



**US Army Corps  
of Engineers®**

New York District  
Albany Field Office  
1 Bond Street  
Troy, N.Y. 12180  
ATTN: CENAN-OP-A

# Public Notice

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In replying refer to:

Public Notice No. HR-AFO-MD18

Published: December 6, 2017 Expires: January 4, 2018

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**HUDSON RIVER, NEW YORK  
CASTLETON, STOCKPORT AND HUDSON DREDGE AREAS  
FEDERAL NAVIGATION PROJECT  
MAINTENANCE DREDGING**

**TO WHOM IT MAY CONCERN:**

The New York District, US Army Corps of Engineers, pursuant to Section 10 of the Rivers and Harbors Act of 1899 and Section 404 (33 U.S.C. 1344) of the Federal Water Pollution Control Act (amended in 1977 and commonly referred to as the Clean Water Act), proposes to perform maintenance dredging of the federal navigation project: Hudson River, New York City to Waterford, NY (see Enclosures 1 thru 4); with subsequent placement of the dredged material in the federally owned upland dredged material placement site on Houghtaling Island, New Baltimore, New York.

**WATERWAY/PROJECT:** Hudson River, New York City to Waterford, NY, Federal Navigation Project

**LOCATIONS:** Castleton, Stockport and Hudson, New York.

The Hudson River federal navigation project was authorized by the Rivers and Harbors Acts of 1910 to 1930; and modified in 1934, 1935, 1938 and 1954, in accordance with the recommendations contained in the following Congressional Documents: House Document (HD) No. 719, 61<sup>st</sup> Congress, 2<sup>nd</sup> Session (Jun 1910) and modified by HD No. 350, 68<sup>th</sup> Congress, 1<sup>st</sup> Session (Mar 1925); HD No. 210, 70<sup>th</sup> Congress, 1<sup>st</sup> Session (Jul 1930); Senate Document No. 155, 72<sup>nd</sup> Congress, 2<sup>nd</sup> Session (Aug 1935); HD No. 572, 75<sup>th</sup> Congress, 3<sup>rd</sup> Session (Jun 1938); and Public Law No. 780, 83<sup>rd</sup> Congress, 2<sup>nd</sup> Session (Sep 1954).

The existing navigation project authorizes a channel 600 ft. wide, New York City to Kingston, thence 400 ft. wide to 2,200 ft. south of the Mall Bridge (Dunn Memorial Bridge) at Albany with a turning basin at Albany and anchorages near Hudson and Stuyvesant, all with depths of 32 ft. in soft material and 34 ft. in rock; thence 27 ft. deep and 400 ft. wide to 900 ft. south of the Mall Bridge (Dunn Memorial Bridge); thence 14 ft.

deep and generally 400 ft. wide, to the Federal Lock at Troy; and thence 14 ft. deep and 200 ft. wide, to the southern limit of the State Barge Canal at Waterford; with widening at bends and widening in front of the cities of Troy and Albany to form harbors 12 ft. deep. The total length of the existing navigation project (NYC to Waterford) is about 155 miles.

A detailed description of the proposed activities is enclosed to assist in your review. This activity is being evaluated to determine that the proposed dredging with placement of dredged material in the federally owned upland site on Houghtaling Island will not unreasonably degrade or endanger human health, welfare, economic potential, recreation and aesthetics, water quality, marine resources, ecological systems and/or flood protection.

The Corps of Engineers is soliciting comments from the public; federal, state and local agencies and officials; Indian tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Comments are used to assess impacts on navigation, water quality, endangered species, historic resources, wetlands, scenic and recreational values, and other public interest factors. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act and to determine the need for a public hearing.

ALL COMMENTS REGARDING THIS ACTIVITY MUST BE PREPARED IN WRITING AND MAILED TO REACH THE ALBANY FIELD OFFICE AT THE ADDRESS ON THE FRONT PAGE BEFORE THE EXPIRATION DATE OF THIS NOTICE, otherwise, it will be presumed that there are no objections to the activity.

Any person who has an interest which may be affected by the dredging and/or placement of this dredged material may request a public hearing. The request must be submitted in writing to the District Engineer within the comment period of this notice and must clearly set forth the interest which may be affected and the manner in which the interest may be affected by the activity. It should be noted that information submitted by mail is considered just as carefully in the process and bears the same weight as that furnished at a public hearing.

No known archaeological, scientific, prehistorical or historical data are expected to be lost by work accomplished under the required dredging.

Reviews of the activity pursuant to Section 404 of the Clean Water Act will include application of the guidelines announced by the Administrator, U.S. Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act. The Corps will obtain a water quality certificate (WQC) or waiver from the New York State Department of Environmental Conservation, in accordance with Section 401 of the Clean Water Act prior to commencement of any work.

Pursuant to Section 307 of the Coastal Zone Management Act of 1972 as amended [16 USC 1456(c)], for activities conducted or supported by a federal agency in a state which

has a federally approved Coastal Zone Management (CZM) program, the Corps will submit a determination that the proposed project is consistent with the State CZM program to the maximum extent practicable. This activity is subject to review by the New York State Department of State for its consistency with the enforceable policies of the New York State Coastal Management Program. The New York District of the US Army Corps of Engineers has determined that the proposed activities are consistent to the maximum extent practicable with the New York State CZM program. A copy of this determination will be provided to the New York State Department of State, Division of Coastal Resources, with a request for State's agreement with that determination. For activities within the coastal zone of the State of New York, project information is available from the Coastal Zone Management Program, New York State Department of State, Office of Coastal, Local Government, and Community Sustainability, One Commerce Plaza, 99 Washington Avenue, Suite 1010, Albany, NY 11231, telephone (518) 474-3642.

In compliance with Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act (1996 amendments), an Essential Fish Habitat Assessment will be prepared and submitted to the National Marine Fisheries Service for review and comment.

The proposed work is being coordinated with the following federal, state and local agencies:

- U.S. Environmental Protection Agency
- U.S. Department of the Interior, Fish and Wildlife Service
- U.S. Department of Commerce, National Marine Fisheries Service
- U.S. Coast Guard, First District
- New York State Department of Environmental Conservation
- New York State Department of State

If you have any questions concerning this notice, you may contact the Albany Field Office at (518) 273-0870 and ask for Mr. Robert D Berrian. Comments or questions may be FAXED to (518) 273-3772 ATTN: Mr. Robert D Berrian.

#### **DESCRIPTION OF PLANNED FEDERAL ACTION:**

The U.S. Army Corps of Engineers, New York District proposes to perform maintenance dredging of four discontinuous dredge areas in the Hudson River federal navigation project, located at the Castleton Reach 14/15 (River Mile 135), Stockport Reach 30/31 (River Mile 121), Stockport Reach 32 (River Mile 119) and Hudson Reach 36/37 (River Mile 116), New York (Enclosure 1). Based on condition surveys performed from Aug thru Sep 2016 the proposed maintenance dredging would involve the removal of a combined estimated total of up to 150,000 CY of material from the four dredging areas. The project will be dredged to its authorized depth of -32 feet plus 1 foot of allowable overdepth. The project depth is referenced to the plane of COE Mean Low Water (original project datum). This datum is approximately 2.55 feet below NAVD88.

The purpose of the proposed dredging is to alleviate the effects of shoaling in order to maintain the authorized project dimensions, thereby assuring safe and economical use of the Hudson River by commercial shipping interests. The dredge material has been tested and meets the criteria for confined disposal in the federally owned upland dredged material placement site on Houghtaling Island, New Baltimore, New York.

Maintenance dredging of the Hudson River federal navigation projects will be accomplished by a hopper dredge, or other similar plant. The entire channel will generally not require maintenance dredging; only areas where shoaling has reduced the depth of the channel will require dredging. No in-water work will occur during the following environmental windows for Shortnose sturgeon (*Ascipenser brevirostrum*) and Atlantic sturgeon (*Ascipenser oxyrinchus*): March 1<sup>st</sup> to September 1<sup>st</sup> from RM 135 to RM 116.

### **ENVIRONMENTAL IMPACT STATEMENT:**

An Environmental Impact Statement (EIS) was prepared by the U.S. Army Engineer District, New York in January 1983. Environmental Assessments (EA) updating this EIS were prepared by the New York District for similar maintenance dredging projects performed in calendar years 1986, 1988, 1990, 1992, 1995, 1998, 2001, 2003, 2007, 2010, 2012-13, 2014 and 2016. It was determined then that maintenance dredging of the Hudson River federal navigation project, with placement of the dredged material on the federally owned upland placement site on Houghtaling Island has no significant adverse environmental impacts on water quality, marine resources, fish, wildlife, recreation, aesthetics and flood protection

An update of the EA and a 404 (b) evaluation as required by the Clean Water Act 40 CFR 230 will be finalized prior to the implementation of the proposed work. A copy of the draft EA is available upon request by contacting the Albany Field Office.

### **PLACEMENT SITE:**

The dredged material from this project is proposed to be placed in the federally owned upland placement site on Houghtaling Island, New Baltimore, New York. This site is located at River Mile 130 as shown on the attached map (Enclosure 3). The dredged material will be loaded into the hopper dredge, transported to the placement site, and then pumped into Area A and/or Area B utilizing the hopper dredges onboard hydraulic pumping system.

### **MATERIAL DESCRIPTION:**

The proposed dredge areas are depicted in Enclosure 2. The proposed dredge material has been characterized by taking sediment core samples extending to a depth of -32 feet (project depth) plus 1 foot of allowable over-depth. Based on the analysis of the core samples; the average grain size characteristics of the proposed dredged material are as follows:

Castleton Dredge Area, R14/15 (Sample ID R14/15 Composite):

1.8% Gravel, 48.6% Sand, 38.4% Silt, 11.2% Clay

Stockport Dredge Area, R30/31 (Sample ID R30/31 Composite):

0.5% Gravel, 87.2% Sand, 11.0% Silt, 1.3% Clay

Stockport Dredge Area, R32 (Sample ID R32 Composite):

1.0% Gravel, 82.6% Sand, 12.7% Silt, 3.7% Clay

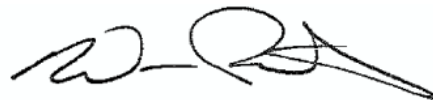
Hudson Dredge Area, R36/37 (Sample ID R36/37 Composite):

0.4% Gravel, 86.0% Sand, 10.6% Silt, 3.0% Clay

See Enclosure 2 for sample locations and Enclosure 4 for the physical and chemistry summary data reports. The full chemistry data reports entitled "Battelle, Data Report, Delivery Order No. W912DS17-F0005: Hudson River FP-48" dated August 2017 are available for review at the Albany Field Office, Troy, NY.

For more information on the New York District Corps of Engineers programs, visit our website at <http://www.nan.usace.army.mil>

It is requested that you communicate the foregoing information concerning the proposed work to any persons known by you to be interested and who did not receive a copy of this notice.



William Petronis  
Chief, Albany Field Office

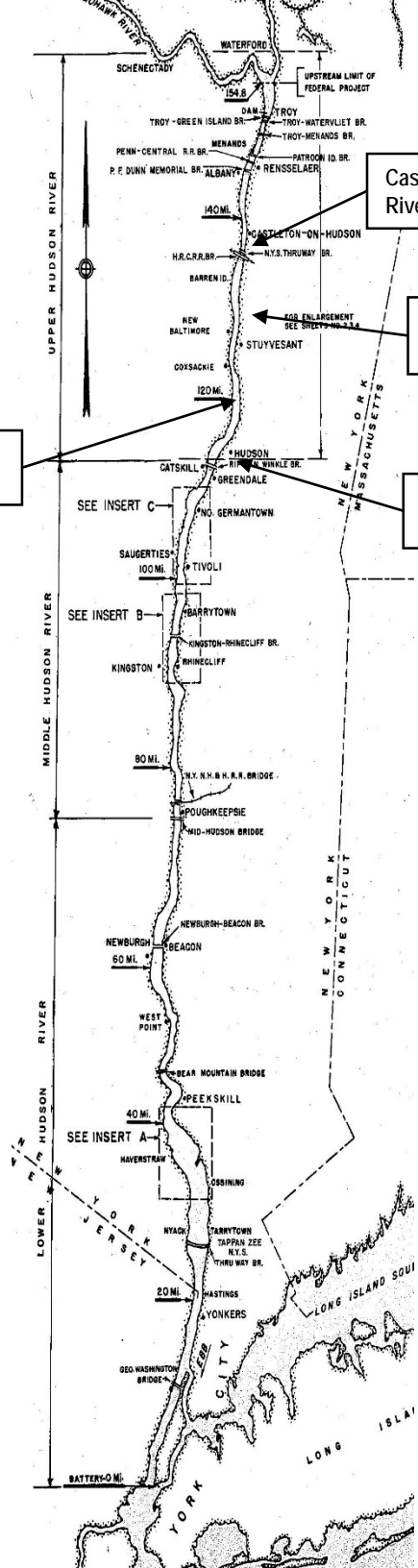
Enclosures  
As stated

Stockport Dredge Areas  
River Mile 121 thru 119

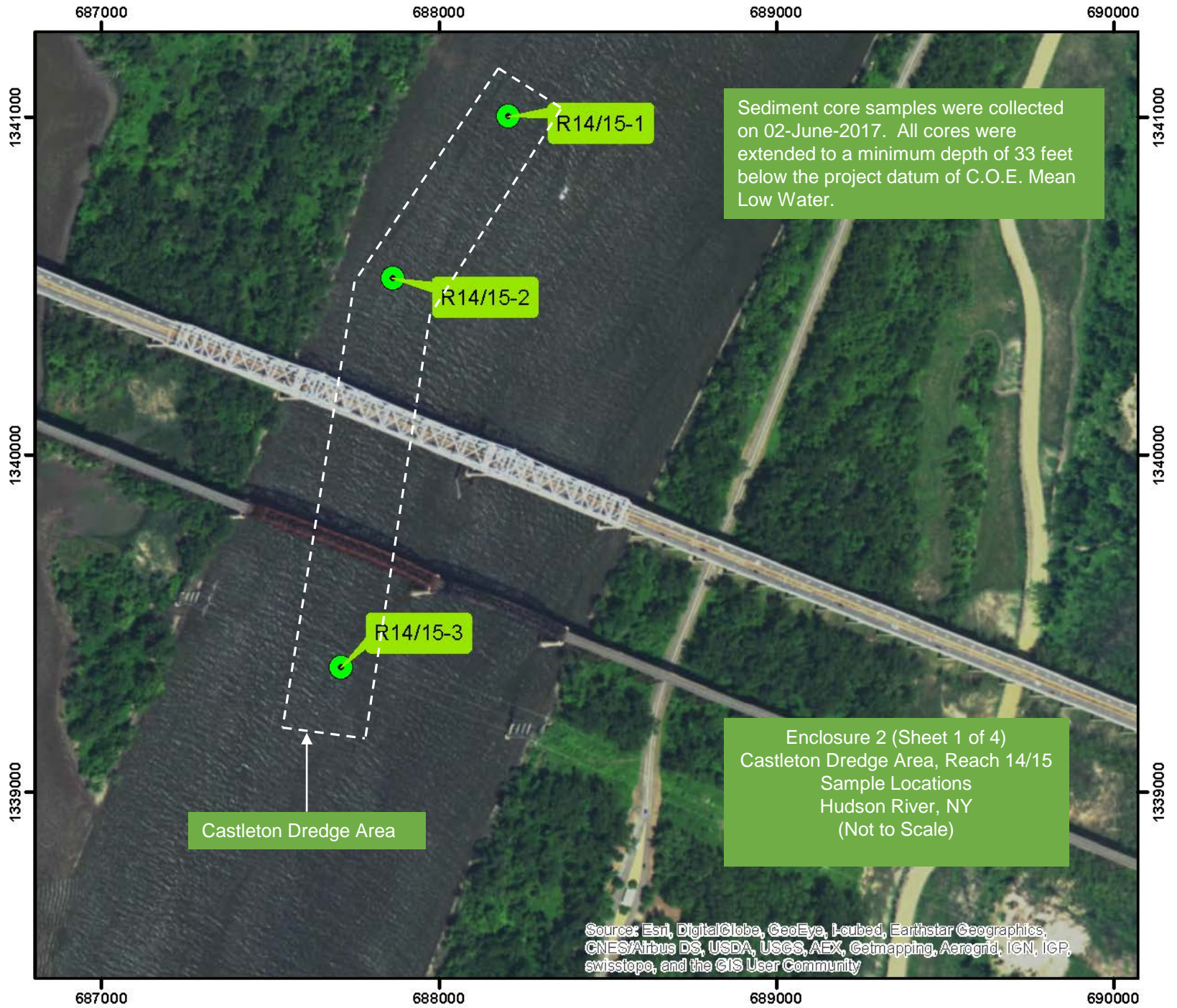
Castleton Dredge Area  
River Mile 135

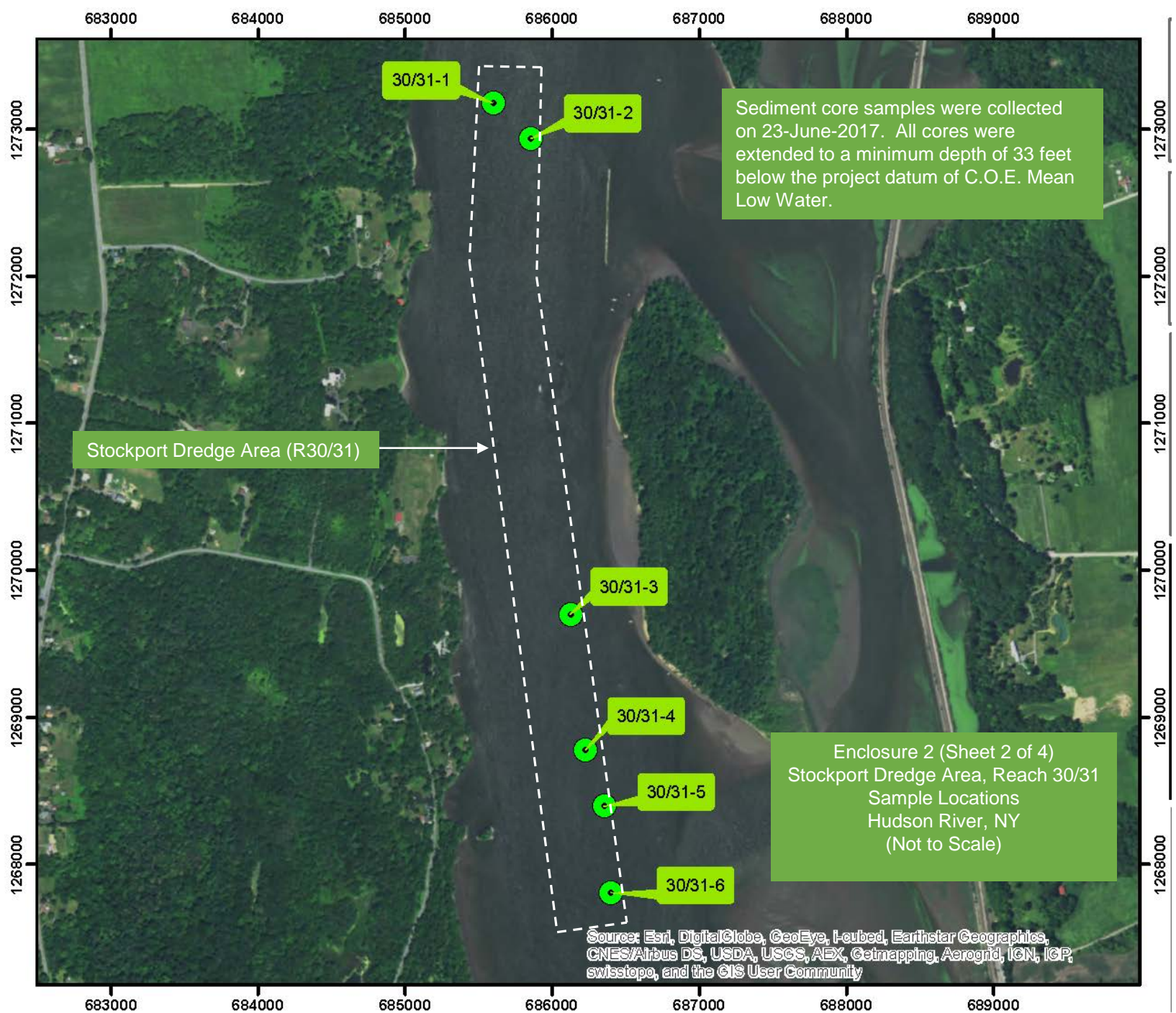
Placement Site U-3A  
River Mile 130

Hudson Dredge Area  
River Mile 116

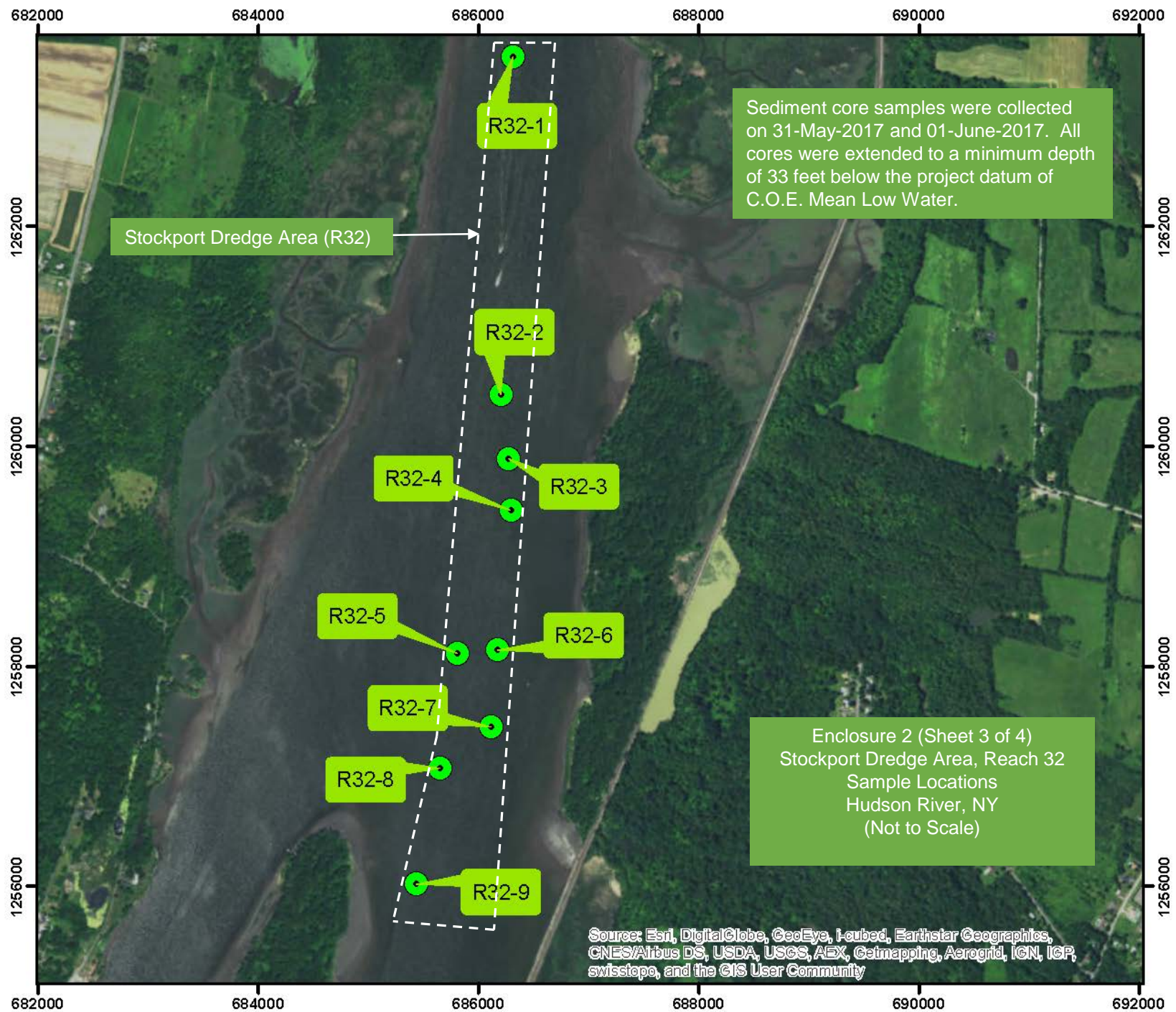


**ENCLOSURE 1  
LOCATION MAP OF  
PROPOSED DREDGE AREAS  
AND  
PLACEMENT SITE  
(Not to Scale)**







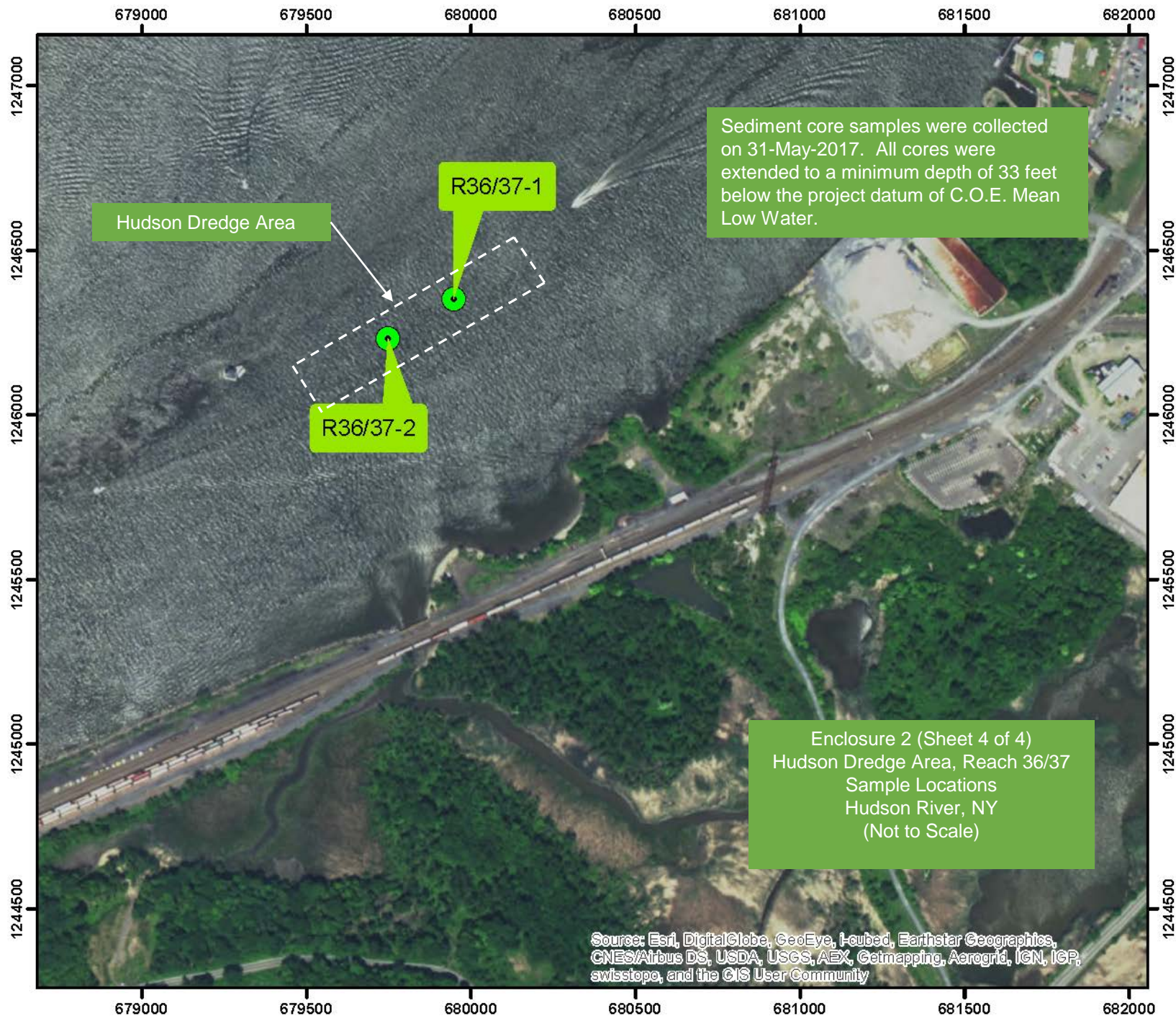


Sediment core samples were collected on 31-May-2017 and 01-June-2017. All cores were extended to a minimum depth of 33 feet below the project datum of C.O.E. Mean Low Water.

Stockport Dredge Area (R32)

Enclosure 2 (Sheet 3 of 4)  
Stockport Dredge Area, Reach 32  
Sample Locations  
Hudson River, NY  
(Not to Scale)

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Approximate location of effluent pipeline

EXISTING INFLUENT PIPELINE CORRIDOR

Approximate location of effluent pipeline

HUDSON RIVER  
EBB

AREA B

APPROXIMATE LOCATION OF ICEHOUSE SITE A

Due to high concentrations of PCB in the contained underlying sediment; excavation in this area is strictly prohibited

AREA A

SCHODACK CREEK  
EBB

### Enclosure 3 Upland Placement Site U-3A Houghtaling Island Hudson River, NY (Not to Scale)

**BENCHMARK INFORMATION**

**BM #1** Bench mark is a railroad spike set in tree located at southwest corner of influent pipeline corridor. Elev. 28.61

**BM #2** Bench mark is a railroad spike set in tree located at northwest corner of placement site. Elev. 35.17

**BM #3** Bench mark is a railroad spike set in tree located at southwest corner of effluent pipeline corridor. Elev. 38.18

All elevations are expressed in feet and refer to NGVD 29.

NOTE: THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF SURVEYS MADE ON THE DATE(S) INDICATED AND CAN ONLY BE CONSIDERED THE GENERAL CONDITIONS EXISTING AT THAT TIME.

COORDINATES ARE EXPRESSED IN FEET AND REFER TO THE 1983 STATE PLANE NEW YORK EAST.

ELEVATIONS ARE EXPRESSED IN FEET AND REFER TO THE PLANE OF NAVD 1988 AS DETERMINED FROM...

THE TOPOGRAPHIC DATA DEPICTED ON THIS MAP WAS COLLECTED USING SURVEY TYPE: RECONNAISSANCE TOPOGRAPHIC SURVEY, AS PRESCRIBED IN EM 1110-1-1005.

**LEGEND**

- + Approximate Locations of Benchmarks
- 10-Foot Contours
- 2-Foot Contours

**Table 3. Grain Size Distribution, Percent Moisture, and TOC of the Individual Cores and Composites**

Sample ID	ASI #	Total % Gravel	Total % Sand	Total % Silt	Total % Clay	% Moisture	TOC Ppm	% TOC of Dry Weight
R14/15-1	20170372	0.0	26.6	50.0	23.4	45.2	20,618	2.06
R14/15-2	20170373	0.0	19.4	53.5	27.1	45.0	19,257	1.93
R14/15-3	20170374	2.0	86.2	11.5	0.3	21.4	4,238	0.42
R14/15 Composite	20170442	1.8	48.6	38.4	11.2	36.3	13,936	1.39
R30/31-1	20170375	0.3	87.5	11.9	0.3	23.0	1,526	0.15
R30/31-2	20170376	0.8	89.2	9.8	0.2	22.3	1,180	0.12
R30/31-3	20170377	0.4	87.7	10.7	1.2	26.8	2,021	0.20
R30/31-4	20170378	0.3	87.8	10.7	1.2	23.1	2,495	0.25
R30/31-5	20170379	0.2	88.6	9.0	2.2	21.7	1,701	0.17
R30/31-6	20170380	0.6	85.4	11.8	2.2	20.8	2,399	0.24
R30/31 Composite	20170443	0.5	87.2	11.0	1.3	23.0	2,624	0.26
R30/31 Composite	20170443 dup	0.3	87.4	11.0	1.3	23.3		
R30/31 Composite	20170443 trp	0.3	87.4	11.0	1.3	23.2		
R32-1	20170381	2.4	86.6	8.4	2.6	23.1	1,515	0.15
R32-2	20170382	5.1	83.6	8.1	3.2	20.1	1,453	0.15
R32-3	20170383	1.6	87.2	7.8	3.4	21.5	2,467	0.25
R32-4	20170384	0.9	88.0	8.7	2.4	22.5	2,599	0.26
R32-5	20170385	1.1	86.0	10.2	2.7	27.8	4,109	0.41
R32-6	20170386	0.0	86.5	10.8	2.7	25.2	2,116	0.21
R32-7	20170387	0.2	81.5	14.5	3.8	27.8	5,063	0.51
R32-8	20170388	0.1	85.7	12.9	1.3	21.1	10,690	1.07
R32-9	20170389	0.0	89.0	9.7	1.3	24.0	2,978	0.30
R32 Composite	20170444	1.0	82.6	12.7	3.7	23.6	2,663	0.27
R36/37-1	20170390	0.0	90.5	8.0	1.5	25.1	1,357	0.14
R36/37-2	20170391	0.0	92.0	6.6	1.4	22.9	1,537	0.15
R36/37 Composite	20170445	0.4	86.0	10.6	3.0	24.3	1,628	0.16
R35/36 Composite	20170445 dup	0.4	86.0	11.8	1.8	24.8		
R35/36 Composite	20170445 trp	0.1	86.2	10.7	3.0	24.1		

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<b>Volatiles</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170442				#20170372				#20170373			
Client ID#	R14 15 COMP	Q	MDL	Units	R14 15-1	Q	MDL	Units	R14 15-2	Q	MDL	Units
Benzene	7.6	U	3	ug/Kg								
Toluene	7.6	U	2.6	ug/Kg								
Xylenes(Total)	15	U	6.6	ug/Kg								

<b>SemiVolatiles</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170442				#20170372				#20170373			
Client ID#	R14 15 COMP	Q	MDL	Units	R14 15-1	Q	MDL	Units	R14 15-2	Q	MDL	Units
Naphthalene	51	U	18	ug/Kg								
2-Methylnaphthalene	51	U	19	ug/Kg								
2-Chloronaphthalene	51	U	16	ug/Kg								
Acenaphthylene	51	U	17	ug/Kg								
Acenaphthene	51	U	17	ug/Kg								
Fluorene	51	U	18	ug/Kg								
Phenanthrene	150		21	ug/Kg								
Anthracene	40	J	19	ug/Kg								
Fluoranthene	230		20	ug/Kg								
Pyrene	170		23	ug/Kg								
Benzo(a)anthracene	110		20	ug/Kg								
Chrysene	90		20	ug/Kg								
Benzo(b)fluoranthene	110	*	22	ug/Kg								
Benzo(k)fluoranthene	49	J	17	ug/Kg								
Benzo(a)pyrene	78	*	21	ug/Kg								
Indeno(1,2,3-cd)pyrene	47	J	20	ug/Kg								
Dibenzo(a,h)anthracene	51	U	21	ug/Kg								
Benzo(ghi)perylene	58		22	ug/Kg								

<b>Pesticides/Aroclors</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170442				#20170372				#20170373			
Client ID#	R14 15 COMP	Q	MDL	Units	R14 15-1	Q	MDL	Units	R14 15-2	Q	MDL	Units
Dieldrin	1.3	U	0.12	ug/Kg								
4,4'-DDE	0.47	J p	0.39	ug/Kg								
4,4'-DDD	0.26	J p	0.13	ug/Kg								
4,4'-DDT	1.3	U	0.13	ug/Kg								
Aroclor-1016	12	U	6.6	ug/Kg	15	U	8	ug/Kg	15	U	8.2	ug/Kg
Aroclor-1221	12	U	6.4	ug/Kg	15	U	7.8	ug/Kg	15	U	8	ug/Kg
Aroclor-1232	12	U	4.9	ug/Kg	15	U	6	ug/Kg	15	U	6.1	ug/Kg
Aroclor-1242	150		9.9	ug/Kg	140		12	ug/Kg	72	p	12	ug/Kg
Aroclor-1248	12	U	5.9	ug/Kg	15	U	7.2	ug/Kg	15	U	7.4	ug/Kg
Aroclor-1254	40		5.5	ug/Kg	29		6.6	ug/Kg	27		6.8	ug/Kg
Aroclor-1260	14		8.3	ug/Kg	15	U	10	ug/Kg	15	U	10	ug/Kg

<b>Metals</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170442				#20170372				#20170373			
Client ID#	R14 15 COMP	Q	MDL	Units	R14 15-1	Q	MDL	Units	R14 15-2	Q	MDL	Units
Arsenic	4		0.33	mg/Kg								
Cadmium	0.58		0.085	mg/Kg								
Copper	19	F1	0.58	mg/Kg								
Lead	23		0.25	mg/Kg								
Mercury	0.094		0.0056	mg/Kg								
%Solids	65.7		0.1	%	53.8		0.1	%	52.8		0.1	%

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<b>Volatiles</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170374				#20170444				#20170381			
Client ID#	R14 15-3	Q	MDL	Units	R32 COMP	Q	MDL	Units	R32-1	Q	MDL	Units
Benzene					6.8	U	2.7	ug/Kg				
Toluene					6.8	U	2.3	ug/Kg				
Xylenes(Total)					14	U	5.9	ug/Kg				

<b>SemiVolatiles</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170374				#20170444				#20170381			
Client ID#	R14 15-3	Q	MDL	Units	R32 COMP	Q	MDL	Units	R32-1	Q	MDL	Units
Naphthalene					45	U	16	ug/Kg				
2-Methylnaphthalene					45	U	17	ug/Kg				
2-Chloronaphthalene					45	U	15	ug/Kg				
Acenaphthylene					45	U	15	ug/Kg				
Acenaphthene					45	U	15	ug/Kg				
Fluorene					45	U	16	ug/Kg				
Phenanthrene					45	U	19	ug/Kg				
Anthracene					45	U	17	ug/Kg				
Fluoranthene					20	J	18	ug/Kg				
Pyrene					45	U	20	ug/Kg				
Benzo(a)anthracene					45	U	18	ug/Kg				
Chrysene					45	U	17	ug/Kg				
Benzo(b)fluoranthene					45	U *	19	ug/Kg				
Benzo(k)fluoranthene					45	U	15	ug/Kg				
Benzo(a)pyrene					45	U *	19	ug/Kg				
Indeno(1,2,3-cd)pyrene					45	U	17	ug/Kg				
Dibenzo(a,h)anthracene					45	U	19	ug/Kg				
Benzo(ghi)perylene					45	U	19	ug/Kg				

<b>Pesticides/Aroclors</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170374				#20170444				#20170381			
Client ID#	R14 15-3	Q	MDL	Units	R32 COMP	Q	MDL	Units	R32-1	Q	MDL	Units
Dieldrin					1.2	U	0.11	ug/Kg				
4,4'-DDE					1.2	U	0.36	ug/Kg				
4,4'-DDD					1.2	U	0.12	ug/Kg				
4,4'-DDT					1.2	U	0.12	ug/Kg				
Aroclor-1016	11	U	5.7	ug/Kg	11	U	6	ug/Kg	10	U	5.5	ug/Kg
Aroclor-1221	11	U	5.6	ug/Kg	11	U	5.9	ug/Kg	10	U	5.3	ug/Kg
Aroclor-1232	11	U	4.3	ug/Kg	11	U	4.5	ug/Kg	10	U	4.1	ug/Kg
Aroclor-1242	280		8.6	ug/Kg	130		9	ug/Kg	56		8.2	ug/Kg
Aroclor-1248	11	U	5.1	ug/Kg	11	U	5.4	ug/Kg	10	U	4.9	ug/Kg
Aroclor-1254	11	U	4.7	ug/Kg	14		5	ug/Kg	12		4.5	ug/Kg
Aroclor-1260	780		7.2	ug/Kg	11	U	7.6	ug/Kg	10	U	6.9	ug/Kg

<b>Metals</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170374				#20170444				#20170381			
Client ID#	R14 15-3	Q	MDL	Units	R32 COMP	Q	MDL	Units	R32-1	Q	MDL	Units
Arsenic					2.9		0.3	mg/Kg				
Cadmium					0.23	J	0.076	mg/Kg				
Copper					6.3		0.52	mg/Kg				
Lead					11		0.22	mg/Kg				
Mercury					0.074		0.005	mg/Kg				
%Solids	76.8		0.1	%	73.5		0.1	%	78.2		0.1	%

USACE - NY District  
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<b>Volatiles</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170382				#20170383				#20170384			
Client ID#	R32-2	Q	MDL	Units	R32-3	Q	MDL	Units	R32-4	Q	MDL	Units
Benzene												
Toluene												
Xylenes(Total)												

<b>SemiVolatiles</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170382				#20170383				#20170384			
Client ID#	R32-2	Q	MDL	Units	R32-3	Q	MDL	Units	R32-4	Q	MDL	Units
Naphthalene												
2-Methylnaphthalene												
2-Chloronaphthalene												
Acenaphthylene												
Acenaphthene												
Fluorene												
Phenanthrene												
Anthracene												
Fluoranthene												
Pyrene												
Benzo(a)anthracene												
Chrysene												
Benzo(b)fluoranthene												
Benzo(k)fluoranthene												
Benzo(a)pyrene												
Indeno(1,2,3-cd)pyrene												
Dibenzo(a,h)anthracene												
Benzo(ghi)perylene												

<b>Pesticides/Aroclors</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170382				#20170383				#20170384			
Client ID#	R32-2	Q	MDL	Units	R32-3	Q	MDL	Units	R32-4	Q	MDL	Units
Dieldrin												
4,4'-DDE												
4,4'-DDD												
4,4'-DDT												
Aroclor-1016	10	U	5.4	ug/Kg	11	U	5.8	ug/Kg	11	U	5.8	ug/Kg
Aroclor-1221	10	U	5.3	ug/Kg	11	U	5.6	ug/Kg	11	U	5.7	ug/Kg
Aroclor-1232	10	U	4	ug/Kg	11	U	4.3	ug/Kg	11	U	4.3	ug/Kg
Aroclor-1242	10	U	8.1	ug/Kg	21		8.7	ug/Kg	36		8.7	ug/Kg
Aroclor-1248	10	U	4.9	ug/Kg	11	U	5.2	ug/Kg	11	U	5.2	ug/Kg
Aroclor-1254	180		4.5	ug/Kg	11	U	4.8	ug/Kg	11	U	4.8	ug/Kg
Aroclor-1260	45		6.8	ug/Kg	11	U	7.3	ug/Kg	11	U	7.3	ug/Kg

<b>Metals</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170382				#20170383				#20170384			
Client ID#	R32-2	Q	MDL	Units	R32-3	Q	MDL	Units	R32-4	Q	MDL	Units
Arsenic												
Cadmium												
Copper												
Lead												
Mercury												
%Solids	80.9		0.1	%	74.5		0.1	%	75.1		0.1	%

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<b>Volatiles</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170385				#20170386				#20170387			
Client ID#	R32-5	Q	MDL	Units	R32-6	Q	MDL	Units	R32-7	Q	MDL	Units
Benzene												
Toluene												
Xylenes(Total)												

<b>SemiVolatiles</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170385				#20170386				#20170387			
Client ID#	R32-5	Q	MDL	Units	R32-6	Q	MDL	Units	R32-7	Q	MDL	Units
Naphthalene												
2-Methylnaphthalene												
2-Chloronaphthalene												
Acenaphthylene												
Acenaphthene												
Fluorene												
Phenanthrene												
Anthracene												
Fluoranthene												
Pyrene												
Benzo(a)anthracene												
Chrysene												
Benzo(b)fluoranthene												
Benzo(k)fluoranthene												
Benzo(a)pyrene												
Indeno(1,2,3-cd)pyrene												
Dibenzo(a,h)anthracene												
Benzo(ghi)perylene												

<b>Pesticides/Aroclors</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170385				#20170386				#20170387			
Client ID#	R32-5	Q	MDL	Units	R32-6	Q	MDL	Units	R32-7	Q	MDL	Units
Dieldrin												
4,4'-DDE												
4,4'-DDD												
4,4'-DDT												
Aroclor-1016	11	U	6	ug/Kg	10	U	5.4	ug/Kg	11	U	5.9	ug/Kg
Aroclor-1221	11	U	5.9	ug/Kg	10	U	5.3	ug/Kg	11	U	5.8	ug/Kg
Aroclor-1232	11	U	4.5	ug/Kg	10	U	4.1	ug/Kg	11	U	4.4	ug/Kg
Aroclor-1242	170		9	ug/Kg	48		8.1	ug/Kg	120		8.9	ug/Kg
Aroclor-1248	11	U	5.4	ug/Kg	10	U	4.9	ug/Kg	11	U	5.3	ug/Kg
Aroclor-1254	23		5	ug/Kg	5.9	J	4.5	ug/Kg	21		4.9	ug/Kg
Aroclor-1260	11	U	7.6	ug/Kg	10	U	6.8	ug/Kg	11	U	7.5	ug/Kg

<b>Metals</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170385				#20170386				#20170387			
Client ID#	R32-5	Q	MDL	Units	R32-6	Q	MDL	Units	R32-7	Q	MDL	Units
Arsenic												
Cadmium												
Copper												
Lead												
Mercury												
%Solids	73.2		0.1	%	79.7		0.1	%	74.7		0.1	%



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<b>Volatiles</b>	Sediment				Sediment				Sediment				
ASI ID#	#20170388				#20170389				#20170445				
Client ID#	R32-8	Q	MDL	Units	R32-9	Q	MDL	Units	R36 37 COMP	Q	MDL	Units	
Benzene										6.8	U	2.7	ug/Kg
Toluene										6.8	U	2.3	ug/Kg
Xylenes(Total)										14	U	5.8	ug/Kg

<b>SemiVolatiles</b>	Sediment				Sediment				Sediment				
ASI ID#	#20170388				#20170389				#20170445				
Client ID#	R32-8	Q	MDL	Units	R32-9	Q	MDL	Units	R36 37 COMP	Q	MDL	Units	
Naphthalene										45	U	16	ug/Kg
2-Methylnaphthalene										45	U	17	ug/Kg
2-Chloronaphthalene										45	U	15	ug/Kg
Acenaphthylene										45	U	15	ug/Kg
Acenaphthene										45	U	15	ug/Kg
Fluorene										45	U	16	ug/Kg
Phenanthrene										45	U	19	ug/Kg
Anthracene										45	U	17	ug/Kg
Fluoranthene										45	U	18	ug/Kg
Pyrene										45	U	20	ug/Kg
Benzo(a)anthracene										45	U	18	ug/Kg
Chrysene										45	U	18	ug/Kg
Benzo(b)fluoranthene										45	U *	19	ug/Kg
Benzo(k)fluoranthene										45	U	16	ug/Kg
Benzo(a)pyrene										45	U *	19	ug/Kg
Indeno(1,2,3-cd)pyrene										45	U	17	ug/Kg
Dibenzo(a,h)anthracene										45	U	19	ug/Kg
Benzo(ghi)perylene										45	U	19	ug/Kg

<b>Pesticides/Aroclors</b>	Sediment				Sediment				Sediment				
ASI ID#	#20170388				#20170389				#20170445				
Client ID#	R32-8	Q	MDL	Units	R32-9	Q	MDL	Units	R36 37 COMP	Q	MDL	Units	
Dieldrin										1.1	U	0.11	ug/Kg
4,4'-DDE										1.1	U	0.36	ug/Kg
4,4'-DDD										1.1	U	0.11	ug/Kg
4,4'-DDT										1.1	U	0.11	ug/Kg
Aroclor-1016	11	U	5.9	ug/Kg	11	U	5.8	ug/Kg		11	U	5.9	ug/Kg
Aroclor-1221	11	U	5.8	ug/Kg	11	U	5.7	ug/Kg		11	U	5.8	ug/Kg
Aroclor-1232	11	U	4.4	ug/Kg	11	U	4.4	ug/Kg		11	U	4.4	ug/Kg
Aroclor-1242	160		8.8	ug/Kg	44		8.8	ug/Kg		60		8.9	ug/Kg
Aroclor-1248	11	U	5.3	ug/Kg	11	U	5.3	ug/Kg		11	U	5.4	ug/Kg
Aroclor-1254	11	U	4.9	ug/Kg	11	U	4.8	ug/Kg		7.9	J	4.9	ug/Kg
Aroclor-1260	9.2	J	7.4	ug/Kg	11	U	7.4	ug/Kg		11	U	7.5	ug/Kg

<b>Metals</b>	Sediment				Sediment				Sediment				
ASI ID#	#20170388				#20170389				#20170445				
Client ID#	R32-8	Q	MDL	Units	R32-9	Q	MDL	Units	R36 37 COMP	Q	MDL	Units	
Arsenic										1.8		0.3	mg/Kg
Cadmium										0.2	J	0.076	mg/Kg
Copper										4.6		0.52	mg/Kg
Lead										7		0.22	mg/Kg
Mercury										0.028		0.0049	mg/Kg
%Solids	74.5		0.1	%	74.7		0.1	%		73.8		0.1	%

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<b>Volatiles</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170390				#20170391				#20170375			
Client ID#	R36 37-1	Q	MDL	Units	R36 37-2	Q	MDL	Units	R30 31-1	Q	MDL	Units
Benzene												
Toluene												
Xylenes(Total)												

<b>SemiVolatiles</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170390				#20170391				#20170375			
Client ID#	R36 37-1	Q	MDL	Units	R36 37-2	Q	MDL	Units	R30 31-1	Q	MDL	Units
Naphthalene												
2-Methylnaphthalene												
2-Chloronaphthalene												
Acenaphthylene												
Acenaphthene												
Fluorene												
Phenanthrene												
Anthracene												
Fluoranthene												
Pyrene												
Benzo(a)anthracene												
Chrysene												
Benzo(b)fluoranthene												
Benzo(k)fluoranthene												
Benzo(a)pyrene												
Indeno(1,2,3-cd)pyrene												
Dibenzo(a,h)anthracene												
Benzo(ghi)perylene												

<b>Pesticides/Aroclors</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170390				#20170391				#20170375			
Client ID#	R36 37-1	Q	MDL	Units	R36 37-2	Q	MDL	Units	R30 31-1	Q	MDL	Units
Dieldrin												
4,4'-DDE												
4,4'-DDD												
4,4'-DDT												
Aroclor-1016	11	U	5.9	ug/Kg	11	U	5.8	ug/Kg	7.3	U	2.8	ug/Kg
Aroclor-1221	11	U	5.7	ug/Kg	11	U	5.7	ug/Kg	5.3	U	2.8	ug/Kg
Aroclor-1232	11	U	4.4	ug/Kg	11	U	4.3	ug/Kg	5.3	U	2.1	ug/Kg
Aroclor-1242	19		8.8	ug/Kg	61		8.7	ug/Kg	5.3	U	4.2	ug/Kg
Aroclor-1248	11	U	5.3	ug/Kg	11	U	5.2	ug/Kg	5.3	U	2.5	ug/Kg
Aroclor-1254	11	U	4.8	ug/Kg	6.4	J p	4.8	ug/Kg	5.3	U	2.3	ug/Kg
Aroclor-1260	11	U	7.4	ug/Kg	11	U	7.3	ug/Kg	5.3	U	3.6	ug/Kg

<b>Metals</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170390				#20170391				#20170375			
Client ID#	R36 37-1	Q	MDL	Units	R36 37-2	Q	MDL	Units	R30 31-1	Q	MDL	Units
Arsenic												
Cadmium												
Copper												
Lead												
Mercury												
%Solids	75.5		0.1	%	75.2		0.1	%	78.2		0.1	%

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<b>Volatiles</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170376				#20170377				#20170378			
Client ID#	R30 31-2	Q	MDL	Units	R30 31-3	Q	MDL	Units	R30 31-4	Q	MDL	Units
Benzene												
Toluene												
Xylenes(Total)												

<b>SemiVolatiles</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170376				#20170377				#20170378			
Client ID#	R30 31-2	Q	MDL	Units	R30 31-3	Q	MDL	Units	R30 31-4	Q	MDL	Units
Naphthalene												
2-Methylnaphthalene												
2-Chloronaphthalene												
Acenaphthylene												
Acenaphthene												
Fluorene												
Phenanthrene												
Anthracene												
Fluoranthene												
Pyrene												
Benzo(a)anthracene												
Chrysene												
Benzo(b)fluoranthene												
Benzo(k)fluoranthene												
Benzo(a)pyrene												
Indeno(1,2,3-cd)pyrene												
Dibenzo(a,h)anthracene												
Benzo(ghi)perylene												

<b>Pesticides/Aroclors</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170376				#20170377				#20170378			
Client ID#	R30 31-2	Q	MDL	Units	R30 31-3	Q	MDL	Units	R30 31-4	Q	MDL	Units
Dieldrin												
4,4'-DDE												
4,4'-DDD												
4,4'-DDT												
Aroclor-1016	57		2.9	ug/Kg	5.5	U	2.9	ug/Kg	170		2.8	ug/Kg
Aroclor-1221	5.4	U	2.8	ug/Kg	5.5	U	2.9	ug/Kg	5.3	U	2.8	ug/Kg
Aroclor-1232	5.4	U	2.1	ug/Kg	5.5	U	2.2	ug/Kg	5.3	U	2.1	ug/Kg
Aroclor-1242	5.4	U	4.3	ug/Kg	5.5	U	4.4	ug/Kg	5.3	U	4.2	ug/Kg
Aroclor-1248	5.4	U	2.6	ug/Kg	5.5	U	2.6	ug/Kg	5.3	U	2.5	ug/Kg
Aroclor-1254	8		2.4	ug/Kg	5.5	U	2.4	ug/Kg	5.3	U	2.3	ug/Kg
Aroclor-1260	9.9		3.6	ug/Kg	5.5	U	3.7	ug/Kg	11		3.6	ug/Kg

<b>Metals</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170376				#20170377				#20170378			
Client ID#	R30 31-2	Q	MDL	Units	R30 31-3	Q	MDL	Units	R30 31-4	Q	MDL	Units
Arsenic												
Cadmium												
Copper												
Lead												
Mercury												
%Solids	77		0.1	%	75.3		0.1	%	78.1		0.1	%

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<b>Volatiles</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170379				#20170380				#20170443			
Client ID#	R30 31-5	Q	MDL	Units	R30 31-6	Q	MDL	Units	R30 31-COMP	Q	MDL	Units
Benzene									6.4	U	2.5	ug/Kg
Toluene									6.4	U	2.1	ug/Kg
Xylenes(Total)									13	U	5.5	ug/Kg

<b>SemiVolatiles</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170379				#20170380				#20170443			
Client ID#	R30 31-5	Q	MDL	Units	R30 31-6	Q	MDL	Units	R30 31-COMP	Q	MDL	Units
Naphthalene									42	U	15	ug/Kg
2-Methylnaphthalene									42	U	16	ug/Kg
2-Chloronaphthalene									42	U	14	ug/Kg
Acenaphthylene									42	U	14	ug/Kg
Acenaphthene									42	U	14	ug/Kg
Fluorene									42	U	15	ug/Kg
Phenanthrene									42	U	17	ug/Kg
Anthracene									42	U	15	ug/Kg
Fluoranthene									42	U	16	ug/Kg
Pyrene									42	U	19	ug/Kg
Benzo(a)anthracene									42	U	17	ug/Kg
Chrysene									42	U	16	ug/Kg
Benzo(b)fluoranthene									42	U	18	ug/Kg
Benzo(k)fluoranthene									42	U	14	ug/Kg
Benzo(a)pyrene									42	U	17	ug/Kg
Indeno(1,2,3-cd)pyrene									42	U	16	ug/Kg
Dibenzo(a,h)anthracene									42	U	17	ug/Kg
Benzo(ghi)perylene									42	U	18	ug/Kg

<b>Pesticides/Aroclors</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170379				#20170380				#20170443			
Client ID#	R30 31-5	Q	MDL	Units	R30 31-6	Q	MDL	Units	R30 31-COMP	Q	MDL	Units
Dieldrin									1.1	U	0.1	ug/Kg
4,4'-DDE									1.1	U	0.34	ug/Kg
4,4'-DDD									1.1	U	0.11	ug/Kg
4,4'-DDT									1.1	U	0.11	ug/Kg
Aroclor-1016	11		2.8	ug/Kg	22		2.8	ug/Kg	57		5.6	ug/Kg
Aroclor-1221	5.2	U	2.7	ug/Kg	5.2	U	2.7	ug/Kg	11	U	5.5	ug/Kg
Aroclor-1232	5.2	U	2.1	ug/Kg	5.2	U	2.1	ug/Kg	11	U	4.2	ug/Kg
Aroclor-1242	5.2	U	4.2	ug/Kg	5.2	U	4.2	ug/Kg	11	U	8.4	ug/Kg
Aroclor-1248	5.2	U	2.5	ug/Kg	5.2	U	2.5	ug/Kg	11	U	5.1	ug/Kg
Aroclor-1254	5.2	U	2.3	ug/Kg	5.2	U	2.3	ug/Kg	11	U	4.6	ug/Kg
Aroclor-1260	5.2	U	3.5	ug/Kg	5.2	U	3.5	ug/Kg	11	U	7.1	ug/Kg

<b>Metals</b>	Sediment				Sediment				Sediment			
ASI ID#	#20170379				#20170380				#20170443			
Client ID#	R30 31-5	Q	MDL	Units	R30 31-6	Q	MDL	Units	R30 31-COMP	Q	MDL	Units
Arsenic									2.2		0.29	mg/Kg
Cadmium									0.12	J	0.073	mg/Kg
Copper									2.9		0.5	mg/Kg
Lead									6.4		0.21	mg/Kg
Mercury									0.021		0.0044	mg/Kg
%Solids	79.6		0.1	%	79.5		0.1	%	78.6		0.1	%