



**US Army Corps
of Engineers®**

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

Public Notice

In replying refer to:

Public Notice No. SH-AFO-15

Published: March 23, 2015 Expires: April 21, 2015

SAUGERTIES HARBOR, NY ESOPUS CREEK, NEW YORK 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: Saugerties Harbor, located at Esopus Creek, New York (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.

ACTIVITY: Maintenance dredging of the following federal navigation project: The entrance channel of the Saugerties Harbor federal navigation channel, at the confluence of Esopus Creek and the Hudson River, NY; 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: Saugerties Harbor, NY

LOCATION: Esopus Creek, New York.

The Saugerties Harbor federal navigation project was authorized by the Rivers and Harbors Acts of 1884 and 1902.

The existing navigation project authorizes a channel 12 feet deep and 200 ft. wide; from deep water in the Hudson River to the steamboat wharf in the Village of Saugerties. The total length of the existing navigation project is about 0.8 miles.

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 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 has requested a water quality certificate (WQC) from the New York State Department of Environmental Conservation, in accordance with Section 401 of the Clean Water Act.

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. The Corps will request the 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, Division of Coastal Resources, 41 State Street, Albany New York 12231, telephone (518) 474-3642.

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
- New York State Department of Parks, Recreation and Historic Preservation

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 responding to this notice may be FAXED to (518) 273-3772 ATTN: Mr. Robert D. Berrian.

DESCRIPTION OF PLANNED ACTION:

The U.S. Army Corps of Engineers, New York District proposes to perform maintenance dredging of the entrance channel of the Saugerties Harbor federal navigation project, located in the Esopus Creek (Hudson River Mile 101), New York (Enclosure 1). Based on condition surveys performed during December 2014 the proposed maintenance dredging would involve the removal of approximately 26,000 CY of material from the dredge area (Enclosure 2). Dredging will be limited to an estimated 1200' (0.2 miles) segment of the project channel, as delineated on Enclosure 2. Dredging of the full width of the channel may not be required throughout the entire dredge area.

The purpose of the proposed dredging is to maintain the authorized project dimensions, thereby assuring safe, economical and uninterrupted use of the Saugerties Harbor navigation channel by the US Coast Guard's Aids to Navigation fleet, and other public interests.

Maintenance dredging of the Saugerties Harbor federal navigation project will be accomplished by a mechanical dredge equipped with a closed environmental bucket 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 (*Aspioner brevirostrum*) and Atlantic sturgeon (*Aspioner oxyrinchus*): March 1 to September 1.

ENVIRONMENTAL IMPACT STATEMENT:

An Environmental Impact Statement (EIS) entitled "Hudson River Federal Channel Maintenance Dredging" 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 and 2014. Based on the above EIS, the previous EAs, and the project specific EA; it was determined that maintenance dredging of the Saugerties Harbor 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 Hudson River Mile 130. The dredged material will be loaded into hopper scow(s), transported by tug(s), and placed in Area B of the designated site, as shown on the attached map (Enclosure 3).

MATERIAL DESCRIPTION:

The average grain size characteristics of the proposed dredged material are:

Sample ID SH.11.01 thru 05: 0% Gravel, 13% Sand, 56% Silt, 31% Clay

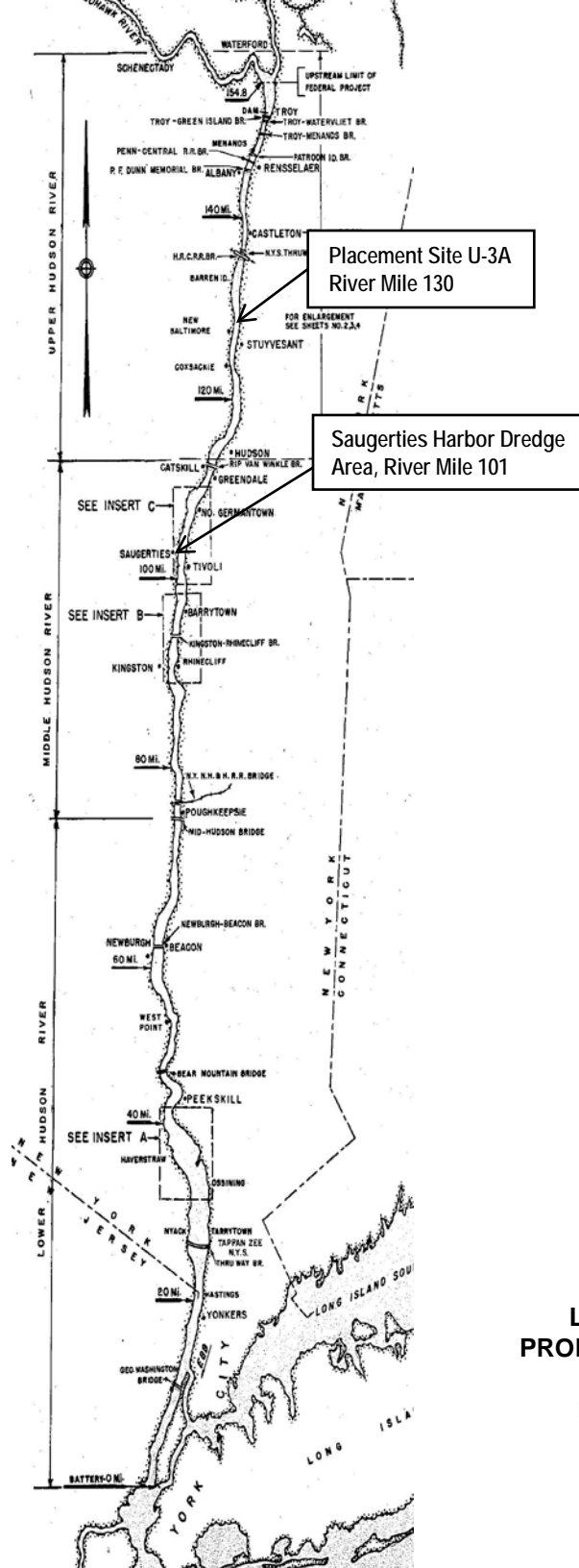
See Enclosure 2 for sample locations and Enclosure 4 for the physical and chemistry summary data reports. The full chemistry data report entitled "ANALYTICAL REPORT, Job Number: 180-6765-1, Job Description: ACOE Saugerties Harbor" dated January 2012 is available for review at the Albany Field Office, Troy, NY.

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.



Enclosures
As stated

William Petronis
Chief, Albany Field Office



**ENCLOSURE 1
LOCATION MAP OF
PROPOSED DREDGE AREA
AND
PLACEMENT SITE**

646000

647000

Core sediment samples labeled as SH.11.01 thru
HR.11.05 collected on 12-Dec-2011. All cores
extended to a minimum depth of 13 feet below Mean
Low Water

Hudson River
Ebb

SH 11.03

SH 11.05

Saugerties Lighthouse

SH 11.02

Esopus Creek
Ebb

SH 11.01

SH 11.04

Saugerties Harbor
Dredge Area

Enclosure 2
Saugerties Harbor Dredge Area
Sample Locations
Esopus Creek, NY



Approximate location of
effluent pipeline

EXISTING INFLUENT
PIPELINE CORRIDOR

Approximate location of
effluent pipeline

HUDSON RIVER
EBB

ACCESS ROAD FROM SCHODACK
ISLAND STATE PARK AND RTE. 9J

AREA B

APPROXIMATE
LOCATION OF
ICEHOUSE SITE A

Due to PCB levels in the underlying
sediment; excavation in this area is
prohibited

SCHODACK CREEK
EBB

AREA A

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

IV. PHYSICAL ANALYSIS RESULTS

The grain size distribution, moisture content, and total organic carbon for each core are shown in Table 2.

Table 1 DGPS Coordinates and Sample Identification Numbers

Core Name	Northings	Eastings	ASI Sample ID #
SH.11.01	1180098.6	646895.0	20110632
SH.11.02	1180191.2	646881.5	20110633
SH.11.03	1180248.8	646796.1	20110634
SH.11.04	1180094.5	646734.9	20110635
SH.11.04a	1180131.8	646685.0	No sample taken
SH.11.05	1180226.6	646641.7	20110636

Table 2 Grain Size Distribution, Percent Moisture, and TOC of Sediments

Sample ID	ASI #	Total % Gravel	Total % Sand	Total % Silt	Total % Clay	% Moisture	TOC ppm	% TOC of Dry Weight
SH.11.01	20110632	0.0	15.7	50.5	33.8	49.5	31,474	3.15
SH.11.02	20110633	0.0	14.3	55.5	30.2	49.2	31,120	3.11
SH.11.03	20110634	0.0	12.1	58.0	29.9	50.5	30,428	3.04
SH.11.04	20110635	0.0	12.2	57.5	30.3	49.6	28,484	2.85
SH.11.05	20110636	0.0	12.1	56.4	31.5	50.6	29,303	2.93
SH.11.05	20110636 dup	0.0	14.3	54.3	31.4	50.6		
SH.11.05	20110636 trip	0.0	11.4	56.4	32.2	50.9		

Saugerties Harbor, Composite SH 11.01 - Sediment Volatiles

Volatiles			
ASI ID #	20110632		MDL
Field ID #	11.01		
	ug/Kg	Q	ug/Kg
Benzene	9.9	U	1.3
Toluene	9.9	U	1.4
Ethyl benzene	9.9	U	1.3
Xylenes(Total)	30	U	4.4

Saugerties Harbor, Composite SH 11.01 - Sediment Semivolatiles

Semivolatiles			
ASI ID #	20110632		MDL
Field ID #	11.01		
	ug/Kg	Q	ug/Kg
Naphthalene	28	J	5.6
1-Methylnaphthalene	12	J	7.0
2-Methylnaphthalene	23	J	5.9
2-Chloronaphthalene	66	U	6.8
Acenaphthylene	28	J	7.5
Acenaphthene	20	J	6.3
Fluorene	36	J	8.6
Phenanthrene	190		10
Anthracene	56	J	6.4
Fluoranthene	320		7.0
Pyrene	270		6.6
Benzo(a)anthracene	210		8.2
Chrysene	190		7.8
Benzo(b)fluoranthene	150		10
Benzo(k)fluoranthene	190		13
Benzo(a)pyrene	220		6.5
Indeno(1,2,3-cd)pyrene	130		6.7
Dibenzo(a,h)anthracene	39	J	7.3
Benzo(ghi)perylene	150		6.5

Saugerties Harbor, Composite SH 11.01 - Sediment Pesticides/Aroclors

Pesticides/Aroclors			
ASI ID #	20110632		MDL
Field ID #	11.01		
	ug/Kg	Q	ug/Kg
alpha-BHC	8.4	U	1.3
beta-BHC	8.4	U	2.1
delta-BHC	8.4	U	1.3
gamma-BHC (Lindane)	8.4	U	1.4
Heptachlor	8.4	U	1.8
Aldrin	8.4	U	1.5
Heptachlor epoxide	8.4	U	1.6
Endosulfan I	8.4	U	1.5
Dieldrin	8.4	U	1.4
4,4'-DDE	8.4	U	1.2
Endrin	8.4	U	1.6
Endosulfan II	8.4	U	1.5
4,4'-DDD	8.4	U	1.1
Endosulfan sulfate	8.4	U	0.86
4,4'-DDT	8.4	U	1.2
Methoxychlor	16	U	1.7
Endrin ketone	8.4	U	1.3
Endrin aldehyde	8.4	U	1.6
alpha-Chlordane	8.4	U	1.6
gamma-Chlordane	8.4	U	1.6
Toxaphene	330	U	55
Aroclor-1016	16	U	2.4
Aroclor-1221	16	U	3.1
Aroclor-1232	16	U	2.8
Aroclor-1242	16	U	2.7
Aroclor-1248	230		1.6
Aroclor-1254	16	U	2.3
Aroclor-1260	16	U	2.3

Saugerties Harbor, Composite SH 11.01 - Sediment Metals

Metals			
ASI ID #	20110632		MDL
Field ID #	11.01		
	mg/Kg	Q	mg/Kg
Aluminum	12000		1.1
Antimony	0.23	J	0.16
Arsenic	6.0		0.22
Barium	98	B	0.049
Beryllium	0.63		0.015
Cadmium	0.86		0.024
Calcium	4800	B	0.97
Chromium	36		0.084
Cobalt	13		0.088
Copper	36		0.34
Iron	23000	B	2.9
Lead	42		0.14
Magnesium	4900	B	2.2
Manganese	1000		0.047
Mercury	0.28		0.010
Nickel	29		0.38
Potassium	1100		74
Selenium	0.67		0.20
Silver	0.30	J	0.057
Sodium	89	J B	8.1
Thallium	0.39	J	0.20
Vanadium	20		0.18
Zinc	140	B	0.22
%Moisture	49		0.1

Saugerties Harbor, Composite SH 11.02 - Sediment Volatiles

Volatiles			
ASI ID #	20110633		MDL
Field ID #	11.02		
	ug/Kg	Q	ug/Kg
Benzene	9.8	U	1.3
Toluene	9.8	U	1.4
Ethyl benzene	9.8	U	1.3
Xylenes(Total)	29	U	4.4

Saugerties Harbor, Composite SH 11.02 - Sediment Semivolatiles

Semivolatiles			
ASI ID #	20110633		MDL
Field ID #	11.02		
	ug/Kg	Q	ug/Kg
Naphthalene	34	J	5.6
1-Methylnaphthalene	15	J	7.0
2-Methylnaphthalene	28	J	5.9
2-Chloronaphthalene	66	U	6.8
Acenaphthylene	38	J	7.5
Acenaphthene	19	J	6.3
Fluorene	31	J	8.6
Phenanthrene	200		10
Anthracene	73		6.4
Fluoranthene	330		7.0
Pyrene	300		6.6
Benzo(a)anthracene	220		8.2
Chrysene	210		7.8
Benzo(b)fluoranthene	200		10
Benzo(k)fluoranthene	130		13
Benzo(a)pyrene	240		6.5
Indeno(1,2,3-cd)pyrene	130		6.7
Dibenzo(a,h)anthracene	30	J	7.3
Benzo(ghi)perylene	150		6.5

Saugerties Harbor, Composite SH 11.02 - Sediment Pesticides/Aroclors

Pesticides/Aroclors			
ASI ID #	20110633		MDL
Field ID #	11.02		
	ug/Kg	Q	ug/Kg
alpha-BHC	8.2	U	1.3
beta-BHC	8.2	U	2.1
delta-BHC	8.2	U	1.2
gamma-BHC (Lindane)	8.2	U	1.4
Heptachlor	8.2	U	1.8
Aldrin	8.2	U	1.4
Heptachlor epoxide	8.2	U	1.6
Endosulfan I	8.2	U	1.5
Dieldrin	8.2	U	1.3
4,4'-DDE	8.2	U	1.2
Endrin	8.2	U	1.6
Endosulfan II	8.2	U	1.4
4,4'-DDD	8.2	U	1.1
Endosulfan sulfate	8.2	U	0.84
4,4'-DDT	4.3	J p	1.2
Methoxychlor	16	U	1.7
Endrin ketone	8.2	U	1.3
Endrin aldehyde	8.2	U	1.6
alpha-Chlordane	8.2	U	1.6
gamma-Chlordane	8.2	U	1.6
Toxaphene	320	U	54
Aroclor-1016	16	U	2.4
Aroclor-1221	16	U	3.1
Aroclor-1232	16	U	2.8
Aroclor-1242	16	U	2.6
Aroclor-1248	440		1.5
Aroclor-1254	16	U	2.3
Aroclor-1260	16	U	2.3

Saugerties Harbor, Composite SH 11.02 - Sediment Metals

Metals			
ASI ID #	20110633		MDL
Field ID #	11.02		
	mg/Kg	Q	mg/Kg
Aluminum	11000		1.0
Antimony	0.33	J	0.16
Arsenic	6.2		0.21
Barium	97	B	0.047
Beryllium	0.64		0.014
Cadmium	1.5		0.023
Calcium	4600	B	0.93
Chromium	70		0.081
Cobalt	13		0.085
Copper	43		0.32
Iron	23000	B	2.8
Lead	57		0.14
Magnesium	5000	B	2.1
Manganese	880		0.046
Mercury	0.37		0.0094
Nickel	30		0.36
Potassium	1000		71
Selenium	0.58		0.20
Silver	0.52		0.055
Sodium	80	J B	7.8
Thallium	0.95	U	0.20
Vanadium	21		0.18
Zinc	160	B	0.21
%Moisture	49		0.1

Saugerties Harbor, Composite SH 11.03 - Sediment Volatiles

Volatiles			
ASI ID #	20110634		MDL
Field ID #	11.03		
	ug/Kg	Q	ug/Kg
Benzene	9.9	U	1.3
Toluene	9.9	U	1.4
Ethyl benzene	9.9	U	1.3
Xylenes(Total)	30	U	4.4

Saugerties Harbor, Composite SH 11.03 - Sediment Semivolatiles

Semivolatiles			
ASI ID #	20110634		MDL
Field ID #	11.03		
	ug/Kg	Q	ug/Kg
Naphthalene	34	J	5.6
1-Methylnaphthalene	15	J	6.9
2-Methylnaphthalene	27	J	5.8
2-Chloronaphthalene	65	U	6.8
Acenaphthylene	43	J	7.4
Acenaphthene	26	J	6.2
Fluorene	48	J	8.6
Phenanthrene	190		10
Anthracene	64	J	6.4
Fluoranthene	320		6.9
Pyrene	300		6.6
Benzo(a)anthracene	170		8.1
Chrysene	210		7.7
Benzo(b)fluoranthene	180		10
Benzo(k)fluoranthene	130		13
Benzo(a)pyrene	220		6.5
Indeno(1,2,3-cd)pyrene	140		6.7
Dibenzo(a,h)anthracene	40	J	7.2
Benzo(ghi)perylene	170		6.5

Saugerties Harbor, Composite SH 11.03 - Sediment Pesticides/Aroclors

Pesticides/Aroclors			
ASI ID #	20110634		MDL
Field ID #	11.03		
	ug/Kg	Q	ug/Kg
alpha-BHC	8.2	U	1.3
beta-BHC	8.2	U	2.1
delta-BHC	8.2	U	1.2
gamma-BHC (Lindane)	4.7	J p	1.4
Heptachlor	8.2	U	1.8
Aldrin	1.7	J p	1.4
Heptachlor epoxide	8.2	U	1.6
Endosulfan I	8.2	U	1.5
Dieldrin	8.2	U	1.3
4,4'-DDE	8.2	U	1.2
Endrin	8.2	U	1.6
Endosulfan II	8.2	U	1.4
4,4'-DDD	8.2	U	1.0
Endosulfan sulfate	8.2	U	0.84
4,4'-DDT	2.9	J p	1.2
Methoxychlor	4.3	J	1.7
Endrin ketone	8.2	U	1.2
Endrin aldehyde	8.2	U	1.6
alpha-Chlordane	8.2	U	1.6
gamma-Chlordane	8.2	U	1.6
Toxaphene	320	U	53
Aroclor-1016	16	U	2.4
Aroclor-1221	16	U	3.1
Aroclor-1232	16	U	2.7
Aroclor-1242	16	U	2.6
Aroclor-1248	460		1.5
Aroclor-1254	16	U	2.3
Aroclor-1260	16	U	2.3

Saugerties Harbor, Composite SH 11.03 - Sediment Metals

Metals			
ASI ID #	20110634		MDL
Field ID #	11.03		
	mg/Kg	Q	mg/Kg
Aluminum	11000		0.99
Antimony	0.28	J	0.15
Arsenic	6.3		0.20
Barium	98	B	0.046
Beryllium	0.62		0.014
Cadmium	1.7		0.022
Calcium	4300	B	0.90
Chromium	85		0.078
Cobalt	12		0.082
Copper	46		0.31
Iron	22000	B	2.7
Lead	66		0.13
Magnesium	4800	B	2.0
Manganese	730		0.044
Mercury	0.40		0.010
Nickel	29		0.35
Potassium	970		69
Selenium	0.61		0.19
Silver	0.57		0.053
Sodium	76	J B	7.5
Thallium	0.92	U	0.19
Vanadium	21		0.17
Zinc	160	B	0.20
%Moisture	49		0.1

Saugerties Harbor, Composite SH 11.04 - Sediment Volatiles

Volatiles			
ASI ID #	20110635		MDL
Field ID #	11.04		
	ug/Kg	Q	ug/Kg
Benzene	9.9	U	1.3
Toluene	9.9	U	1.4
Ethyl benzene	9.9	U	1.3
Xylenes(Total)	30	U	4.4

Saugerties Harbor, Composite SH 11.04 - Sediment Semivolatiles

Semivolatiles			
ASI ID #	20110635		MDL
Field ID #	11.04		
	ug/Kg	Q	ug/Kg
Naphthalene	33	J	5.6
1-Methylnaphthalene	16	J	6.9
2-Methylnaphthalene	27	J	5.8
2-Chloronaphthalene	65	U	6.8
Acenaphthylene	34	J	7.4
Acenaphthene	19	J	6.2
Fluorene	32	J	8.5
Phenanthrene	170		10
Anthracene	60	J	6.3
Fluoranthene	280		6.9
Pyrene	260		6.6
Benzo(a)anthracene	180		8.1
Chrysene	170		7.7
Benzo(b)fluoranthene	150		10
Benzo(k)fluoranthene	140		13
Benzo(a)pyrene	220		6.5
Indeno(1,2,3-cd)pyrene	130		6.7
Dibenzo(a,h)anthracene	8.4	J	7.2
Benzo(ghi)perylene	150		6.5

Saugerties Harbor, Composite SH 11.04 - Sediment Pesticides/Aroclors

Pesticides/Aroclors			
ASI ID #	20110635		MDL
Field ID #	11.04		
	ug/Kg	Q	ug/Kg
alpha-BHC	8.2	U	1.3
beta-BHC	83		2.1
delta-BHC	3.8	J p	1.2
gamma-BHC (Lindane)	8.2	U	1.4
Heptachlor	8.2	U	1.8
Aldrin	6.9	J p	1.4
Heptachlor epoxide	6.5	J p	1.6
Endosulfan I	8.2	U	1.5
Dieldrin	8.2	U	1.3
4,4'-DDE	8.2	U	1.2
Endrin	8.2	U	1.6
Endosulfan II	8.2	U	1.4
4,4'-DDD	8.2	U	1.1
Endosulfan sulfate	8.2	U	0.84
4,4'-DDT	15		1.2
Methoxychlor	16	U	1.7
Endrin ketone	8.2	U	1.2
Endrin aldehyde	8.2	U	1.6
alpha-Chlordane	8.2	U	1.6
gamma-Chlordane	2.6	J p	1.6
Toxaphene	320	U	54
Aroclor-1016	16	U	2.4
Aroclor-1221	16	U	3.1
Aroclor-1232	16	U	2.7
Aroclor-1242	16	U	2.6
Aroclor-1248	1100		1.5
Aroclor-1254	16	U	2.3
Aroclor-1260	16	U	2.3

Saugerties Harbor, Composite SH 11.04 - Sediment Metals

Metals			
ASI ID #	20110635		MDL
Field ID #	11.04		
	mg/Kg	Q	mg/Kg
Aluminum	12000		1.1
Antimony	0.28	J	0.16
Arsenic	6.8		0.22
Barium	120	B	0.049
Beryllium	0.66		0.015
Cadmium	2.7		0.024
Calcium	4200	B	0.97
Chromium	97		0.084
Cobalt	13		0.088
Copper	51		0.34
Iron	24000	B	2.9
Lead	95		0.14
Magnesium	5000	B	2.2
Manganese	740		0.047
Mercury	0.49		0.0098
Nickel	31		0.38
Potassium	1200		74
Selenium	0.38	J	0.20
Silver	0.58		0.057
Sodium	90	J B	8.1
Thallium	0.99	U	0.20
Vanadium	23		0.18
Zinc	200	B	0.22
%Moisture	49		0.1

Saugerties Harbor, Composite SH 11.05 - Sediment Volatiles

Volatiles			
ASI ID #	20110636		MDL
Field ID #	11.05		
	ug/Kg	Q	ug/Kg
Benzene	10	U	1.3
Toluene	10	U	1.5
Ethyl benzene	10	U	1.3
Xylenes(Total)	30	U	4.5

Saugerties Harbor, Composite SH 11.05 - Sediment Semivolatiles

Semivolatiles			
ASI ID #	20110636		MDL
Field ID #	11.05		
	ug/Kg	Q	ug/Kg
Naphthalene	29	J	11
1-Methylnaphthalene	130	U	14
2-Methylnaphthalene	22	J	12
2-Chloronaphthalene	130	U	14
Acenaphthylene	33	J	15
Acenaphthene	19	J	13
Fluorene	39	J	18
Phenanthrene	170		21
Anthracene	59	J	13
Fluoranthene	260		14
Pyrene	230		13
Benzo(a)anthracene	160		17
Chrysene	220		16
Benzo(b)fluoranthene	200		21
Benzo(k)fluoranthene	110	J	27
Benzo(a)pyrene	200		13
Indeno(1,2,3-cd)pyrene	110	J	14
Dibenzo(a,h)anthracene	130	U	15
Benzo(ghi)perylene	140		13

Saugerties Harbor, Composite SH 11.05 - Sediment Pesticides/Aroclors

Pesticides/Aroclors			
ASI ID #	20110636		MDL
Field ID #	11.05		
	ug/Kg	Q	ug/Kg
alpha-BHC	8.3	U	1.3
beta-BHC	8.3	U	2.1
delta-BHC	8.3	U	1.2
gamma-BHC (Lindane)	8.3	U	1.4
Heptachlor	8.3	U	1.8
Aldrin	8.3	U	1.5
Heptachlor epoxide	8.3	U	1.6
Endosulfan I	8.3	U	1.5
Dieldrin	8.3	U	1.4
4,4'-DDE	8.3	U	1.2
Endrin	8.3	U	1.6
Endosulfan II	8.3	U	1.4
4,4'-DDD	8.3	U	1.1
Endosulfan sulfate	8.3	U	0.85
4,4'-DDT	2.4	J p	1.2
Methoxychlor	16	U	1.7
Endrin ketone	8.3	U	1.3
Endrin aldehyde	8.3	U	1.6
alpha-Chlordane	8.3	U	1.6
gamma-Chlordane	8.3	U	1.6
Toxaphene	330	U	54
Aroclor-1016	16	U	2.4
Aroclor-1221	16	U	3.1
Aroclor-1232	16	U	2.8
Aroclor-1242	16	U	2.7
Aroclor-1248	350		1.5
Aroclor-1254	16	U	2.3
Aroclor-1260	16	U	2.3

Saugerties Harbor, Composite SH 11.05 - Sediment Metals

Metals			
ASI ID #	20110636		MDL
Field ID #	11.05		
	mg/Kg	Q	mg/Kg
Aluminum	12000		1.0
Antimony	0.45	J	0.16
Arsenic	5.8		0.21
Barium	98	B	0.048
Beryllium	0.64		0.014
Cadmium	1.2		0.023
Calcium	4100	B	0.93
Chromium	55		0.081
Cobalt	12		0.085
Copper	40		0.33
Iron	23000	B	2.8
Lead	52		0.14
Magnesium	4900	B	2.1
Manganese	750		0.046
Mercury	0.31		0.011
Nickel	29		0.37
Potassium	1200		71
Selenium	0.43	J	0.20
Silver	0.48		0.055
Sodium	93	J B	7.8
Thallium	0.26	J	0.20
Vanadium	21		0.18
Zinc	150	B	0.21
%Moisture	50		0.1

<i>Analysis</i>	<i>Qualifier</i>	<i>Description</i>
GC/MS VOA	U	Indicates the analyte was analyzed for but not detected.
GC/MS Semi VOA	U	Indicates the analyte was analyzed for but not detected.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
GC Semi VOA	U	U Indicates the analyte was analyzed for but not detected.
	F	MS or MSD exceeds the control limits; RPD of the MS/MSD exceeds control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	X	Surrogate is outside control limits
	D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
	p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
Metals	B	Compound was found in the blank and sample.
	U	Indicates the analyte was analyzed for but not detected.
	F	MS or MSD exceeds the control limits
	4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
	V	Serial Dilution exceeds the control limits