

# Lower Duwamish Waterway Group

*Port of Seattle / City of Seattle / King County / The Boeing Company*

## **YEAR 0 DATA PACKAGE**

Enhanced Natural Recovery/Activated Carbon Pilot Study

Lower Duwamish Waterway

## **FINAL**

*Prepared for:*

**The U.S. Environmental Protection Agency**

**Region 10**

Seattle, Washington

**The Washington State Department of Ecology**

**Northwest Regional Office**

Bellevue, Washington

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# LDW ENR/AC PILOT STUDY – YEAR 0 DATA PACKAGE

## Enhanced Natural Recovery/Activated Carbon Pilot Study

### Lower Duwamish Waterway

## 1.0 INTRODUCTION

This memorandum transmits the validated Year 0 data for the Lower Duwamish Waterway (LDW) the Enhanced Natural Recovery Activated Carbon (ENR/AC) Pilot Study consistent with the Statement of Work for the Second Amendment to the Administrative Order on Consent. These data characterize the post-placement conditions after pilot study construction. Surface sediment samples were collected from the scour, intertidal, and subtidal plots to determine total organic carbon (TOC) content, total volatile solids (TVS), and grain size.

Project description and objectives as well as sampling design, collection and handling methods, and analytical methods are detailed in the Quality Assurance Project Plan (QAPP; Amec Foster Wheeler et al., 2016) as amended by QAPP Addendum 1 (Amec Foster Wheeler et al., 2017a) and QAPP Addendum 3 (Amec Foster Wheeler et al., 2018)<sup>1</sup>. Supporting information such as chain of custody forms and data validation reports will be included in the Year 1 Data Report, in accordance with the approved QAPP.

## 2.0 METHODS AND CHANGES FROM THE QAPP

All methods and procedures outlined in the QAPP, QAPP Addendum 1, and QAPP Addendum 3 were followed in the collection and analysis of the samples, with the exceptions listed below. These changes did not affect the data quality and met the study objectives. Generally, these changes were either discussed with EPA prior to sampling event or with EPA oversight staff in the field.

1. At the intertidal and scour plots, a cookie-cutter, stainless-steel sampling device was used for sediment collection. The QAPP proposed shallow sediment cores be collected.
2. Year 0 samples were not analyzed for black carbon.

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<sup>1</sup> QAPP Addendum 2 (Amec Foster Wheeler et al., 2017b) addresses the bioaccumulation study part of the Pilot Study and is not applicable to this data.

## 2.1 SAMPLING LOCATIONS

A global positioning system (GPS) was used to position the sampling vessel such that the GPS-receiver, mounted to the winch arm directly over the receiver, was within 1 to 2 meters of the proposed sampling location. As noted in the QAPP, locations were selected by dividing the subplot into six grid cells, which were further divided into 24 location cells, numbered 1 through 24. Three discrete samples were collected from each grid cell at location cells determined by a random number generator. These samples were identified as “A”, “B”, or “C” composites as discussed in Section 2.2.

All samples were collected within the target sampling area. The plot, subplot, treatment type, sample ID, grid cell, location cell, composite (A, B, or C) and coordinates for all discrete samples are summarized in Table 1. The actual sampling locations for the subtidal, scour, and intertidal plots are shown on Figures 1, 2, and 3, respectively, and are labeled with the location cell number.

## 2.2 SAMPLE COLLECTION AND COMPOSITING

Sediment samples were collected by hand cores at the intertidal and scour plots and by power grab sampler at the subtidal plot. Samples were placed in 2-gallon buckets and transferred to the materials testing laboratory. At the materials testing laboratory, samples from the scour and intertidal plots were dried and sieved with a 3/8” sieve and a #4 sieve prior to compositing to remove the gravel fraction prior to sample analysis for TOC and TVS. All fractions were weighed and then the fraction that passed the #4 sieve was retained for further analysis. The subtidal samples and the fraction that passed the #4 sieve for the scour and intertidal samples were then composited and placed in jars. Discrete samples from all three ENR+AC subplots were also placed in jars. To form the composite sample, the six “A”, “B”, and “C” discrete samples from each subplot were composited, resulting in three composite samples per subplot. A summary of the individual samples included in each composite is provided in Table 2. The A, B, or C composite designation of each of the discrete samples is also shown on Figures 1 through 3. Further detail is provided in the QAPP.

## 2.3 SAMPLE ANALYSIS

Composite samples were analyzed for TOC by EPA 9060, TVS by SM 2540E, and grain size by ASTM D422. Subsamples of the ENR+AC composites were sieved with a #50 sieve at the analytical laboratory and the finer fraction was analyzed for TVS and TOC. Discrete samples were analyzed for TOC and TVS only. The analytical schedule for each sample is shown in Table 3.

### 3.0 DATA QUALIFIERS

The laboratory results were validated by Saylor Data Solutions. The data validation qualifiers applied are defined in Table 4.

### 4.0 RESULTS

A summary of analytical results for the bulk sediment are provided in Tables 5 and 6. For samples that were sieved, TOC and TVS results were corrected using the masses of the sieved fractions so that the result represents the complete sample, not the sieved sample.

### 5.0 REFERENCES

AMEC et al. (Amec Foster Wheeler; Dalton, Olmsted & Fuglevand, Inc.; Ramboll Environ; Floyd|Snider; and Geosyntec Consultants). 2016. Quality Assurance Project Plan, Enhanced Natural Recovery/Activated Carbon Pilot Study, Lower Duwamish Waterway. Lower Duwamish Waterway Group, Seattle, WA. February 22.

AMEC et al. (Amec Foster Wheeler; Dalton, Olmsted & Fuglevand, Inc.; Ramboll Environ; Floyd|Snider; and Geosyntec Consultants). 2017a. Quality Assurance Project Plan Addendum 1, Enhanced Natural Recovery/Activated Carbon Pilot Study, Lower Duwamish Waterway, *Ex Situ* SPME Sampling at the Subtidal Plot. Lower Duwamish Waterway Group, Seattle, WA. February 25.

AMEC et al. (Amec Foster Wheeler; Dalton, Olmsted & Fuglevand, Inc.; Ramboll Environ; Floyd|Snider; and Geosyntec Consultants). 2017b. Quality Assurance Project Plan Addendum 2, Enhanced Natural Recovery/Activated Carbon Pilot Study, Lower Duwamish Waterway, Laboratory Bioaccumulation Study. Lower Duwamish Waterway Group, Seattle, WA. May 19.

AMEC et al. (Amec Foster Wheeler; Dalton, Olmsted & Fuglevand, Inc.; Ramboll Environ; Floyd|Snider; and Geosyntec Consultants). 2018. Quality Assurance Project Plan Addendum 3, Enhanced Natural Recovery/Activated Carbon Pilot Study, Lower Duwamish Waterway, Analytical Methods for Carbon Analysis and Sieving of Gravelly Sand ENR Substrate. Lower Duwamish Waterway Group, Seattle, WA. January 31.

## **TABLES**

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**Table 1**  
**Sample Location Coordinates**

Plot	Subplot	Treatment	Discrete Sediment Sample ID	Grid Cell	Location Cell	Composite	Easting	Northing
Subtidal	East Lane	ENR	LDW-Y0-SU-ENR-1-A-CORE	1	10	A	1267924.3	205589.4
			LDW-Y0-SU-ENR-1-C-CORE	1	13	C	1267921.9	205628.5
			LDW-Y0-SU-ENR-1-B-CORE	1	24	B	1267950.8	205571.3
			LDW-Y0-SU-ENR-2-B-CORE	2	6	B	1267946.2	205490.0
			LDW-Y0-SU-ENR-2-C-CORE	2	18	C	1267964.9	205496.0
			LDW-Y0-SU-ENR-2-A-CORE	2	23	A	1267970.3	205511.1
			LDW-Y0-SU-ENR-3-A-CORE	3	6	A	1267969.6	205417.7
			LDW-Y0-SU-ENR-3-B-CORE	3	21	B	1267985.9	205462.9
			LDW-Y0-SU-ENR-3-C-CORE	3	23	C	1267993.7	205438.8
			LDW-Y0-SU-ENR-4-A-CORE	4	1	A	1267973.5	205405.6
			LDW-Y0-SU-ENR-4-C-CORE	4	18	C	1268011.7	205351.4
			LDW-Y0-SU-ENR-4-B-CORE	4	20	B	1268005.4	205402.7
			LDW-Y0-SU-ENR-5-B-CORE	5	11	B	1268021.9	205288.2
			LDW-Y0-SU-ENR-5-A-CORE	5	16	A	1268027.3	205303.3
			LDW-Y0-SU-ENR-5-C-CORE	5	21	C	1268032.8	205318.3
			LDW-Y0-SU-ENR-6-B-CORE	6	5	B	1268036.0	205212.9
	LDW-Y0-SU-ENR-6-A-CORE	6	6	A	1268039.9	205200.8		
	LDW-Y0-SU-ENR-6-C-CORE	6	23	C	1268064.0	205221.9		
	West Lane	ENR+AC	LDW-Y0-SU-ENR+AC-1-C-CORE	1	4	C	1267863.3	205569.6
			LDW-Y0-SU-ENR+AC-1-A-CORE	1	7	A	1267861.0	205608.8
			LDW-Y0-SU-ENR+AC-1-B-CORE	1	13	B	1267870.3	205611.8
			LDW-Y0-SU-ENR+AC-2-A-CORE	2	11	A	1267900.0	205488.3
			LDW-Y0-SU-ENR+AC-2-B-CORE	2	12	B	1267903.9	205476.3
			LDW-Y0-SU-ENR+AC-2-C-CORE	2	22	C	1267914.8	205506.4
			LDW-Y0-SU-ENR+AC-3-A-CORE	3	4	A	1267910.2	205425.0
			LDW-Y0-SU-ENR+AC-3-C-CORE	3	6	C	1267918.0	205400.9
			LDW-Y0-SU-ENR+AC-3-B-CORE	3	16	B	1267928.9	205431.1
			LDW-Y0-SU-ENR+AC-4-A-CORE	4	10	A	1267943.0	205355.8
			LDW-Y0-SU-ENR+AC-4-B-CORE	4	15	B	1267948.4	205370.9
			LDW-Y0-SU-ENR+AC-4-C-CORE	4	21	C	1267957.7	205373.9
			LDW-Y0-SU-ENR+AC-5-B-CORE	5	4	B	1267957.1	205280.5
			LDW-Y0-SU-ENR+AC-5-A-CORE	5	6	A	1267964.9	205256.4
LDW-Y0-SU-ENR+AC-5-C-CORE			5	15	C	1267971.8	205298.6	
LDW-Y0-SU-ENR+AC-6-B-CORE			6	9	B	1267985.9	205223.3	
LDW-Y0-SU-ENR+AC-6-A-CORE	6	10	A	1267989.8	205211.2			
LDW-Y0-SU-ENR+AC-6-C-CORE	6	13	C	1267987.4	205250.4			

**Table 1  
Sample Location Coordinates**

Plot	Subplot	Treatment	Discrete Sediment Sample ID	Grid Cell	Location Cell	Composite	Easting	Northing
Scour	Upstream	ENR	LDW-Y0-SC-ENR-1-A-CORE	1	12	A	1266967.0	211043.5
			LDW-Y0-SC-ENR-1-C-CORE	1	14	C	1266990.8	211081.6
			LDW-Y0-SC-ENR-1-B-CORE	1	20	B	1267001.9	211078.2
			LDW-Y0-SC-ENR-2-C-CORE	2	1	C	1266952.6	211036.3
			LDW-Y0-SC-ENR-2-B-CORE	2	9	B	1266957.2	211011.3
			LDW-Y0-SC-ENR-2-A-CORE	2	15	A	1266968.4	211007.9
			LDW-Y0-SC-ENR-3-A-CORE	3	2	A	1267013.1	211074.8
			LDW-Y0-SC-ENR-3-B-CORE	3	12	B	1267011.6	211029.9
			LDW-Y0-SC-ENR-3-C-CORE	3	24	C	1267034.0	211023.1
			LDW-Y0-SC-ENR-4-B-CORE	4	3	B	1266990.7	211001.1
			LDW-Y0-SC-ENR-4-C-CORE	4	21	C	1267024.2	210991.0
			LDW-Y0-SC-ENR-4-A-CORE	4	24	A	1267014.4	210958.6
			LDW-Y0-SC-ENR-5-C-CORE	5	9	C	1267065.8	211047.5
			LDW-Y0-SC-ENR-5-B-CORE	5	14	B	1267080.1	211054.5
			LDW-Y0-SC-ENR-5-A-CORE	5	23	A	1267081.8	211019.9
			LDW-Y0-SC-ENR-6-C-CORE	6	7	C	1267053.1	211005.8
			LDW-Y0-SC-ENR-6-B-CORE	6	11	B	1267040.0	210962.6
			LDW-Y0-SC-ENR-6-A-CORE	6	22	A	1267065.6	210966.6
	Downstream	ENR+AC	LDW-Y0-SC-ENR+AC-1-B-CORE	1	4	B	1267005.7	211211.0
			LDW-Y0-SC-ENR+AC-1-C-CORE	1	6	C	1266998.9	211188.6
			LDW-Y0-SC-ENR+AC-1-A-CORE	1	10	A	1267016.8	211207.6
			LDW-Y0-SC-ENR+AC-2-A-CORE	2	5	A	1266982.4	211134.5
			LDW-Y0-SC-ENR+AC-2-B-CORE	2	18	B	1267001.5	211116.9
			LDW-Y0-SC-ENR+AC-2-C-CORE	2	24	C	1267012.7	211113.5
			LDW-Y0-SC-ENR+AC-3-B-CORE	3	2	B	1267057.1	211219.8
			LDW-Y0-SC-ENR+AC-3-C-CORE	3	13	C	1267082.8	211224.2
			LDW-Y0-SC-ENR+AC-3-A-CORE	3	21	A	1267087.2	211198.4
			LDW-Y0-SC-ENR+AC-4-C-CORE	4	4	C	1267030.4	211131.7
			LDW-Y0-SC-ENR+AC-4-B-CORE	4	9	B	1267044.8	211139.1
			LDW-Y0-SC-ENR+AC-4-A-CORE	4	19	A	1267073.7	211153.9
LDW-Y0-SC-ENR+AC-5-C-CORE	5	1	C	1267105.2	211217.4			
LDW-Y0-SC-ENR+AC-5-B-CORE	5	9	B	1267109.5	211191.6			
LDW-Y0-SC-ENR+AC-5-A-CORE	5	12	A	1267099.4	211158.1			
LDW-Y0-SC-ENR+AC-6-A-CORE	6	9	A	1267089.5	211125.5			
LDW-Y0-SC-ENR+AC-6-C-CORE	6	12	C	1267079.6	211093.2			
LDW-Y0-SC-ENR+AC-6-B-CORE	6	21	B	1267111.8	211118.7			



**Table 1**  
**Sample Location Coordinates**

Plot	Subplot	Treatment	Discrete Sediment Sample ID	Grid Cell	Location Cell	Composite	Easting	Northing
Intertidal	Upstream	ENR	LDW-Y0-IN-ENR-1-C-CORE	1	4	C	1276238.1	194123.1
			LDW-Y0-IN-ENR-1-B-CORE	1	16	B	1276260.0	194128.1
			LDW-Y0-IN-ENR-1-A-CORE	1	17	A	1276262.7	194116.1
			LDW-Y0-IN-ENR-2-C-CORE	2	1	C	1276246.4	194086.9
			LDW-Y0-IN-ENR-2-B-CORE	2	3	B	1276252.0	194062.8
			LDW-Y0-IN-ENR-2-A-CORE	2	13	A	1276268.3	194091.9
			LDW-Y0-IN-ENR-3-C-CORE	3	12	C	1276287.9	193956.7
			LDW-Y0-IN-ENR-3-B-CORE	3	15	B	1276290.5	193995.4
			LDW-Y0-IN-ENR-3-A-CORE	3	20	A	1276298.7	194010.0
			LDW-Y0-IN-ENR-4-B-CORE	4	5	B	1276284.6	194121.1
			LDW-Y0-IN-ENR-4-C-CORE	4	6	C	1276287.4	194109.0
			LDW-Y0-IN-ENR-4-A-CORE	4	7	A	1276284.4	194171.9
			LDW-Y0-IN-ENR-5-B-CORE	5	2	B	1276292.9	194084.9
			LDW-Y0-IN-ENR-5-A-CORE	5	6	A	1276304.1	194036.6
	LDW-Y0-IN-ENR-5-C-CORE	5	15	C	1276317.6	194077.9		
	LDW-Y0-IN-ENR-6-C-CORE	6	8	C	1276320.5	194015.0		
	LDW-Y0-IN-ENR-6-B-CORE	6	12	B	1276331.6	193966.8		
	LDW-Y0-IN-ENR-6-A-CORE	6	14	A	1276331.5	194017.5		
	Downstream	ENR+AC	LDW-Y0-IN-ENR+AC-1-B-CORE	1	8	B	1276171.9	194460.8
			LDW-Y0-IN-ENR+AC-1-C-CORE	1	16	C	1276188.1	194440.4
			LDW-Y0-IN-ENR+AC-1-A-CORE	1	21	A	1276196.4	194454.4
			LDW-Y0-IN-ENR+AC-2-A-CORE	2	1	A	1276174.1	194401.1
			LDW-Y0-IN-ENR+AC-2-C-CORE	2	9	C	1276190.3	194380.7
			LDW-Y0-IN-ENR+AC-2-B-CORE	2	14	B	1276198.6	194394.7
LDW-Y0-IN-ENR+AC-3-C-CORE			3	1	C	1276189.9	194332.5	
LDW-Y0-IN-ENR+AC-3-B-CORE			3	17	B	1276222.3	194291.8	
LDW-Y0-IN-ENR+AC-3-A-CORE			3	20	A	1276225.4	194328.6	
LDW-Y0-IN-ENR+AC-4-A-CORE			4	18	A	1276237.1	194427.6	
LDW-Y0-IN-ENR+AC-4-C-CORE			4	22	C	1276242.8	194453.0	
LDW-Y0-IN-ENR+AC-4-B-CORE			4	24	B	1276248.0	194430.1	
LDW-Y0-IN-ENR+AC-5-B-CORE			5	16	B	1276247.6	194381.9	
LDW-Y0-IN-ENR+AC-5-C-CORE			5	18	C	1276252.9	194359.0	
LDW-Y0-IN-ENR+AC-5-A-CORE	5	24	A	1276263.8	194361.5			
LDW-Y0-IN-ENR+AC-6-B-CORE	6	11	B	1276255.1	194299.3			
LDW-Y0-IN-ENR+AC-6-A-CORE	6	16	A	1276263.4	194313.3			
LDW-Y0-IN-ENR+AC-6-C-CORE	6	21	C	1276271.7	194327.2			

**Notes:**

- Locations were selected by dividing the subplot into a 4-by-6 grid, numbering the grid cells 1 through 24, and then using a random number generator to select the location of each sample. The GPS coordinates of the center of the selected cell are presented in the database expressed as Northings and Eastings in state plane coordinates according to the procedures in Section 3.0 of the QAPP.
- Coordinates for center of location cell in Washington State Plane North.

**Abbreviations:**

ENR = Enhanced natural recovery

ENR+AC = Enhanced natural recovery amended with activated carbon

GPS = Global positioning system

**Table 2  
Composite Formation**

Plot	Subplot	Grid Cell	Location Cell	Composite	Discrete Sediment Sample ID	Composite Sediment Sample ID
Subtidal	ENR	1	10	A	LDW-Y0-SU-ENR-1-A-CORE	LDW-Y0-SU-ENR-CA-CORE
Subtidal	ENR	2	23	A	LDW-Y0-SU-ENR-2-A-CORE	
Subtidal	ENR	3	6	A	LDW-Y0-SU-ENR-3-A-CORE	
Subtidal	ENR	4	1	A	LDW-Y0-SU-ENR-4-A-CORE	
Subtidal	ENR	5	16	A	LDW-Y0-SU-ENR-5-A-CORE	
Subtidal	ENR	6	6	A	LDW-Y0-SU-ENR-6-A-CORE	
Subtidal	ENR	1	24	B	LDW-Y0-SU-ENR-1-B-CORE	LDW-Y0-SU-ENR-CB-CORE
Subtidal	ENR	2	6	B	LDW-Y0-SU-ENR-2-B-CORE	
Subtidal	ENR	3	21	B	LDW-Y0-SU-ENR-3-B-CORE	
Subtidal	ENR	4	20	B	LDW-Y0-SU-ENR-4-B-CORE	
Subtidal	ENR	5	11	B	LDW-Y0-SU-ENR-5-B-CORE	
Subtidal	ENR	6	5	B	LDW-Y0-SU-ENR-6-B-CORE	
Subtidal	ENR	1	13	C	LDW-Y0-SU-ENR-1-C-CORE	LDW-Y0-SU-ENR-CC-CORE
Subtidal	ENR	2	18	C	LDW-Y0-SU-ENR-2-C-CORE	
Subtidal	ENR	3	23	C	LDW-Y0-SU-ENR-3-C-CORE	
Subtidal	ENR	4	18	C	LDW-Y0-SU-ENR-4-C-CORE	
Subtidal	ENR	5	21	C	LDW-Y0-SU-ENR-5-C-CORE	
Subtidal	ENR	6	23	C	LDW-Y0-SU-ENR-6-C-CORE	
Subtidal	ENR+AC	1	7	A	LDW-Y0-SU-ENR+AC-1-A-CORE	LDW-Y0-SU-ENR+AC-CA-CORE
Subtidal	ENR+AC	2	11	A	LDW-Y0-SU-ENR+AC-2-A-CORE	
Subtidal	ENR+AC	3	4	A	LDW-Y0-SU-ENR+AC-3-A-CORE	
Subtidal	ENR+AC	4	10	A	LDW-Y0-SU-ENR+AC-4-A-CORE	
Subtidal	ENR+AC	5	6	A	LDW-Y0-SU-ENR+AC-5-A-CORE	
Subtidal	ENR+AC	6	10	A	LDW-Y0-SU-ENR+AC-6-A-CORE	
Subtidal	ENR+AC	1	13	B	LDW-Y0-SU-ENR+AC-1-B-CORE	LDW-Y0-SU-ENR+AC-CB-CORE
Subtidal	ENR+AC	2	12	B	LDW-Y0-SU-ENR+AC-2-B-CORE	
Subtidal	ENR+AC	3	16	B	LDW-Y0-SU-ENR+AC-3-B-CORE	
Subtidal	ENR+AC	4	15	B	LDW-Y0-SU-ENR+AC-4-B-CORE	
Subtidal	ENR+AC	5	4	B	LDW-Y0-SU-ENR+AC-5-B-CORE	
Subtidal	ENR+AC	6	9	B	LDW-Y0-SU-ENR+AC-6-B-CORE	
Subtidal	ENR+AC	1	4	C	LDW-Y0-SU-ENR+AC-1-C-CORE	LDW-Y0-SU-ENR+AC-CC-CORE
Subtidal	ENR+AC	2	22	C	LDW-Y0-SU-ENR+AC-2-C-CORE	
Subtidal	ENR+AC	3	6	C	LDW-Y0-SU-ENR+AC-3-C-CORE	
Subtidal	ENR+AC	4	21	C	LDW-Y0-SU-ENR+AC-4-C-CORE	
Subtidal	ENR+AC	5	15	C	LDW-Y0-SU-ENR+AC-5-C-CORE	
Subtidal	ENR+AC	6	13	C	LDW-Y0-SU-ENR+AC-6-C-CORE	

**Table 2  
Composite Formation**

Plot	Subplot	Grid Cell	Location Cell	Composite	Discrete Sediment Sample ID	Composite Sediment Sample ID
Scour	ENR	1	12	A	LDW-Y0-SC-ENR-1-A-CORE	LDW-Y0-SC-ENR-CA-CORE
Scour	ENR	2	15	A	LDW-Y0-SC-ENR-2-A-CORE	
Scour	ENR	3	2	A	LDW-Y0-SC-ENR-3-A-CORE	
Scour	ENR	4	24	A	LDW-Y0-SC-ENR-4-A-CORE	
Scour	ENR	5	23	A	LDW-Y0-SC-ENR-5-A-CORE	
Scour	ENR	6	22	A	LDW-Y0-SC-ENR-6-A-CORE	
Scour	ENR	1	20	B	LDW-Y0-SC-ENR-1-B-CORE	LDW-Y0-SC-ENR-CB-CORE
Scour	ENR	2	9	B	LDW-Y0-SC-ENR-2-B-CORE	
Scour	ENR	3	12	B	LDW-Y0-SC-ENR-3-B-CORE	
Scour	ENR	4	3	B	LDW-Y0-SC-ENR-4-B-CORE	
Scour	ENR	5	14	B	LDW-Y0-SC-ENR-5-B-CORE	
Scour	ENR	6	11	B	LDW-Y0-SC-ENR-6-B-CORE	
Scour	ENR	1	14	C	LDW-Y0-SC-ENR-1-C-CORE	LDW-Y0-SC-ENR-CC-CORE
Scour	ENR	2	1	C	LDW-Y0-SC-ENR-2-C-CORE	
Scour	ENR	3	24	C	LDW-Y0-SC-ENR-3-C-CORE	
Scour	ENR	4	21	C	LDW-Y0-SC-ENR-4-C-CORE	
Scour	ENR	5	9	C	LDW-Y0-SC-ENR-5-C-CORE	
Scour	ENR	6	7	C	LDW-Y0-SC-ENR-6-C-CORE	
Scour	ENR+AC	1	10	A	LDW-Y0-SC-ENR+AC-1-A-CORE	LDW-Y0-SC-ENR+AC-CA-CORE
Scour	ENR+AC	2	5	A	LDW-Y0-SC-ENR+AC-2-A-CORE	
Scour	ENR+AC	3	21	A	LDW-Y0-SC-ENR+AC-3-A-CORE	
Scour	ENR+AC	4	19	A	LDW-Y0-SC-ENR+AC-4-A-CORE	
Scour	ENR+AC	5	12	A	LDW-Y0-SC-ENR+AC-5-A-CORE	
Scour	ENR+AC	6	9	A	LDW-Y0-SC-ENR+AC-6-A-CORE	
Scour	ENR+AC	1	4	B	LDW-Y0-SC-ENR+AC-1-B-CORE	LDW-Y0-SC-ENR+AC-CB-CORE
Scour	ENR+AC	2	18	B	LDW-Y0-SC-ENR+AC-2-B-CORE	
Scour	ENR+AC	3	2	B	LDW-Y0-SC-ENR+AC-3-B-CORE	
Scour	ENR+AC	4	9	B	LDW-Y0-SC-ENR+AC-4-B-CORE	
Scour	ENR+AC	5	9	B	LDW-Y0-SC-ENR+AC-5-B-CORE	
Scour	ENR+AC	6	21	B	LDW-Y0-SC-ENR+AC-6-B-CORE	
Scour	ENR+AC	1	6	C	LDW-Y0-SC-ENR+AC-1-C-CORE	LDW-Y0-SC-ENR+AC-CC-CORE
Scour	ENR+AC	2	24	C	LDW-Y0-SC-ENR+AC-2-C-CORE	
Scour	ENR+AC	3	13	C	LDW-Y0-SC-ENR+AC-3-C-CORE	
Scour	ENR+AC	4	4	C	LDW-Y0-SC-ENR+AC-4-C-CORE	
Scour	ENR+AC	5	1	C	LDW-Y0-SC-ENR+AC-5-C-CORE	
Scour	ENR+AC	6	12	C	LDW-Y0-SC-ENR+AC-6-C-CORE	

**Table 2  
Composite Formation**

Plot	Subplot	Grid Cell	Location Cell	Composite	Discrete Sediment Sample ID	Composite Sediment Sample ID
Intertidal	ENR	1	17	A	LDW-Y0-IN-ENR-1-A-CORE	LDW-Y0-IN-ENR-CA-CORE
Intertidal	ENR	2	13	A	LDW-Y0-IN-ENR-2-A-CORE	
Intertidal	ENR	3	20	A	LDW-Y0-IN-ENR-3-A-CORE	
Intertidal	ENR	4	7	A	LDW-Y0-IN-ENR-4-A-CORE	
Intertidal	ENR	5	6	A	LDW-Y0-IN-ENR-5-A-CORE	
Intertidal	ENR	6	14	A	LDW-Y0-IN-ENR-6-A-CORE	
Intertidal	ENR	1	16	B	LDW-Y0-IN-ENR-1-B-CORE	LDW-Y0-IN-ENR-CB-CORE
Intertidal	ENR	2	3	B	LDW-Y0-IN-ENR-2-B-CORE	
Intertidal	ENR	3	15	B	LDW-Y0-IN-ENR-3-B-CORE	
Intertidal	ENR	4	5	B	LDW-Y0-IN-ENR-4-B-CORE	
Intertidal	ENR	5	2	B	LDW-Y0-IN-ENR-5-B-CORE	
Intertidal	ENR	6	12	B	LDW-Y0-IN-ENR-6-B-CORE	
Intertidal	ENR	1	4	C	LDW-Y0-IN-ENR-1-C-CORE	LDW-Y0-IN-ENR-CC-CORE
Intertidal	ENR	2	1	C	LDW-Y0-IN-ENR-2-C-CORE	
Intertidal	ENR	3	12	C	LDW-Y0-IN-ENR-3-C-CORE	
Intertidal	ENR	4	6	C	LDW-Y0-IN-ENR-4-C-CORE	
Intertidal	ENR	5	15	C	LDW-Y0-IN-ENR-5-C-CORE	
Intertidal	ENR	6	8	C	LDW-Y0-IN-ENR-6-C-CORE	
Intertidal	ENR+AC	1	21	A	LDW-Y0-IN-ENR+AC-1-A-CORE	LDW-Y0-IN-ENR+AC-CA-CORE
Intertidal	ENR+AC	2	1	A	LDW-Y0-IN-ENR+AC-2-A-CORE	
Intertidal	ENR+AC	3	20	A	LDW-Y0-IN-ENR+AC-3-A-CORE	
Intertidal	ENR+AC	4	18	A	LDW-Y0-IN-ENR+AC-4-A-CORE	
Intertidal	ENR+AC	5	24	A	LDW-Y0-IN-ENR+AC-5-A-CORE	
Intertidal	ENR+AC	6	16	A	LDW-Y0-IN-ENR+AC-6-A-CORE	
Intertidal	ENR+AC	1	8	B	LDW-Y0-IN-ENR+AC-1-B-CORE	LDW-Y0-IN-ENR+AC-CB-CORE
Intertidal	ENR+AC	2	14	B	LDW-Y0-IN-ENR+AC-2-B-CORE	
Intertidal	ENR+AC	3	17	B	LDW-Y0-IN-ENR+AC-3-B-CORE	
Intertidal	ENR+AC	4	24	B	LDW-Y0-IN-ENR+AC-4-B-CORE	
Intertidal	ENR+AC	5	16	B	LDW-Y0-IN-ENR+AC-5-B-CORE	
Intertidal	ENR+AC	6	11	B	LDW-Y0-IN-ENR+AC-6-B-CORE	
Intertidal	ENR+AC	1	16	C	LDW-Y0-IN-ENR+AC-1-C-CORE	LDW-Y0-IN-ENR+AC-CC-CORE
Intertidal	ENR+AC	2	9	C	LDW-Y0-IN-ENR+AC-2-C-CORE	
Intertidal	ENR+AC	3	1	C	LDW-Y0-IN-ENR+AC-3-C-CORE	
Intertidal	ENR+AC	4	22	C	LDW-Y0-IN-ENR+AC-4-C-CORE	
Intertidal	ENR+AC	5	18	C	LDW-Y0-IN-ENR+AC-5-C-CORE	
Intertidal	ENR+AC	6	21	C	LDW-Y0-IN-ENR+AC-6-C-CORE	

Abbreviations:

ENR = Enhanced natural recovery

ENR+AC = Enhanced natural recovery amended with activated carbon

**Table 3  
Analytical Schedule**

Sample ID	Pre-Analytical Laboratory Submission Sieving (3/8" and #4 Sieve)	Analytical Laboratory Sieving (#50 Sieve)	TOC EPA 9060	TVS SM 2540E	Grain Size ASTM D422
<b>Surface Sediment Composite Samples</b>					
LDW-Y0-SU-ENR-CA-CORE			x	x	x
LDW-Y0-SU-ENR-CB-CORE			x	x	x
LDW-Y0-SU-ENR-CC-CORE			x	x	x
LDW-Y0-SU-ENR+AC-CA-CORE		x	x	x	x
LDW-Y0-SU-ENR+AC-CB-CORE		x	x	x	x
LDW-Y0-SU-ENR+AC-CC-CORE		x	x	x	x
LDW-Y0-SC-ENR-CA-CORE			x	x	x
LDW-Y0-SC-ENR-CB-CORE			x	x	x
LDW-Y0-SC-ENR-CC-CORE			x	x	x
LDW-Y0-SC-ENR+AC-CA-CORE		x	x	x	x
LDW-Y0-SC-ENR+AC-CB-CORE		x	x	x	x
LDW-Y0-SC-ENR+AC-CC-CORE		x	x	x	x
LDW-Y0-IN-ENR-CA-CORE			x	x	x
LDW-Y0-IN-ENR-CB-CORE			x	x	x
LDW-Y0-IN-ENR-CC-CORE			x	x	x
LDW-Y0-IN-ENR+AC-CA-CORE		x	x	x	x
LDW-Y0-IN-ENR+AC-CB-CORE		x	x	x	x
LDW-Y0-IN-ENR+AC-CC-CORE		x	x	x	x
<b>Surface Sediment Discrete Samples</b>					
LDW-Y0-SU-ENR-1-A-COR	Not analyzed, only used to make composite samples				
LDW-Y0-SU-ENR-2-A-COR					
LDW-Y0-SU-ENR-3-A-COR					
LDW-Y0-SU-ENR-4-A-COR					
LDW-Y0-SU-ENR-5-A-COR					
LDW-Y0-SU-ENR-6-A-COR					
LDW-Y0-SU-ENR-1-B-COR					
LDW-Y0-SU-ENR-2-B-COR					
LDW-Y0-SU-ENR-3-B-COR					
LDW-Y0-SU-ENR-4-B-COR					
LDW-Y0-SU-ENR-5-B-COR					
LDW-Y0-SU-ENR-6-B-COR					
LDW-Y0-SU-ENR-1-C-COR					
LDW-Y0-SU-ENR-2-C-COR					
LDW-Y0-SU-ENR-3-C-COR					
LDW-Y0-SU-ENR-4-C-COR					
LDW-Y0-SU-ENR-5-C-COR					
LDW-Y0-SU-ENR-6-C-COR					

**Table 3  
Analytical Schedule**

Sample ID	Pre-Analytical Laboratory Submission Sieving (3/8" and #4 Sieve)	Analytical Laboratory Sieving (#50 Sieve)	TOC EPA 9060	TVS SM 2540E	Grain Size ASTM D422
<b>Surface Sediment Discrete Samples</b>					
LDW-Y0-SU-ENR+AC-1-A-COR			x	x	
LDW-Y0-SU-ENR+AC-2-A-COR			x	x	
LDW-Y0-SU-ENR+AC-3-A-COR			x	x	
LDW-Y0-SU-ENR+AC-4-A-COR			x	x	
LDW-Y0-SU-ENR+AC-5-A-COR			x	x	
LDW-Y0-SU-ENR+AC-6-A-COR			x	x	
LDW-Y0-SU-ENR+AC-1-B-COR			x	x	
LDW-Y0-SU-ENR+AC-2-B-COR			x	x	
LDW-Y0-SU-ENR+AC-3-B-COR			x	x	
LDW-Y0-SU-ENR+AC-4-B-COR			x	x	
LDW-Y0-SU-ENR+AC-5-B-COR			x	x	
LDW-Y0-SU-ENR+AC-6-B-COR			x	x	
LDW-Y0-SU-ENR+AC-1-C-COR			x	x	
LDW-Y0-SU-ENR+AC-2-C-COR			x	x	
LDW-Y0-SU-ENR+AC-3-C-COR			x	x	
LDW-Y0-SU-ENR+AC-4-C-COR			x	x	
LDW-Y0-SU-ENR+AC-5-C-COR			x	x	
LDW-Y0-SU-ENR+AC-6-C-COR			x	x	
LDW-Y0-SC-ENR-1-A-COR	x				
LDW-Y0-SC-ENR-2-A-COR	x				
LDW-Y0-SC-ENR-3-A-COR	x				
LDW-Y0-SC-ENR-4-A-COR	x				
LDW-Y0-SC-ENR-5-A-COR	x				
LDW-Y0-SC-ENR-6-A-COR	x				
LDW-Y0-SC-ENR-1-B-COR	x				
LDW-Y0-SC-ENR-2-B-COR	x				
LDW-Y0-SC-ENR-3-B-COR	x				
LDW-Y0-SC-ENR-4-B-COR	x				
LDW-Y0-SC-ENR-5-B-COR	x				
LDW-Y0-SC-ENR-6-B-COR	x				
LDW-Y0-SC-ENR-1-C-COR	x				
LDW-Y0-SC-ENR-2-C-COR	x				
LDW-Y0-SC-ENR-3-C-COR	x				
LDW-Y0-SC-ENR-4-C-COR	x				
LDW-Y0-SC-ENR-5-C-COR	x				
LDW-Y0-SC-ENR-6-C-COR	x				

**Table 3  
Analytical Schedule**

Sample ID	Pre-Analytical Laboratory Submission Sieving (3/8" and #4 Sieve)	Analytical Laboratory Sieving (#50 Sieve)	TOC EPA 9060	TVS SM 2540E	Grain Size ASTM D422
<b>Surface Sediment Discrete Samples</b>					
LDW-Y0-SC-ENR+AC-1-A-COR	x		x	x	
LDW-Y0-SC-ENR+AC-2-A-COR	x		x	x	
LDW-Y0-SC-ENR+AC-3-A-COR	x		x	x	
LDW-Y0-SC-ENR+AC-4-A-COR	x		x	x	
LDW-Y0-SC-ENR+AC-5-A-COR	x		x	x	
LDW-Y0-SC-ENR+AC-6-A-COR	x		x	x	
LDW-Y0-SC-ENR+AC-1-B-COR	x		x	x	
LDW-Y0-SC-ENR+AC-2-B-COR	x		x	x	
LDW-Y0-SC-ENR+AC-3-B-COR	x		x	x	
LDW-Y0-SC-ENR+AC-4-B-COR	x		x	x	
LDW-Y0-SC-ENR+AC-5-B-COR	x		x	x	
LDW-Y0-SC-ENR+AC-6-B-COR	x		x	x	
LDW-Y0-SC-ENR+AC-1-C-COR	x		x	x	
LDW-Y0-SC-ENR+AC-2-C-COR	x		x	x	
LDW-Y0-SC-ENR+AC-3-C-COR	x		x	x	
LDW-Y0-SC-ENR+AC-4-C-COR	x		x	x	
LDW-Y0-SC-ENR+AC-5-C-COR	x		x	x	
LDW-Y0-SC-ENR+AC-6-C-COR	x		x	x	
LDW-Y0-IN-ENR-1-A-COR	x				
LDW-Y0-IN-ENR-2-A-COR	x				
LDW-Y0-IN-ENR-3-A-COR	x				
LDW-Y0-IN-ENR-4-A-COR	x				
LDW-Y0-IN-ENR-5-A-COR	x				
LDW-Y0-IN-ENR-6-A-COR	x				
LDW-Y0-IN-ENR-1-B-COR	x				
LDW-Y0-IN-ENR-2-B-COR	x				
LDW-Y0-IN-ENR-3-B-COR	x				
LDW-Y0-IN-ENR-4-B-COR	x				
LDW-Y0-IN-ENR-5-B-COR	x				
LDW-Y0-IN-ENR-6-B-COR	x				
LDW-Y0-IN-ENR-1-C-COR	x				
LDW-Y0-IN-ENR-2-C-COR	x				
LDW-Y0-IN-ENR-3-C-COR	x				
LDW-Y0-IN-ENR-4-C-COR	x				
LDW-Y0-IN-ENR-5-C-COR	x				
LDW-Y0-IN-ENR-6-C-COR	x				

**Table 3  
Analytical Schedule**

Sample ID	Pre-Analytical Laboratory Submission Sieving (3/8" and #4 Sieve)	Analytical Laboratory Sieving (#50 Sieve)	TOC EPA 9060	TVS SM 2540E	Grain Size ASTM D422
<b>Surface Sediment Discrete Samples</b>					
LDW-Y0-IN-ENR+AC-1-A-COR	x		x	x	
LDW-Y0-IN-ENR+AC-2-A-COR	x		x	x	
LDW-Y0-IN-ENR+AC-3-A-COR	x		x	x	
LDW-Y0-IN-ENR+AC-4-A-COR	x		x	x	
LDW-Y0-IN-ENR+AC-5-A-COR	x		x	x	
LDW-Y0-IN-ENR+AC-6-A-COR	x		x	x	
LDW-Y0-IN-ENR+AC-1-B-COR	x		x	x	
LDW-Y0-IN-ENR+AC-2-B-COR	x		x	x	
LDW-Y0-IN-ENR+AC-3-B-COR	x		x	x	
LDW-Y0-IN-ENR+AC-4-B-COR	x		x	x	
LDW-Y0-IN-ENR+AC-5-B-COR	x		x	x	
LDW-Y0-IN-ENR+AC-6-B-COR	x		x	x	
LDW-Y0-IN-ENR+AC-1-C-COR	x		x	x	
LDW-Y0-IN-ENR+AC-2-C-COR	x		x	x	
LDW-Y0-IN-ENR+AC-3-C-COR	x		x	x	
LDW-Y0-IN-ENR+AC-4-C-COR	x		x	x	
LDW-Y0-IN-ENR+AC-5-C-COR	x		x	x	
LDW-Y0-IN-ENR+AC-6-C-COR	x		x	x	

Abbreviations:

ASTM = American Society for Testing and Materials  
 ENR = Enhanced natural recovery  
 ENR+AC = Enhanced natural recovery amended with activated carbon  
 EPA = U.S. Environmental Protection Agency

SM = Standard method  
 TOC = Total organic carbon  
 TVS = Total volatile solids



**Table 4**  
**Data Qualifier Definitions**

<b>Qualifier</b>	<b>Definition</b>	<b>Description</b>
J	Estimated	Analyte was detected, concentration is considered an estimate.
U	Non-detect	Analyte was not detected, concentration is the estimated detection limit.

**Table 5  
Total Volatile Solids and Total Organic Carbon Results for Bulk Sediment**

Plot	Subplot	Sample Type	Sample ID	Sample Date	Plot	Analyte Sub Plot	Pre-Analytical Laboratory Submission Sieving to Remove Gravel Fraction				Analytical Laboratory Sieving			Total Volatile Solids (TVS)			Total Organic Carbon (TOC)				
							Total Mass g	Mass on 3/8" Sieve g	Mass on #4 Sieve g	Mass Passing #4 g	Total Mass g	Mass on #50 Sieve g	Mass Passing #50 g	TVS without Gravel Fraction (Average) %	Corrected TVS with Gravel Fraction (Average) <sup>1</sup> %	TVS Passing #50 Sieve (Average) <sup>2</sup> %	TOC without Gravel Fraction (Average) %	TOC RPD %	Corrected TOC with Gravel Fraction (Average) <sup>1</sup> %	TOC Passing #50 Sieve (Average) %	Corrected TOC Passing #50 Sieve (Average) <sup>3</sup> %
Subtidal	ENR	Composite of "A" Locations	LDW-Y0-SU-ENR-CA-CORE	4/13/2017	Subtidal	ENR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.1	N/A	1.1	0.12	0	N/A	--	--
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-1-A-COR	4/13/2017	Subtidal	ENR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-2-A-COR	4/13/2017	Subtidal	ENR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-3-A-COR	4/13/2017	Subtidal	ENR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-4-A-COR	4/13/2017	Subtidal	ENR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-5-A-COR	4/13/2017	Subtidal	ENR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-6-A-COR	4/13/2017	Subtidal	ENR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Subtidal	ENR	Composite of "B" Locations	LDW-Y0-SU-ENR-CB-CORE	4/13/2017	Subtidal	ENR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0	N/A	1.0	0.10 U	0	N/A	--	--
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-1-B-COR	4/13/2017	Subtidal	ENR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-2-B-COR	4/13/2017	Subtidal	ENR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-3-B-COR	4/13/2017	Subtidal	ENR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-4-B-COR	4/13/2017	Subtidal	ENR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-5-B-COR	4/13/2017	Subtidal	ENR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-6-B-COR	4/13/2017	Subtidal	ENR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Subtidal	ENR	Composite of "C" Locations	LDW-Y0-SU-ENR-CC-CORE	4/13/2017	Subtidal	ENR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.1	N/A	1.0	0.10 U	0	N/A	--	--
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-1-C-COR	4/13/2017	Subtidal	ENR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-2-C-COR	4/13/2017	Subtidal	ENR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-3-C-COR	4/13/2017	Subtidal	ENR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-4-C-COR	4/13/2017	Subtidal	ENR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-5-C-COR	4/13/2017	Subtidal	ENR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-6-C-COR	4/13/2017	Subtidal	ENR	N/A	N/A	N/A	N/A	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Subtidal	ENR+AC	Composite of "A" Locations	LDW-Y0-SU-ENR+AC-CA-CORE	4/13/2017	Subtidal	ENR+AC	N/A	N/A	N/A	N/A	511.91	450.11	61.8	3.0	N/A	2.3 J	1.61	-0.6	N/A	0.38	0.046
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-1-A-COR	4/13/2017	Subtidal	ENR+AC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.1	--	--	1.21	2	N/A	--	--
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-2-A-COR	4/13/2017	Subtidal	ENR+AC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.5	--	--	2.50	2	N/A	--	--
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-3-A-COR	4/13/2017	Subtidal	ENR+AC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.9	--	--	1.96	0.5	N/A	--	--
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-4-A-COR	4/13/2017	Subtidal	ENR+AC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.1	--	--	2.17	6	N/A	--	--
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-5-A-COR	4/13/2017	Subtidal	ENR+AC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.1	--	--	1.05	-6	N/A	--	--
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-6-A-COR	4/13/2017	Subtidal	ENR+AC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.1	--	--	1.81	0	N/A	--	--
Subtidal	ENR+AC	Composite of "B" Locations	LDW-Y0-SU-ENR+AC-CB-CORE	4/13/2017	Subtidal	ENR+AC	N/A	N/A	N/A	N/A	511.86	453.24	58.62	3.0	N/A	4.9	1.93	2	N/A	0.63	0.072
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-1-B-COR	4/13/2017	Subtidal	ENR+AC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0	--	--	2.35	0	N/A	--	--
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-2-B-COR	4/13/2017	Subtidal	ENR+AC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.1	--	--	1.78	1	N/A	--	--
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-3-B-COR	4/13/2017	Subtidal	ENR+AC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.3	--	--	2.03	3	N/A	--	--
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-4-B-COR	4/13/2017	Subtidal	ENR+AC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.2	--	--	2.98	0.7	N/A	--	--
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-5-B-COR	4/13/2017	Subtidal	ENR+AC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.5	--	--	2.40	-3	N/A	--	--
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-6-B-COR	4/13/2017	Subtidal	ENR+AC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.8	--	--	1.51	5	N/A	--	--
Subtidal	ENR+AC	Composite of "C" Locations	LDW-Y0-SU-ENR+AC-CC-CORE	4/13/2017	Subtidal	ENR+AC	N/A	N/A	N/A	N/A	509.09	446.32	62.77	3.0	N/A	4.8	1.76	0	N/A	0.38	0.046
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-1-C-COR	4/13/2017	Subtidal	ENR+AC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.1	--	--	1.87	-2	N/A	--	--
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-2-C-COR	4/13/2017	Subtidal	ENR+AC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.1 J	--	--	2.22	-0.9	N/A	--	--
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-3-C-COR	4/13/2017	Subtidal	ENR+AC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.7	--	--	1.68	-2	N/A	--	--
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-4-C-COR	4/13/2017	Subtidal	ENR+AC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.9	--	--	1.90	0.5	N/A	--	--
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-5-C-COR	4/13/2017	Subtidal	ENR+AC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.1	--	--	1.96	-7	N/A	--	--
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-6-C-COR	4/13/2017	Subtidal	ENR+AC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.4	--	--	1.39	4	N/A	--	--

**Table 5  
Total Volatile Solids and Total Organic Carbon Results for Bulk Sediment**

Plot	Subplot	Sample Type	Sample ID	Sample Date	Plot	Analyte Sub Plot	Pre-Analytical Laboratory Submission Sieving to Remove Gravel Fraction				Analytical Laboratory Sieving			Total Volatile Solids (TVS)			Total Organic Carbon (TOC)				
							Total Mass g	Mass on 3/8" Sieve g	Mass on #4 Sieve g	Mass Passing #4 g	Total Mass g	Mass on #50 Sieve g	Mass Passing #50 g	TVS without Gravel Fraction (Average) %	Corrected TVS with Gravel Fraction (Average) <sup>1</sup> %	TVS Passing #50 Sieve (Average) <sup>2</sup> %	TOC without Gravel Fraction (Average) %	TOC RPD %	Corrected TOC with Gravel Fraction (Average) <sup>1</sup> %	TOC Passing #50 Sieve (Average) %	Corrected TOC Passing #50 Sieve (Average) <sup>3</sup> %
Scour	ENR	Composite of "A" Locations	LDW-Y0-SC-ENR-CA-CORE <sup>4</sup>	4/13/2017	Scour	ENR	--	--	--	--	N/A	N/A	N/A	1.0 J	<b>0.55 J</b>	1.2	0.10 U	0	<b>0.055 U</b>	--	--
Scour	ENR	Discrete	LDW-Y0-SC-ENR-1-A-COR	4/13/2017	Scour	ENR	10,905	3,395	915	6,585	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Scour	ENR	Discrete	LDW-Y0-SC-ENR-2-A-COR	4/13/2017	Scour	ENR	7,925	2,725	680	4,515	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Scour	ENR	Discrete	LDW-Y0-SC-ENR-3-A-COR	4/13/2017	Scour	ENR	13,880	5,030	1,090	7,770	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Scour	ENR	Discrete	LDW-Y0-SC-ENR-4-A-COR	4/13/2017	Scour	ENR	7,670	2,605	615	4,450	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Scour	ENR	Discrete	LDW-Y0-SC-ENR-5-A-COR	4/13/2017	Scour	ENR	10,250	3,540	940	5,770	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Scour	ENR	Discrete	LDW-Y0-SC-ENR-6-A-COR	4/13/2017	Scour	ENR	13,025	5,600	1,315	6,110	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Scour	ENR	Composite of "B" Locations	LDW-Y0-SC-ENR-CB-CORE	4/13/2017	Scour	ENR	--	--	--	--	N/A	N/A	N/A	0.87	<b>0.46</b>	1.1	0.10 U	0	<b>0.053 U</b>	--	--
Scour	ENR	Discrete	LDW-Y0-SC-ENR-1-B-COR	4/13/2017	Scour	ENR	14,395	5,170	1,125	8,090	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Scour	ENR	Discrete	LDW-Y0-SC-ENR-2-B-COR	4/13/2017	Scour	ENR	9,255	3,710	845	4,695	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Scour	ENR	Discrete	LDW-Y0-SC-ENR-3-B-COR	4/13/2017	Scour	ENR	6,560	3,305	560	2,700	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Scour	ENR	Discrete	LDW-Y0-SC-ENR-4-B-COR	4/13/2017	Scour	ENR	8,235	3,070	800	4,365	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Scour	ENR	Discrete	LDW-Y0-SC-ENR-5-B-COR	4/13/2017	Scour	ENR	12,085	4,655	930	6,500	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Scour	ENR	Discrete	LDW-Y0-SC-ENR-6-B-COR	4/13/2017	Scour	ENR	9,385	3,095	810	5,485	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Scour	ENR	Composite of "C" Locations	LDW-Y0-SC-ENR-CC-CORE	4/13/2017	Scour	ENR	--	--	--	--	N/A	N/A	N/A	0.87 J	<b>0.46 J</b>	1.1	--	--	--	--	--
Scour	ENR	Discrete	LDW-Y0-SC-ENR-1-C-COR	4/13/2017	Scour	ENR	12,305	4,185	1,000	7,120	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Scour	ENR	Discrete	LDW-Y0-SC-ENR-2-C-COR	4/13/2017	Scour	ENR	9,490	4,175	775	4,545	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Scour	ENR	Discrete	LDW-Y0-SC-ENR-3-C-COR	4/13/2017	Scour	ENR	6,220	1,975	535	3,715	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Scour	ENR	Discrete	LDW-Y0-SC-ENR-4-C-COR	4/13/2017	Scour	ENR	13,995	5,140	1,105	7,750	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Scour	ENR	Discrete	LDW-Y0-SC-ENR-5-C-COR	4/13/2017	Scour	ENR	9,175	3,785	780	4,615	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Scour	ENR	Discrete	LDW-Y0-SC-ENR-6-C-COR	4/13/2017	Scour	ENR	12,290	5,745	1,015	5,535	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Scour	ENR+AC	Composite of "A" Locations	LDW-Y0-SC-ENR+AC-CA-CORE	4/13/2017	Scour	ENR+AC	--	--	--	--	339.24	318.51	20.73	5.0	<b>2.8</b>	4.6	3.64	-4	<b>2.1</b>	3.1	0.19
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-1-A-COR	4/13/2017	Scour	ENR+AC	9,580	3,190	680	5,710	N/A	N/A	N/A	4.0	<b>2.4</b>	--	3.37	-5	<b>2.0</b>	--	--
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-2-A-COR	4/13/2017	Scour	ENR+AC	12,945	5,670	1,005	6,280	N/A	N/A	N/A	4.4	<b>2.1</b>	--	3.58	-2	<b>1.7</b>	--	--
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-3-A-COR	4/13/2017	Scour	ENR+AC	12,710	4,395	1,065	7,240	N/A	N/A	N/A	4.7	<b>2.7</b>	--	2.94	0	<b>1.7</b>	--	--
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-4-A-COR	4/13/2017	Scour	ENR+AC	12,165	4,125	945	7,080	N/A	N/A	N/A	3.9 J	<b>2.3 J</b>	--	3.94	-4	<b>2.3</b>	--	--
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-5-A-COR	4/13/2017	Scour	ENR+AC	11,930	4,170	840	6,915	N/A	N/A	N/A	4.2	<b>2.4</b>	--	3.12	-3	<b>1.8</b>	--	--
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-6-A-COR	4/13/2017	Scour	ENR+AC	7,935	2,400	625	4,915	N/A	N/A	N/A	5.0	<b>3.1</b>	--	3.28	-2	<b>2.0</b>	--	--
Scour	ENR+AC	Composite of "B" Locations	LDW-Y0-SC-ENR+AC-CB-CORE	4/13/2017	Scour	ENR+AC	--	--	--	--	343.74	321.82	21.92	2.9 J	<b>1.6 J</b>	4.6	2.86	-3	<b>1.5</b>	3.2	0.20
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-1-B-COR	4/13/2017	Scour	ENR+AC	11,535	3,945	1,085	6,510	N/A	N/A	N/A	2.9	<b>1.6</b>	--	1.10	-3	<b>0.62</b>	--	--
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-2-B-COR	4/13/2017	Scour	ENR+AC	14,040	4,790	1,295	7,960	N/A	N/A	N/A	3.9	<b>2.2</b>	--	3.18	3	<b>1.8</b>	--	--
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-3-B-COR	4/13/2017	Scour	ENR+AC	8,750	3,230	710	4,815	N/A	N/A	N/A	5.0	<b>2.8</b>	--	2.90	-0.7	<b>1.6</b>	--	--
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-4-B-COR	4/13/2017	Scour	ENR+AC	11,860	4,195	945	6,700	N/A	N/A	N/A	3.6 J	<b>2.0 J</b>	--	2.69	-2	<b>1.5</b>	--	--
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-5-B-COR	4/13/2017	Scour	ENR+AC	10,430	4,660	765	5,010	N/A	N/A	N/A	4.6	<b>2.2</b>	--	4.35	-0.2	<b>2.1</b>	--	--
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-6-B-COR	4/13/2017	Scour	ENR+AC	9,745	4,070	850	4,830	N/A	N/A	N/A	2.7	<b>1.3</b>	--	1.74	2	<b>0.86</b>	--	--
Scour	ENR+AC	Composite of "C" Locations	LDW-Y0-SC-ENR+AC-CC-CORE	4/13/2017	Scour	ENR+AC	--	--	--	--	300.96	279.98	20.98	5.1	<b>2.9</b>	5.4	3.29	0.6	<b>1.9</b>	3.7	0.26
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-1-C-COR	4/13/2017	Scour	ENR+AC	12,425	4,795	1,005	6,600	N/A	N/A	N/A	5.0	<b>2.7</b>	--	3.68	0	<b>2.0</b>	--	--
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-2-C-COR	4/13/2017	Scour	ENR+AC	11,270	3,140	865	7,265	N/A	N/A	N/A	5.1	<b>3.3</b>	--	3.41	-1	<b>2.2</b>	--	--
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-3-C-COR	4/13/2017	Scour	ENR+AC	11,685	4,155	870	6,670	N/A	N/A	N/A	4.4	<b>2.5</b>	--	4.41	0.7	<b>2.5</b>	--	--
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-4-C-COR	4/13/2017	Scour	ENR+AC	7,945	2,580	730	4,640	N/A	N/A	N/A	5.1	<b>3.0</b>	--	3.20	0.3	<b>1.9</b>	--	--
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-5-C-COR	4/13/2017	Scour	ENR+AC	12,120	4,305	1,025	6,795	N/A	N/A	N/A	5.2	<b>2.9</b>	--	4.17	-2	<b>2.3</b>	--	--
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-6-C-COR	4/13/2017	Scour	ENR+AC	9,825	4,020	885	4,920	N/A	N/A	N/A	2.6 J	<b>1.3 J</b>	--	1.59	-2	<b>0.79</b>	--	--

**Table 5  
Total Volatile Solids and Total Organic Carbon Results for Bulk Sediment**

Plot	Subplot	Sample Type	Sample ID	Sample Date	Plot	Analyte Sub Plot	Pre-Analytical Laboratory Submission Sieving to Remove Gravel Fraction				Analytical Laboratory Sieving			Total Volatile Solids (TVS)			Total Organic Carbon (TOC)				
							Total Mass g	Mass on 3/8" Sieve g	Mass on #4 Sieve g	Mass Passing #4 g	Total Mass g	Mass on #50 Sieve g	Mass Passing #50 g	TVS without Gravel Fraction (Average) %	Corrected TVS with Gravel Fraction (Average) <sup>1</sup> %	TVS Passing #50 Sieve (Average) <sup>2</sup> %	TOC without Gravel Fraction (Average) %	TOC RPD %	Corrected TOC with Gravel Fraction (Average) <sup>1</sup> %	TOC Passing #50 Sieve (Average) %	Corrected TOC Passing #50 Sieve (Average) <sup>3</sup> %
Intertidal	ENR	Composite of "A" Locations	LDW-Y0-IN-ENR-CA-CORE	4/13/2017	Intertidal	ENR	--	--	--	--	N/A	N/A	N/A	0.97	<b>0.55</b>	0.90	0.10 U	0	<b>0.1 U</b>	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-1-A-COR	4/13/2017	Intertidal	ENR	12,330	5,050	1,080	6,190	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-2-A-COR	4/13/2017	Intertidal	ENR	14,220	4,670	1,265	8,280	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-3-A-COR	4/13/2017	Intertidal	ENR	13,590	3,720	1,210	8,655	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-4-A-COR	4/13/2017	Intertidal	ENR	15,260	5,765	1,305	8,105	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-5-A-COR	4/13/2017	Intertidal	ENR	12,910	4,785	900	7,225	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-6-A-COR	4/13/2017	Intertidal	ENR	13,900	4,105	1,315	8,470	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Intertidal	ENR	Composite of "B" Locations	LDW-Y0-IN-ENR-CB-CORE	4/13/2017	Intertidal	ENR	--	--	--	--	N/A	N/A	N/A	0.87	<b>0.49</b>	1.0	0.10 U	0	<b>0.1 U</b>	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-1-B-COR	4/13/2017	Intertidal	ENR	13,870	5,645	1,050	7,175	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-2-B-COR	4/13/2017	Intertidal	ENR	13,600	4,265	1,220	8,120	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-3-B-COR	4/13/2017	Intertidal	ENR	13,810	5,630	1,270	6,895	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-4-B-COR	4/13/2017	Intertidal	ENR	14,535	5,475	1,210	7,830	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-5-B-COR	4/13/2017	Intertidal	ENR	12,680	2,905	1,265	8,600	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-6-B-COR	4/13/2017	Intertidal	ENR	13,435	5,145	1,135	7,145	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Intertidal	ENR	Composite of "C" Locations	LDW-Y0-IN-ENR-CC-CORE	4/13/2017	Intertidal	ENR	--	--	--	--	N/A	N/A	N/A	0.93	<b>0.50</b>	0.90	0.10 U	0	<b>0.1 U</b>	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-1-C-COR	4/13/2017	Intertidal	ENR	15,740	5,410	1,330	9,000	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-2-C-COR	4/13/2017	Intertidal	ENR	14,100	4,825	1,175	8,095	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-3-C-COR	4/13/2017	Intertidal	ENR	13,995	4,705	1,295	7,990	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-4-C-COR	4/13/2017	Intertidal	ENR	13,300	4,865	1,170	7,250	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-5-C-COR	4/13/2017	Intertidal	ENR	14,975	5,845	1,310	7,820	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-6-C-COR	4/13/2017	Intertidal	ENR	15,905	7,160	1,370	7,365	N/A	N/A	N/A	--	--	--	--	--	--	--	--
Intertidal	ENR+AC	Composite of "A" Locations	LDW-Y0-IN-ENR+AC-CA-CORE	4/13/2017	Intertidal	ENR+AC	--	--	--	--	604.21	565.85	38.36	4.2	<b>2.4</b>	4.3	2.46	0	<b>1.4</b>	3.3	0.21
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-1-A-COR	4/13/2017	Intertidal	ENR+AC	13,865	4,220	1,030	8,525	N/A	N/A	N/A	8.2	<b>5.0</b>	--	5.60	-0.2	<b>3.4</b>	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-2-A-COR	4/13/2017	Intertidal	ENR+AC	10,610	4,690	820	5,105	N/A	N/A	N/A	3.3	<b>1.6</b>	--	2.06	-2	<b>0.99</b>	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-3-A-COR	4/13/2017	Intertidal	ENR+AC	11,845	4,220	790	6,840	N/A	N/A	N/A	5.1	<b>2.9</b>	--	4.21	0	<b>2.4</b>	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-4-A-COR	4/13/2017	Intertidal	ENR+AC	14,725	4,400	1,125	9,200	N/A	N/A	N/A	3.1	<b>1.9</b>	--	3.43	2	<b>2.1</b>	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-5-A-COR	4/13/2017	Intertidal	ENR+AC	14,330	6,755	1,125	6,445	N/A	N/A	N/A	1.8	<b>0.81</b>	--	1.94	-3	<b>0.87</b>	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-6-A-COR	4/13/2017	Intertidal	ENR+AC	14,375	4,190	1,015	9,165	N/A	N/A	N/A	6.4	<b>4.1</b>	--	5.29	0.6	<b>3.4</b>	--	--
Intertidal	ENR+AC	Composite of "B" Locations	LDW-Y0-IN-ENR+AC-CB-CORE	4/13/2017	Intertidal	ENR+AC	--	--	--	--	588.5	555.41	33.09	4.6	<b>2.6</b>	4.2	3.08	-0.6	<b>1.7</b>	2.2	0.12
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-1-B-COR	4/13/2017	Intertidal	ENR+AC	14,205	5,360	865	7,990	N/A	N/A	N/A	5.2 J	<b>2.9 J</b>	--	4.07	-2	<b>2.3</b>	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-2-B-COR	4/13/2017	Intertidal	ENR+AC	12,875	4,770	952	7,135	N/A	N/A	N/A	5.4	<b>3.0</b>	--	4.31	0.2	<b>2.4</b>	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-3-B-COR	4/13/2017	Intertidal	ENR+AC	15,050	5,850	1,240	7,955	N/A	N/A	N/A	2.7	<b>1.4</b>	--	1.91	2	<b>1.0</b>	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-4-B-COR	4/13/2017	Intertidal	ENR+AC	13,370	4,390	1,090	7,885	N/A	N/A	N/A	3.6	<b>2.1</b>	--	2.83	-4	<b>1.7</b>	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-5-B-COR	4/13/2017	Intertidal	ENR+AC	12,455	4,800	945	6,710	N/A	N/A	N/A	3.5	<b>1.9</b>	--	3.19	1	<b>1.7</b>	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-6-B-COR	4/13/2017	Intertidal	ENR+AC	11,810	4,155	895	6,755	N/A	N/A	N/A	4.5	<b>2.6</b>	--	2.06	-2	<b>1.2</b>	--	--
Intertidal	ENR+AC	Composite of "C" Locations	LDW-Y0-IN-ENR+AC-CC-CORE	4/13/2017	Intertidal	ENR+AC	--	--	--	--	602.02	562.1	39.92	5.3	<b>3.0</b>	4.5	3.92	-0.8	<b>2.2</b>	2.8	0.18
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-1-C-COR	4/13/2017	Intertidal	ENR+AC	15,670	5,030	1,197	9,432	N/A	N/A	N/A	7.0	<b>4.2</b>	--	4.50	-2	<b>2.7</b>	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-2-C-COR	4/13/2017	Intertidal	ENR+AC	10,597	3,465	715	6,407	N/A	N/A	N/A	5.2	<b>3.1</b>	--	4.53	2	<b>2.7</b>	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-3-C-COR	4/13/2017	Intertidal	ENR+AC	13,590	5,165	952	7,460	N/A	N/A	N/A	4.6	<b>2.5</b>	--	5.16	-0.6	<b>2.8</b>	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-4-C-COR	4/13/2017	Intertidal	ENR+AC	14,730	6,875	1,045	6,810	N/A	N/A	N/A	3.6 J	<b>1.7 J</b>	--	3.33	-2	<b>1.5</b>	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-5-C-COR	4/13/2017	Intertidal	ENR+AC	12,765	4,600	1,105	7,055	N/A	N/A	N/A	4.4 J	<b>2.4 J</b>	--	2.38	-1	<b>1.3</b>	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-6-C-COR	4/13/2017	Intertidal	ENR+AC	11,930	3,730	925	7,270	N/A	N/A	N/A	4.2	<b>2.6</b>	--	2.45	-1	<b>1.5</b>	--	--

**Notes:**  
1. Samples collected from the intertidal and scour plots were sieved with a #4 sieve prior to analysis to remove the gravel fraction as the ENR substrate for those plots is gravelly sand. Samples from the subtidal plots were not sieved with a #4 sieve prior to analysis as the ENR substrate for that plot was sand only. TOC and TVS results were corrected to account for the mass of material removed by the #4 sieve (the gravel fraction). Reportable results for TOC and TVS are bolded/shaded.  
2. TVS Passing #50 Sieve could not be corrected because the lab did not report weights of sample fractions.  
3. TOC results were corrected to account for the mass of material removed by the #50 sieve.  
4. Sam# Sample LDW-Y0-SC-ENR-CA-CORE was analyzed in triplicate for grain size only, the average result was used for corrections of sieved samples.  
-- Not measured  
**BOLD** Bolded/shaded values are the reportable value for TVS and TOC. Subtidal samples were not sieved, and thus did not need the correction that the scour and intertidal samples needed to remove the gravel fraction prior to analysis.  
J = Analyte was detected, concentration is considered to be an estimate.  
U = Analyte was not detected at the given reporting limit.

**Abbreviations:**

ENR = Enhanced natural recovery  
ENR +AC = Enhanced natural recovery amended with activated carbon.  
g = gram(s)  
NA = Not applicable  
RPD = Relative percent difference  
TOC = Total organic carbon  
TVS = Total volatile solids



**Table 6  
Grain Size Results for Bulk Sediment**

Plot	Subplot	Sample Type	Sample ID	Sample Date	Plot	Analyte	Grain Size											Corrected Grain Size with Gravel Fraction <sup>1</sup>					
							Cobbles %	Total Gravel %	Coarse Gravel %	Fine Gravel %	Total Sand %	Coarse Sand %	Medium Sand %	Fine Sand %	Total Fines %	Silt Fine %	Clay Fine %	Total Gravel %	Total Sand %	Coarse Sand %	Medium Sand %	Fine Sand %	Total Fines %
Subtidal	ENR	Composite of "A" Locations	LDW-Y0-SU-ENR-CA-CORE	4/13/2017	Subtidal	ENR	0.1 U	0.6	0.1 U	0.6	98.1	21.7	46.7	29.7	1.3 J	1.3	0.1 U	N/A	N/A	N/A	N/A	N/A	N/A
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-1-A-COR	4/13/2017	Subtidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-2-A-COR	4/13/2017	Subtidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-3-A-COR	4/13/2017	Subtidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-4-A-COR	4/13/2017	Subtidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-5-A-COR	4/13/2017	Subtidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-6-A-COR	4/13/2017	Subtidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR	Composite of "B" Locations	LDW-Y0-SU-ENR-CB-CORE	4/13/2017	Subtidal	ENR	0.1 U	1	0.1 U	1	97.9	21.2	50.9	25.8	1.1 J	0.1 U	0.1 U	N/A	N/A	N/A	N/A	N/A	
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-1-B-COR	4/13/2017	Subtidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-2-B-COR	4/13/2017	Subtidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-3-B-COR	4/13/2017	Subtidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-4-B-COR	4/13/2017	Subtidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-5-B-COR	4/13/2017	Subtidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-6-B-COR	4/13/2017	Subtidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR	Composite of "C" Locations	LDW-Y0-SU-ENR-CC-CORE	4/13/2017	Subtidal	ENR	0.1 U	0.5	0.1 U	0.5	97.4	23.6	48	25.8	2.1 J	0.1 U	0.1 U	N/A	N/A	N/A	N/A	N/A	
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-1-C-COR	4/13/2017	Subtidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-2-C-COR	4/13/2017	Subtidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-3-C-COR	4/13/2017	Subtidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-4-C-COR	4/13/2017	Subtidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-5-C-COR	4/13/2017	Subtidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR	Discrete	LDW-Y0-SU-ENR-6-C-COR	4/13/2017	Subtidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR+AC	Composite of "A" Locations	LDW-Y0-SU-ENR+AC-CA-CORE	4/13/2017	Subtidal	ENR+AC	0.1 U	0.2	0.1 U	0.2	98.8	20.9	51.9	26	1 J	0.1 U	0.1 U	N/A	N/A	N/A	N/A	N/A	
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-1-A-COR	4/13/2017	Subtidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-2-A-COR	4/13/2017	Subtidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-3-A-COR	4/13/2017	Subtidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-4-A-COR	4/13/2017	Subtidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-5-A-COR	4/13/2017	Subtidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-6-A-COR	4/13/2017	Subtidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR+AC	Composite of "B" Locations	LDW-Y0-SU-ENR+AC-CB-CORE	4/13/2017	Subtidal	ENR+AC	0.1 U	0.6	0.1 U	0.6	97.7	22.9	50.1	24.7	1.7 J	0.1 U	0.1 U	N/A	N/A	N/A	N/A	N/A	
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-1-B-COR	4/13/2017	Subtidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-2-B-COR	4/13/2017	Subtidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-3-B-COR	4/13/2017	Subtidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-4-B-COR	4/13/2017	Subtidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-5-B-COR	4/13/2017	Subtidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-6-B-COR	4/13/2017	Subtidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR+AC	Composite of "C" Locations	LDW-Y0-SU-ENR+AC-CC-CORE	4/13/2017	Subtidal	ENR+AC	0.1 U	1	0.1 U	1	97.4	21.7	49.8	25.9	1.6 J	1.6	0.1 U	N/A	N/A	N/A	N/A	N/A	
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-1-C-COR	4/13/2017	Subtidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-2-C-COR	4/13/2017	Subtidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-3-C-COR	4/13/2017	Subtidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-4-C-COR	4/13/2017	Subtidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-5-C-COR	4/13/2017	Subtidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Subtidal	ENR+AC	Discrete	LDW-Y0-SU-ENR+AC-6-C-COR	4/13/2017	Subtidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

**Table 6  
Grain Size Results for Bulk Sediment**

Plot	Subplot	Sample Type	Sample ID	Sample Date	Plot	Analyte Sub Plot	Grain Size										Corrected Grain Size with Gravel Fraction <sup>1</sup>						
							Cobbles %	Total Gravel %	Coarse Gravel %	Fine Gravel %	Total Sand %	Coarse Sand %	Medium Sand %	Fine Sand %	Total Fines %	Silt %	Clay %	Total Gravel %	Total Sand %	Coarse Sand %	Medium Sand %	Fine Sand %	Total Fines %
Scour	ENR	Composite of "A" Locations	LDW-Y0-SC-ENR-CA-CORE <sup>2</sup>	4/13/2017	Scour	ENR	0.1 U	1.4	0.1 U	1.4	98	31	53.5	13.5 J	0.6	0.1 U	0.1 U	45.0	54.6	17.3	29.8	7.5	0.3
							0.1 U	1.2	0.1 U	1.2	98.2	40.1	49.9	8.2 J	0.6	0.1 U	0.1 U	44.9	54.8	22.4	27.8	4.6	0.3
							0.1 U	1.2	0.1 U	1.2	98.2	38.1	51.3	8.8 J	0.6	0.1 U	0.1 U	44.9	54.8	21.2	28.6	4.9	0.3
Scour	ENR	Discrete	LDW-Y0-SC-ENR-1-A-COR	4/13/2017	Scour	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR	Discrete	LDW-Y0-SC-ENR-2-A-COR	4/13/2017	Scour	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR	Discrete	LDW-Y0-SC-ENR-3-A-COR	4/13/2017	Scour	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR	Discrete	LDW-Y0-SC-ENR-4-A-COR	4/13/2017	Scour	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR	Discrete	LDW-Y0-SC-ENR-5-A-COR	4/13/2017	Scour	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR	Discrete	LDW-Y0-SC-ENR-6-A-COR	4/13/2017	Scour	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR	Composite of "B" Locations	LDW-Y0-SC-ENR-CB-CORE	4/13/2017	Scour	ENR	0.1 U	0.9	0.1 U	0.9	98.6	32.3	53.5	12.8	0.5	0.5	0.1 U	48.2	51.5	16.9	27.9	6.7	0.3
Scour	ENR	Discrete	LDW-Y0-SC-ENR-1-B-COR	4/13/2017	Scour	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR	Discrete	LDW-Y0-SC-ENR-2-B-COR	4/13/2017	Scour	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR	Discrete	LDW-Y0-SC-ENR-3-B-COR	4/13/2017	Scour	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR	Discrete	LDW-Y0-SC-ENR-4-B-COR	4/13/2017	Scour	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR	Discrete	LDW-Y0-SC-ENR-5-B-COR	4/13/2017	Scour	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR	Discrete	LDW-Y0-SC-ENR-6-B-COR	4/13/2017	Scour	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR	Composite of "C" Locations	LDW-Y0-SC-ENR-CC-CORE	4/13/2017	Scour	ENR	0.1 U	2.4	0.1 U	2.4	97	34.3	52.1	10.6	0.6	0.6	0.1 U	48.6	51.1	18.1	27.5	5.6	0.3
Scour	ENR	Discrete	LDW-Y0-SC-ENR-1-C-COR	4/13/2017	Scour	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR	Discrete	LDW-Y0-SC-ENR-2-C-COR	4/13/2017	Scour	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR	Discrete	LDW-Y0-SC-ENR-3-C-COR	4/13/2017	Scour	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR	Discrete	LDW-Y0-SC-ENR-4-C-COR	4/13/2017	Scour	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR	Discrete	LDW-Y0-SC-ENR-5-C-COR	4/13/2017	Scour	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR	Discrete	LDW-Y0-SC-ENR-6-C-COR	4/13/2017	Scour	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR+AC	Composite of "A" Locations	LDW-Y0-SC-ENR+AC-CA-CORE	4/13/2017	Scour	ENR+AC	0.1 U	1.8	0.1 U	1.8	97.3	38.2	46.9	12.2	0.9	0.9	0.1 U	43.8	55.7	21.8	26.8	7.0	0.5
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-1-A-COR	4/13/2017	Scour	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-2-A-COR	4/13/2017	Scour	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-3-A-COR	4/13/2017	Scour	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-4-A-COR	4/13/2017	Scour	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-5-A-COR	4/13/2017	Scour	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-6-A-COR	4/13/2017	Scour	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR+AC	Composite of "B" Locations	LDW-Y0-SC-ENR+AC-CB-CORE	4/13/2017	Scour	ENR+AC	0.1 U	1.8	0.1 U	1.8	97.5	37.9	50.4	9.2	0.7	0.7	0.1 U	47.3	52.4	20.4	27.1	4.9	0.4
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-1-B-COR	4/13/2017	Scour	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-2-B-COR	4/13/2017	Scour	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-3-B-COR	4/13/2017	Scour	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-4-B-COR	4/13/2017	Scour	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-5-B-COR	4/13/2017	Scour	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-6-B-COR	4/13/2017	Scour	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR+AC	Composite of "C" Locations	LDW-Y0-SC-ENR+AC-CC-CORE	4/13/2017	Scour	ENR+AC	0.1 U	2.3	0.1 U	2.3	96.7	33.4	46.3	17	1	1	0.1 U	44.8	54.7	18.9	26.2	9.6	0.6
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-1-C-COR	4/13/2017	Scour	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-2-C-COR	4/13/2017	Scour	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-3-C-COR	4/13/2017	Scour	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-4-C-COR	4/13/2017	Scour	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-5-C-COR	4/13/2017	Scour	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Scour	ENR+AC	Discrete	LDW-Y0-SC-ENR+AC-6-C-COR	4/13/2017	Scour	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

**Table 6  
Grain Size Results for Bulk Sediment**

Plot	Subplot	Sample Type	Sample ID	Sample Date	Plot	Analyte Sub Plot	Grain Size											Corrected Grain Size with Gravel Fraction <sup>1</sup>					
							Cobbles %	Total Gravel %	Coarse Gravel %	Fine Gravel %	Total Sand %	Coarse Sand %	Medium Sand %	Fine Sand %	Total Fines %	Silt Fine %	Clay Fine %	Total Gravel %	Total Sand %	Coarse Sand %	Medium Sand %	Fine Sand %	Total Fines %
Intertidal	ENR	Composite of "A" Locations	LDW-Y0-IN-ENR-CA-CORE	4/13/2017	Intertidal	ENR	0.1 U	1.7 J	0.1 U	1.7 J	97.7	35.4	49.9	12.4	0.6	0.1 U	0.1 U	<b>43.9</b>	<b>55.7</b>	<b>20.2</b>	<b>28.5</b>	<b>7.1</b>	<b>0.3</b>
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-1-A-COR	4/13/2017	Intertidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-2-A-COR	4/13/2017	Intertidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-3-A-COR	4/13/2017	Intertidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-4-A-COR	4/13/2017	Intertidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-5-A-COR	4/13/2017	Intertidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-6-A-COR	4/13/2017	Intertidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR	Composite of "B" Locations	LDW-Y0-IN-ENR-CB-CORE	4/13/2017	Intertidal	ENR	0.1 U	1.1 J	0.1 U	1.1 J	98.4	31.8	49.9	16.7	0.5	0.1 U	0.1 U	<b>44.6</b>	<b>55.1</b>	<b>17.8</b>	<b>28.0</b>	<b>9.4</b>	<b>0.3</b>
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-1-B-COR	4/13/2017	Intertidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-2-B-COR	4/13/2017	Intertidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-3-B-COR	4/13/2017	Intertidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-4-B-COR	4/13/2017	Intertidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-5-B-COR	4/13/2017	Intertidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-6-B-COR	4/13/2017	Intertidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR	Composite of "C" Locations	LDW-Y0-IN-ENR-CC-CORE	4/13/2017	Intertidal	ENR	0.1 U	1.9 J	0.1 U	1.9 J	97.5	44.2	41.6	11.7	0.6	0.1 U	0.1 U	<b>46.9</b>	<b>52.8</b>	<b>23.9</b>	<b>22.5</b>	<b>6.3</b>	<b>0.3</b>
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-1-C-COR	4/13/2017	Intertidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-2-C-COR	4/13/2017	Intertidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-3-C-COR	4/13/2017	Intertidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-4-C-COR	4/13/2017	Intertidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-5-C-COR	4/13/2017	Intertidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR	Discrete	LDW-Y0-IN-ENR-6-C-COR	4/13/2017	Intertidal	ENR	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR+AC	Composite of "A" Locations	LDW-Y0-IN-ENR+AC-CA-CORE	4/13/2017	Intertidal	ENR+AC	0.1 U	1.4 J	0.1 U	1.4 J	98	42.2	46.9	8.9	0.6	0.1 U	0.1 U	<b>44.4</b>	<b>55.3</b>	<b>23.8</b>	<b>26.5</b>	<b>5.0</b>	<b>0.3</b>
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-1-A-COR	4/13/2017	Intertidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-2-A-COR	4/13/2017	Intertidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-3-A-COR	4/13/2017	Intertidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-4-A-COR	4/13/2017	Intertidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-5-A-COR	4/13/2017	Intertidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-6-A-COR	4/13/2017	Intertidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR+AC	Composite of "B" Locations	LDW-Y0-IN-ENR+AC-CB-CORE	4/13/2017	Intertidal	ENR+AC	0.1 U	1 J	0.1 U	1 J	98.3	41.6	46.8	9.9	0.7	0.1 U	0.1 U	<b>44.8</b>	<b>54.8</b>	<b>23.2</b>	<b>26.1</b>	<b>5.5</b>	<b>0.4</b>
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-1-B-COR	4/13/2017	Intertidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-2-B-COR	4/13/2017	Intertidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-3-B-COR	4/13/2017	Intertidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-4-B-COR	4/13/2017	Intertidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-5-B-COR	4/13/2017	Intertidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-6-B-COR	4/13/2017	Intertidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR+AC	Composite of "C" Locations	LDW-Y0-IN-ENR+AC-CC-CORE	4/13/2017	Intertidal	ENR+AC	0.1 U	1.7 J	0.1 U	1.7 J	97.3	39.4	45.6	12.3	1	1	0.1 U	<b>44.6</b>	<b>54.8</b>	<b>22.2</b>	<b>25.7</b>	<b>6.9</b>	<b>0.6</b>
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-1-C-COR	4/13/2017	Intertidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-2-C-COR	4/13/2017	Intertidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-3-C-COR	4/13/2017	Intertidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-4-C-COR	4/13/2017	Intertidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-5-C-COR	4/13/2017	Intertidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Intertidal	ENR+AC	Discrete	LDW-Y0-IN-ENR+AC-6-C-COR	4/13/2017	Intertidal	ENR+AC	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**Notes:**

1. Samples collected from the intertidal and scour plots were sieved with a #4 sieve prior to analysis to remove the gravel fraction as the ENR substrate for those plots is gravelly sand. Samples from the subtidal plots were not sieved with a #4 sieve prior to analysis as the ENR substrate for that plot was sand only. Grain size results were corrected to account for the mass of material removed by the #4 sieve (the gravel fraction). Reportable results for grain size are bolded/shaded.
2. Sample LDW-Y0-SC-ENR-CA-CORE was analyzed in triplicate for grain size only.

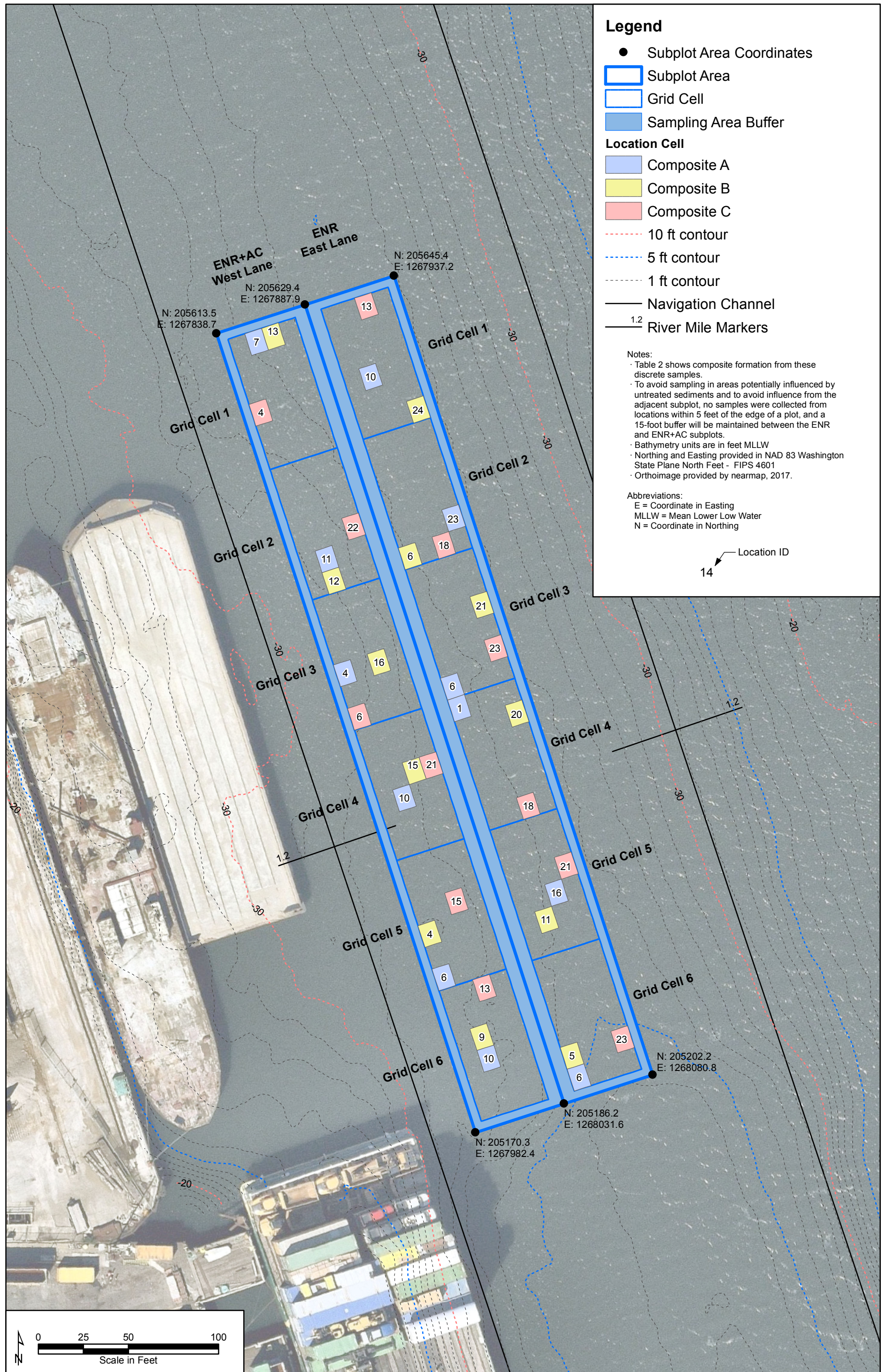
**Abbreviations:**

- ENR = Enhanced natural recovery
- ENR +AC = Enhanced natural recovery amended with activated carbon.
- g = gram(s)
- NA = Not applicable
- RPD = Relative percent difference
- TOC = Total organic carbon
- TVS = Total volatile solids

## **FIGURES**

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**Legend**

- Subplot Area Coordinates
- Subplot Area
- Grid Cell
- Sampling Area Buffer

**Location Cell**

- Composite A
- Composite B
- Composite C
- 10 ft contour
- 5 ft contour
- 1 ft contour
- Navigation Channel
- 1.2 River Mile Markers

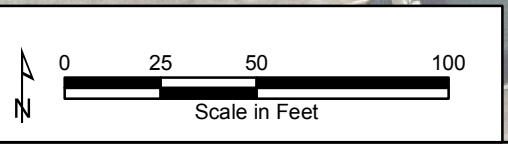
**Notes:**

- Table 2 shows composite formation from these discrete samples.
- To avoid sampling in areas potentially influenced by untreated sediments and to avoid influence from the adjacent subplot, no samples were collected from locations within 5 feet of the edge of a plot, and a 15-foot buffer will be maintained between the ENR and ENR+AC subplots.
- Bathymetry units are in feet MLLW
- Northing and Easting provided in NAD 83 Washington State Plane North Feet - FIPS 4601
- Orthoimage provided by nearmap, 2017.

**Abbreviations:**

- E = Coordinate in Easting
- MLLW = Mean Lower Low Water
- N = Coordinate in Northing

Location ID  
14





**Legend**

- Subplot Coordinates
  - ◆ Outfall
  - ▭ Berthing
  - ▭ Uplands Tax Parcel
  - ▭ Subplot Area
  - ▭ Grid Cells
  - ▭ Sampling Area Buffer
- Location Cell**
- ▭ Composite A
  - ▭ Composite B
  - ▭ Composite C
  - ▭ Cell Removed From Analysis
  - - - 10 ft contour
  - - - 5 ft contour
  - - - 1 ft contour

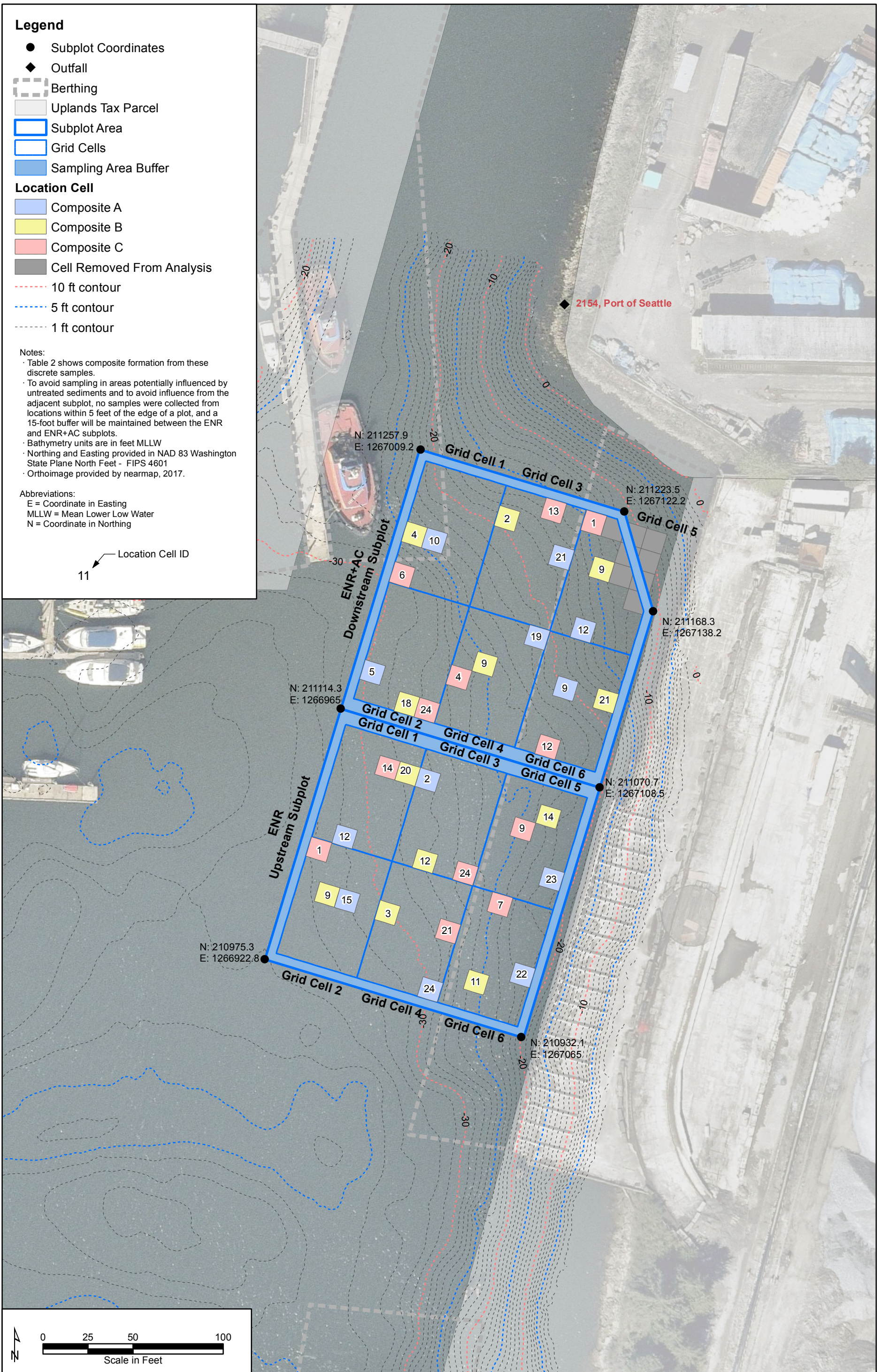
**Notes:**

- Table 2 shows composite formation from these discrete samples.
- To avoid sampling in areas potentially influenced by untreated sediments and to avoid influence from the adjacent subplot, no samples were collected from locations within 5 feet of the edge of a plot, and a 15-foot buffer will be maintained between the ENR and ENR+AC subplots.
- Bathymetry units are in feet MLLW
- Northing and Easting provided in NAD 83 Washington State Plane North Feet - FIPS 4601
- Orthoimage provided by nearmap, 2017.

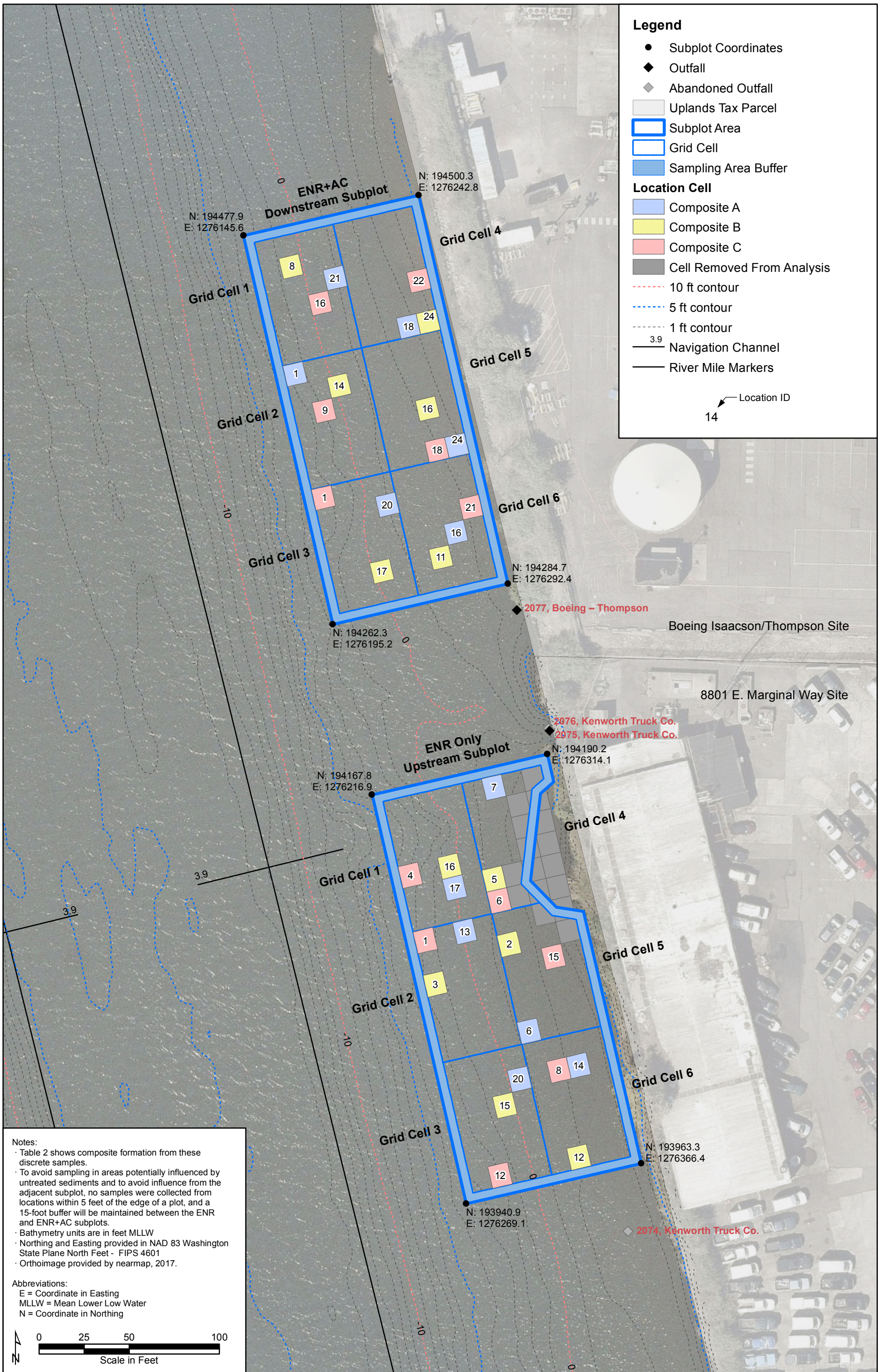
**Abbreviations:**

- E = Coordinate in Easting
- MLLW = Mean Lower Low Water
- N = Coordinate in Northing

Location Cell ID  
11







**Legend**

- Subplot Coordinates
- ◆ Outfall
- ◆ Abandoned Outfall
- Uplands Tax Parcel
- Subplot Area
- Grid Cell
- Sampling Area Buffer
- Location Cell**
- Composite A
- Composite B
- Composite C
- Cell Removed From Analysis
- 10 ft contour
- 5 ft contour
- 1 ft contour
- 3.9 Navigation Channel
- River Mile Markers

Location ID  
14

**Notes:**

- Table 2 shows composite formation from these discrete samples.
- To avoid sampling in areas potentially influenced by untreated sediments and to avoid influence from the adjacent subplot, no samples were collected from locations within 5 feet of the edge of a plot, and a 15-foot buffer will be maintained between the ENR and ENR+AC subplots.
- Bathymetry units are in feet MLLW
- Northing and Easting provided in NAD 83 Washington State Plane North Feet - FIPS 4601
- Orthoimage provided by nearmap, 2017.

**Abbreviations:**  
 E = Coordinate in Easting  
 MLLW = Mean Lower Low Water  
 N = Coordinate in Northing

