stations in a transect spanning from the high marsh to intertidal zone. Core was preserved on wet ice while awaiting to be processed.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and cores at station W-61-Intertidal.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station W-61-Intertidal represents the single deployment of the Watermark. The deployment represented a non-vegetated intertidal zone accessible at high tide within the Verona East reach.

D – Processing Overview

Same-day processing was performed on W-61-Intertidal by Wood scientists at the Wood Field Station, Winterport, Maine. Core W-61-Intertidal was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

The appearance and textural properties of each push core was described using the Unified Soil Classification (USCS). There was a strong sulfur-like odor throughout the core observed while processing.

Sediment Core Logs are attached (See Attachment B).

W-61-Intertidal

Push core W-61-Intertidal had an acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: very dark gray (5Y 3/1) silty CLAY, rich in organic-like fines, trace fine root-like fibers, low plasticity: ALLUVIUM
- 0.1 – 0.3 ft: very dark gray (5Y 3/1) clayey SILT with trace very fine clastic sands, with minimal wood chip, trace root-like fibers, low plastic: ALLUVIUM
- 0.3 – 0.5 ft: very dark gray (5Y 3/1) silty organic-rich CLAY with minimal wood chip and fine root-like fibers, medium plasticity: ALLUVIUM
- 0.5 – 0.55 ft: very dark gray (5Y 3/1) silty organic rich CLAY with fine root-like fibers, fine lense of coarse angular clastic sand at 0.55-ft, low plasticity: ALLUVIUM

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: A31 WO: — Crew: B. WEYER
 Date: 9/18/20 Time: 1300 Vessel: P/V TESLA
 Coordinates: Lat 44.505648 Long -68.772441 Plan Volume: 0.140gal

Sampling Station: W-61-INTER TIDAL Deploy No. 1 Sub-tidal Location? NO

Weather: OVERCAST, 50s Winds: 5-8mph Waters: 0.5-10' Traffic: NONE Water Temp: —

Measured Water Depth (NAVD88): 8.6	Core Penetration Length (ft.): 0.6
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.55
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140gal

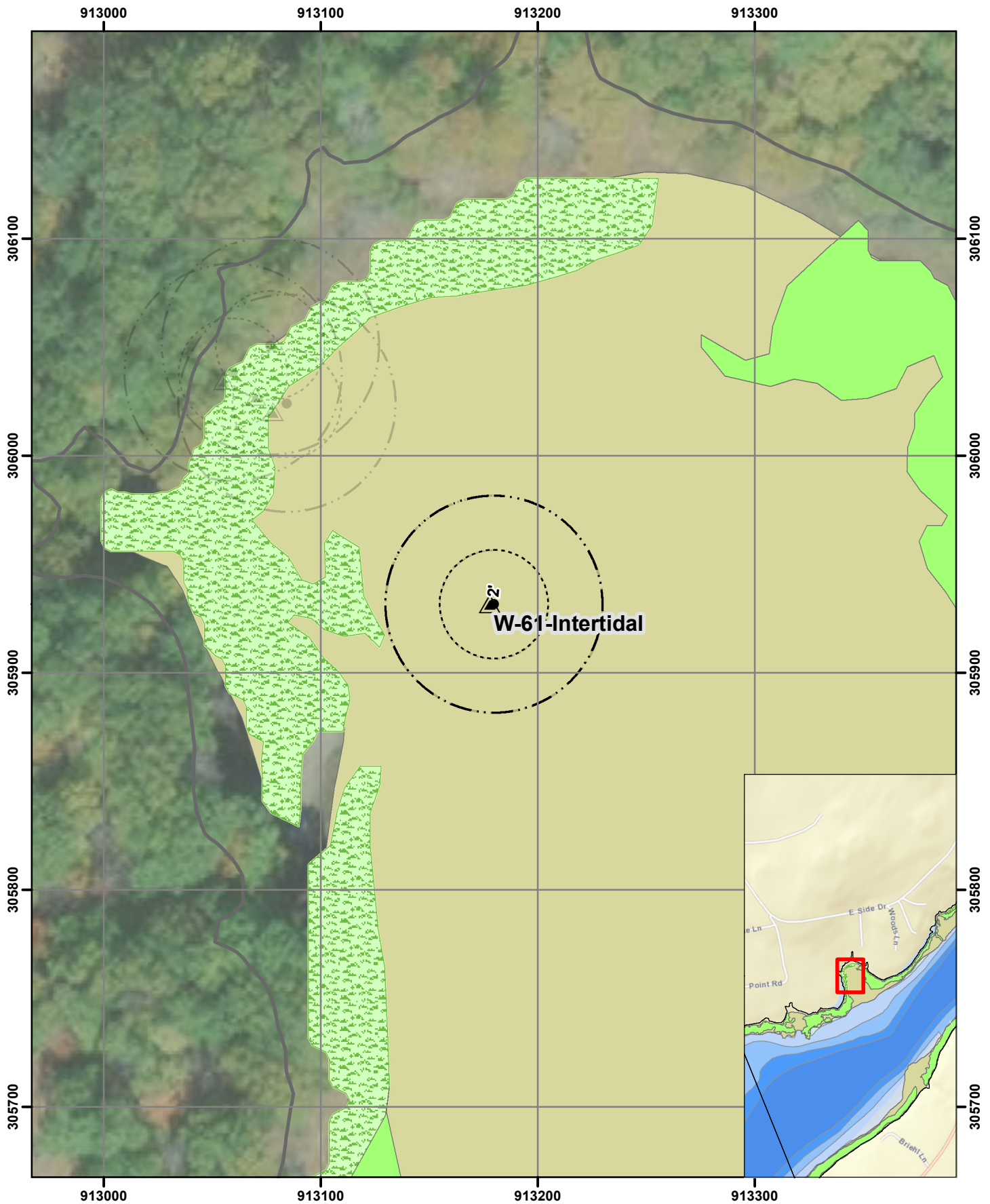
All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0'-0.1'	00-01 @1820	VERY DARK GRAY (5Y 3/1) SILTY CLAY, ORGANIC RICH, ORGANIC DETRITUS FINES, TR FINE ROOT-LIKE FIBERS, LOW PLASTIC ALLUVIUM
0.1'-0.3'	01-03 @1822	VERY DARK GRAY (5Y 3/1) CLAYEY SILT WITH TR VERY FINE CLASTIC SANDS, WITH WOOD CHIP (MINIMAL) TR ROOT-LIKE FIBERS, LOW PLASTIC, ALLUVIUM
0.3'-0.5'	03-05 @1824	VERY DARK GRAY (5Y 3/1) SILTY ORGANIC RICH CLAY WITH MINIMAL WOOD CHIP AND FINE ROOT LIKE FIBERS, MED. PLASTIC, ALLUVIUM
0.5'-0.55	—	VERY DARK GRAY (5Y 3/1) SILTY-ORGANIC RICH CLAY WITH FINE ROOT LIKE FIBERS FINE LENSE OF COARSE ANGULAR CLASTIC SAND AT BOTTOM OF SED. INTERVAL, LOW PLASTIC ALLUVIUM
Bottom	CL 9/18/20	CL 9/18/20

Number of containers: —	—	6	—	Core Volumes	
Type of container: bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibracorer: Push Coter	Slambar		4.0"	.50gal/ft
				3.5"	.33gal/ft

Live Organisms present NO	Comments -STRONG SULFUR-LIKE ODOR
Oil-Like Present NO	
Odor Present YES	
Debris Present NO	
Photo Numbers B. WEYER 9/22/2020	

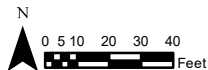
QC CHECK BY B. WEYER 9/22/2020



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- 25 foot radius buffer
- 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [W-61-Intertidal]
 Reach: [Verona East]



Penobscot River Estuary
 2020 Long Term Monitoring

Prepared/Date: ICD 12/20/20 | Checked/Date: BPW 12/21/20 | Maine State Plane CRS East Zone 1983

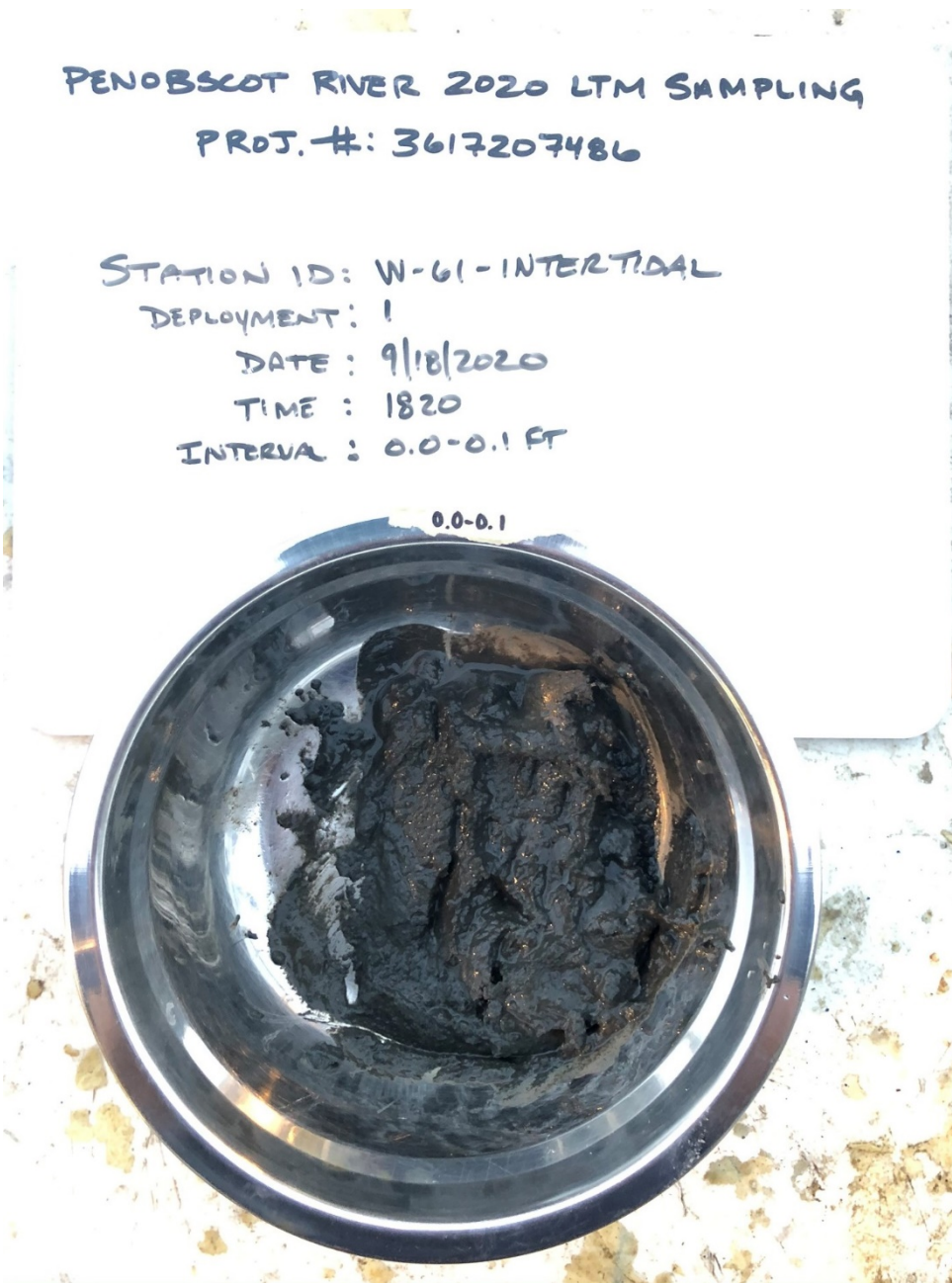


PHOTO 1:

CORE: W-61-Intertidal

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/18/2020

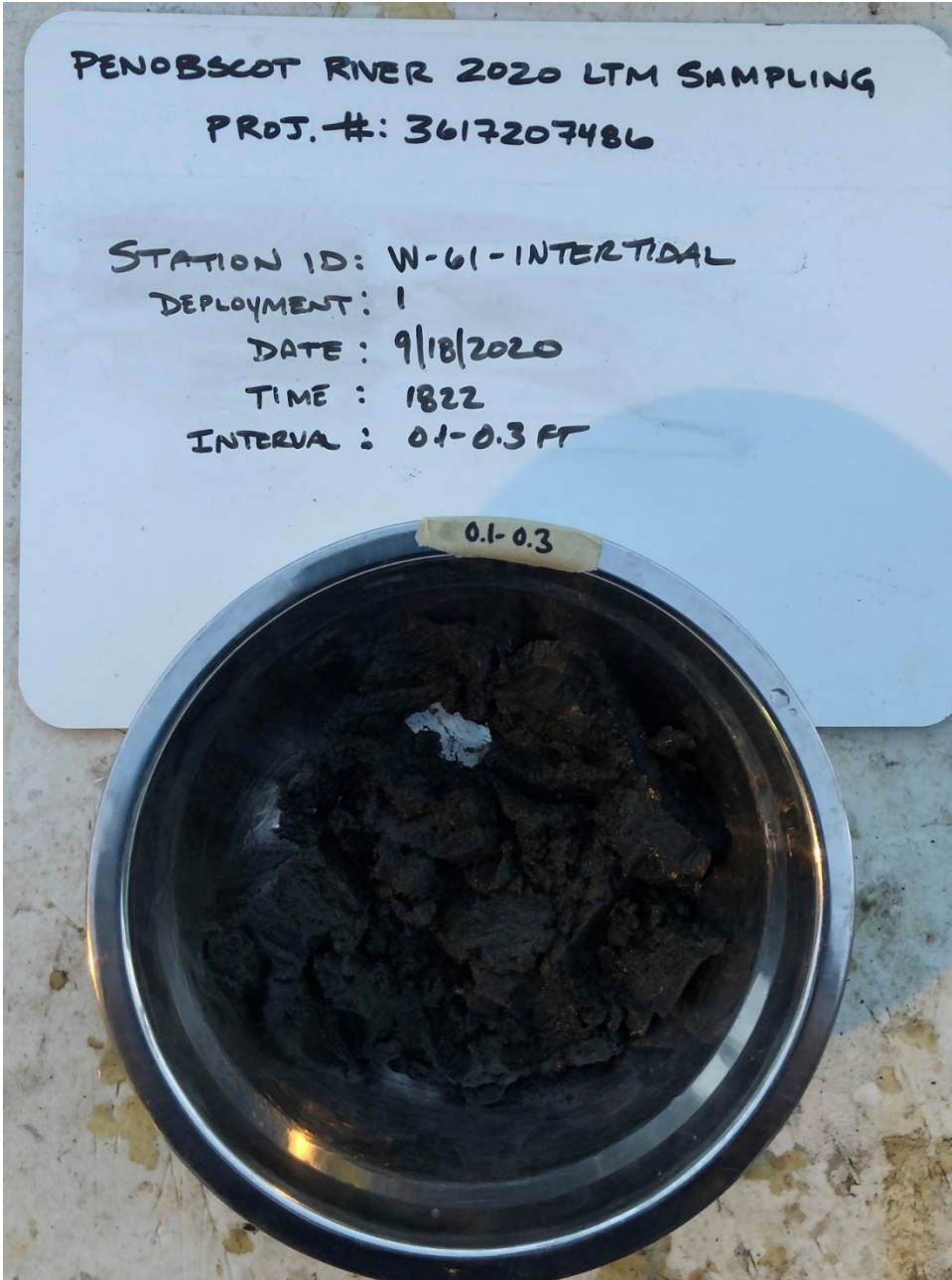


PHOTO 2:

CORE: W-61-Intertidal

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/18/2020

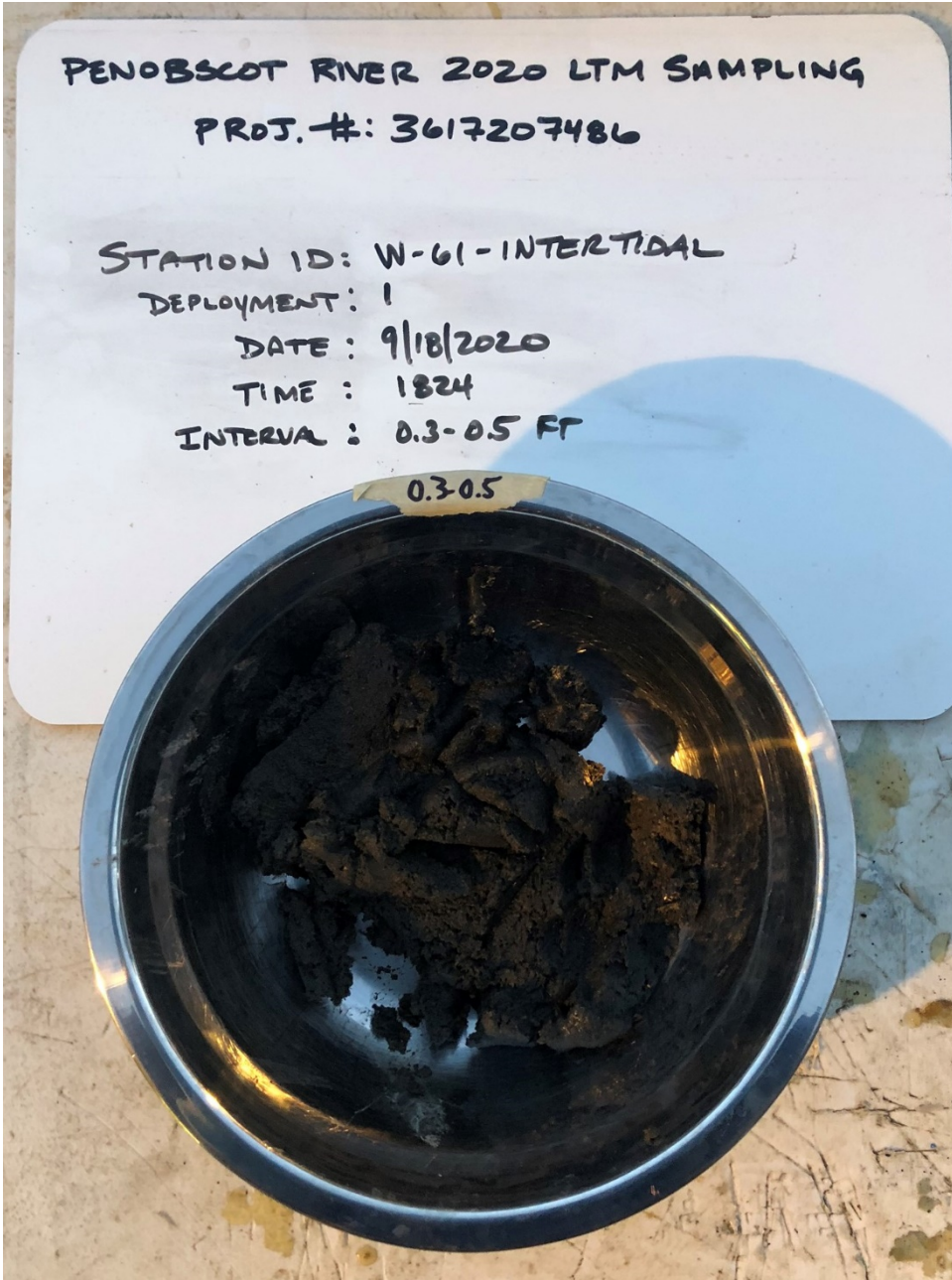


PHOTO 3:

CORE: W-61-Intertidal

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/18/2020

STATION SUMMARY		
Station ID: SVE-01	Core collection and sample processing date: 18 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – SVE-01 Collection Overview

On Friday, September 18, 2020, Wood scientists cored station SVE-01 in the Verona East reach between 1:15pm and 1:48pm aboard the *R/V Tesla*. The weather was overcast with temperatures in the 50's (°F) and varying winds ranging from 5 to 8-knots. Sea conditions were mild, with a wave height of 0.5-1.0-ft, providing acceptable conditions to stay on location for coring. A box corer was utilized for sediment collection. Sediment was sampled from the box corer by 1-ft hand push cores with 3-in diameter acetate liners. Eight (8) attempted deployments of the box corer were attempted at SVE-01 to obtain two (2) 1-ft hand push cores, designated in the field as SVE-01-A and SVE-01-B.

Station SVE-01 was a biota collocate location. Multiple deployment attempts occurred near the proposed coordinates and near traps where biota were successfully harvested. Deployments one through seven (1-7) were attempted at the biota trap locations nearest to the proposed station coordinates. The first seven (7) deployments resulted in insufficient recovery, ranging from no recovery to 5-in of sediment. The limited sediment that was recovered in Deployments 1-7 contained rock fragments and cobbles. Cores were preserved on wet ice while awaiting to be processed.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and cores at station SVE-01.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station SVE-01 represents the location of the eighth (8th) deployment, which was placed near corresponding biota trap. The deployment represented a non-vegetated subtidal zone accessible at slack tide within the Verona East reach.

D – Processing Overview

Same-day processing was performed on SVE-01 by Wood scientists at the Wood Field Station, Winterport, Maine. Core SVE-01-A, designated during processing as SVE-01, was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

The appearance and textural properties of each push core was described using the Unified Soil Classification (USCS). There was a sulfur-like odor present noted during processing, which increased downcore.

Sediment Core Logs are attached (See Attachment B).

SVE-01

Push core SVE-01 had an acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: dark to very dark gray (5Y 3/1) clayey SILT, trace very fine root-like material, non-plastic: ALLUVIUM
- 0.1 – 0.3 ft: dark gray (5Y 3/1) clayey SILT, organic-like, trace fibrous fine root-like material, low plastic: ALLUVIUM
- 0.3 – 0.5 ft: dark gray (5Y 3/1) silty CLAY with minimal wood chip, medium plasticity: ALLUVIUM
- 0.5 – 0.55 ft: dark gray (5Y 3/1) clayey SILT with minimal very fine clastic, well sorted, coarsening downward sand, with minimal woodchip, low plastic: ALLUVIUM

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAIBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/18/20 Time: 1316 Vessel: R/V TESLA
 Coordinates: Lat 44.501420 Long -68.775877 Plan Volume: 0.140 gal

Sampling Station: SVE-01 Deploy No. 1 Sub-tidal Location? ~~NO~~ YES *BW 9/22/20*

Weather: OVERCAST SWS Winds: 5-8 mph Waters: 0.5' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 42.3'	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 9/18/20
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/18/20

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: <i>NA</i>	Vibracorer: <u>BOX</u>				4.0"	.50gal/ft
	Push Corer			Slambar	3.5"	.33gal/ft

Live Organisms present —
 Oil-Like Present —
 Odor Present —
 Debris Present —
 Photo Numbers
B. WEYER
9/22/2020

Comments
 - DROPPED BOX CORE NEXT TO NEAREST BIOTA TRAP - COORDINATES WILL BE OFF PROPOSED LOCATION
 - NOT ENOUGH RECOVERED SEDIMENT
 ↳ ONLY 2" OF RECOVERY

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: VSDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI Date: 9/18 WO: — Time: 1320 Crew: B. WEYER
 Vessel: R/V TESLA

Coordinates: Lat 44.501352 Long -68.775870 Plan Volume: 0.140gal

Sampling Station: SVE-01 Deploy No. 2 Sub-tidal Location? ~~NO~~ **BW 9/22/20 YES**

Weather: ~~OVERCAST~~ Winds: 5-8mph Waters: 0.5' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 33.9	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/18/20

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	—	Vibracorer: <u>BOX</u>			4.0"	.50gal/ft
		Push Corer			3.5"	.33gal/ft

Live Organisms present	—	<p>Comments</p> <p>- NOT ENOUGH RECOVERY - ONLY 13" OF SEDIMENT</p>
Oil-Like Present	—	
Odor Present	—	
Debris Present	—	
Photo Numbers		
<i>B. WEYER 9/22/2020</i>		

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: <u>USDC</u>	Project No.: <u>3617 2074 86</u>	Logger: <u>C. LAUBACK</u>
Sub: <u>ASI</u>	WO: <u>---</u>	Crew: <u>B. WEYER</u>
Date: <u>9/18/20</u>	Time: <u>1322</u>	Vessel: <u>R/V TESLA</u>
Coordinates: Lat <u>44.501282</u>	Long <u>-68.775869</u>	Plan Volume: <u>0.140</u>
Sampling Station: <u>SVE-01</u>	Deploy No. <u>3</u>	Sub-tidal Location? <u>NO</u>
Weather: <u>OVERCAST, 50s</u>	Winds: <u>5-8mph</u>	Waters: <u>0.5</u>
	Traffic: <u>NONE</u>	Water Temp: <u>---</u>

BN 9/22/20
YES

Measured Water Depth [NAVD88]: <u>35.8'</u>	Core Penetration Length (ft.): <u>---</u>
Correction to NAVD88 (+/- ft. from NAVD88): <u>---</u>	Recovered Core Length (ft.): <u>---</u>
Mudline (Corrected Depth) @ NAVD88: <u>---</u>	Sample Length Retained (ft.): <u>---</u>
Study Depth (-NAVD88): <u>---</u>	Acceptable Core (80% recovery): <u>---</u>
Required Penetration Length: <u>0.5'</u>	Core Volume Retained (gal.): <u>---</u>

~~B. WEYER
9/22/2020~~

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/18/20

Number of containers: <u>---</u>	<u>---</u>	<u>---</u>	<u>---</u>	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter
Liner Type: <u>---</u>	Vibracorer: <u>---</u>			4.0"	EST. Volume
	Push Corer			3.5"	.50gal/ft
				Slambar	.33gal/ft

Live Organisms present <u>---</u>	Comments <u>- IN SUFFICIENT RECOVERY</u>
Oil-Like Present <u>---</u>	
Odor Present <u>---</u>	
Debris Present <u>---</u>	
Photo Numbers <u>B. WEYER 9/22/2020</u>	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: - Crew: B. WEYER
 Date: 9/18/20 Time: 1325 Vessel: R/V TESLA
 Coordinates: Lat 44.501226 Long -68.776081 Plan Volume: 0.140gal
 Sampling Station: SVE-01 Deploy No. 4 Sub-tidal Location? ~~NO~~ **BW 9/22/20 YES**

Weather: ~~OVERCAST~~ 50s Winds: 5-8mph Waters: 0.5'-1.0' Traffic: NONE Water Temp: -
 Measured Water Depth [NAVD88]: 36.8 Core Penetration Length (ft.):
 Correction to NAVD88 (+/- ft. from NAVD88): Recovered Core Length (ft.): CL 9/18/20
 Mudline (Corrected Depth) @ NAVD88: Sample Length Retained (ft.):
 Study Depth (-NAVD88): Acceptable Core (80% recovery):
 Required Penetration Length: 0.5' Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/18/20

Number of containers:	-	-	-	-	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	-	Vibracorer:	BOX	-	4.0"	.50gal/ft
		Push Corer	Slambar		3.5"	.33gal/ft

Live Organisms present	-	<p>Comments</p> <p>- INSUFFICIENT RECOVERY</p>
Oil-Like Present	-	
Odor Present	-	
Debris Present	-	
<p>Photo Numbers</p> <p>B. WEYER 9/22/2020</p>		

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 3617207486	Logger: C. LAIBACK
Sub: A51	WO: -	Crew: B. WEYER
Date: 9/18/20	Time: 1327	Vessel: R/V TESLA
Coordinates: Lat 44.501375	Long -68.775840	Plan Volume: 0.140gal
Sampling Station: SVE-01	Deploy No. 5	Sub-tidal Location? NO
Weather: OVERCAST, SW	Winds: 5-8mph	Waters: 0.5' - 1.0'
	Traffic: NONE	Water Temp: -
Measured Water Depth [NAVD88]: 37.0	Core Penetration Length (ft.): 5" = 0.4 ft	
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 5" = 0.4 ft	
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.4	
Study Depth (-NAVD88):	Acceptable Core (80% recovery): -	
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.117gal	

BW 9/22/20
YES

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/18/20

Number of containers:					Core Volumes	
	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	ACETATE				4.0"	.50gal/ft
	Vibracorer: Box				3.5"	.33gal/ft
	Push Corer					
	Slambar					

Live Organisms present	-
Oil-Like Present	-
Odor Present	-
Debris Present	-
Photo Numbers	

B. WEYER
9/22/2020

Comments

- RECOVERED SOME SEDIMENT - DID COLLECT ONE ACETATE CORE, WITH ONLY 5" OF SEDIMENT - INSUFFICIENT VOLUME

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LABACK
 Sub: ASI WO: - Crew: B. WEYER
 Date: 9/18/20 Time: 1330 Vessel: R/V TESLA
 Coordinates: Lat 44.500332 Long -68.775456 Plan Volume: 0.140gal
 Sampling Station: SVE-01 Deploy No. 6 Sub-tidal Location? ~~NO~~ YES

Weather: OVERCAST/WB Winds: 5-8mph Waters: 0.5-1.0' Traffic: NONE Water Temp: -
 Measured Water Depth [NAVD88]: 37.2 Core Penetration Length (ft.):
 Correction to NAVD88 (+/- ft. from NAVD88): Recovered Core Length (ft.):
 Mudline (Corrected Depth) @ NAVD88: Sample Length Retained (ft.): CL 9/18/20
 Study Depth (-NAVD88): Acceptable Core (80% recovery):
 Required Penetration Length: 0.5' Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/18/20

Number of containers:	—	—	—	—	Core Volumes	
	Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter
Liner Type:	—	Vibracorer:	BOX	Slambar	4.0"	.50gal/ft
	—	Push Corer			3.5"	.33gal/ft

Live Organisms present	—	Comments - PROPOSED LOCATION - NOT ENOUGH RECOVERY - HAD A FEW INCHES OF SED - ROCKY PIECES IN SAMPLER
Oil-Like Present	—	
Odor Present	—	
Debris Present	—	
Photo Numbers B. WEYER 9/22/2020		

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: AS1 WO: — Crew: B. WEYER
 Date: 9/18/20 Time: 1340 Vessel: R/V TESLA
 Coordinates: Lat 44.501730 Long -68.774940 Plan Volume: 0.140gal
 Sampling Station: SVE-01 Deploy No. 7 Sub-tidal Location? NO

Weather: OVERCAST, 50s Winds: 5-8 mph Waters: 0.5-1.0 Traffic: — Water Temp: —

Measured Water Depth [NAVD88]: <u>38.2</u>	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: <u>0.5'</u>	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers: <u>—</u>	Core Volumes				
Type of container: <u>bucket</u>	<u>liner bag</u>	<u>jar</u>	<u>other</u>	Nominal core-barrel diameter	EST. Volume
Liner Type: <u>—</u>	Vibracorer: <u>BOX</u>	Push Corer: <u>Slambar</u>		4.0"	.50gal/ft
				3.5"	.33gal/ft

Live Organisms present	Comments <u>- IN SUFFICIENT RECOVERY</u>
Oil-Like Present	
Odor Present	
Debris Present	
Photo Numbers	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI WO: — Crew: B. WEYER
 Date: 9/18/20 Time: 1340 Vessel: RUTESLA
 Coordinates: Lat 44.501563 Long -68.775047 CL 9/18/20 Plan Volume: 0.140 gal
 Sampling Station: SVE-01 Deploy No. 8 Sub-tidal Location? NO

Weather: OVERCAST, 50s Winds: 5-8 mph CL 9/18/20 Waters: 0.5' - 1.0' Traffic: NONE Water Temp: —
 Measured Water Depth [NAVD88]: 38.2, 37.8 Core Penetration Length (ft.): 0.60
 Correction to NAVD88 (+/- ft. from NAVD88): Recovered Core Length (ft.): 0.55
 Mudline (Corrected Depth) @ NAVD88: Sample Length Retained (ft.): 0.50
 Study Depth (-NAVD88): Acceptable Core (80% recovery): YES
 Required Penetration Length: 0.5' Core Volume Retained (gal.): 0.140 gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00-01 @1842	DARK TO VERY DARK GRAY (SY 3/1) CLAYEY SILT, TRACE VERY FINE ROOT-LIKE MATERIAL, NON-PLASTIC, ALLUVIUM
0.1' - 0.3'	01-03 @1844	DARK GRAY (SY 3/1) CLAYEY SILT, ORGANIC LIKE TR FIBROUS FINE ROOT-LIKE MATERIALS, LOW PLASTIC ALLUVIUM
0.3' - 0.5'	03-05 @1846	DARK GRAY (SY 3/1) SILTY CLAY WITH MINIMAL WOOD CHIP, MED PLASTIC ALLUVIUM
0.5' - 0.55'	—	DARK GRAY (SY 3/1) CLAYEY SILT W/ MINIMAL VERY FINE CLASTIC WELL SORTED SAND - COARSENING DOWNWARD W/ WOOD CHIP (MINIMAL) LOW PLASTIC ALLUVIUM
Bottom	CL 9/18/20	CL 9/18/20

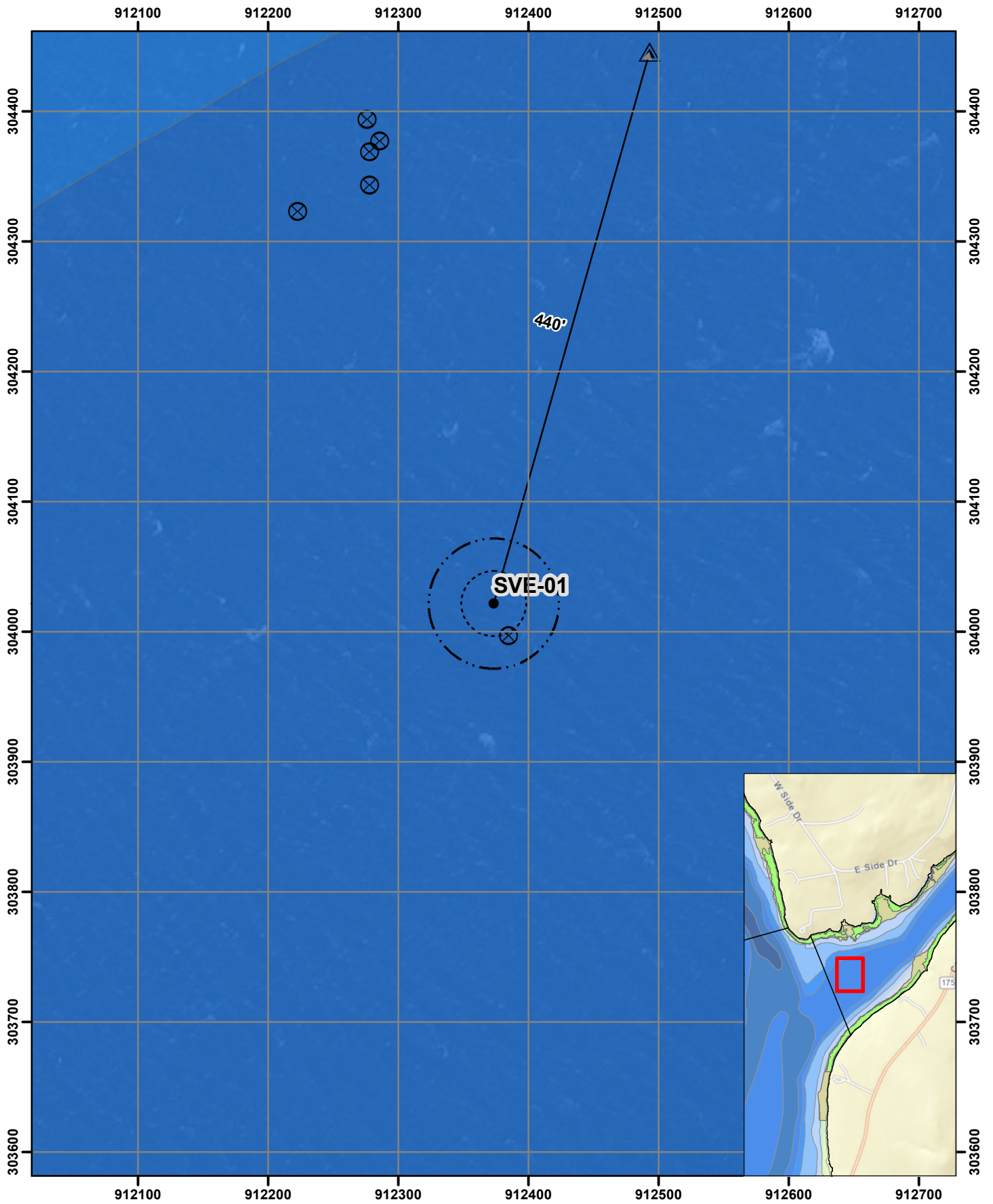
Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	ACETATE		Vibracorer:	BOX	4.0"	.50 gal/ft
			Push Corer	Slambar	3.5"	.33 gal/ft

Live Organisms present NO
 Oil-Like Present NO
 Odor Present YES
 Debris Present NO

Photo Numbers
 B. WEYER
 9/22/2020

Comments
 CL 9/18
 - MOVED TO SECOND ZOT BIOTA TRAP
 - DEPLOYMENT 7 HAD INSUFFICIENT SED. VOLUMES.
 - DEPLOYMENT 8 HAD SUFFICIENT SEDIMENT TO PROCESS - LOGGING FOR DEPLOY. 8 ON THIS FORM
 - SULFUR LIKE SMELL, INCREASES DOWN CORE

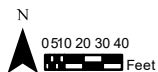
QC CHECK BY B. WEYER 9/22/2020



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- 25 foot radius buffer
- ⋯ 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [SVE-01]
 Reach: [Verona East]



Penobscot River Estuary
 2020 Long Term Monitoring

Prepared/Date: ICD 12/20/20 | Checked/Date: BPW 12/21/20 | Maine State Plane CRS East Zone 1983

PENOBSCOT RIVER 2020 LTM SAMPLING
PROJ. #: 3617207486

STATION ID: SVE-01
DEPLOYMENT: 8
DATE: 9/18/2020
TIME: 1842
INTERVAL: 0.0-0.1 FT



PHOTO 1:

CORE: SVE-01

DEPLOYMENT: 8

INTERVAL: 0.0-0.1 FT

DATE: 9/18/2020

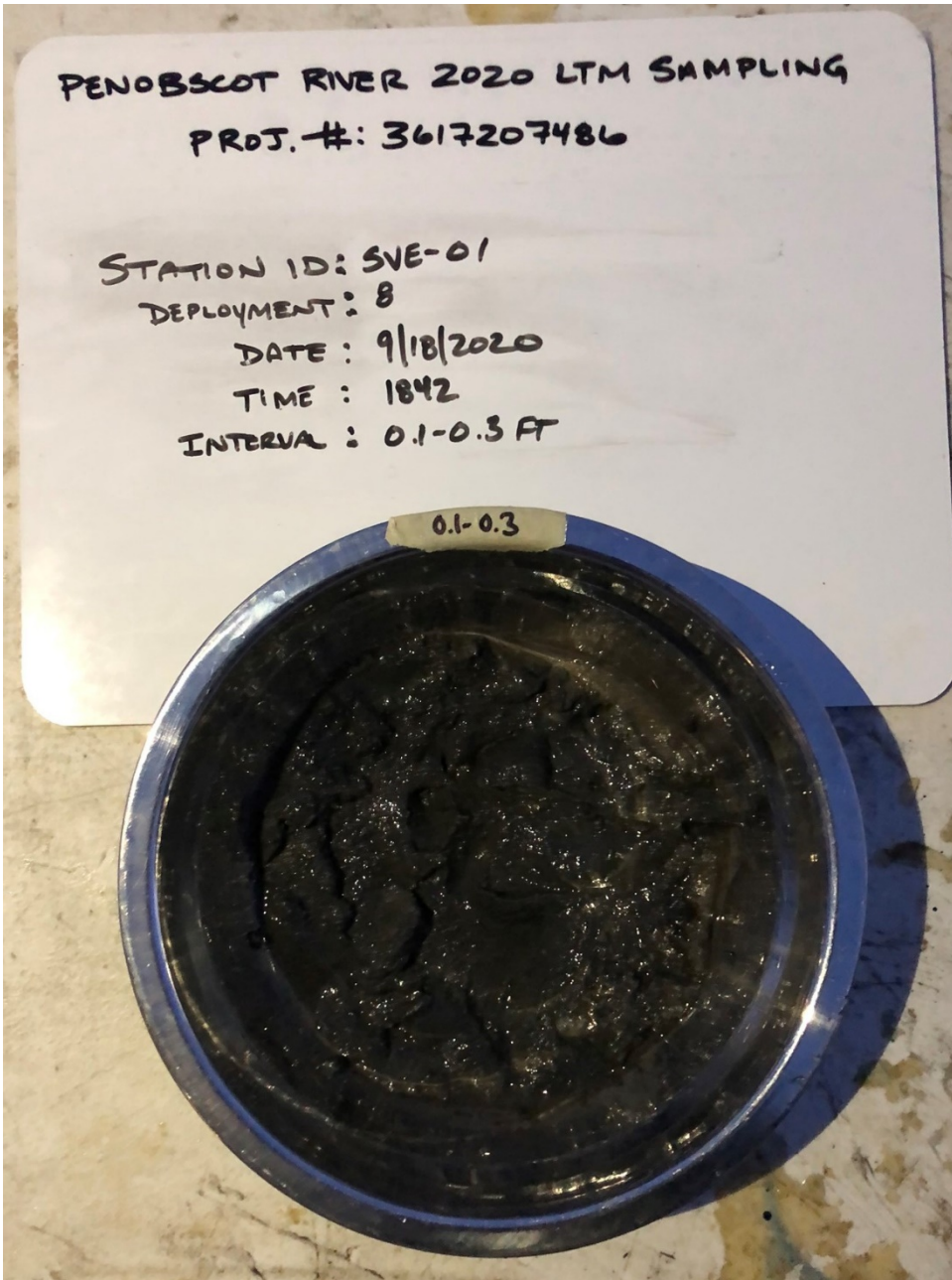


PHOTO 2:

CORE: SVE-01

DEPLOYMENT: 8

INTERVAL: 0.1-0.3 FT

DATE: 9/18/2020

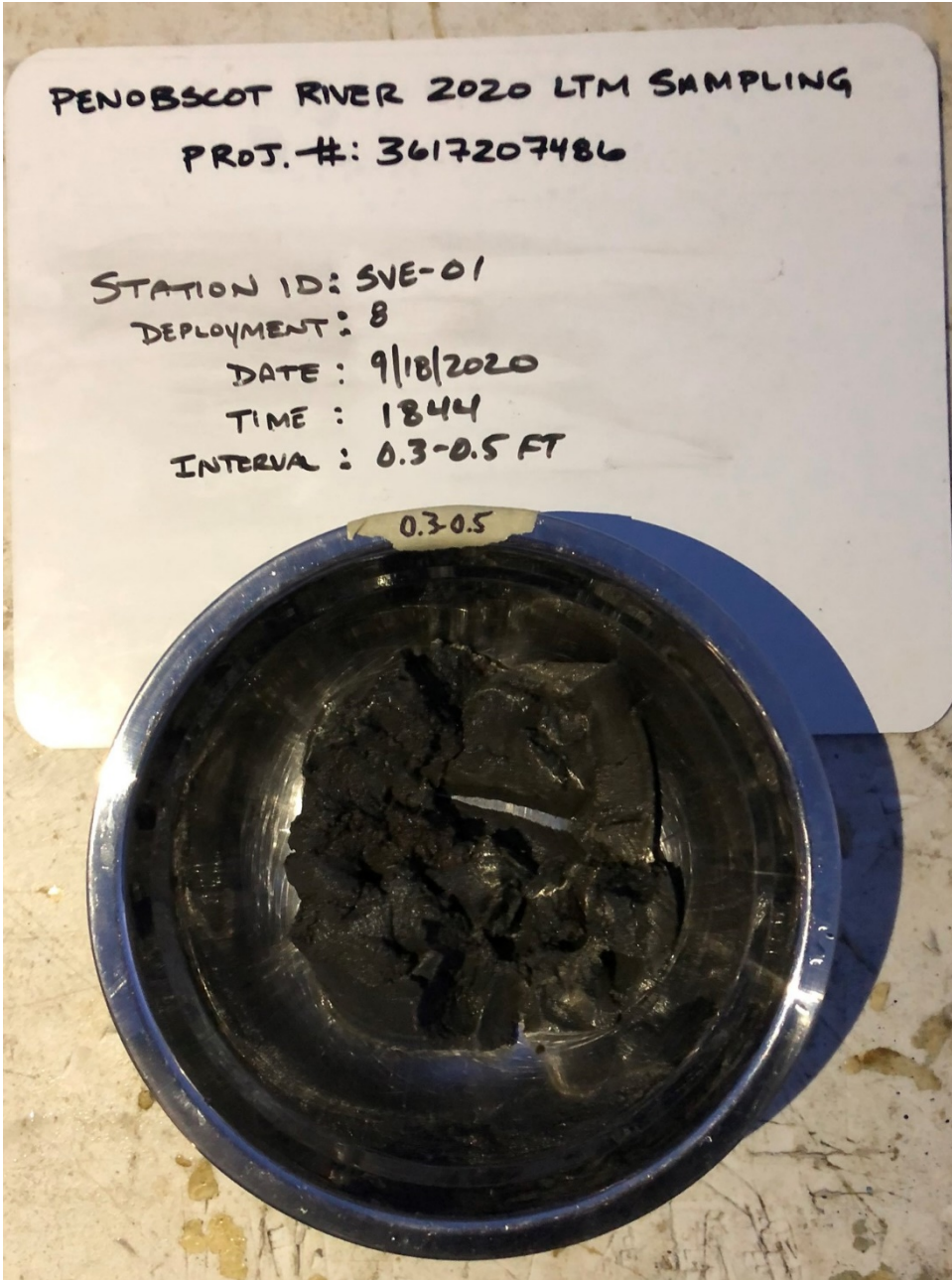


PHOTO 3:

CORE: SVE-01

DEPLOYMENT: 8

INTERVAL: 0.3-0.5 FT

DATE: 9/18/2020

STATION SUMMARY		
Station ID: E-01-01	Core collection and sample processing date: 19 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – E-01-01 Collection Overview

On Saturday, September 19, 2020, Wood scientists cored station E-01-01 in the Fort Point Cove reach between 9:43am and 10:00am aboard the *R/V Tesla*. The weather was clear with temperatures in the 40's (°F) and 5-knot winds from the North. Sea conditions were mild, with a wave height of 0.5-1.0-ft, providing acceptable conditions for the vessel to hold on location for sampling. A box corer was utilized for sediment collection. Sediment was sampled from the box corer by 1-ft hand push cores with 3-in diameter acetate liners. One (1) deployment of the box corer was attempted at E-01-01 to obtain two (2) 1-ft hand push cores, designated in the field as E-01-01-A and E-01-01-B. Cores were preserved on wet ice, while awaiting to be processed. Two cores were collected at this location in case sample integrity of a single core were to become compromised between collection and processing.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and cores at station E-01-01.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station E-01-01 represents the single deployment of the box corer. The deployment represented a non-vegetated subtidal zone accessible at any time within the Fort Point Cove reach.

D – Processing Overview

Same-day processing was performed on E-01-01-A and E-01-01-B by Wood scientists at the Wood Field Station, Winterport, Maine. Cores E-01-01-A and E-01-01-B, designated during processing as E-01-01 and E-01-01_DUP, were sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC). Station E-01-01 was used for laboratory duplicate analyses.

The appearance and textural properties of each push core were described using the Unified Soil Classification (USCS).

Sediment Core Logs are attached (See Attachment B).

E-01-01

Push core E-01-01 had an acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: dark olive gray (5Y 3/2) clayey organic-like SILT, some organic-like leafy detritus, homogenous, non-plastic: ALLUVIUM
- 0.1 – 0.3 ft: very dark gray (5Y 3/1) silty CLAY, homogenous, trace wood chip, non- to low plasticity: ALLUVIUM
- 0.3 – 0.5 ft: very dark gray (5Y 3/1) silty CLAY fining downward, homogenous, no wood chip, low to medium plasticity: ALLUVIUM
- 0.5 – 0.65 ft: very dark gray (5Y 2.5/1) silty CLAY with trace fine fibrous root-like material, homogenous, medium plasticity: ALLUVIUM

E-01-01_DUP

Push core E-01-01_DUP had acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: dark grayish brown (2.5Y 4/2) organic-like clayey SILT with minimal organic-like detritus and isolated black (2.5Y 2.5/1) SILT, non-plastic: ALLUVIUM
- 0.1 – 0.3 ft: dark olive gray (5Y 3/2) CLAY and SILT, some isolated horizons of black (5Y 2.5/1) SILT, low plastic: ALLUVIUM
- 0.3 – 0.5 ft: dark gray (5Y 4/1) silty CLAY with some isolated black (5Y 2.5/1) CLAY-SILT horizons, medium plasticity: ALLUVIUM
- 0.5 – 0.6 ft: black (5Y 2.5/1) SILTY-CLAY, organic-like, homogenous, medium to low plasticity: ALLUVIUM

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 361720 Logger: C. LAUBACK

Sub: ASI WO: - Crew: B. WEYER

Date: 9/19/20 Time: 0956 Vessel: P/V TESLA

Coordinates: Lat 44.482349 Long -68.827820 Plan Volume: 0.140gal

Sampling Station: E01-01 Deploy No. 1 Sub-tidal Location? YES

Weather: CLEAR, 40s Winds: 5mph Waters: 0.5-1.0' Traffic: Water Temp: -

Measured Water Depth [NAVD88]: 12.0 Core Penetration Length (ft.): 0.70

Correction to NAVD88 (+/- ft. from NAVD88): Recovered Core Length (ft.): 0.65

Mudline (Corrected Depth) @ NAVD88: Sample Length Retained (ft.): 0.5

Study Depth (-NAVD88): Acceptable Core (80% recovery): YES

Required Penetration Length: 0.5' Core Volume Retained (gal.): 0.140gal

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0'-0.1'	00-01 @1440	DARK OLIVE GRAY (SY 3/2) CLAYEY SILT - ORGANIC RICH, SOME ORGANIC-LIKE LEAFY DEBRIS, HOMOGENOUS, NON-PLASTIC, ALLUVIUM
0.1'-0.3'	01-03 @1443	VERY DARK GRAY (SY 3/1) SILTY CLAY, HOMOGENOUS. TRACE WOOD CHIP, LOW TO NON PLASTIC, ALLUVIUM.
0.3'-0.5'	03-05 @1445	VERY DARK GRAY (SY 3/1) SILTY CLAY, FINING DOWNWARD FROM OVERLYING, ALLOQUOT (0.1-0.3'), HOMOGENOUS, NO WOOD CHIP, MED TO LOW PLASTICITY, ALLUVIUM
0.5'-0.65'	— —	VERY DARK GRAY (2.5Y 3/1) SILTY CLAY WITH TRACE FINE FIBROUS ROOT-LIKE MATERIAL, HOMOGENOUS MED. PLACTICITY, ALLUVIUM.
Bottom	B. WEYER 9/22/2020	

Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	ACETATE		Vibracorer: <u>BOX</u>	Slambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

Live Organisms present	NO	Comments - COLLECTED DUPLICATE @ THIS LOCATION - SULFUR-LIKE ODOR INCREASES DOWNCORE
Oil-Like Present	NO	
Odor Present	YES	
Debris Present	NO	
Photo Numbers B. WEYER 9/22/2020		

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASL WO: — Crew: B. WEYER
 Date: 9/19/20 Time: 0956 Vessel: P/V TESLA
 Coordinates: Lat 44.482349 Long -68.827820 Plan Volume: 0.140 gal
 Sampling Station: E-01-01-DUP Deploy No. 1 Sub-tidal Location? YES

Weather: CLEAR, 40s Winds: 5mph Waters: 0.5'-1.0' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 12.0	Core Penetration Length (ft.): 0.70
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.6
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES
Required Penetration Length: 0.5	Core Volume Retained (gal.): 0.140gal

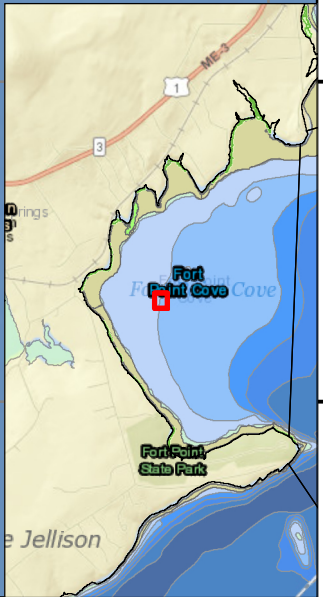
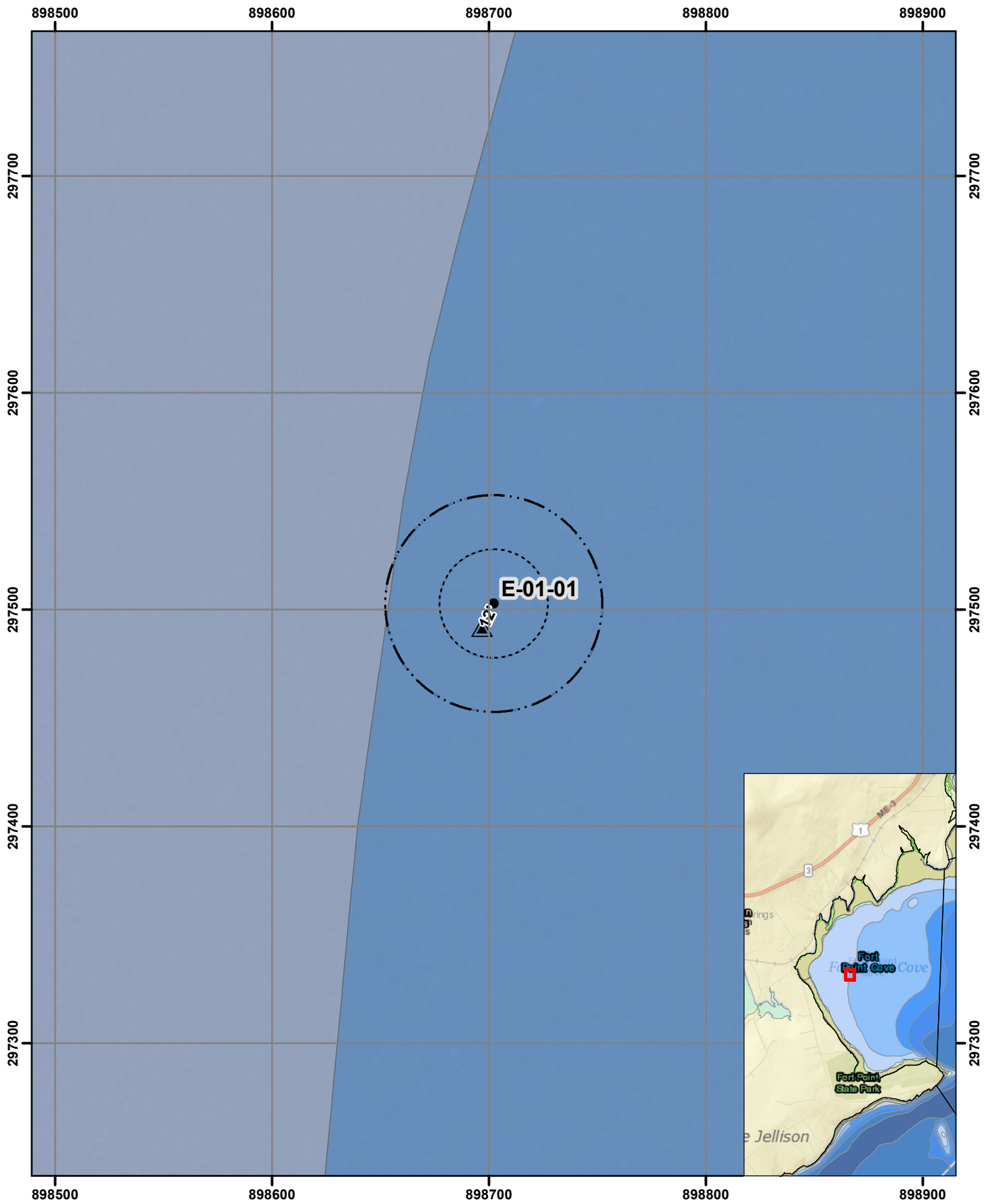
All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0' - 0.1'	00 - 01 @1445	DARK GRAYISH BROWN (2.5Y 4/1) (2.5Y 4/2) ORGANIC SILT AND TIL CLAY WITH MINIMAL ORGANIC-LIKE DETRITIS AND ISOLATED BLACK SILT (2.5Y 2.5/4) NON PLASTIC ALLUVIUM
0.1' - 0.3'	01 - 03 @1447	DARK OLIVE GRAY (5Y 3/2) CLAY AND SILT, SOME ISOLATED HORIZONS OF BLACK SILT (5Y 2.5/1) LOW PLASTIC ALLUVIUM
0.3' - 0.5'	03 - 05 @1449	DARK GRAY (5Y 4/1) SILTY CLAY WITH SOME ISOLATED BLACK CLAY-SILT HORIZONS (5Y 2.5/1) MED PLASTIC, ALLUVIUM
0.5' - 0.6'	— —	BLACK (5Y 2.5/2) SILTY-CLAY, ORGANIC RICH, HOMOGENOUS, MED-LOW PLASTIC ALLUVIUM
Bottom	B. WEYER 9/22/2020	

Number of containers: — — 6 —	Core Volumes	
Type of container: bucket liner bag jar other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibracorer: 4.0"	.50gal/ft
	Push Corer: Slambar	3.5"
		.33gal/ft

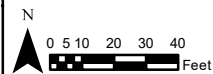
Live Organisms present NO	ORGANIC	Comments
Oil-Like Present NO		
Odor Present YES		
Debris Present NO		
Photo Numbers	B. WEYER 9/22/2020	

QC CHECK BY B. WEYER 9/22/2020



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- 25 foot radius buffer
- ⊘ 50 foot radius buffer
- Proposed/Actual (lateral feet)



Station ID: [E-01-01]
 Reach: [Fort Point Cove]

Penobscot River Estuary
 2020 Long Term Monitoring

Prepared/Date: ICD 12/20/20 | Checked/Date: BPW 12/21/20 | Maine State Plane CRS East Zone 1983

MXD: \PLD2-FS1\Project\Projects\USDC - Penobscot River 2020 Monitoring-3617207486\4.0_Deliverables\4.5_Databases\MXD\2020_REPORTING\PENOB_2020_LOC_ACC_vf_12202020_8.5x11P.mxd
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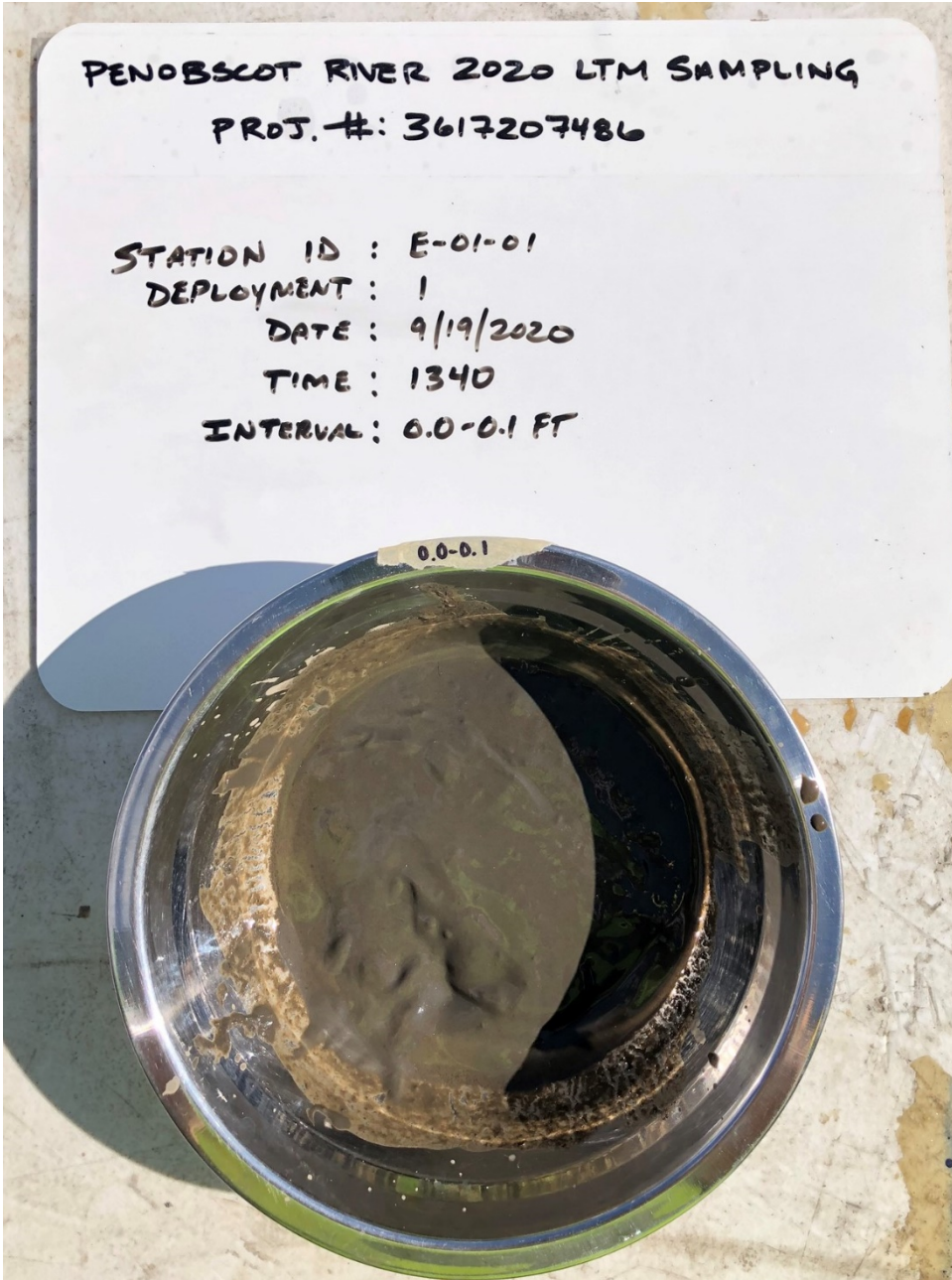


PHOTO 1:

CORE: E-01-01

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/19/2020

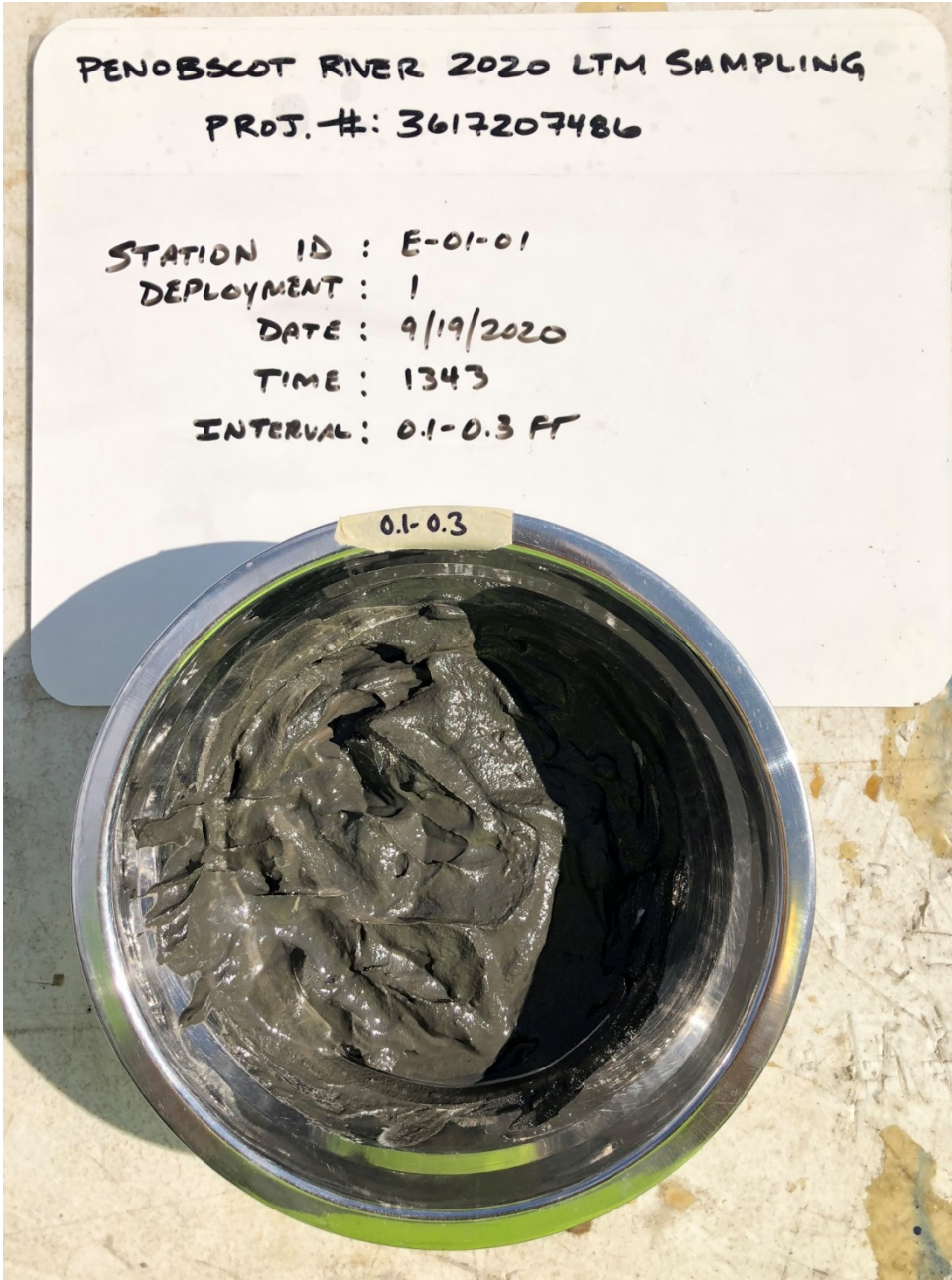


PHOTO 2:

CORE: E-01-01

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/19/2020

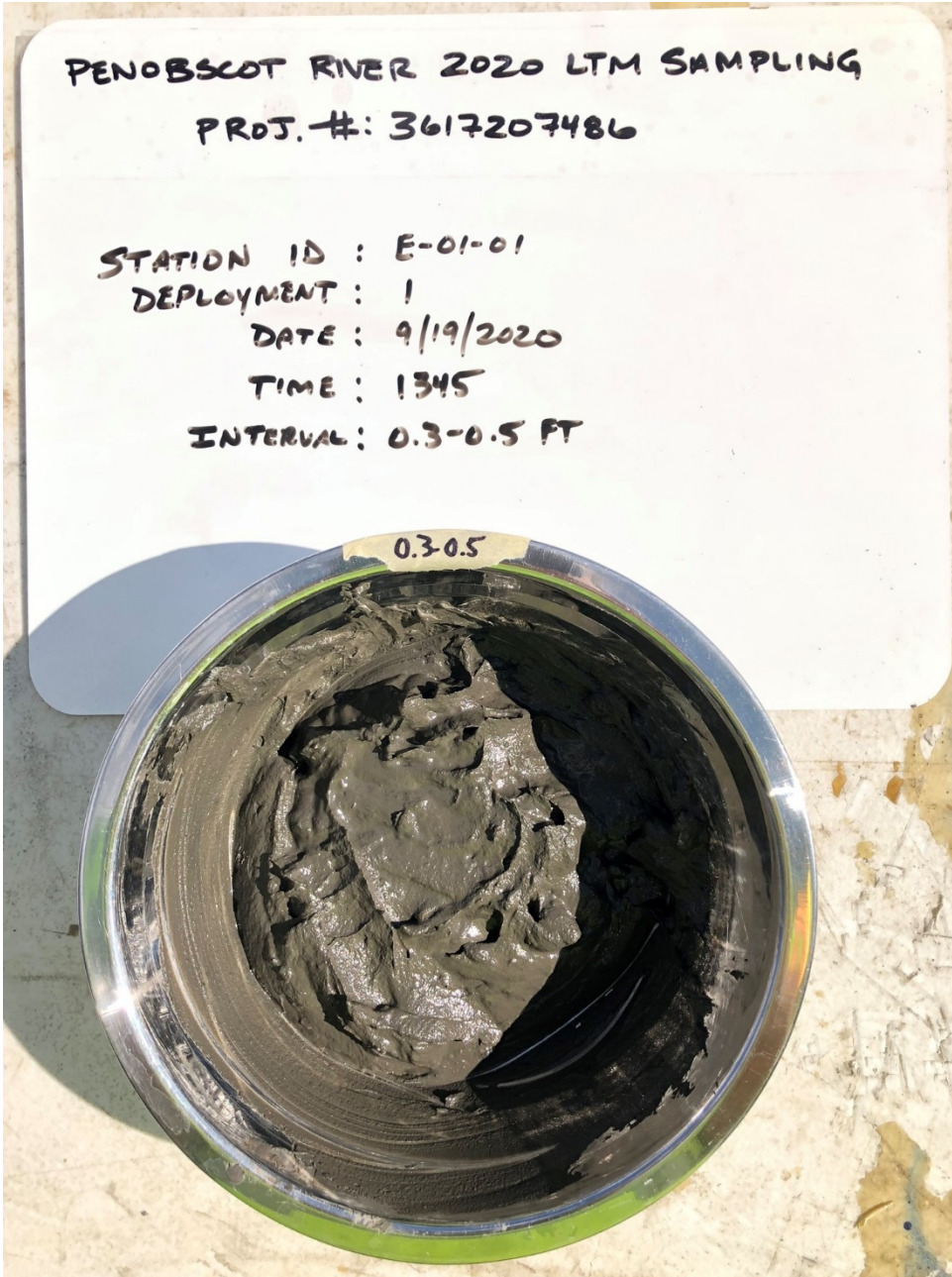


PHOTO 3:

CORE: E-01-01

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/19/2020

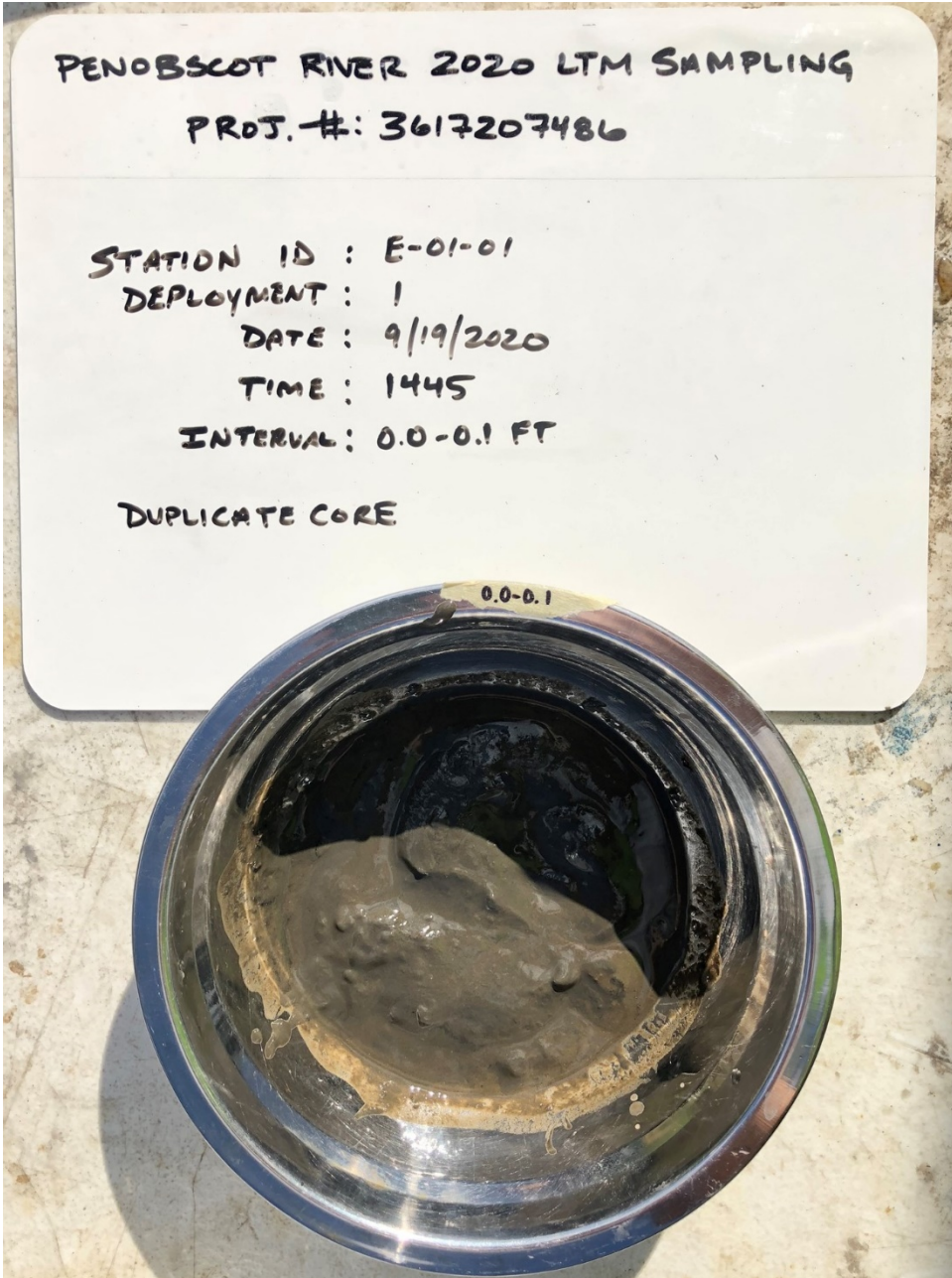


PHOTO 4:

CORE: E-01-01_DUP

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/19/2020

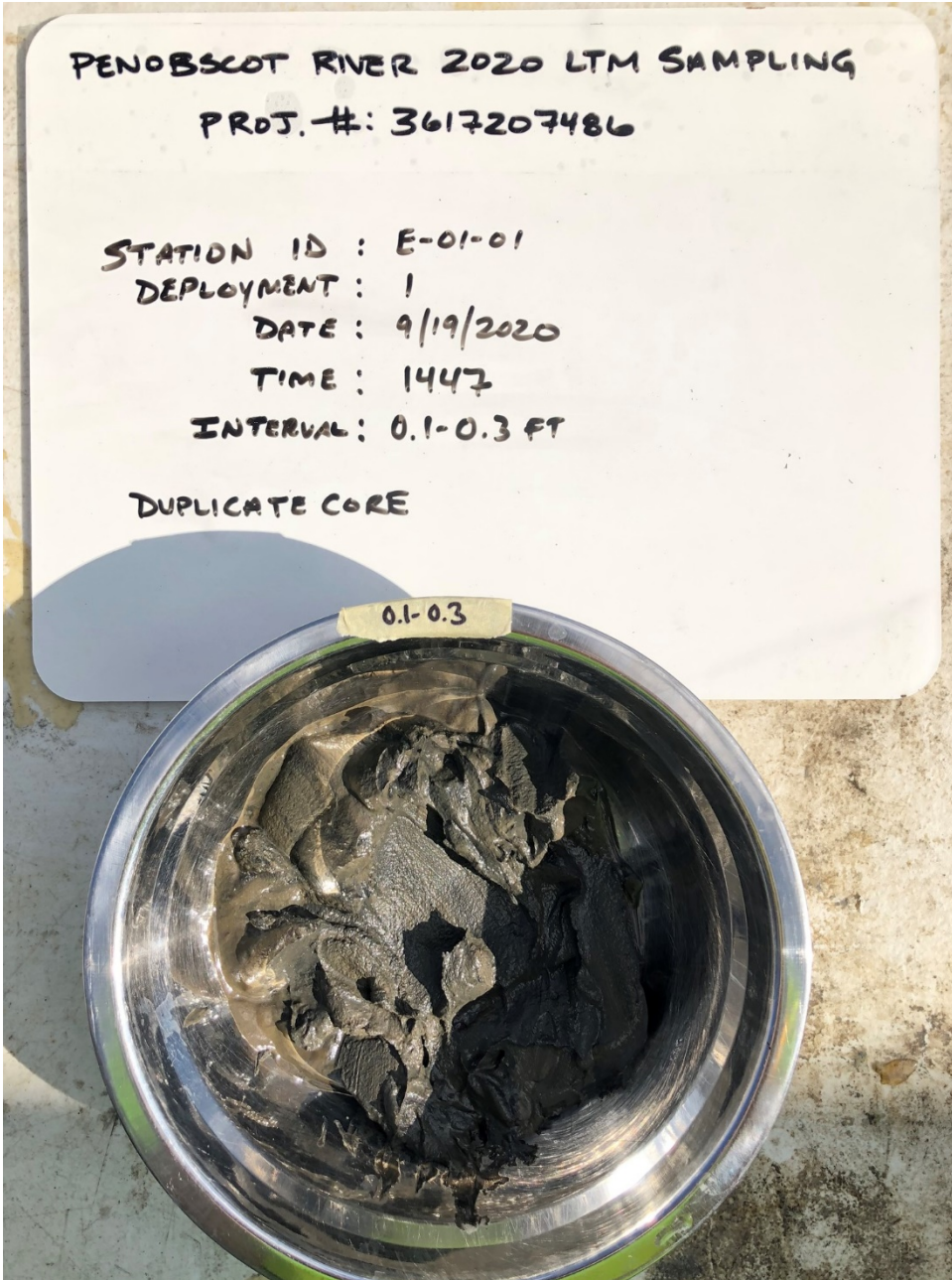


PHOTO 5:

CORE: E-01-01_DUP

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/19/2020

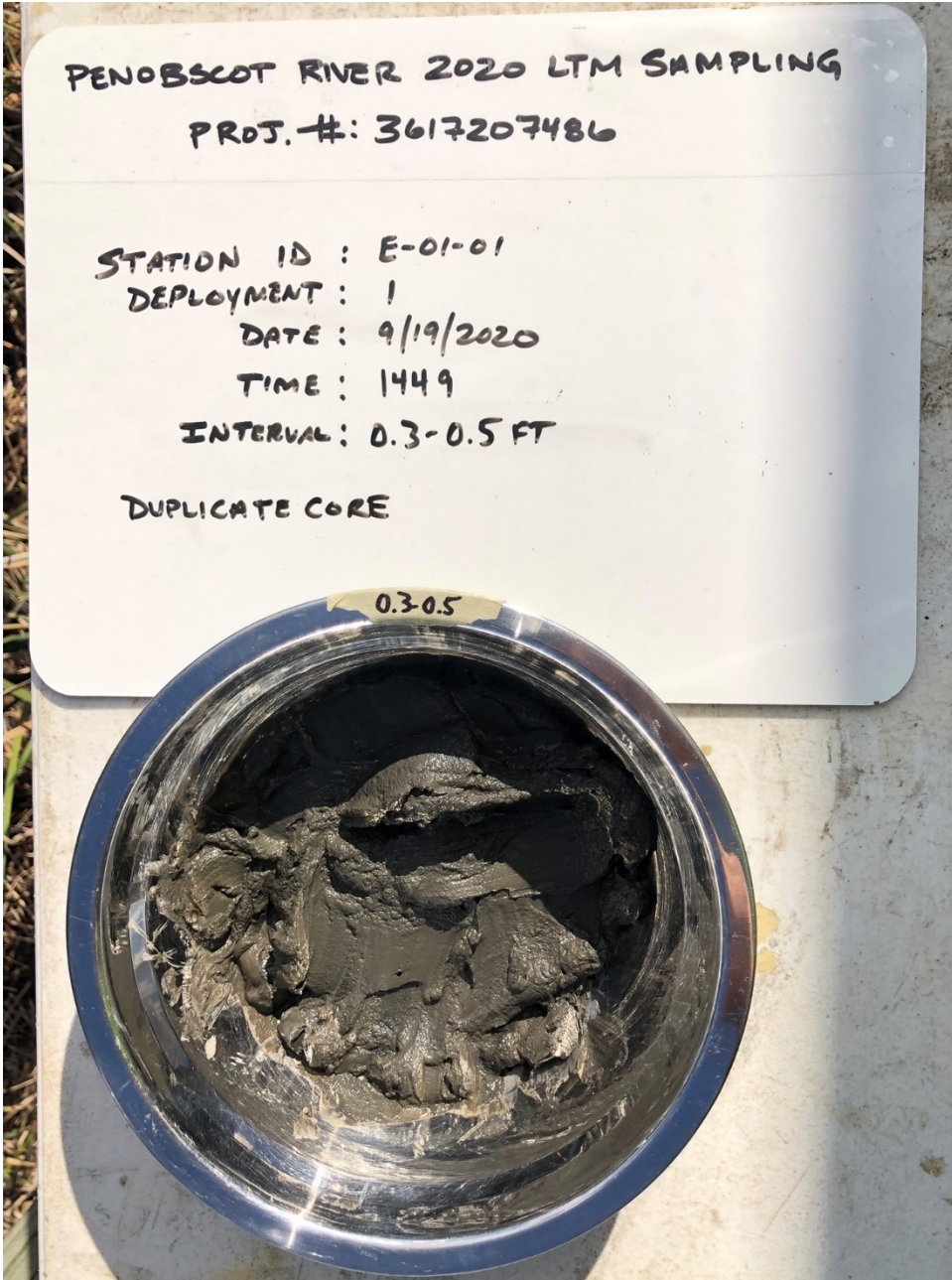


PHOTO 6:

CORE: E-01-01_DUP

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/19/2020

STATION SUMMARY		
Station ID: E-01-03	Core collection and sample processing date: 19 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – E-01-03 Collection Overview

On Saturday, September 19, 2020, Wood scientists cored station E-01-03 in the Upper Penobscot Bay reach between 10:00am and 10:23am aboard the *R/V Tesla*. The weather was clear with temperatures in the 40's (°F) and 5-knot winds from the North. Sea conditions were smooth, with a wave height of 0.5-1.5-ft, providing acceptable conditions for the vessel to hold on location for sampling. A box corer was utilized for sediment collection. Sediment was sampled from the box corer by 1-ft hand push cores with 3-in diameter acetate liners. One (1) deployment of the box corer was attempted at E-01-03 to obtain two (2) 1-ft hand push cores, designated in the field as E-01-03-A and E-01-03-B. Cores were preserved on wet ice while awaiting to be processed. Two cores were collected at this station in case sample integrity of a single core were to become compromised between collection and processing.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and cores at station E-01-03.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station E-01-03 represents the single deployment of the box corer. The deployment represented a non-vegetated subtidal zone accessible at any time within the Upper Penobscot Bay reach.

D – Processing Overview

Same-day processing was performed on E-01-03-A by Wood scientists at the Wood Field Station, Winterport, Maine. Core E-01-03-A, designated during processing as E-01-03, was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

The appearance and textural properties of the push core was described using the Unified Soil Classification (USCS). There was a sulfur-like odor present noted during processing, which increased downcore.

Sediment Core Logs are attached (See Attachment B).

E-01-03

Push core E-01-03 had an acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: olive gray (5Y 4/2) organic-like SILT, homogenous, trace organic-like medium sand-sized detritus, non-plastic: ALLUVIUM
- 0.1 – 0.3 ft: very dark greenish gray (GLEY 1 2.5/10GY) clayey SILT, homogenous, with trace medium sand-sized organic-like detritus, low plasticity: ALLUVIUM
- 0.3 – 0.5 ft: very dark greenish gray (GLEY 1 2.5/10GY) CLAY-SILT with isolated fine horizons of black (5Y 2.5/1) organic-like SILT homogenous, low plasticity: ALLUVIUM
- 0.5 – 0.59 ft: very dark greenish gray (GLEY 1 2.5/10GY) clayey SILT, organic-like, trace very fine clastic sands, low plasticity: ALLUVIUM

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 3617207486	Logger: C. LAUSACK
Sub: ASI	WO: —	Crew: B. WEYER
Date: 9/19/20	Time: 1015	Vessel: R/V TESLA
Coordinates: Lat 44.482382	Long -68.808507	Plan Volume: 0.140gal
Sampling Station: E-01-03	Deploy No. 1	Sub-tidal Location? YES

Weather: CLEAR, 40s	Winds: 5mph	Waters: 0.5'-1.5'	Traffic: NONE	Water Temp: —
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Measured Water Depth [NAVD88]: 29.2'	Core Penetration Length (ft.): 1.0
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.59
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5
Study Depth (-NAVD88):	Acceptable Core (80%-recovery): YES
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.140gal

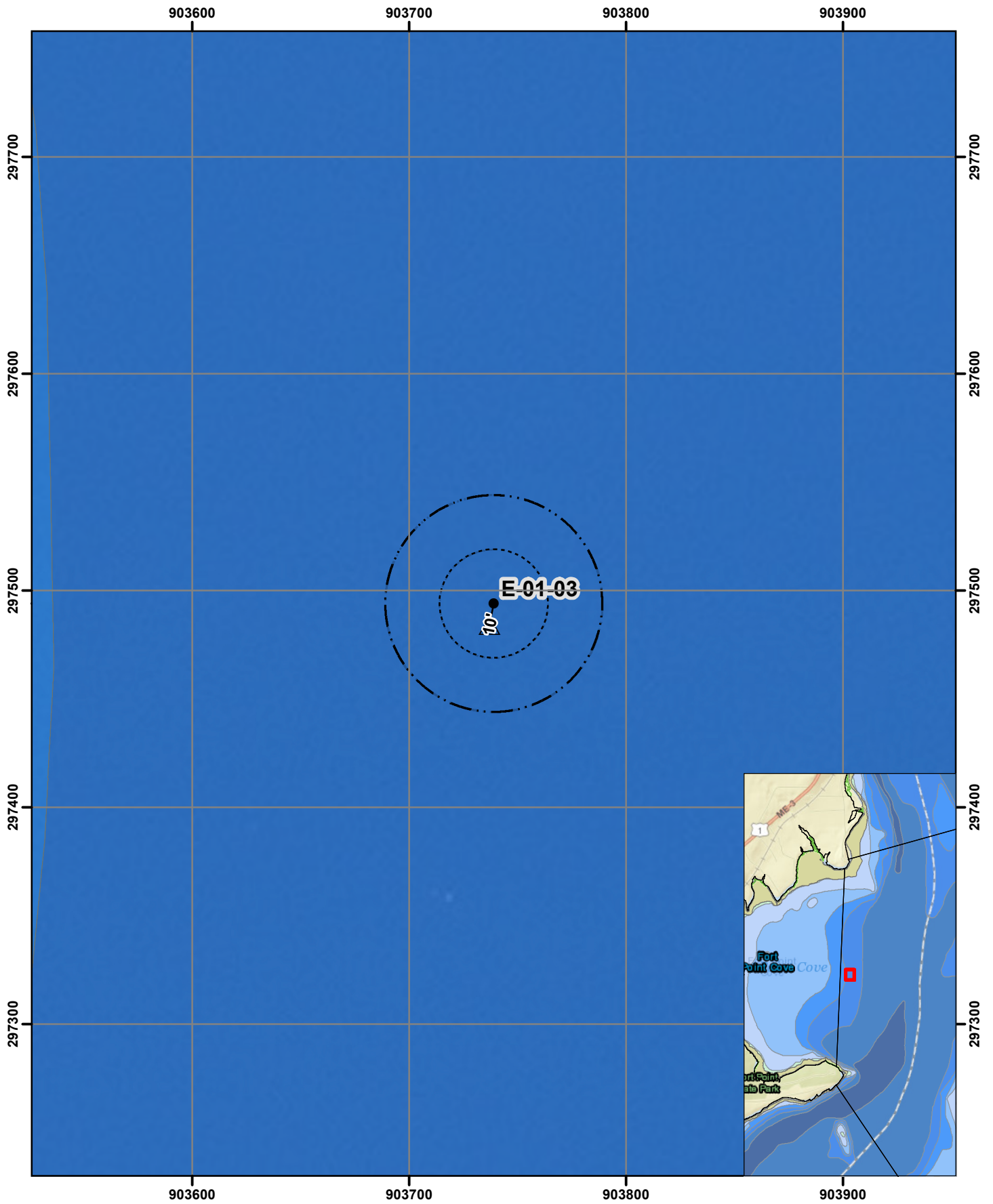
All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0'-0.1'	00-01 @1515	OLIVE GRAY (5 Y 4/2) ORGANIC-LIKE SILT, HOMOGENOUS, TRACE ORGANIC-MED. SAND SIZED DETRITS, NON-PLASTIC, ALLUVIUM
0.1'-0.3'	01-03 @1517	VERY DARK GREENISH GRAY (GLEY 1 2.5/10Y) CLAYEY SILT HOMOGENOUS, WITH TR. MED. SANDSIZED ORGANIC DETRITS, LOW PLASTIC ALLUVIUM.
0.3'-0.5'	03-05 @1519	VERY DARK GREENISH GRAY (GLEY 1 2.5/10Y) CLAY-SILT WITH ISOLATED FINE HORIZONTALS OF BLACK (5 Y 2.5/1) SILT (ORGANIC RICH) HOMOGENOUS LOW PLASTIC, ALLUVIUM
0.5'-0.59'	—	VERY DARK GREENISH GRAY (GLEY 1 2.5/10Y) CLAYEY SILT, ORGANIC RICH, TRACE VERY FINE CLASTIC SANDS, LOW PLASTICITY, ALLUVIUM
Bottom	B. WEYER 9/22/2020	

Number of containers: —	Core Volumes
Type of container: bucket	Nominal core-barrel diameter
Liner Type: ACETATE	EST. Volume
Vibracorer: Push Corer	4.0" : .50gal/ft
Slambar	3.5" : .33gal/ft

Live Organisms present NO	Comments - INSUFFICIENT SEDIMENT VOLUME (~23") - BIVALVES + FO CL 9/19/20 - SULFUR-LIKE ODOR INCREASES DOWNCORE
Oil-Like Present NO	
Odor Present YES	
Debris Present NO	
Photo Numbers	
B. WEYER 9/22/2020	

QC CHECK BY B. WEYER 9/22/2020



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- ⊖ 25 foot radius buffer
- ⊖ 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [E-01-03]
Reach: [Upper Penobscot Bay]

0 5 10 20 30 40
Feet

Penobscot River Estuary
2020 Long Term Monitoring

Prepared/Date: ICD 12/20/20

Checked/Date: BPW 12/21/20

Maine State Plane CRS East Zone 1983

MXD: \PLD2-FS1\Project\Projects\USDC - Penobscot River 2020 Monitoring-3617207486\4.0_Deliverables\4.5_Databases\MXD\2020_REPORTING\PENOB_2020_LOC_ACC_vf_12202020_8.5x11P.mxd
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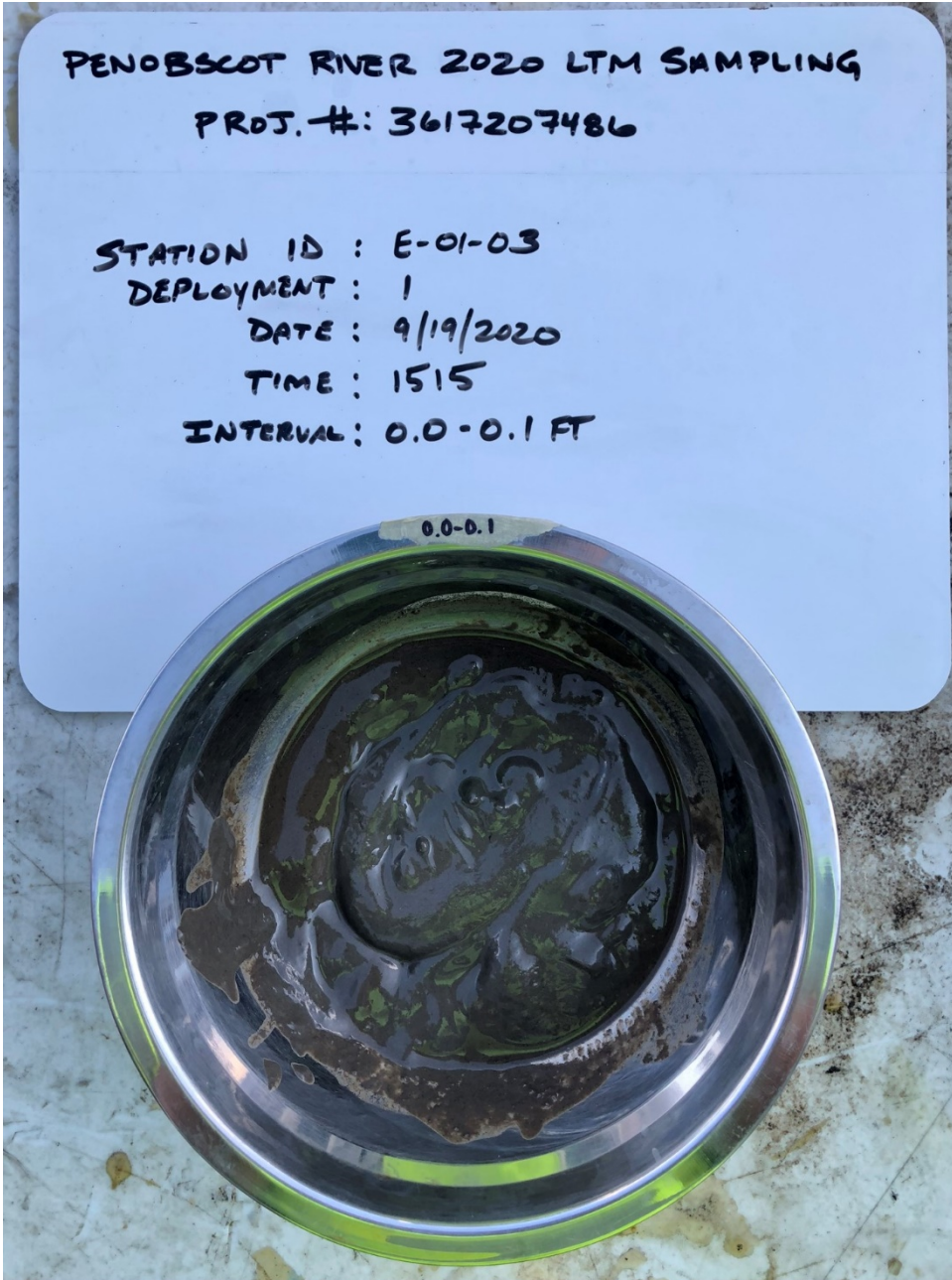


PHOTO 1:

CORE: E-01-03

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/19/2020

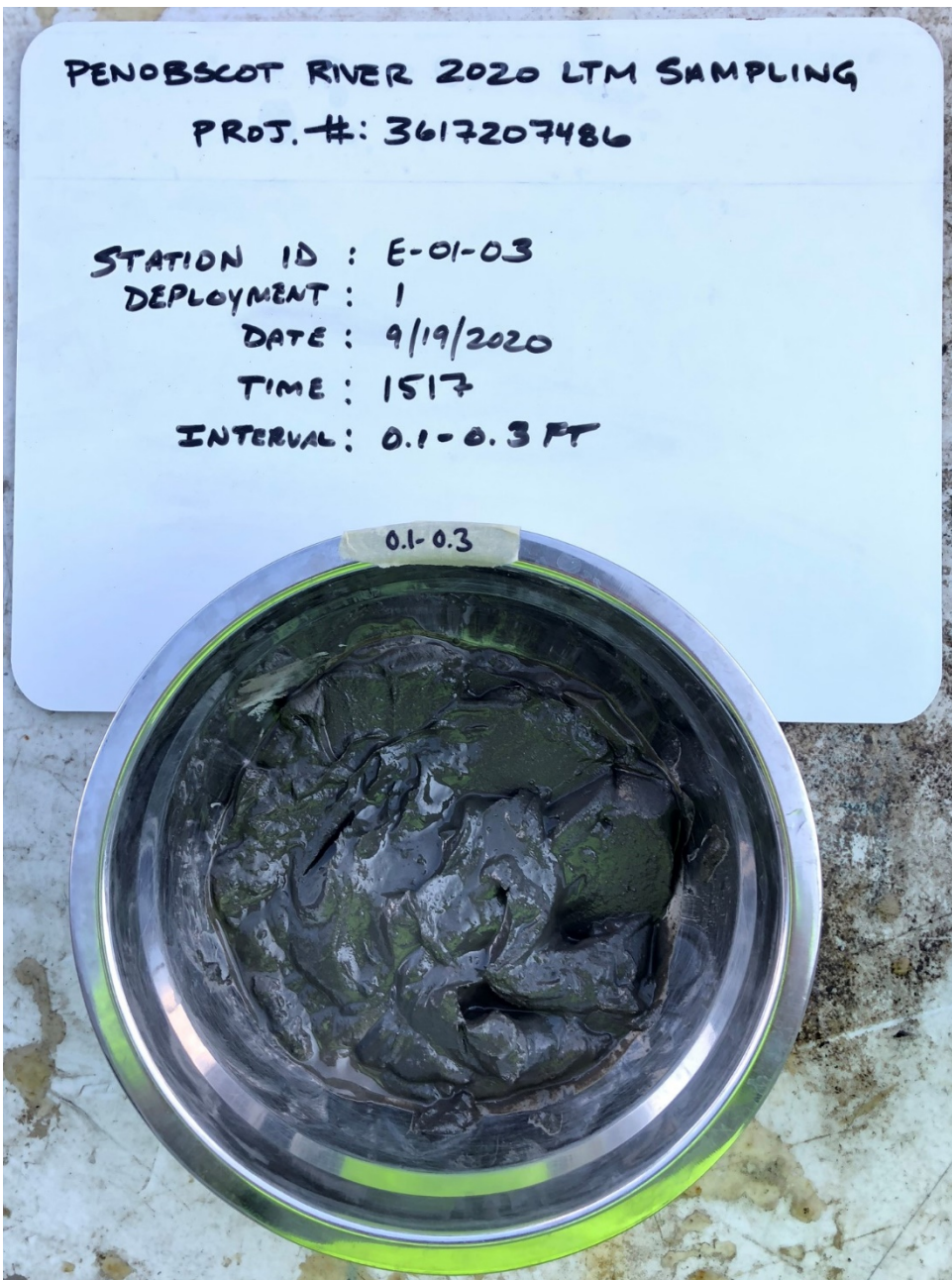


PHOTO 2:

CORE: E-01-03

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/19/2020

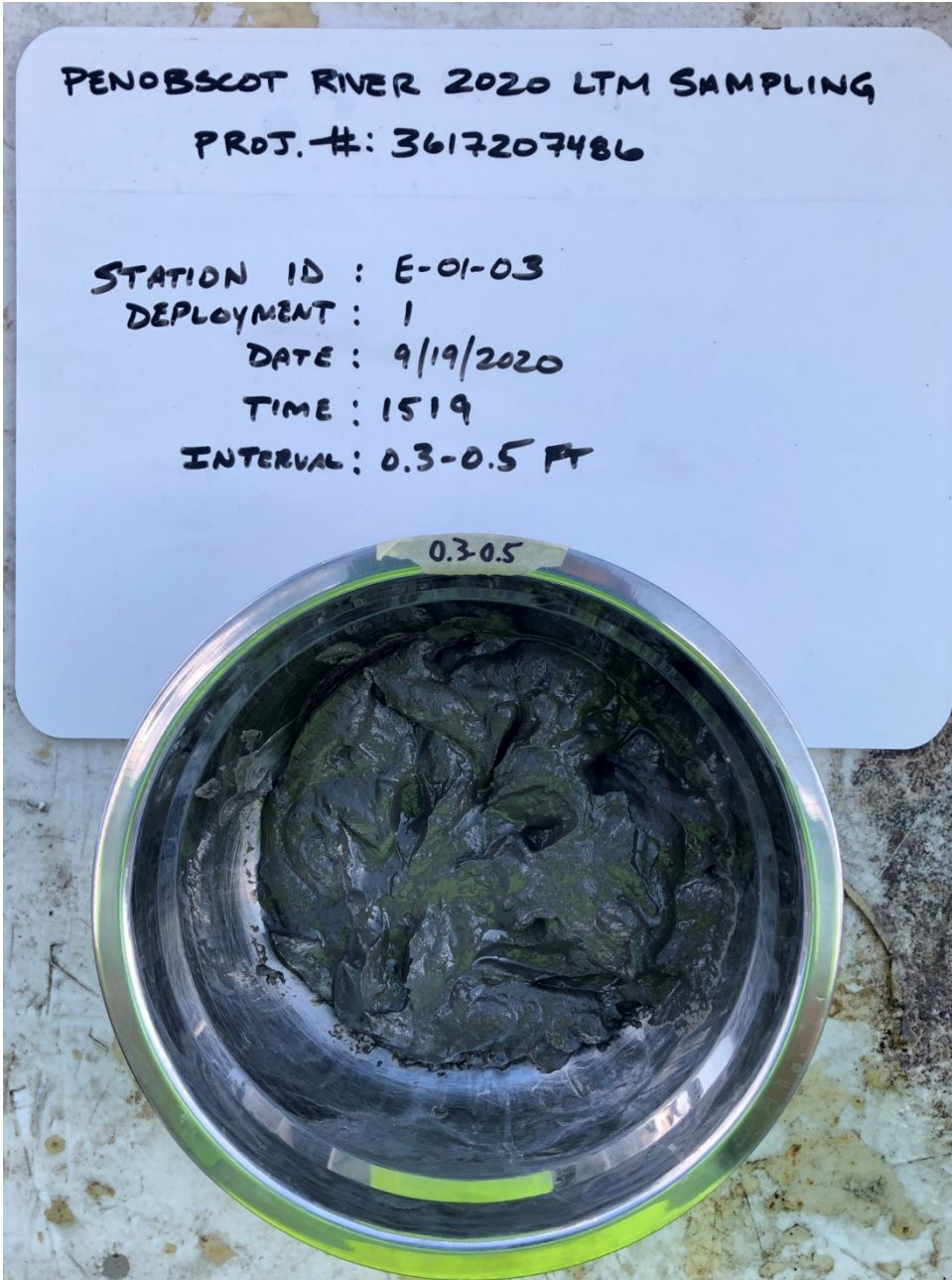


PHOTO 3:

CORE: E-01-03

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/19/2020

STATION SUMMARY		
Station ID: E-01-04	Core collection and sample processing date: 19 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – E-01-04 Collection Overview

On Saturday, September 19, 2020, Wood scientists cored station E-01-04 in the Upper Penobscot Bay reach between 10:23 am and 10:46 am aboard the *R/V Tesla*. The weather was clear with temperatures in the 50's (°F) and varying winds around 5-knot. Sea conditions transitioned from smooth to slight while set up on location, with wave heights between 0.5 and 2.5-ft, providing acceptable to marginal conditions for the vessel to hold on location for sampling. A box corer was utilized for sediment collection. Sediment was collected from the box corer by 1-ft hand push cores with 3-in diameter acetate liners. Three (3) deployments of the box corer were attempted at E-01-04 to obtain one (1) 1-ft hand push core, designated in the field as core E-01-04. Deployments one (1) and two (2) had insufficient recovery, though they did contain approximately 2-3 inches of sediment and large bivalve shell pieces. The core collected on deployment three (3) was preserved on wet ice while awaiting to be processed.

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and cores at station E-01-04.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the E-01-04 station deployments and final sampling location are within 25-ft of proposed. All deployments are representative of a non-vegetated subtidal zone accessible at any time in the Upper Penobscot Bay Reach.

D – Processing Overview

Same-day processing was performed on E-01-04 by Wood scientists at the Wood Field Station, Winterport, Maine. Core E-01-04 was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

The appearance and textural properties of each push core was described using the Unified Soil Classification (USCS) for the entirety of the core. There was a sulfur-like odor present noted during processing, which increased downcore.

Sediment Core Logs are attached (See Attachment B).

E-01-04

Push core E-01-04 had an acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: olive gray (5Y 4/2) clayey SILT with some medium angular sands and small gravels, live organisms present, no plasticity: ALLUVIUM
- 0.1 – 0.3 ft: very dark gray (5Y 3/1) silty CLAY with some medium grained angular clastic sands, live organisms, trace organic-like detritus, low plastic: ALLUVIUM
- 0.3 – 0.5 ft: dark gray (2.5Y 4/1) silty CLAY with some coarse, sand-sized wood chip, trace coarse, angular, clastic sand which fines downward from overlying sediment, medium plastic: ALLUVIUM

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post-homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 3617207486	Logger: C. LAUBACK
Sub: ASI	WO: -	Crew: B. WEYER
Date: 9/19/20	Time: 1020	Vessel: R/V TESLA
Coordinates: Lat 44.481636	Long -68.798540	Plan Volume: 0.140gal
Sampling Station: E-01-04	Deploy No. 1	Sub-tidal Location? YES
Weather: CLEAR, 50s	Winds: 5mph	Waters: 0.5-2.0
	Traffic: NONE	Water Temp: -

Measured Water Depth [NAVD88]: 55.8	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers: —	—	—	—	Core Volumes		
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibracorer: Push Corer		BOX	Slambar	4.0"	.50gal/ft
					3.5"	.33gal/ft

Live Organisms present —	Comments - INSUFFICIENT RECOVERY
Oil-Like Present —	
Odor Present —	
Debris Present —	
Photo Numbers B. WEYER 9/22/2020	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAUBACK
 Sub: ASI Date: 9/19/20 WO: — Crew: B. WEYER
 Time: 1033 Vessel: R/V TESLA
 Coordinates: Lat 44.481652 Long -68.798531 Plan Volume: 0.140gal

Sampling Station: E-01-04 Deploy No. 2 Sub-tidal Location? YES

Weather: CLEAR, 50s Winds: 5 mph Waters: 0.520 Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 55.0	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers: —	—	—	—	Core Volumes	
Type of container: bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: —	Vibracorer: (BOX)	Push Corer	Slambar	4.0"	.50gal/ft
				3.5"	.33gal/ft

Live Organisms present —
 Oil-Like Present —
 Odor Present —
 Debris Present —
 Photo Numbers
 B. WEYER
 9/22/2020

Comments
 -INSUFFICIENT VOLUME OF SEDIMENT;
 ~23" IN BOX CORE. PRESENCE OF
 LARGE BIVALVE SHELL PIECES.

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAURAKI
 Sub: AS1 WO: — Crew: B. WEYER
 Date: 9/19/20 Time: 1038 Vessel: R/V TESLA
 Coordinates: Lat 44.481653 Long -68.798519 Plan Volume: 0.140gal
 Sampling Station: E-01-04 Deploy No. 3 Sub-tidal Location? YES.

Weather: CLEAR, 50s Winds: 5mph Waters: 1.0'-2.5' Traffic: NONE Water Temp: —

Measured Water Depth [NAVD88]: 56.9	Core Penetration Length (ft.): 0.6
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.55
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.5
Study Depth (-NAVD88):	Acceptable Core (80% recovery): YES
Required Penetration Length: 0.5	Core Volume Retained (gal.): 0.140 gal

All Length Measurements are in Decimal Feet

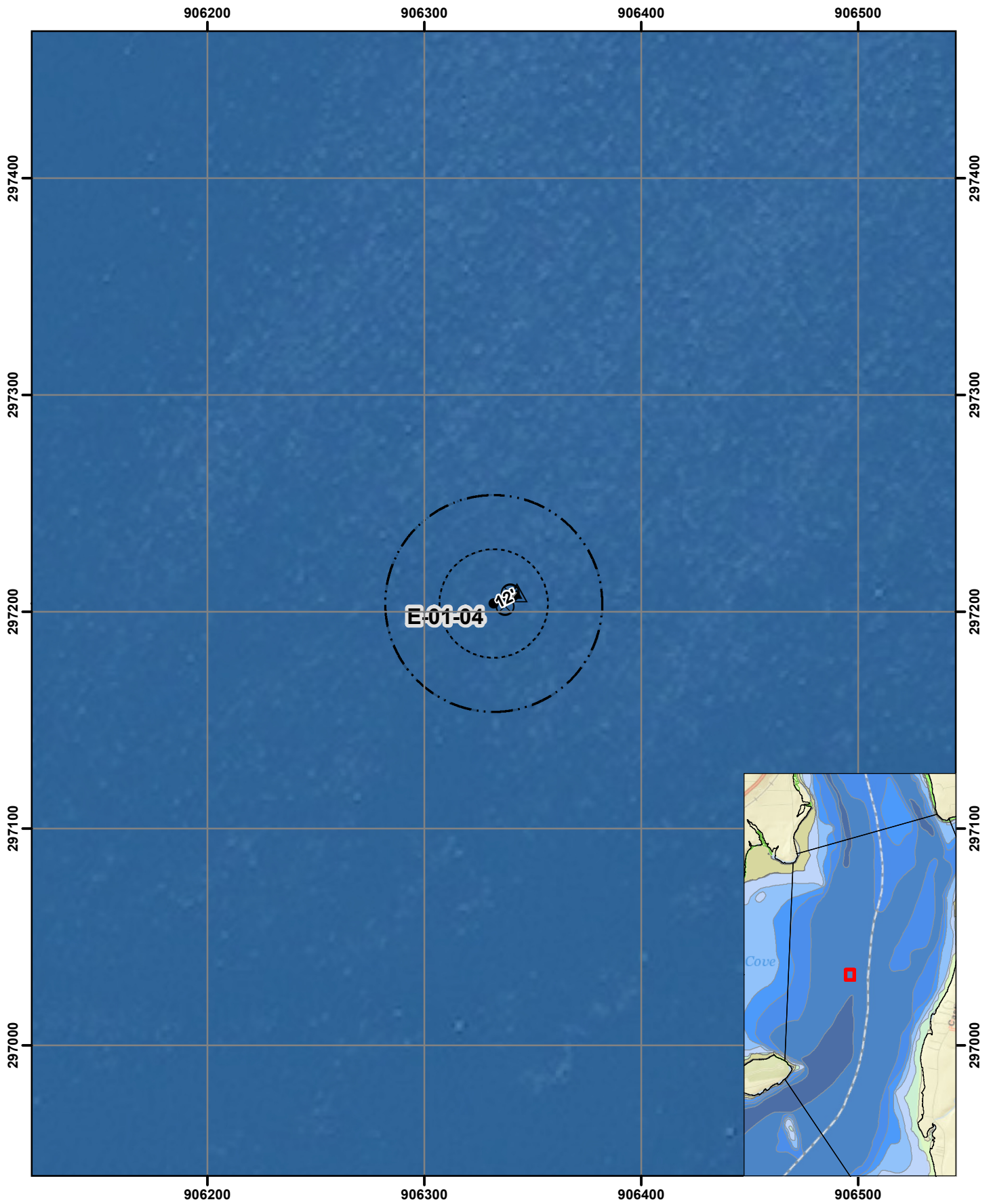
Sample Interval (ft.)	Sample Id #	Description
Top 0.0'-0.1'	00-01 @1550	OLIVE GRAY (5Y 4/2) CLAYEY SILT WITH SOME MEDIUM ANGULAR SANDS & SM. GRAVELS. NO PLASTICITY, LIVE ORGANISMS, ALLUVIUM
0.1'-0.3'	01-03 @1552	VERY DARK GRAY (5Y 3/1) SILTY CLAY WITH SOME MED. GRAINED ANGULAR CLASTIC SANDS, LIVE ORGANISMS, TR. ORGANIC-LIKE DETRITS, LOW PLASTIC ALLUVIUM
0.3'-0.5'	03-05 @1554	DARK GRAY (2.5Y 4/1) SILTY CLAY, HIGHER RATIO OF CLAY TO SILT THAN OVERLYING SED. SOME WOOD CHIP (COARSE SAND-SIZED) TR. COARSE ANGULAR, CLASTIC SAND, MED. PLASTIC ALLUVIUM
B. WEYER 9/22/2020		
B. WEYER 9/22/2020		
Bottom		

Number of containers: — — 6 —	Core Volumes	
Type of container: bucket liner bag jar other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	4.0"	.50gal/ft
Vibracorer: Push Corer	3.5"	.33gal/ft
		Slambar

Live Organisms present	YES
Oil-Like Present	NO
Odor Present	YES
Debris Present	NO
Photo Numbers	
B. WEYER 9/22/2020	

Comments
 - ABLE TO GET ONE ACETATE CORE FROM BOX
 - ~~60%~~ CORE, OUT OF 2 ATTEMPTS
 - SULFUR-LIKE ODOR INCREASES WITH DEPTH.

QC CHECK BY B. WEYER 9/22/2020



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- 25 foot radius buffer
- 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [E-01-04]
Reach: [Upper Penobscot Bay]

Penobscot River Estuary
2020 Long Term Monitoring

Prepared/Date: ICD 12/20/20

Checked/Date: BPW 12/21/20

Maine State Plane CRS East Zone 1983

MXD: \\PLD2-FS1\Project\Projects\USDC - Penobscot River 2020 Monitoring-3617207486\4.0_Deliverables\4.5_Databases\MXD\2020_REPORTING\PENOB_2020_LOC_ACC_vf_12202020_8.5x11P.mxd
PDF: \\PLD2-FS1\Project\Projects\USDC - Penobscot River 2020 Monitoring-3617207486\4.0_Deliverables\4.5_Databases\PDF\PENOB2020_LOC_ACC_Vf_12202020_ian.desjarlais 6:12:08 PM 12/20/2020

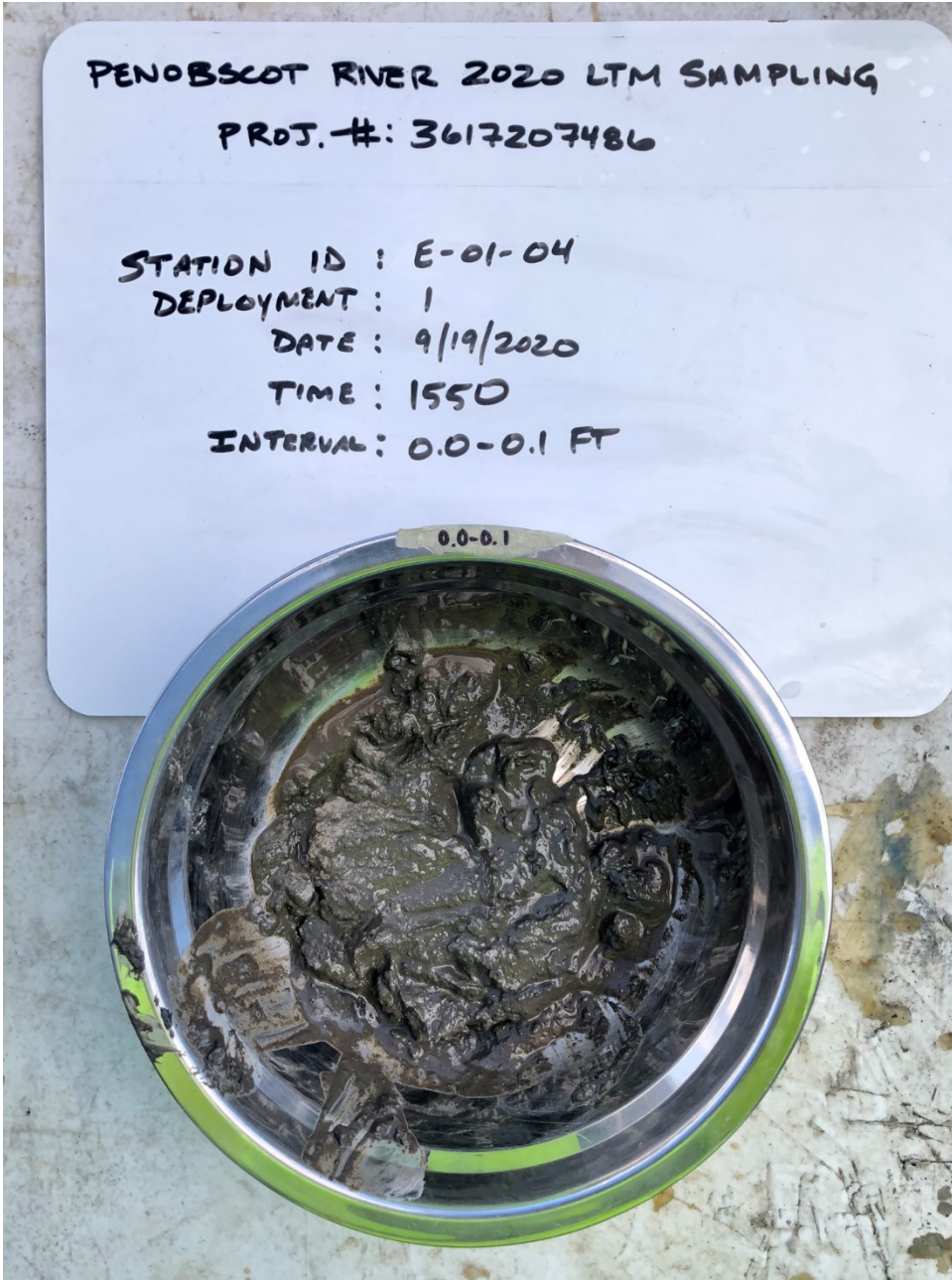


PHOTO 1:

CORE: E-01-04

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/19/2020

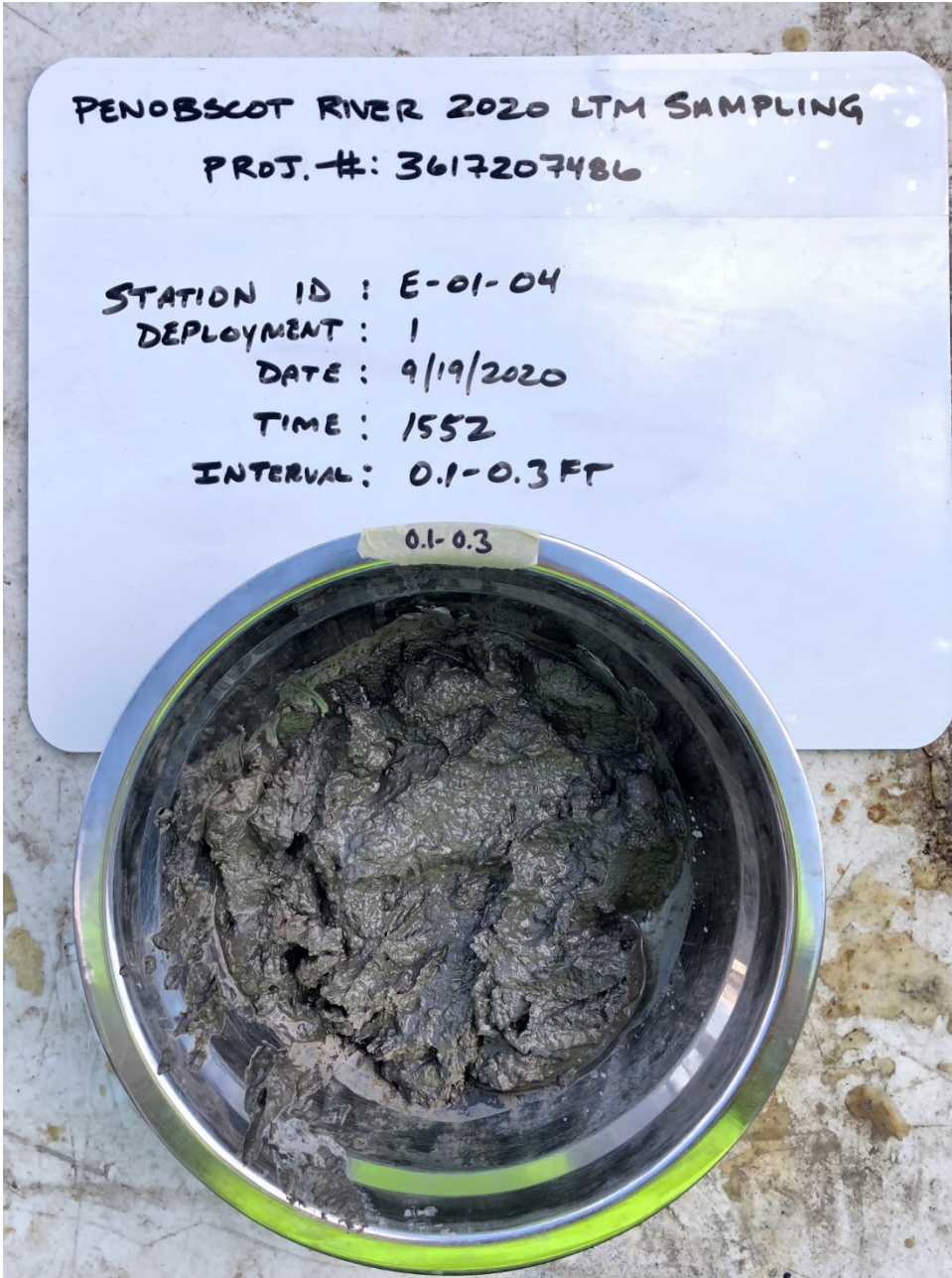


PHOTO 2:

CORE: E-01-04

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/19/2020

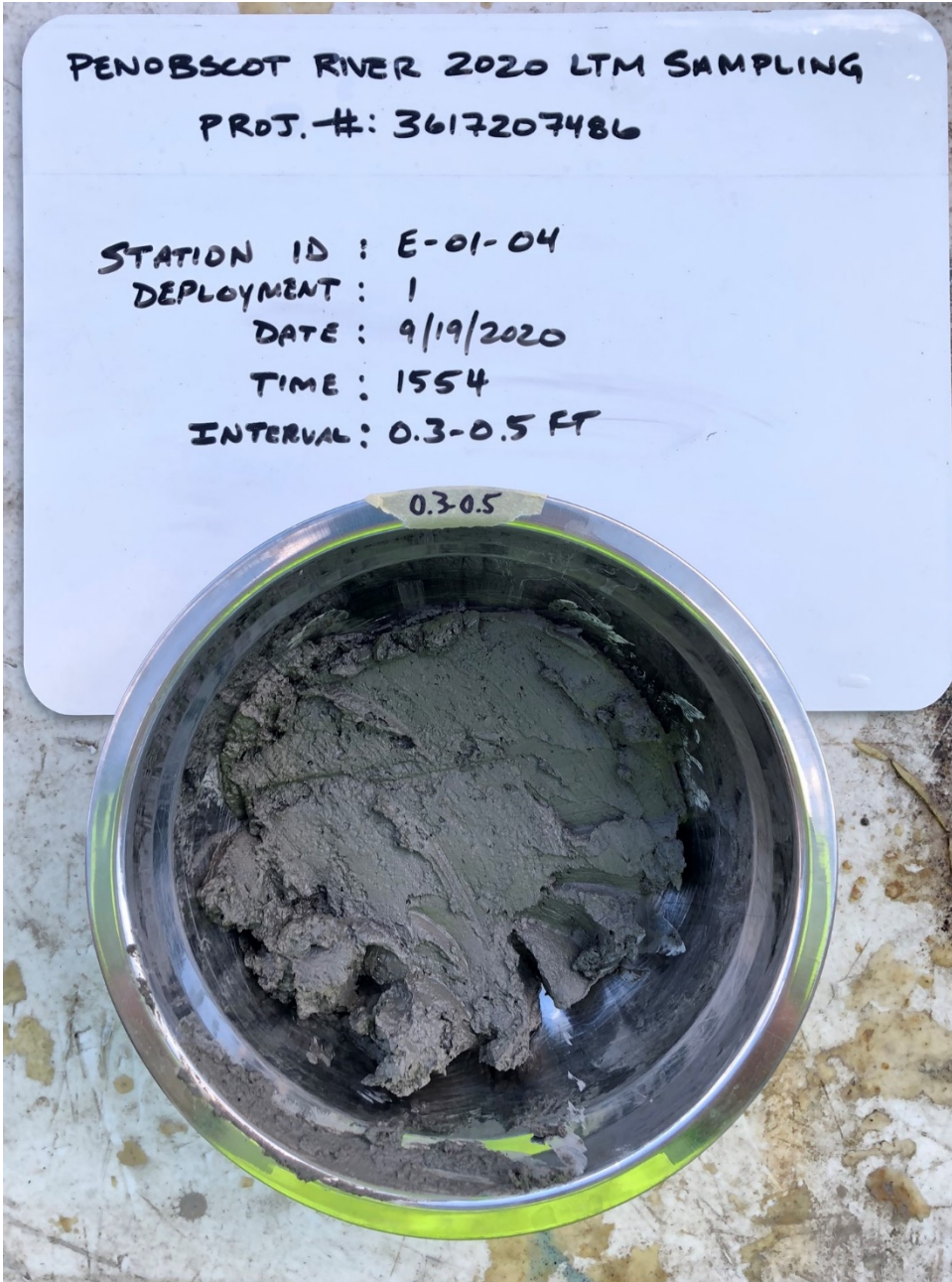


PHOTO 3:

CORE: E-01-04

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/19/2020

APPENDIX B – 2.37

Station Summary – ES-FP

STATION SUMMARY		
Station ID: ES-FP	Core collection and sample processing date: 19 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – ES-FP Collection Overview

On Saturday, September 19, 2020, Wood scientists cored station ES-FP in the Fort Point Cove reach between 11:40am and 12:10pm aboard the *R/V Tesla*. The weather was clear with temperatures in the 50’s (°F) and 5-knot winds. Sea conditions were smooth to slight, with a wave height fluctuating between 0.5 and 2.0-ft, providing acceptable to marginal conditions for the vessel to hold on location for sampling. A box corer was utilized for sediment collection. Sediment was sampled from the box corer by 1-ft hand push cores with 3-in diameter acetate liners. Six (6) deployments of the box corer were attempted at ES-FP to obtain one (1) 1-ft hand push core, designated in the field as ES-FP.

Station ES-FP was selected for biota co-locate sampling. Deployments one through three (1-3) were attempted at biota sampling location “ES-FP 20It 202” resulting in insufficient recovery. The third deployment contained large quantities of rock cobbles, approximately 0.5-1.0-in diameter. With insufficient recoveries at the biota trap location, *R/V Tesla* relocated closer to the center of the river channel. Deployments four (4) and five (5) contained sediment, though insufficient volumes, subrounded cobbles, woody debris, and some small articulated bivalves (approximately 0.5-in in size). One push core was collected from the box core of deployment six (6).

B – Field Data Records

See the field forms (Attachment B) for additional information on deployment(s) and cores at station ES-FP.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the six deployments of the box corer for station ES-FP are represented. The sampled location was collected at traps where biota collection was successful which may not represent the proposed coordinate location, resulting in sample collection occurring greater than 50 feet from the proposed coordinate. The deployments represent a non-vegetated subtidal zone accessible at any tide within the Fort Point Cove reach.

D – Processing Overview

Same-day processing was performed on ES-FP by Wood scientists at the Wood Field Station, Winterport, Maine. Core ES-FP was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. Due to a total core length of 0.36-ft, the sample collected at the pre-designated interval of 0.3-0.5-ft interval was limited to 0.30-0.36-ft. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

The appearance and textural properties of each push core was described using the Unified Soil Classification (USCS).

Sediment Core Logs are attached (See Attachment B).

ES-FP

Push core ES-FP had a recovery less than the proposed 0.5-ft.

- 0.0 – 0.1 ft: dark olive gray (5Y 3/2) sandy SILT, trace articulated bivalves (0.03' – 0.05'), minimal coarse clastic sands, organic silts, trace wood chip, low to non-plastic: ALLUVIUM
- 0.1 – 0.3 ft: dark greenish gray (GLEY 1 4/1 10Y) silty fine SAND, trace organic-like material, trace coarse angular clastic sand, low plasticity: ALLUVIUM
- 0.3 – 0.36 ft: dark greenish gray (GLEY 1 4/1 10Y) fine sandy SILT with one large piece of woody debris, low plasticity: ALLUVIUM

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: <u>USC</u>	Project No.: <u>3617207486</u>	Logger: <u>C. LAUBACK</u>
Sub: <u>AS1</u>	WO: <u>-</u>	Crew: <u>B. WEYER</u>
Date: <u>9/19/20</u>	Time: <u>1055</u>	Vessel: <u>R/V TESLA</u>
Coordinates: Lat <u>44.470127</u>	Long <u>-68.807445</u>	Plan Volume: <u>0.140gal</u>
Sampling Station: <u>ES-FP-2014-202 BW 9/22/20</u>	Deploy No. <u>1</u>	Sub-tidal Location? <u>YES</u>
Weather: <u>CLEAR, SWS</u>	Winds: <u>5mph</u>	Waters: <u>1-2.5'</u>
	Traffic: <u>NONE</u>	Water Temp: <u>-</u>

Measured Water Depth [NAVD88]:	Core Penetration Length (ft.): <u>0.</u>
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: <u>0.5'</u>	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers:	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	<u>-</u>	Vibracorer:	<u>BOX</u>	Slambar	4.0"	.50gal/ft
		Push Corer			3.5"	.33gal/ft

Live Organisms present <u>-</u>	Comments <u>- INSUFFICIENT SEDIMENT VOLUME</u> <u>- LOCATION ADJUSTED FROM PROPOSED, "ES-FP" TO ATTEMPT A BIOTA-COLOCCATE SAMPLE</u>
Oil-Like Present <u>-</u>	
Odor Present <u>-</u>	
Debris Present <u>-</u>	
Photo Numbers	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 3617207486	Logger: C. LAUBACK
Sub: ASI	WO: -	Crew: B. WEYER
Date: 9/19/20	Time: 1059	Vessel: P/V TESLA
Coordinates: Lat 44.461892	Long -68.807345	Plan Volume: 0.140gal
Sampling Station: ES FP 2011202 9/19/20	Deploy No. 2	Sub-tidal Location? YES
Weather: CLEAR, 50S	Winds: 5mph	Waters: 0.5-1.0
	Traffic: NONE	Water Temp: -

Measured Water Depth [NAVD88]: 73.9	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

CL 9/19/20

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	—	Vibracorer: <u>Box</u>		—	4.0"	.50gal/ft
		Push Corer		Slambar	3.5"	.33gal/ft

Live Organisms present	—	Comments -LOCATION ADJUSTED FOR BIOTA CO-LOCATE -INSUFFICIENT RECOVERY
Oil-Like Present	—	
Odor Present	—	
Debris Present	—	
Photo Numbers	CL 9/19/20	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: <u>USDC</u>	Project No.: <u>3617207486</u>	Logger: <u>C. LABACK</u>
Sub: <u>ASI</u>	WO: <u>-</u>	Crew: <u>B. WEYER</u>
Date: <u>9/19/20</u>	Time: <u>1103</u>	Vessel: <u>R/V TESLA</u>
Coordinates: Lat <u>44.470087</u>	Long <u>-68.807451</u>	Plan Volume: <u>0.14gal</u>
Sampling Station: <u>ES-FP-2011202-3/22/20</u>	Deploy No. <u>3</u>	Sub-tidal Location? <u>YES</u>
Weather: <u>CLEAR 50S</u>	Winds: <u>5mph</u>	Waters: <u>0.5-1.0</u>
	Traffic: <u>NONE</u>	Water Temp: <u>-</u>

Measured Water Depth [NAVD88]: <u>71.0</u>	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: <u>0.5</u>	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers: <u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter
Liner Type: <u>—</u>	Vibracorer: <u>(Box)</u>			4.0"	EST. Volume
	Push Corer			Slambar	.50gal/ft
				3.5"	.33gal/ft

Live Organisms present	<u>—</u>
Oil-Like Present	<u>—</u>
Odor Present	<u>—</u>
Debris Present	<u>—</u>

Photo Numbers
B. WEYER
9/22/2020

Comments
 - INSUFFICIENT RECOVERY, LARGE QUANTITIES OF ROCK NODULES (0.5"-1.0" IN DIAM.)
 - LOCATION ADJUSTED FROM PROPOSED, "ESFP" FOR BIOTA CO-LOCATE

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 3017207486	Logger: C. LAUBACK
Sub: ASI	WO: -	Crew: B. WEYER
Date: 9/19/20	Time: 1115	Vessel: R/V TESLA
Coordinates: Lat 44.472608	Long - 68.807996	Plan Volume: 0.14gal
Sampling Station: ES-FD-MD-BW 9/22/20	Deploy No. 4	Sub-tidal Location? YES

Weather: CLEAR 50s	Winds: 5mph	Waters: 0.5-1.5'	Traffic: NONE	Water Temp: -
--------------------	-------------	------------------	---------------	---------------

Measured Water Depth [NAVD88]: 56.9	Core Penetration Length (ft.):
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):
Study Depth (-NAVD88):	Acceptable Core (80% recovery):
Required Penetration Length: 0.5'	Core Volume Retained (gal.):

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers:	—	—	—	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type:	—	Vibracorer: BOX			4.0"	.50gal/ft
		Push Corer			3.5"	.33gal/ft

Live Organisms present	—	<p align="center">Comments</p> <p>- INSUFFICIENT RECOVERY; A FEW INCHES OF SEDIMENT W/ SUBROUNDED COBBLES AND WOODY DEBRIS</p>
Oil-Like Present	—	
Odor Present	—	
Debris Present	—	
Photo Numbers	<p><i>B. WEYER</i> <i>9/22/2020</i></p>	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC	Project No.: 3617207486	Logger: C. LAUBACK
Sub: ASI	WO: —	Crew: B. WEYER
Date: 9/19/20	Time: 1120	Vessel: R/V TESLA
Coordinates: Lat 44.473310	Long -68.806748	Plan Volume: 0.140 gal
Sampling Station: ES-FP-MID-SW 9/22/20	Deploy No. 25	Sub-tidal Location? YES

Weather: CLEAR, 50S	Winds: 5 mph	Waters: 0.5' - 1.5'	Traffic: NONE	Water Temp: —
Measured Water Depth [NAVD88]: 51.9	Core Penetration Length (ft.):			
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.):			
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.):			
Study Depth (-NAVD88):	Acceptable Core (80% recovery):			
Required Penetration Length: 0.5'	Core Volume Retained (gal.):			

All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top		
Bottom		

Number of containers: —	—	—	—	Core Volumes	
Type of container: bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: —	Vibracorer: —	Push Corer: —	Slambar: —	4.0"	.50gal/ft
				3.5"	.33gal/ft

Live Organisms present: —	Comments - INSUFFICIENT RECOVERY, A FEW INCHES OF SED WITH ROCKS AND WOOD DEBRIS, SOME SMALL ARTICULATED BIVALVES (0.5")
Oil-Like Present: —	
Odor Present: —	
Debris Present: —	
Photo Numbers B. WEYER 9/22/2020	

QC CHECK BY B. WEYER 9/22/2020



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: USDC Project No.: 3617207486 Logger: C. LAURACK
 Sub: ASI WO: - Crew: B. WEYER
 Date: 9/19/20 Time: 1125 Vessel: R/V TESLA
 Coordinates: Lat 44.473142 Long -68.806787 Plan Volume: 0-140gal
 Sampling Station: ES-FP-MID-CL-9/19 Deploy No. 30 Sub-tidal Location? YES.

Weather: CLEAR 50's Winds: 5mph Waters: 0.5'-1.5' Traffic: NONE Water Temp: -

Measured Water Depth [NAVD88]: 58.4	Core Penetration Length (ft.): 0.40
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): 0.36
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): 0.36
Study Depth (-NAVD88):	Acceptable Core (80% recovery): NO
Required Penetration Length: 0.5'	Core Volume Retained (gal.): 0.10/gal

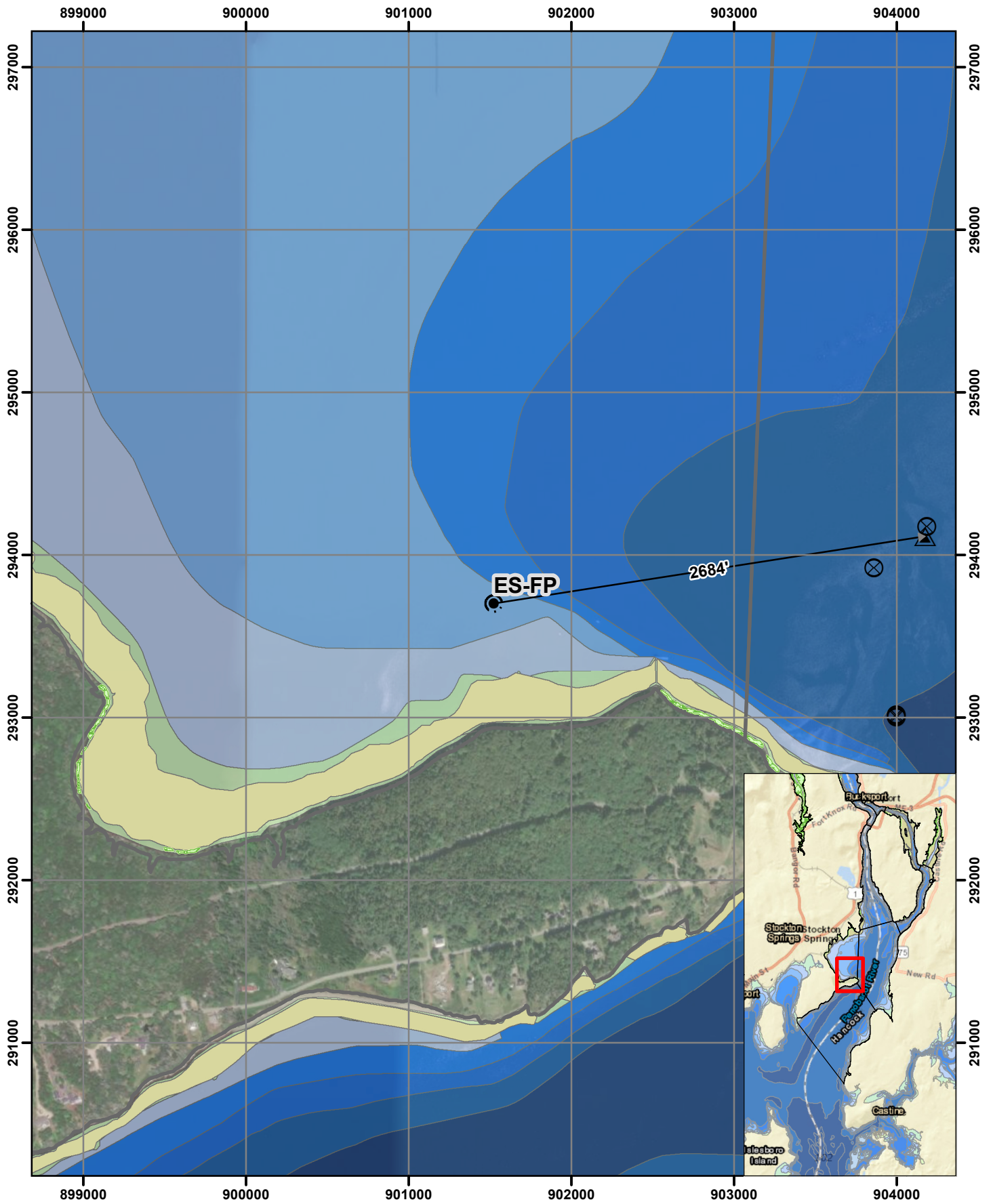
All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0'-0.1'	00-01 @1630	DARK OLIVE GRAY (5Y 3/2) SANDY SILT, TR ARTICULATED BIVALVES (0.03'-0.05'), MIN. COARSE SANDS, ORGANIC SILTS, TR WOOD CHIP, LOW TO NON-PLASTIC, ALLUVIUM
0.1-0.3	01-03 @1632	DARK GREENISH GRAY (6Y 1 4/10Y) SILTY FINE SAND, TRACE ORGANIC-LIKE MATERIAL, TR COARSE ANGULAR CLASTIC SAND, LOW PLASTIC, ALLUVIUM
0.3-0.36	030-036 @1634	DARK GREENISH GRAY (6Y 1 4/10Y) SILTY FINE SANDY SILT ONE LARGE PIECE OF WOODY-LIKE DEBRIS, LOW PLASTIC, ALLUVIUM
CL 9/19/20	CL 9/19/20	CL 9/19/20
Bottom		

Number of containers:	—	—	6	—	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: ACETATE	Vibracorer: BOX				4.0"	.50gal/ft
	Push Corer			Slambar	3.5"	.33gal/ft

Live Organisms present YES	Comments -COORDINATES IN TABLET AND RECORDED ON ASI BOAT NAMED SAMPLING STATION "ES-FP-MID"
Oil-Like Present NO	
Odor Present YES	
Debris Present NO	
Photo Numbers	
B. WEYER 9/22/2020	

QC CHECK BY B. WEYER 9/22/2020



Symbol Key

- Proposed Location
- ▲ Sample Recovery
- ⊗ No Sample Recovery
- ⊘ 25 foot radius buffer
- ⊚ 50 foot radius buffer
- Proposed/Actual (lateral feet)

Station ID: [ES-FP]
Reach: [Fort Point Cove]

0 400 800 1,600 2,400 3,200

Feet

Penobscot River Estuary
2020 Long Term Monitoring

Prepared/Date: ICD 12/20/20

Checked/Date: BPW 12/21/20

Maine State Plane CRS East Zone 1983

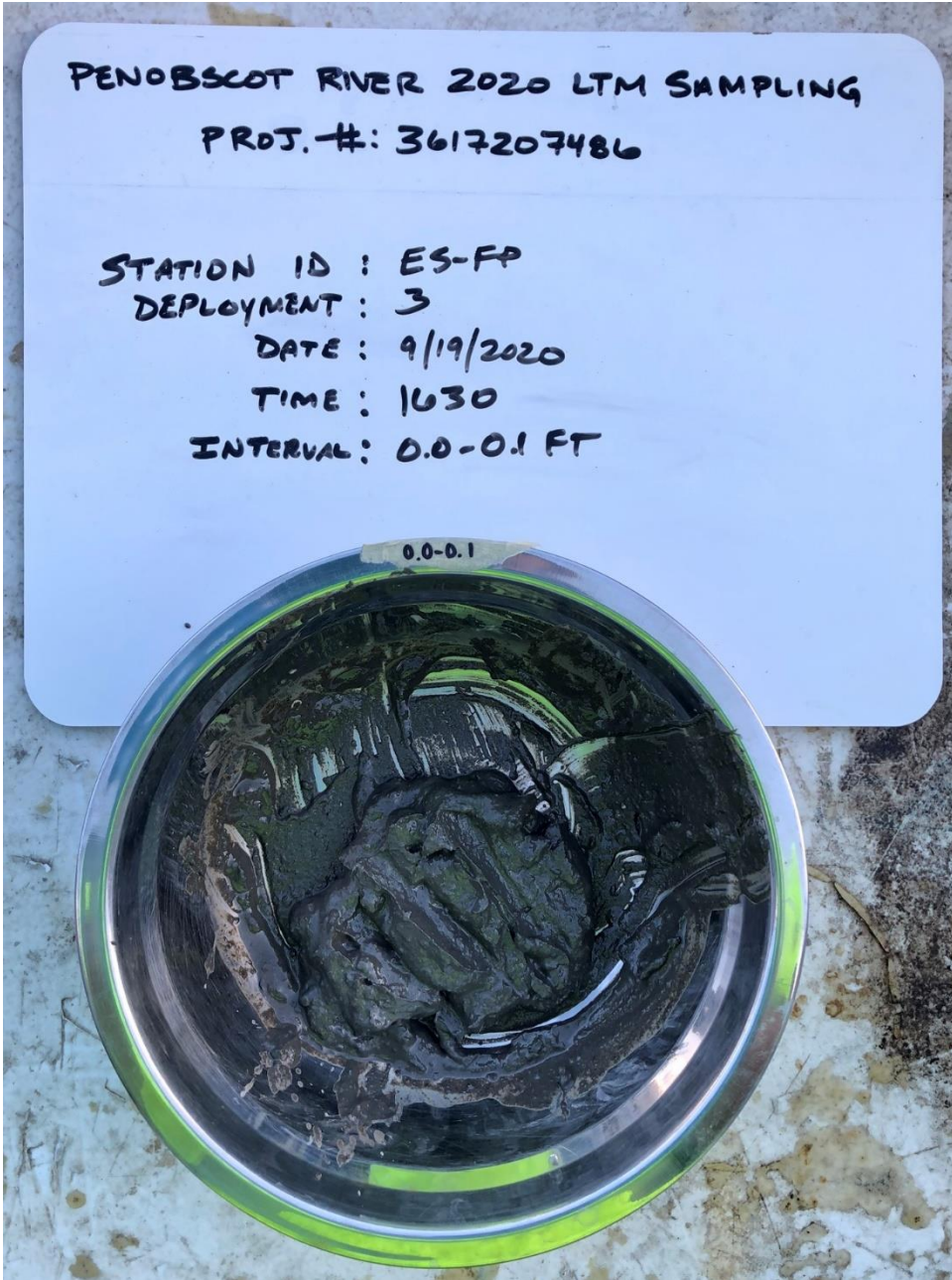


PHOTO 1:

CORE: ES-FP

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/19/2020

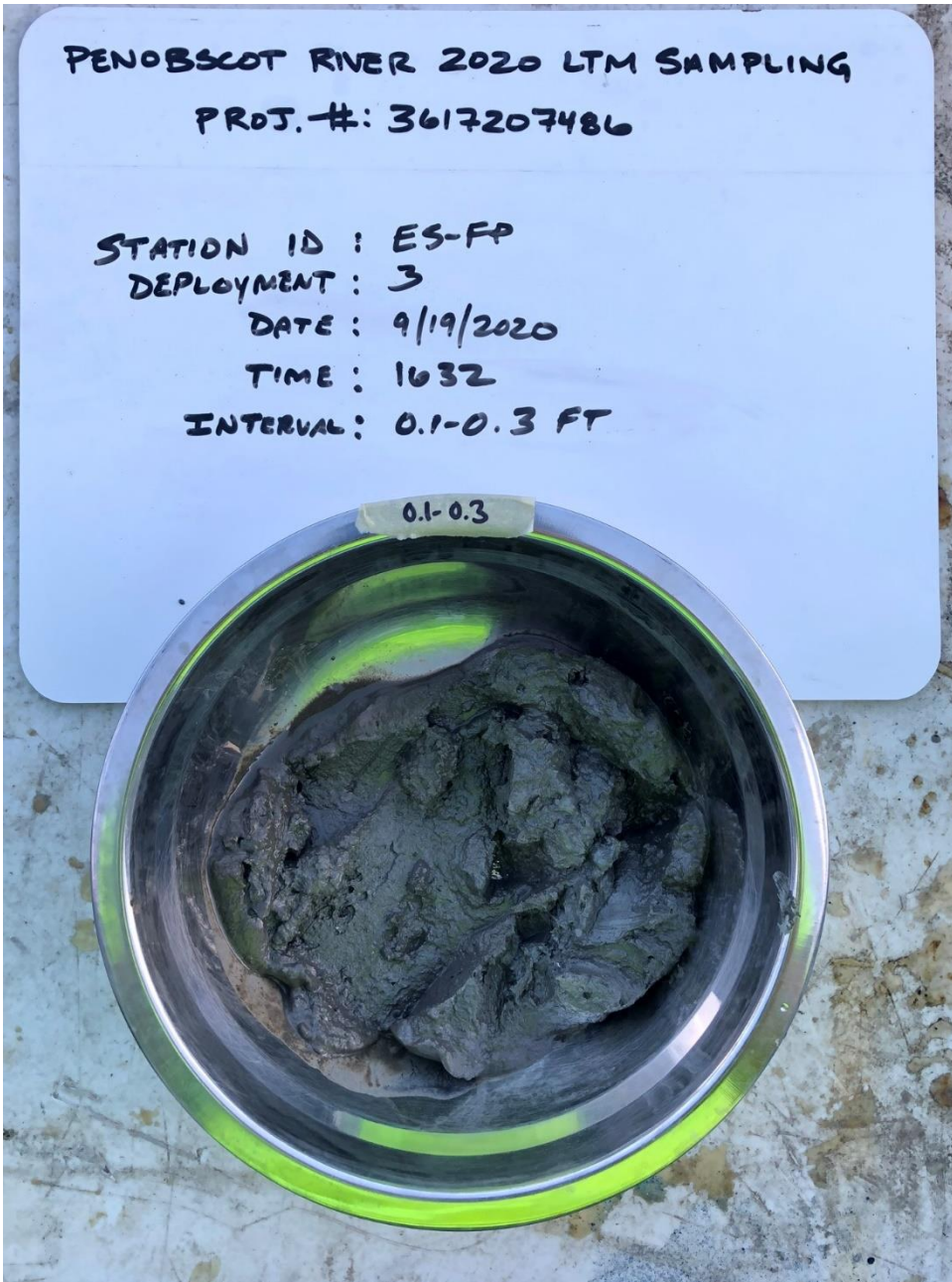


PHOTO 2:

CORE: ES-FP

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/19/2020

PHOTO 3:

CORE: ES-FP

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/19/2020

Interval not photographed

STATION SUMMARY		
Station ID: CJ-04	Core collection and sample processing date: 20 Sept 2020	Written by: C. Lauback
Analytes: Total Mercury, Methyl Mercury, Total Organic Carbon Laboratory: Eurofins		Checked by: B. Weyer

A – CJ-04 Collection Overview

On Sunday, September 20, 2020, Wood scientists cored station CJ-04 in the Cape Jellison reach between 10:33am and 11:02am aboard the *R/V Tesla*. The weather was clear with temperatures in the 50's (°F) and varying winds ranging from 10 to 15-knots. Sea conditions were slight, with a wave height of 3.0-4.0-ft, providing marginal to poor conditions for the vessel to hold on location for sampling. A box corer was utilized for sediment collection. Sediment was sampled from the box corer by 1-ft hand push cores with 3-in diameter acetate liners. One (1) deployment of the box corer was attempted at CJ-04 to obtain one (1) 1-ft hand push core, designated in the field as core CJ-04. The core was preserved on wet ice while awaiting to be processed.

B – Field Data Records

See the field forms (Attachment B) for additional information on the deployment and core at station CJ-04.

C – Deployment Accuracy - GPS Locations

As shown in the Deployment Locations Figure (Attachment C), the location of station CJ-04 represents the single deployment of the box corer. The location was sampled at a location where biota collection was successful. The deployment represented a non-vegetated subtidal zone accessible at any time within the Cape Jellison reach.

D – Processing Overview

Same-day processing was performed on CJ-04 by Wood scientists at the Wood Field Station, Winterport, Maine. Core CJ-04 was sampled at pre-designated intervals (0.0-0.1-ft, 0.1-0.3-ft, and 0.3-0.5-ft) by extruding a single interval at a time. The extruder and tools used for extrusion were decontaminated between intervals. Each interval was placed into a stainless-steel bowl, homogenized and aliquoted for analyses of total mercury, methyl mercury (0.0-0.1-ft and 0.1-0.3-ft intervals only) and total organic carbon (TOC).

The appearance and textural properties of the push core was described using the Unified Soil Classification (USCS).

Sediment Core Logs are attached (See Attachment B).

CJ-04

Push core CJ-04 had an acceptable recovery over 0.5-ft.

- 0.0 – 0.1 ft: dark gray-brown (2.5Y 4/2) CLAY and SILT, organic-like, non-plastic: ALLUVIUM
- 0.1 – 0.3 ft: very dark gray (2.5Y 3/1) CLAY and SILT, low plastic: ALLUVIUM
- 0.3 – 0.5 ft: very dark gray (2.5Y 3/1) SILT and CLAY, low to medium plasticity: ALLUVIUM

E – Photolog

The photo log, included as Attachment D, presents photos of each sample, post homogenization and pre-aliquoting for analytical samples.



Penobscot River Mercury Study - Phase III Engineering Evaluation

SEDIMENT CORE LOG

Owner: <u>VSDC</u>	Project No.: <u>3617207486</u>	Logger: <u>CLARK BACK</u>
Sub: <u>ASI</u>	WO: <u>-</u>	Crew: <u>B. WEYER</u>
Date: <u>9/20/20</u>	Time: <u>110Z</u>	Vessel: <u>R/V TESLA</u>
Coordinates: Lat <u>44.445321</u>	Long <u>-68.838183</u>	Plan Volume: <u>0.140gal</u>
Sampling Station: <u>CJ-04</u>	Deploy No. <u>1</u>	Sub-tidal Location? <u>YES</u>
Weather: <u>CLEAR 50S</u>	Winds: <u>10-15mph</u>	Waters: <u>3'-4'</u>
	Traffic: <u>NONE</u>	Water Temp: <u>-</u>

Measured Water Depth [NAVD88]:	Core Penetration Length (ft.): <u>0.60</u>
Correction to NAVD88 (+/- ft. from NAVD88):	Recovered Core Length (ft.): <u>0.55</u>
Mudline (Corrected Depth) @ NAVD88:	Sample Length Retained (ft.): <u>0.5</u>
Study Depth (-NAVD88):	Acceptable Core (80% recovery): <u>YES</u>
Required Penetration Length: <u>0.50</u>	Core Volume Retained (gal.): <u>0.140gal</u>

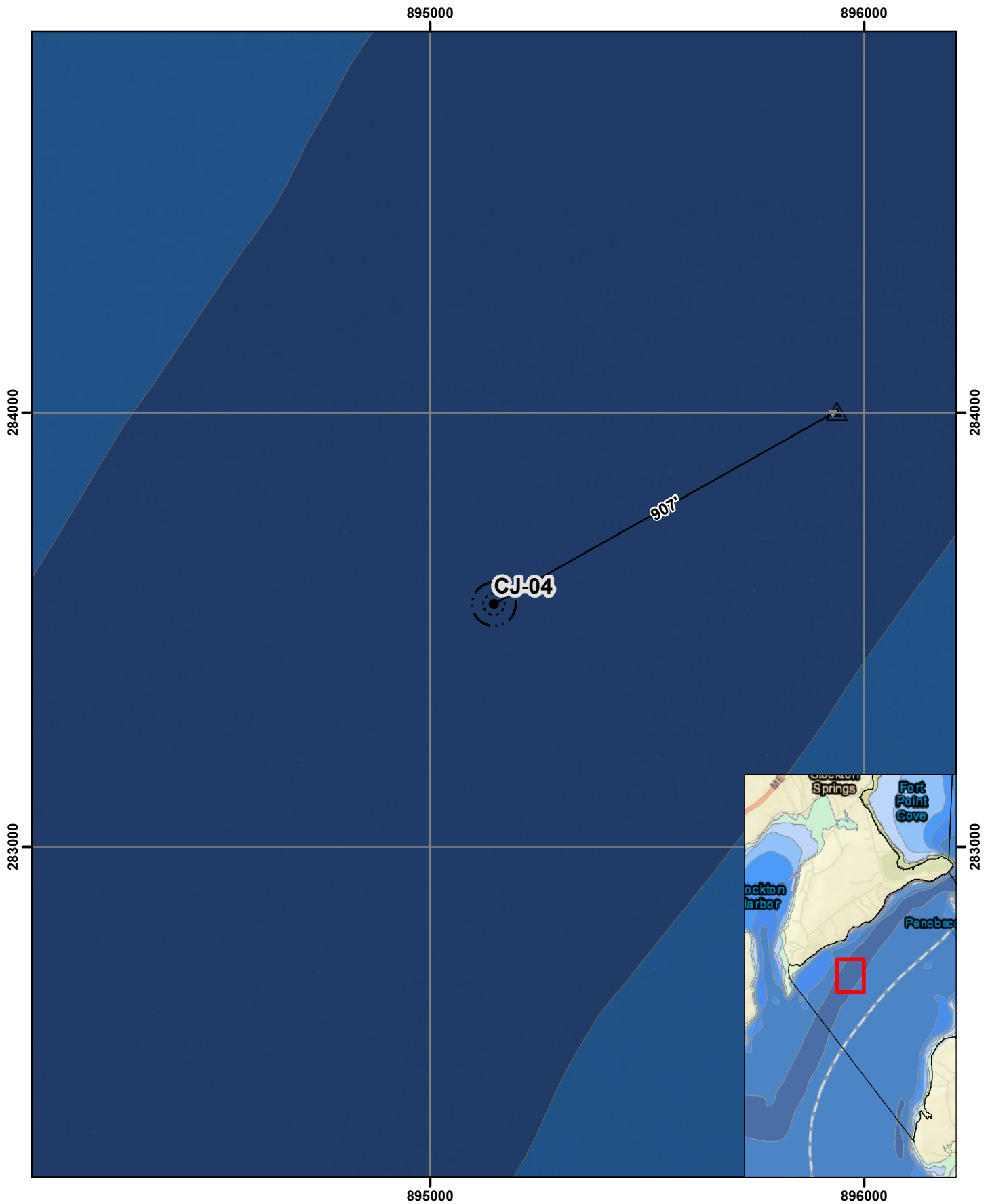
All Length Measurements are in Decimal Feet

Sample Interval (ft.)	Sample Id #	Description
Top 0.0'-0.1'	00-01	^{BROWN} DARK GRAY (2.5Y 4/2) CLAY AND SILT NON PLASTIC, ORGANIC-LIKE RICH, ALLUVIUM
0.1'-0.3'	01-03	VERY DARK GRAY (2.5Y 3/1) CLAY AND SILT, LOW PLASTIC ALLUVIUM
0.3'-0.5'	03-05	VERY DARK GRAY (2.5Y 3/1) SILT AND CLAY, LOW TO MED PLASTIC, ALLUVIUM
Bottom		

Number of containers:	<u>-</u>	<u>-</u>	<u>6</u>	<u>-</u>	Core Volumes	
Type of container:	bucket	liner bag	jar	other	Nominal core-barrel diameter	EST. Volume
Liner Type: <u>ACETATE</u>	Vibracorer: <u>BOX</u>			Slambar	4.0"	.50gal/ft
	Push Corer				3.5"	.33gal/ft

Live Organisms present <u>NO</u>	Comments
Oil-Like Present <u>-</u>	
Odor Present <u>NO</u>	
Debris Present <u>-</u>	
Photo Numbers <u>CL9/20/20</u>	

QC CHECK BY B. WEYER 9/22/2020



	Symbol Key		Station ID: [CJ-04]
	● Proposed Location	○ 25 foot radius buffer	△ Sample Recovery
	⊗ No Sample Recovery	○ 50 foot radius buffer	
		→ Proposed/Actual (lateral feet)	
Prepared/Date: ICD 12/20/20	Checked/Date: BPW 12/21/20	Maine State Plane CRS East Zone 1983	Penobscot River Estuary 2020 Long Term Monitoring

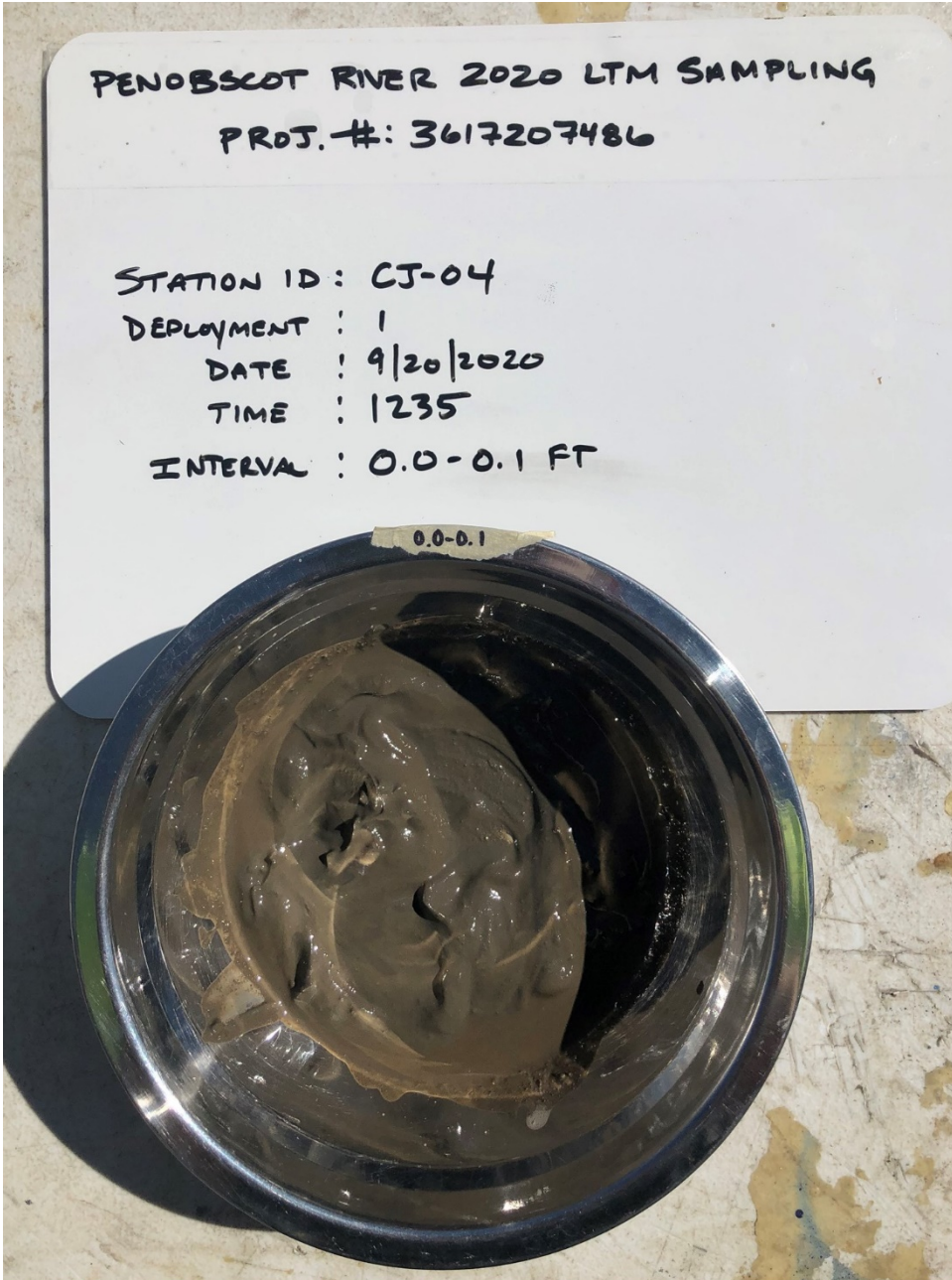


PHOTO 1:

CORE: CJ-04

DEPLOYMENT: 1

INTERVAL: 0.0-0.1 FT

DATE: 9/20/2020

PENOBSCOT RIVER 2020 LTM SAMPLING
PROJ. #: 3617207486

STATION ID : CJ-04
DEPLOYMENT : 1
DATE : 9/20/2020
TIME : 1235
INTERVAL : 0.0-0.1 FT

0.0-0.1

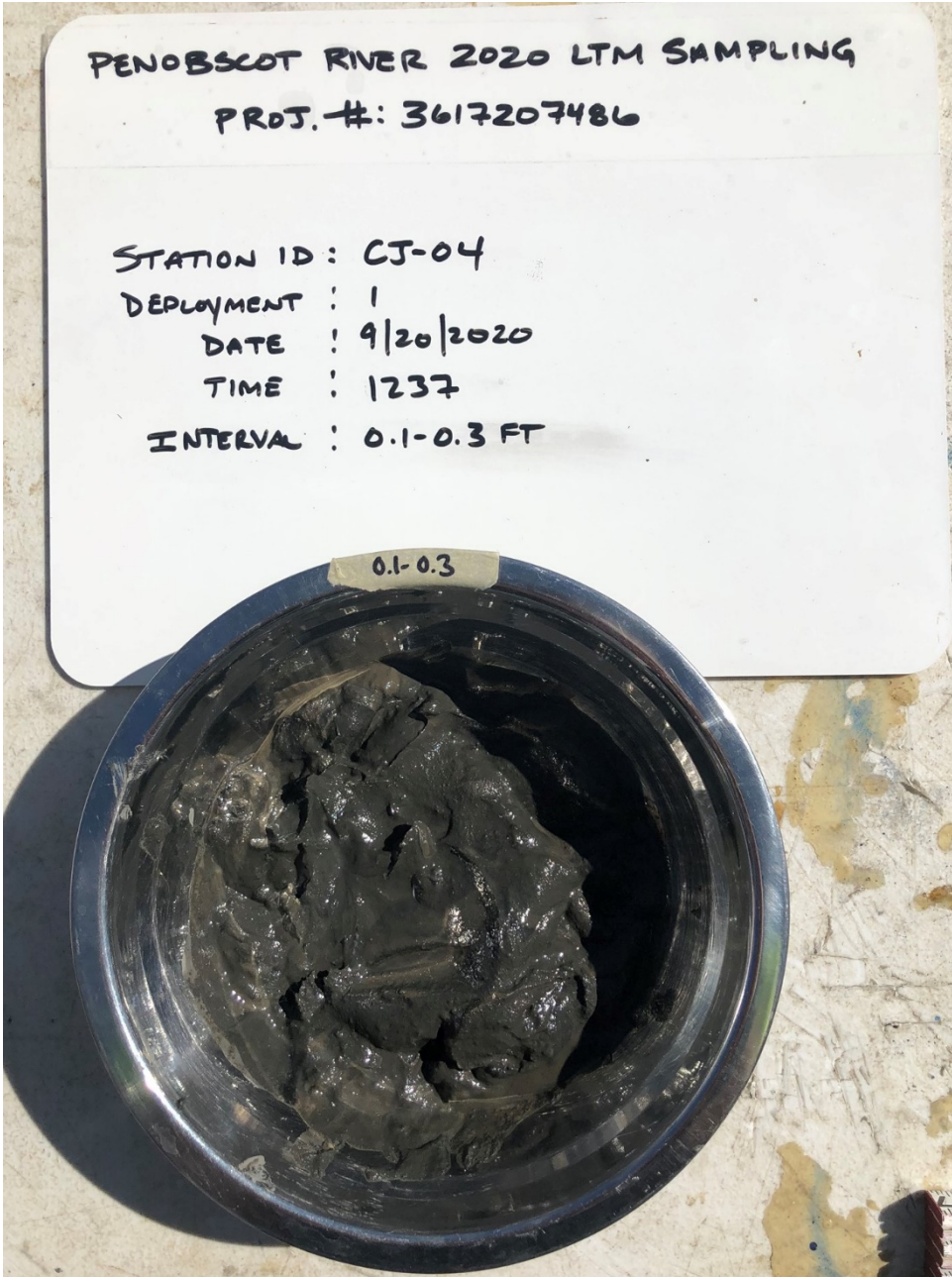


PHOTO 2:

CORE: CJ-04

DEPLOYMENT: 1

INTERVAL: 0.1-0.3 FT

DATE: 9/20/2020



PHOTO 3:

CORE: CJ-04

DEPLOYMENT: 1

INTERVAL: 0.3-0.5 FT

DATE: 9/20/2020