NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation

STATEMENT OF BASIS

Ciba Geigy Main Plant/Pretreatment Plant
Operable Unit 04: Hudson River – South of Bakers Falls Dam
Site No. 557011
EPA ID No. NYD002069748
Queensbury, Warren County

August 2018

PREPARED BY

DIVISION OF ENVIRONMENTAL REMEDIATION

DECLARATION STATEMENT – STATEMENT OF BASIS

Ciba Geigy Main Plant/Pretreatment Plant
Operable Unit 04
Queensbury, Warren County
Site No. 557011
EPA RCRA No. NYD002069748
August 2018

Statement of Purpose and Basis

This document presents the selected remedy for Operable Unit Number: 04: Hudson River - South of Bakers Falls Dam of the Ciba Geigy Main Plant/Pretreatment Plant site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 373 (RCRA) and Part 375 (State Superfund).

The proposed remedy was made available for public comment between May 30, 2018 and July 16, 2018. On June 28, 2018, a public meeting was also held at the Queensbury Town Hall – Senior Center. Comments received from the public are addressed in the Responsiveness Summary Included in Appendix A of this final Statement of Basis. Appendix A includes additional information about public participation activities for this project.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for Operable Unit Number: 04 of the Ciba Geigy Main Plant/Pretreatment Plant site, included in Appendix B.

Description of Selected Remedy

Prior to the investigation for Operable Unit 04 (OU 04) of this site, removal activities were performed that reduced contamination within the Hudson River. The removal activities included corrective measures undertaken at the above referenced site as part of OU 02 and OU 03 and dredging activities performed by others. Additional details regarding the removal activities are discussed in Section 6.3.

Based on the implementation of the removal activities, the findings of the investigation of this site indicate that OU 04 no longer poses a threat to human health or the environment; therefore, No Further Action is the selected remedy for OU 04.

The removal activities attained the remediation objectives identified for OU 04 as identified in Section 6.5 for the protection of public health and the environment.

New York State Department of Health Acceptance

The New York State Department of Health (NYSDOH) concurs that the remedy for this site is protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

August 27, 2018
Date

Michael J. Ryan, P.E., Director
Division of Environmental Remediation

RECORD OF DECISION

Ciba Geigy Main Plant/Pretreatment Plant
Operable Unit 04
Queensbury, Warren County
Site No. 557011
EPA RCRA No. NYD002069748
August 2018

SECTION 1: SUMMARY AND PURPOSE OF THE STATEMENT OF BASIS

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The disposal of hazardous wastes at the site resulted in threats to public health and the environment that were addressed by removal activities. The removal activities included corrective measures undertaken at the above referenced site as part of OU 02 and OU 03 and dredging activities performed by others, which are discussed in Section 6.3.

Based on the implementation of the removal activities, the findings of the investigation of this site indicate that the OU 04 no longer poses a threat to human health or the environment. The removal activities attained the remediation objectives identified for OU 04, which are presented in Section 6.5, for the protection of public health and the environment. No Further Action is the remedy selected by this Statement of Basis (SB). This SB identifies the removal activities conducted and discusses the basis for No Further Action.

The purpose of a SB is to provide the public with background information related to the investigation, and to present the selected remedy by the Department, in consultation with the NYSDOH. The SB was developed by the Department under the authority of the Solid Waste Disposal Act, as amended, and more commonly referred to as the Resource Conservation and Recovery Act (RCRA). The site is also included in the New York State Inactive Hazardous Waste Disposal Site Remedial Program (also known as the State Superfund Program), which is an enforcement program. The mission of the State Superfund Program is to identify and characterize suspected inactive hazardous waste disposal sites and to investigate and remediate those sites found to pose a significant threat to public health and environment. The site is currently classified as a Class 2 site on the New York State Registry of Inactive Hazardous Waste Disposal Sites. The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Parts 373 and 375, and it will serve as the Record of Decision under the State Superfund Program.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all remedies. A public comment period was held between May 30, 2018 and July 16, 2018, during which the public was encouraged to submit comment on the proposed remedy. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for OU 04. Site-related reports and documents were made available for review by the public at the following document repository:

Crandall Public Library
Attn: Andrea Herman
251 Glen Street
Glens Falls, NY 12801
Phone: 518-792-6508

On June 28, 2018, a public meeting was also conducted on Queensbury Town Hall – Senior Center. At the meeting, the findings of the RCRA Facility Investigation (RFI) were presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period was held, during which verbal or written comments were accepted on the proposed remedy.

Comments on the remedy received during the comment period are summarized and addressed in the responsiveness summary section of the SB.

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The Ciba-Geigy Main Plant and Pretreatment Plant site is located in a suburban area on Lower Warren Street in Queensbury, New York and covers approximately 60 acres. The site consists of eight parcels located along Warren Street and Quaker Road. The main plant is located south of Lower Warren Street and is bisected by the Delaware and Hudson railroad tracks. The pretreatment plant is located at the northeast corner of Lower Warren Street and Quaker Road. The Hudson River borders the southern boundary of the site and a cement company borders the site to the west. Commercial and residential properties are located to the north of the site.

Site Features: Site features/structures have been removed. The majority of the site parcels including the main plant, pretreatment plant, north lot, and sliver quarry are surrounded by a fence.

Current Zoning and Land Use: The site is currently inactive and is zoned heavy industrial south of Lower Warren Street, commercial east of Quaker Road and commercial light industrial for the north lot.

Past Use of the Site: The Ciba-Geigy Main Plant site was used to manufacture color pigments, aqueous dispersions and plastic concentrates used in the manufacture of paints, printing inks, plastics, fibers and other items. The types of pigments produced include lead chromate, chromium oxide, cadmium pigments, organic blues, yellows, reds and iron blues. Manufacturing activities at the site date back to 1901. The site was previously used by American Wallpaper Company, Imperial Color Works, and Underwood Paper Mills. These three companies were consolidated into a company with various names, the last being Imperial Color Chemical & Paper Corporation. In 1960, Hercules, Inc. purchased the site and sold it to Ciba-Geigy in 1979. Ciba-Geigy ceased production of pigments in 1989 and demolished the buildings on the site. From 1901 to 1973, site operations discharged industrial water to the Hudson River. In 1973, industrial water was treated prior to discharge to the Hudson River. In 1983, industrial water was discharged to the Publicly Owned Treatment Works facility until closure of the facility. Post closure activities are being performed under RCRA permit number NYD002069748.

Operable Units: The site was divided into four operable units. An operable unit represents a portion of a remedial program for a site that for technical or administrative reasons can be addressed separately to investigate, eliminate or mitigate a release, threat of release or exposure pathway resulting from the site contamination. A summary for each operable unit (OU) is provided below.

- OU 01 pertains to on-site contamination, which is addressed by the Statement of Basis dated November 5, 1996.

- OU 02 pertains to site contamination located within the Hudson River bordering the site and on adjacent properties, which is addressed by in the Statement of Basis dated January 8, 1999.

- OU 03 pertains to site contamination located within the Ponded Backwater Area located just upstream of the Bakers Falls Dam on the Hudson River, which is addressed by the Statement of Basis dated November 29, 2000.

- OU 04 pertains to the Hudson River downstream of the Bakers Falls Dam.

Site Geology and Hydrogeology: Due to historical operations, fill deposits (up to 36 feet) are present across much of the Main Plant site. A discontinuous lacustrine sand deposit (up to 12.7 feet) consisting primarily of sand with lesser amounts of silt and gravel underlies the fill. The next deposit consists of a discontinuous lacustrine clay unit (up to 19.8 feet) that consists of silty clay that is typically layered with silt and sand. A thin discontinuous layer of glacial till (up to 4.7 feet) was encountered above the bedrock. Bedrock consisting of limestone is present beneath the overburden.

Groundwater has been encountered within four feet of ground surface. Groundwater in the

overburden and the upper bedrock zones flows south to southeast towards the Hudson River. Groundwater is influenced by the feeder canal and the groundwater extraction system.

Operable Unit (OU) Number 04 is the subject of this document.

A site location map is attached as Figure 1, which shows the four operable units.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for remediation. For OU 04, an alternative, which allows for unrestricted use was evaluated.

A comparison of the results of the investigation to unrestricted use standards, criteria, and guidance values (SCGs) for the site contaminants is included in the Tables for the media being evaluated in Exhibit A.

SECTION 5: ENFORCEMENT STATUS

Potentially Responsible Parties are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The Potential Responsible Parties for the site, documented to date, include:

BASF Corporation	Ciba Corporation
Ashland, Incorporated	Hercules Incorporated

The facility holds a 6 NYCRR Part 373 Hazardous Waste Management Permit, which includes provisions for RCRA Corrective Action and Post-Closure Monitoring and Maintenance. The corrective action requirement makes owners and/or operators of a hazardous waste treatment, storage, and disposal facility responsible to investigate and, when appropriate, remediate releases of hazardous waste and/or constituents to the environment. The Permit (No. 5-5234-00008/00096) is issued to Ciba Corporation (acquired by BASF Corporation) and Hercules Incorporated (a wholly-owned subsidiary of Ashland, Inc.), dated March 6, 2015.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the RCRA Facility Investigation (RFI)

In 1987, investigations assessed metals, volatiles, semi-volatiles, pesticides, and polychlorinated biphenyl within Hudson River sediments located adjacent to the site. Subsequent investigations and corrective actions were performed that focused on metal contamination within the Hudson River sediments (OU 02 and OU 03). The purpose of the OU 04 RFI was to further evaluate site metals within the Hudson River resulting from previous activities at the site and potential for site metals in sediments to pose risk to human health and the environment. The field activities and

findings of the OU 04 investigation are described in the RFI Report and the Fish and Wildlife Resources Impact Analysis Report (FWRIA).

The following general activities are conducted during a RFI:

- Research of historical information,
- Geophysical survey to determine the lateral extent of wastes,
- Test pits, soil borings, and monitoring well installations,
- Sampling of waste, surface and subsurface soils, groundwater, and soil vapor,
- Sampling of surface water and sediment,
- Ecological and Human Health Exposure Assessments.

The analytical data collected during the OU 04 RFI includes data for:

- sediment

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RFI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. The tables found in Exhibit A list the applicable SCGs in the footnotes. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

6.1.2: RFI Results

The data from OU 04 have identified contaminants of concern. A "contaminant of concern" is a hazardous waste that is sufficiently present in frequency and concentration in the environment to require evaluation for corrective measures. Not all contaminants identified are contaminants of concern. The nature and extent of contamination and environmental media requiring action within OU 04 are summarized in Exhibit A. Additionally, the RFI Report contains a full discussion of the data. The contaminant(s) of concern identified for OU 04 are:

cadmium	lead
chromium	mercury

Based on the investigation results, comparison to the SCGs, and the potential public health and environmental exposure routes, certain media and areas of the site required remediation. These media were addressed by corrective measures performed in other OUs, as described in Section 6.3. More complete information can be found in the site reports.

6.2: Interim Corrective Measures

An interim corrective measure (ICM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Statement of Basis.

There were no ICMs performed for OU 04. Corrective measures have been performed for other OUs.

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water.

Remediation of Operable Units (OUs) 01, 02, and 03 were performed between 2000 and 2004 to address site contamination located at the site and in the vicinity of the site. On January 9, 2006, the Department approved the Construction Certification Report for the corrective measures completed. The primary action consisted of consolidating contaminated soils and sediments beneath either an impermeable cover or a permeable cover on the Main Plant portion of the site. A groundwater collection system was installed along the southern portion of the site to intercept contaminated groundwater in the overburden and bedrock prior to leaving the site. The primary contaminants of concern were cadmium, chromium, lead, and mercury at the Main Plant and cyanide at the Pretreatment Plant. Maintenance of the groundwater collection system and site cover is presently being performed under the post-closure permitting requirements of the RCRA permit. Due to the remaining contamination at the site, an institutional control was placed on the site in the form of a deed notice.

OU 04 pertains to the Hudson River downstream of the Bakers Falls Dam. The area covered by this OU has been significantly influenced by other discharges and actions, which could have introduced similar contamination to the river (e.g., industrial surface water discharge from the Glens Falls and Fort Edward area) or removed site related contamination (e.g., dredging activities). Navigational dredging was performed until early 1980s to maintain the waterway, which removed approximately 1.6 million cubic yards of sediments near Fort Edward. Additional navigational dredging was performed further downstream of Fort Edward. Recent Hudson River PCB dredging operations removed approximately 2.75 million cubic yards of sediments from the Hudson River. Prior to recent dredging activity, metals within sediments were evaluated by collecting 233 samples from Fort Edward to Lock 1. An assessment of this sediment data was performed which identified two locations, Griffin Island and Lock 6, for further evaluation due to elevated concentrations of cadmium, chromium, lead and mercury. The two focus areas of the Hudson River represent the segments with the greatest potential for site related contamination deposition and potential for aquatic life and human exposure. In 2015, 130 sediment samples (post-PCB

dredging) were collected, and detected cadmium (up to 40 parts per million [ppm]), chromium (up to 610 ppm), lead (up to 610 ppm), and mercury (up to 8.4 ppm). An evaluation of the sample results determined that elevated site metals were spatially limited (see Figures 2, 3, and 4) and were typically located at depth beneath the most biologically active zone. Based on these findings, impacts from site-related contamination are not anticipated to significantly impact fish and wildlife within the Hudson River. A catch and release regulation or fish advisory for site-related contamination (i.e., metals) is not necessary.

Based on the limited remaining contamination within the OU 04 sediments, the majority of site metals within the Hudson River were likely removed during excavation activities conducted by the responsible party (OU 02 and OU 03), which removed site-related metals contamination near the site, and by other parties (OU 04), where metals were co-located within the dredge areas. In summary, the data supports that remaining site-related sediment contamination is limited within the two areas investigated and the impact of that contamination is nominal.

The FWRIA for OU 04, which was performed as the basis for the RFI report, presents a detailed discussion of the existing and potential impacts from the site to fish and wildlife receptors.

6.4: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure.*

Remedial activities undertaken at the Main Plant, ponded backwater area, cement company pond and the pre-treatment plant have effectively reduced the potential for contact with site-related contaminants and measures are in place to ensure that these measures remain protective in the future. In addition, there is an "Eat None" consumption advisory for all fish obtained from north of the Bakers Falls Dam in the area of the site. Consumption of fish from south of the Bakers Falls Dam is not expected due to the "catch and release only" regulation in place. The contamination in the sediment and fish is not site-related and is from a different source.

6.5: Summary of the Remediation Objectives

The objectives for the corrective measures have been established through the remedy selection process. The goal of the corrective measures is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial objectives for OU 04 are:

Sediment

RAOs for Public Health Protection

- Prevent direct contact with contaminated sediments.
- Prevent surface water contamination which may result in fish advisories.

RAOs for Environmental Protection

- Prevent releases of contaminant(s) from sediments that would result in surface water levels in excess of ambient water quality criteria.
- Prevent impacts to biota from ingestion/direct contact with sediments causing toxicity or impacts from bioaccumulation through the marine or aquatic food chain.

SECTION 7: SUMMARY OF SELECTED CORRECTIVE MEASURE(S)

Based on the results of the investigation for the downstream area, the Department selected No Further Action as the remedy.

The corrective measures conducted for OUs 01, 02, and 03 and navigational and PCB dredging activities performed by others within OU 04 have significantly reduced site related contaminant concentrations within the Hudson River. The findings from the OU 04 RFI indicate that potential site related contamination remaining within this portion of the Hudson River is unlikely to impact fish and wildlife resources and potential for human contact since it is spatially limited, and non-contiguous due to dredging by others. Site findings also determined that site-related contamination is not present at significant concentrations to impact surface water quality or warrant a catch and release regulation/fish advisory (though a fish advisory/catch and release regulation exists already for non-site related contamination within this portion of the Hudson River). Because the areas investigated were selected due to the elevated metal concentrations located near remaining, unexcavated, fine grain sediments, they are considered to represent the areas of highest potential contamination. Based on this evaluation no further investigation or corrective measures are necessary to protect public health and/or the environment. This remedy satisfies the site remediation objectives.

Exhibit A

Nature and Extent of Contamination

This section describes the findings of the RCRA Facility Investigation (RFI) for all sediment samples collected during the OU 04 investigation. Table 1 summarizes the sediment findings from the investigation by presenting the range of contamination found at the site in the sediment and compares the data with the applicable SCGs for the site. The contaminants are known as inorganics (metals) as this was the primary contamination within the Hudson River potentially related to OU 02 and OU 03. For comparison purposes, the SCGs for potential impacts on aquatic life are provided on Table 1. Three SCGs, identified as Class A, Class B, and Class C, are provided for each metal and are summarized below.

- Class A criteria represent concentrations that pose no potential risk to aquatic life.
- Class B criteria represent concentrations that potentially may be toxic to aquatic life.
- Class C criteria represent a high potential for sediments to be toxic to aquatic life.

Sediments

Sediment samples were collected during the RFI from two focus areas within the Hudson River known as Griffin Island and Lock 6. These areas were selected due to the significant dredging performed upstream of Griffin Island and previously-available analytical results which detected elevated site contaminants (cadmium, chromium, lead, and mercury) within these segments prior to more recent dredging operations. Sample locations were focused on areas with fine grain sediment deposits (e.g., silt), where metals would also be deposited, and away from recently dredged areas that were backfilled with clean material. Based on this evaluation, 12 sample locations were identified for Griffin Island area, see Figure 2; and 22 sample locations were identified for Lock 6 area, see Figures 3 and 4. The goal at each sample location was to observe aquatic activity within the sediments and to obtain samples from four different depths (0 to 2 inches, 2 to 6 inches, 6 to 12 inches, and 12 to 24 inches) to vertically assess metal concentrations within the sediments. A total of 130 sediment samples were obtained and analyzed for metals. The results of the analyses are summarized in Table 1.

During the RFI, the biological activity within the river sediment was observed by inserting a camera into the sediments at each sample location to obtain a cross-sectional picture of the sediments and obtaining bulk sediments at 19 of the 34 sample locations to visually identify aquatic life. Visual observations during the FWRIA identified more aquatic species within Lock 6 sediments than Griffin Island sediments.

A total of 48 sediment samples were collected from Griffin Island and analyzed for metals. The sediment results from the Griffin Island focus area were primarily classified as Class A sediments. Four samples detected cadmium, chromium, lead, and/or mercury above Class A criteria. One of the four samples was characterized as Class C sediment due to elevated cadmium within the GI_06 location at the sample interval from 6 to 12 inches. Figure 2, presents the analytical results at each sample location. The Class C sediments at GI_06 are limited to this single location and are not on the surface of the sediment. Based on the metal concentrations, limited extent, and expected aquatic activity (e.g., fish, muscles, plants, etc.), site related metal contamination within the Griffin Island focus area is not significantly impacting fish and wildlife resources.

A total of 82 samples were collected from Lock 6 sediment and analyzed for metals. The sediment results from the Lock 6 focus area were primarily classified as Class A and Class B sediments. Ten sediment samples obtained from six locations were characterized as Class C sediments due to concentrations of cadmium, chromium, lead, and/or mercury. Most Class C sediments were considered to be slightly over Class B criteria except for the sample

interval from 6 to 12 inches at locations L6_07, which had the highest detections of cadmium, chromium, lead, and mercury; and L6_13. The significant concentrations of site related metals at these two locations are considered to be spatially limited and non-contiguous as they cover less than 10% of the fine grain sediments evaluated at the Lock 6 focus area. The highest concentrations of metals at most locations were detected within deeper sample intervals, with decreasing concentrations in overlying intervals. However, locations L6_03 (cadmium) and L6_13 (cadmium and chromium) still contained Class C sediments within the upper two inches of sediment. Potentially sediments located between these two locations with similar site related metals were previously removed by dredging activities. The full extent of exceedances remaining are therefore spatially limited and surrounded by clean material or non-fine grained sediments. One sample interval at L6_13 detected zinc within Class B criteria, all other detections of zinc met Class A criteria. Zinc does not appear to be a site contaminant of concern due to this one isolated Class B detection. Figures 3 and 4, present the analytical results at each location. Based on the metal concentrations, expected aquatic activity, limited spatial extent, continued sedimentation, site related metal contamination within the Lock 6 segment is not significantly impacting fish and wildlife resources.

A SCG for human contact with sediments is not available. Given that recreational users (e.g., swimmers and waders) during summer months may contact contamination within the sediments, Class C SCGs have been used for the purposes of comparison. This evaluation is conservative because ecological metal SCGs in surface water and soil tend to be lower than SCGs for public health. Seven locations detected sediments above Class C criteria (one location near Griffin Island and six locations near Lock 6). Five of the seven locations, identified as L6_03, L6_07, L6_13, L6_17, and L6_18, were collected deeper than three feet below the water surface of the Hudson River. The depth to the sediment at these locations will significantly limit public contact with the metal contamination. One sample from Griffin Island (GI_06, cadmium) and one sample from Lock 6 (L6_05, lead) were collected two feet below the water surface of the Hudson River. The metal contamination is spatially limited and is unlikely to pose a threat to public health since frequent or prolonged exposure to the sediments is not anticipated.

Table 1 - Sediment

Detected Constituents	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)[a]	Frequency Within Class
Cadmium	0.024 J to 40 J	Class A <1 Class B 1 to 5 Class C >5	76/130 45/130 9/130
Chromium	2.7 to 610 J	Class A <43 Class B 43 to 110 Class C >110	85/130 38/130 7/130
Lead	1.3 to 610	Class A <36 Class B 36 to 130 Class C >130	75/130 49/130 6/130
Mercury	Not Detected to 8.4 J	Class A <0.2 Class B 0.2 to 1 Class C >1	97/130 30/130 3/130
Zinc	15 to 170	Class A <120 Class B 120 to 460 Class C >460	20/21 1/21 0/21

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in sediment;
b - SCG: The Department's "Screening and Assessment of Contaminated Sediment."
Class A: If the concentration of a contaminant in sediment is below the Class A SCG, the contaminant can be considered to present little or no potential for risk to aquatic life.
Class B: If the concentration of a contaminant lies between the SCG for Class A and Class C, additional information is needed to determine the potential risk to aquatic life.
Class C: If the concentration of a contaminant is above Class C SCG, there is a high potential for the sediments to be toxic to aquatic life.
J: estimated value - result is less than the reporting limit, but greater than the method detection limit.

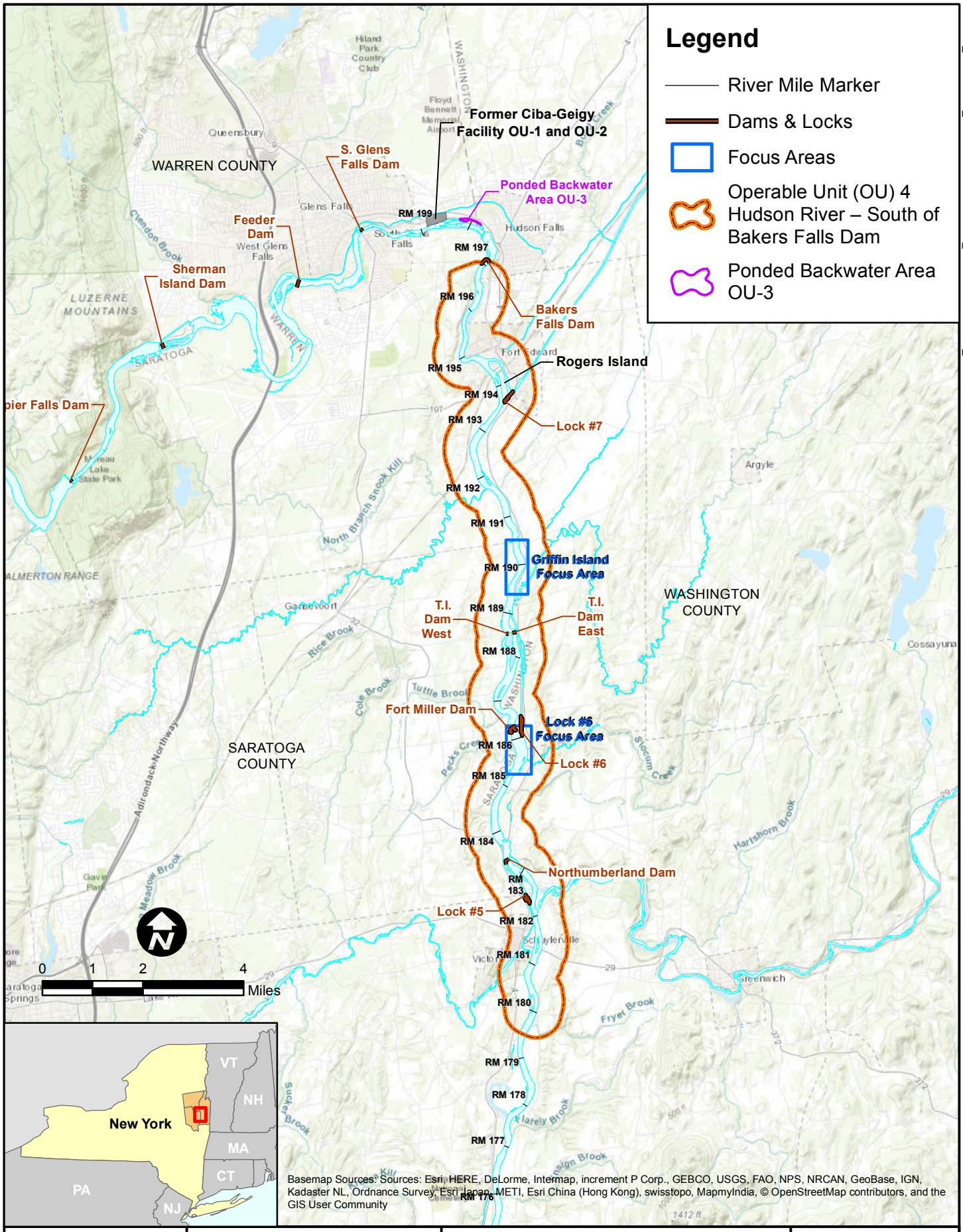
The segments evaluated as part of OU 04 RFI are located downstream of the site, but also Glens Falls and Fort Edward, which had industrial operations and municipal systems that discharged to the Hudson River. Some of the metals contamination detected could have originated from a source(s) other than the site.

Sediment contamination identified during the RFI was addressed during the actions performed for OU 02, OU 03, and navigational and PCB dredging activities performed by others. RFI findings determined that remaining metal contamination is spatially limited and non-contiguous, not significantly impacting fish and wildlife resources, not present at significant concentrations to recreational users within the Hudson River, not present at significant concentrations warranting a catch and release regulation or fish advisory, and not present at significant concentrations to impact surface water quality. Therefore, due to the inaccessibility and depth of remaining contaminated sediment, the potential for human contact with residual contamination in sediment is unlikely.

Surface Water

Investigation of OU 04 focused on two areas of the Hudson River to determine if significant contamination was present within the sediments to warrant further investigation. Surface water sampling was not required during this investigation since surface water samples collected from the areas investigated would not provide information regarding the origin of any contamination detected (e.g., Hudson River sediments or Hudson Falls/Fort Edward surface water runoff). Evaluation of sediment results determined that insufficient metals contamination remains within the sediments to warrant further investigation of surface water and the detections of higher metal concentrations (Class C sediments) were located beneath cleaner surficial sediments (Class A and B sediments) at all but one sample location (L6_13), which limits the potential for metals to mobilize into the surface water.

Surface water samples are collected adjacent to the Main Plant site (OU 01) as part of the current monitoring program. These samples have not detected chromium above surface water criteria. Sampling for cadmium, lead, and mercury is not required as part of the current monitoring program as these metals were not historically detected during previous RFI activities above surface water criteria.



Basemap Sources: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

EHS Support consider it done

FORMER CIBA-GEIGY FACILITY GLENS FALLS, NEW YORK

Focus Area Overview Map

FIGURE 1

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Legend

Sampling Station

- Deep Habitat Zone
- Shallow Habitat Zone
- Certification Unit Boundary

SSS Sediment Types

- Type I Sediment
- Type II Sediment
- Type III Sediment
- Type IV Sediment
- Type V Sediment

Metal	NYSDEC Freshwater SGVs (mg/kg)		
	Class A	Class B	Class C
Arsenic	< 10	**10 - 33**	**> 33**
Barium	-	**-**	**-**
Cadmium	< 1	**1 - 5**	**> 5**
Chromium	< 43	**43 - 110**	**> 110**
Lead	< 36	**36 - 130**	**> 130**
Mercury	< 0.2	**0.2 - 1**	**> 1**
Selenium	-	**-**	**-**
Silver	< 1	**1 - 2.2**	**> 2.2**
Organic Carbon-Normalized SEM-AVS	**Prediction of Toxicity (µmol/g_{oc})**		
	Non Toxic	**Uncertain Toxicity**	**Likely Toxic**
(SEM-AVS)/f_{OC}	< 130	130 - 3000	> 3000

Notes:

U, The analyte was analyzed for, but was not detected above the reported quantitation limit

UJ, The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

J, The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

NS, Not sampled due to refusal and/or limited sediment recovery in core

NA, Not analyzed because analysis was not included in sampling design, as presented in the work plan

Percent Fine-Grained Sediment, Percent of sediment particles less than 63um based on the Wentworth Scale (Wentworth, 1922)

(SEM-AVS)/f_{oc}, Organic carbon normalized SEM-AVS relation; prediction of toxicity based on EPA (2002)

Shallow habitat stations classified based on observed aquatic vegetation and shallow water depths

Deep habitat stations classified based on the absence of aquatic vegetation and deeper water depths

GI_01	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	1.6 J	1.4 J	1.6 J	2.5 J
Barium	mg/kg	37	44	21	29
Cadmium	mg/kg	0.25 J	0.21 J	0.075 J	0.062 J
Chromium	mg/kg	19 J	22 J	7 J	6.3 J
Lead	mg/kg	13	15	6.8	5.1
Mercury	mg/kg	0.029 J	0.029 J	0.058 J	0.021 J
Selenium	mg/kg	0.2 J	0.21 J	0.13 J	0.23 J
Silver	mg/kg	0.046 J	0.05 J	0.021 J	0.023 J
Total Organic Carbon	%	0.52	0.43	0.44	0.33
Percent Fine-Grained Sediment	%	5.84	1.56	2.42	2.71
(SEM-AVS)/f_{OC}	µmol/g_{oc}	-26.2	NS	NA	NA

GI_02	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	2.8 J	2.6 J	5.1 J	1.7 J
Barium	mg/kg	27	22	38	24
Cadmium	mg/kg	0.62 J	0.65 J	0.15 J	0.056 J
Chromium	mg/kg	22 J	15 J	16 J	5.2 J
Lead	mg/kg	13	9.7	21	2
Mercury	mg/kg	0.056 J	0.079	0.13 J	0.0071 UJ
Selenium	mg/kg	0.2 J	0.17 J	0.19 J	0.21 J
Silver	mg/kg	0.062 J	0.039 J	0.04 J	0.015 J
Total Organic Carbon	%	0.67	0.91	7.40	0.48
Percent Fine-Grained Sediment	%	12.54	6.71	2.64	4.67
(SEM-AVS)/f_{OC}	µmol/g_{oc}	-394.1	-23.4	NA	NA

GI_03	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	2.4 J	1.9 J	1.9 J	1 J
Barium	mg/kg	36	33	28	20
Cadmium	mg/kg	0.48 J	0.14 J	0.054 J	0.051 J
Chromium	mg/kg	27 J	16 J	5.2 J	4.5 J
Lead	mg/kg	17	13	3.1	1.8
Mercury	mg/kg	0.077 J	0.029 J	0.011 J	0.0066 UJ
Selenium	mg/kg	0.23 J	0.2 J	0.2 J	0.17 J
Silver	mg/kg	0.077 J	0.039 J	0.021 J	0.013 J
Total Organic Carbon	%	0.77	0.61	0.41	0.36
Percent Fine-Grained Sediment	%	15.95	3.79	8.98	4.84

GI_04	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	2	1.9	2.9	3
Barium	mg/kg	34	28	37	38
Cadmium	mg/kg	0.3 J	0.27 J	0.15 J	0.09 J
Chromium	mg/kg	17 J	13 J	11 J	6.9 J
Lead	mg/kg	12	9	10	6.7
Mercury	mg/kg	0.09 J	0.069 J	0.058 J	0.02 J
Selenium	mg/kg	0.21 J	0.23 J	0.42	0.29
Silver	mg/kg	0.053 J	0.041 J	0.046 J	0.037 J
Total Organic Carbon	%	0.85 J	0.41	0.43	0.33
Percent Fine-Grained Sediment	%	11.34	5.71	2.27	3.85

GI_05	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	1.3 J	1.9 J	1.7 J	2.1 J
Barium	mg/kg	31	46	63	89
Cadmium	mg/kg	0.69 J	0.36 J	0.13 J	0.2 J
Chromium	mg/kg	**43 J**	**62 J**	8 J	9.3 J
Lead	mg/kg	33	**73**	35	33
Mercury	mg/kg	**0.46 J**	0.14 J	0.08 J	0.066 J
Selenium	mg/kg	0.28 J	0.46 J	0.37 J	0.42 J
Silver	mg/kg	0.051 J	0.062 J	0.053 J	0.096 J
Total Organic Carbon	%	4.50	4.20	3.70	6.20 J
Percent Fine-Grained Sediment	%	12.30	13.66	17.24	17.55

GI_06	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	1.3	1.6	1.2	1.9
Barium	mg/kg	26	36	36	42
Cadmium	mg/kg	0.5 J	0.57 J	**11 J**	0.85 J
Chromium	mg/kg	20 J	24 J	**71 J**	**48 J**
Lead	mg/kg	10	19	**59**	**97**
Mercury	mg/kg	0.035 J	0.068 J	**0.26 J**	0.093 J
Selenium	mg/kg	0.24 J	0.33 J	0.31 J	0.52
Silver	mg/kg	0.054 J	0.13	0.11	0.088
Total Organic Carbon	%	1.40	1.90	1.60 J	4.80
Percent Fine-Grained Sediment	%	16.49	26.79	12.24	16.37

GI_07	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	1.3	1.5	1.2	2.5
Barium	mg/kg	27	40	28	59
Cadmium	mg/kg	0.43 J	0.8 J	0.31 J	0.22 J
Chromium	mg/kg	21 J	36 J	19 J	17
Lead	mg/kg	12	23	25	**57**
Mercury	mg/kg	0.059 J	0.15 J	0.055 J	0.071 J
Selenium	mg/kg	0.27 J	0.34 J	0.3 J	0.65
Silver	mg/kg	0.084	0.26	0.054 J	0.08 J
Total Organic Carbon	%	1.2	1.1	2.6	6.1
Percent Fine-Grained Sediment	%	6.47	17.66	7.82	17.49

GI_08	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	1.3	1.2	1.1	0.85
Barium	mg/kg	31	23	19	11
Cadmium	mg/kg	0.42 J	0.23 J	0.25 J	0.025 J
Chromium	mg/kg	13 J	12 J	8 J	2.8 J
Lead	mg/kg	13	8.6	5.9	1.3
Mercury	mg/kg	0.046 J	0.04 J	0.015 J	0.0067 UJ
Selenium	mg/kg	0.29 J	0.23 J	0.42	0.15 J
Silver	mg/kg	0.059 J	0.041 J	0.032 J	0.01 J
Total Organic Carbon	%	2.1	2.8	0.22	0.13
Percent Fine-Grained Sediment	%	9.43	15.75	3.18	45.07

GI_09	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	1.7	1.5	1.2	2.4
Barium	mg/kg	25	32	26	41
Cadmium	mg/kg	0.42 J	0.64 J	0.33 J	0.17 J
Chromium	mg/kg	18 J	25 J	13 J	11 J
Lead	mg/kg	14	23	12	6.2
Mercury	mg/kg	0.042 J	0.067 J	0.054 J	0.0079 J
Selenium	mg/kg	0.24 J	0.23 J	0.28 J	0.36
Silver	mg/kg	0.038 J	0.044 J	0.037 J	0.049 J
Total Organic Carbon	%	1.3	0.73	0.85	0.4
Percent Fine-Grained Sediment	%	21.76	11.17	10.16	63.59

GI_10	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	1	1	1.6	1.7
Barium	mg/kg	20	20	19	17
Cadmium	mg/kg	0.17 J	0.25 J	0.13 J	0.04 J
Chromium	mg/kg	10 J	13 J	7.4 J	3.1 J
Lead	mg/kg	7.4	10	5.3	1.8
Mercury	mg/kg	0.025 J	0.06 J	0.027 J	0.0063 UJ
Selenium	mg/kg	0.17 J	0.21 J	0.19 J	0.16 J
Silver	mg/kg	0.027 J	0.03 J	0.028 J	0.013 J
Total Organic Carbon	%	0.45	0.55	0.47	0.19
Percent Fine-Grained Sediment	%	8.68	8.01	4.66	0.84

GI_11	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	1.2 J	1.2 J	0.99 J	1.2 J
Barium	mg/kg	27	28	22	20
Cadmium	mg/kg	0.36 J	**1.5 J**	0.086 J	0.1 J
Chromium	mg/kg	12 J	31 J	6.4 J	5.4 J
Lead	mg/kg	7.4	30	4.1	3.6
Mercury	mg/kg	0.034 J	0.1 J	0.01 J	0.022 J
Selenium	mg/kg	0.16 J	0.18 J	0.13 J	0.13 J
Silver	mg/kg	0.041 J	0.036 J	0.035 J	0.018 J
Total Organic Carbon	%	1.6	0.64	0.23	0.32
Percent Fine-Grained Sediment	%	2.19	3.41	3.11	1.76

GI_12	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	2.8 J	2.1 J	1.4 J	1.3 J
Barium	mg/kg	40	42	32	28
Cadmium	mg/kg	0.11 J	0.082 J	0.041 J	0.036 J
Chromium	mg/kg	8.2 J	7.9 J	4.7 J	3.8 J
Lead	mg/kg	5.6	5.1	3.6	3.8
Mercury	mg/kg	0.0084 J	0.012 J	0.015 J	0.0084 J
Selenium	mg/kg	0.27 J	0.24 J	0.17 J	0.15 J
Silver	mg/kg	0.044 J	0.04 J	0.022 J	0.019 J
Total Organic Carbon	%	0.3	2.4	0.87	0.52
Percent Fine-Grained Sediment	%	14.56	25.18	6.03	1.11
(SEM-AVS)/f_{OC}	µmol/g_{oc}	-1.6	9.6	NA	NA

Griffin Island Rd

W River Rd

29

4

Hudson River

Griffin Island

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Feet

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2015 Sediment Sampling Results Griffin Island Focus Area

Figure 2

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Legend

Sampling Station

- Deep Habitat Zone
- Shallow Habitat Zone
- Certification Unit Boundary

SSS Sediment Types

- Type I Sediment
- Type II Sediment
- Type III Sediment
- Type IV Sediment
- Type V Sediment

Metal	NYSDEC Freshwater SGVs (mg/kg)		
	Class A	Class B	Class C
Arsenic	< 10	**10 - 33**	**> 33**
Barium	-	**-**	**-**
Cadmium	< 1	**1 - 5**	**> 5**
Chromium	< 43	**43 - 110**	**> 110**
Lead	< 36	**36 - 130**	**> 130**
Mercury	< 0.2	**0.2 - 1**	**> 1**
Selenium	-	**-**	**-**
Silver	< 1	**1 - 2.2**	**> 2.2**
Organic Carbon-Normalized SEM-AVS	**Prediction of Toxicity (µmol/g_{oc})**		
	Non Toxic	**Uncertain Toxicity**	**Likely Toxic**
(SEM-AVS)/f_{OC}	< 130	130 - 3000	> 3000

Notes:

U, The analyte was analyzed for, but was not detected above the reported quantitation limit

UJ, The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

J, The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

NS, Not sampled due to refusal and/or limited sediment recovery in core

NA, Not analyzed because analysis was not included in sampling design, as presented in the work plan

Percent Fine-Grained Sediment, Percent of sediment particles less than 63um based on the Wentworth Scale (Wentworth, 1922)

(SEM-AVS)/f_{oc}, Organic carbon normalized SEM-AVS relation; prediction of toxicity based on EPA (2002)

Shallow habitat stations classified based on observed aquatic vegetation and shallow water depths

Deep habitat stations classified based on the absence of aquatic vegetation and deeper water depths

L6_01	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	3 J	3 J	3.1	2.5 J
Barium	mg/kg	97	97	99	71
Cadmium	mg/kg	**1.5 J**	**1.3 J**	**1.4**	**1.9 J**
Chromium	mg/kg	35 J	36 J	40	**56 J**
Lead	mg/kg	**46**	**46**	**47**	**53**
Mercury	mg/kg	0.18 J	0.19 J	0.18	**0.3 J**
Selenium	mg/kg	0.56 J	0.59 J	0.65	0.45 J
Silver	mg/kg	0.18 J	0.19 J	0.21 J	0.16 J
Total Organic Carbon	%	3.9	3.5	3.5	3.7
Percent Fine-Grained Sediment	%	73.88	73.46	78.35	66.24
(SEM-AVS)/f_{OC}	µmol/g_{oc}	36.2	33.3	NA	NA

L6_02	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	3.2 J	2.5 J	2.8 J	2.6
Barium	mg/kg	71	58	61	57
Cadmium	mg/kg	**1.1 J**	**1.1 J**	**1.6**	**1.9 J**
Chromium	mg/kg	33 J	33 J	**68 J**	**62 J**
Lead	mg/kg	**38**	**38**	**76**	**54**
Mercury	mg/kg	0.17 J	0.13 J	**0.25 J**	**0.34 J**
Selenium	mg/kg	0.48 J	0.38 J	0.44 J	0.38 J
Silver	mg/kg	0.16 J	0.12 J	0.16 J	0.14 J
Total Organic Carbon	%	3.2	3.1	3.9	3.8
Percent Fine-Grained Sediment	%	50.47	36.15	25.42	34.72
(SEM-AVS)/f_{OC}	µmol/g_{oc}	-76.2	-131.3	NA	NA

L6_03	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	2.2 J	2.1 J	NS	NS
Barium	mg/kg	45	58	NS	NS
Cadmium	mg/kg	**7.1 J**	**6.3 J**	NS	NS
Chromium	mg/kg	36 J	**100 J**	NS	NS
Lead	mg/kg	**41**	**110**	NS	NS
Mercury	mg/kg	0.13 J	**1 J**	NS	NS
Selenium	mg/kg	0.37	0.4	NS	NS
Silver	mg/kg	0.079	0.46 J	NS	NS
Total Organic Carbon	%	1.5	3.2	NS	NS
Percent Fine-Grained Sediment	%	16.98	26.05	NS	NS
(SEM-AVS)/f_{OC}	µmol/g_{oc}	77.0	7.1	NA	NA

L6_04	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	3.2 J	2.9 J	3.4 J	1.8 J
Barium	mg/kg	69	52	83	33
Cadmium	mg/kg	**1.1 J**	0.99 J	0.41 J	0.078 J
Chromium	mg/kg	39 J	38 J	19 J	6.2 J
Lead	mg/kg	**37**	**38**	**45**	12
Mercury	mg/kg	0.13 J	0.17 J	0.19 J	0.033 J
Selenium	mg/kg	0.52 J	0.38 J	0.51 J	0.15 J
Silver	mg/kg	0.12	0.13	0.086 J	0.021 J
Total Organic Carbon	%	3.2	2.4	4.6	0.48
Percent Fine-Grained Sediment	%	51.29	32.86	24.09	26.06

L6_05	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	2.2 J	2.9 J	2.2 J	1.1 J
Barium	mg/kg	38	65	48	22
Cadmium	mg/kg	**1.4 J**	**3 J**	0.23 J	0.038 J
Chromium	mg/kg	**61 J**	**89 J**	15 J	4.2
Lead	mg/kg	**98**	**280**	**45**	3
Mercury	mg/kg	0.18 J	**0.33 J**	0.11 J	0.014 J
Selenium	mg/kg	0.35 J	0.64	0.41 J	0.19 J
Silver	mg/kg	0.17	0.37	0.083 J	0.016 J
Total Organic Carbon	%	3.9	7.7	5.1	0.45
Percent Fine-Grained Sediment	%	22.07	34.76	25.26	4.42

L6_07	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	2.4 J	1.9 J	2.4 J	2.2 J
Barium	mg/kg	57	56	130	51
Cadmium	mg/kg	**1.3 J**	**3.2 J**	**40 J**	**2.1 J**
Chromium	mg/kg	**44 J**	**60 J**	**610 J**	**380 J**
Lead	mg/kg	35	**55**	**610**	**310**
Mercury	mg/kg	0.16 J	**1.2 J**	**8.4 J**	**0.75 J**
Selenium	mg/kg	0.47 J	0.45 J	0.74	0.55 J
Silver	mg/kg	0.14	0.22	0.55	0.27
Total Organic Carbon	%	3.3	5.3	9.2	12
Percent Fine-Grained Sediment	%	40.15	25.52	50.76	19.44
(SEM-AVS)/f_{OC}	µmol/g_{oc}	-117.0	-127.4	NA	NA

L6_06	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	2.9 J	2.7 J	2	2.1 J
Barium	mg/kg	42	41	54	66
Cadmium	mg/kg	0.84 J	**1.1 J**	**4.3 J**	**1.8 J**
Chromium	mg/kg	33 J	**48 J**	**52**	**59 J**
Lead	mg/kg	31	**44**	**36**	**48**
Mercury	mg/kg	0.088 J	**0.2 J**	0.14 J	**0.43 J**
Selenium	mg/kg	0.4 J	0.38 J	0.47	0.47 J
Silver	mg/kg	0.12	0.12 J	0.16	0.25
Total Organic Carbon	%	3.4	3.5	3.8	4.3
Percent Fine-Grained Sediment	%	31.91	28.29	36.41	48.51

L6_09	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	2 J	1.1 J	1.7 J	1.1 J
Barium	mg/kg	29	23	25	18
Cadmium	mg/kg	0.29 J	0.11 J	0.12 J	0.055 J
Chromium	mg/kg	16 J	11 J	11 J	4.1 J
Lead	mg/kg	14	9.8	9	3.4
Mercury	mg/kg	0.055 J	0.024 J	0.017 J	0.0094 J
Selenium	mg/kg	0.22 J	0.19 J	0.19 J	0.14 J
Silver	mg/kg	0.044 J	0.028 J	0.023 J	0.015 J
Total Organic Carbon	%	4.3	0.36	0.27	0.12
Percent Fine-Grained Sediment	%	9.31	2.26	0.50	1.28

L6_10	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	2.2 J	2.3 J	2.3 J	1.1 J
Barium	mg/kg	52	48	44	35
Cadmium	mg/kg	**3.2 J**	**1.3 J**	**1.3 J**	**2.2 J**
Chromium	mg/kg	**70 J**	**47 J**	**53 J**	30 J
Lead	mg/kg	**66**	**44**	**38**	23
Mercury	mg/kg	**0.3 J**	0.15 J	**0.63 J**	0.11 J
Selenium	mg/kg	0.41 J	0.38 J	0.41 J	0.27 J
Silver	mg/kg	0.11	0.075 J	0.092	0.053 J
Total Organic Carbon	%	5.4	5.7	5.7	2.8
Percent Fine-Grained Sediment	%	22.33	18.40	11.25	17.24
(SEM-AVS)/f_{OC}	µmol/g_{oc}	18.7	1.2	NA	NA

L6_11	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	5.1 J	1.8 J	2.9 J	3.8 J
Barium	mg/kg	98	40	28	36
Cadmium	mg/kg	**3.7**	**1.4 J**	0.12 J	0.24 J
Chromium	mg/kg	**100 J**	41 J	16 J	23 J
Lead	mg/kg	**76**	34	16	23
Mercury	mg/kg	**0.39**	0.065 J	0.028 J	0.032 J
Selenium	mg/kg	0.85 J	0.3 J	0.21 J	0.28
Silver	mg/kg	0.26	0.12	0.024 J	0.026 J
Total Organic Carbon	%	7.6	0.88	0.3	0.4
Percent Fine-Grained Sediment	%	45.60	10.26	1.76	3.49

L6_12	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	1.4 J	NS	NS	NS
Barium	mg/kg	31	NS	NS	NS
Cadmium	mg/kg	0.23 J	NS	NS	NS
Chromium	mg/kg	15 J	NS	NS	NS
Lead	mg/kg	12	NS	NS	NS
Mercury	mg/kg	0.041 J	NS	NS	NS
Selenium	mg/kg	0.2 J	NS	NS	NS
Silver	mg/kg	0.023 J	NS	NS	NS
Total Organic Carbon	%	1.2 J	NS	NS	NS
Percent Fine-Grained Sediment	%	9.37	NS	NS	NS

L6_08	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	1.7 J	1.5 J	NS	NS
Barium	mg/kg	41	29	NS	NS
Cadmium	mg/kg	0.37 J	0.19 J	NS	NS
Chromium	mg/kg	23 J	17 J	NS	NS
Lead	mg/kg	18	13	NS	NS
Mercury	mg/kg	0.08 J	0.038 J	NS	NS
Selenium	mg/kg	0.29 J	0.22 J	NS	NS
Silver	mg/kg	0.064 J	0.046 J	NS	NS
Total Organic Carbon	%	4.1	2.5	NS	NS
Percent Fine-Grained Sediment	%	NS	4.98	NS	NS

Hudson River

150 75 0 150

Feet

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2015 Sediment Sampling Results
Northern Lock #6 Focus Area

Figure 3

Legend

Sampling Station
- Deep Habitat Zone
- Shallow Habitat Zone
- Certification Unit Boundary

Bathymetry
- Index Contour (5')
- Intermediate (1') Contour

- Type I Sediment
- Type II Sediment
- Type III Sediment
- Type IV Sediment
- Type V Sediment

Metal	NYSDEC Freshwater SGVs (mg/kg)		
	Class A	Class B	Class C
Arsenic	< 10	**10 - 33**	**> 33**
Barium	-	**-**	**-**
Cadmium	< 1	**1 - 5**	**> 5**
Chromium	< 43	**43 - 110**	**> 110**
Lead	< 36	**36 - 130**	**> 130**
Mercury	< 0.2	**0.2 - 1**	**> 1**
Selenium	-	**-**	**-**
Silver	< 1	**1 - 2.2**	**> 2.2**
Organic Carbon-Normalized SEM-AVS	**Prediction of Toxicity (µmol/g_{oc})**		
	Non Toxic	**Uncertain Toxicity**	**Likely Toxic**
(SEM-AVS)/f_{OC}	< 130	130 - 3000	> 3000

Notes:
U, The analyte was analyzed for, but was not detected above the reported quantitation limit
UJ, The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
J, The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
NS, Not sampled due to refusal and/or limited sediment recovery in core
NA, Not analyzed because analysis was not included in sampling design, as presented in the work plan
Percent Fine-Grained Sediment, Percent of sediment particles less than 63um based on the Wentworth Scale (Wentworth, 1922)
(SEM-AVS)/f_{oc}, Organic carbon normalized SEM-AVS relation; prediction of toxicity based on EPA (2002)
Shallow habitat stations classified based on observed aquatic vegetation and shallow water depths
Deep habitat stations classified based on the absence of aquatic vegetation and deeper water depths

L6_13	Units	Results by Sampling Depth Interval				
		0-2"	2-6"	6-12"	12-18"	18-24"
Arsenic	mg/kg	2.3 J	2.6 J	2.7 J	4.1 J	3.8 J
Barium	mg/kg	57	57	68	60	77
Cadmium	mg/kg	**5.7 J**	**6.8 J**	**6.8 J**	0.54 J	0.12 J
Chromium	mg/kg	**170 J**	**220 J**	**400 J**	**76 J**	18 J
Lead	mg/kg	**130**	**180**	**290**	**86**	14
Mercury	mg/kg	**0.53 J**	**0.97 J**	**1.1 J**	0.15 J	0.045 J
Selenium	mg/kg	0.52	0.59	0.61	0.53	0.35
Silver	mg/kg	0.24	0.24	0.33	0.11	0.046 J
Total Organic Carbon	%	2.6	4.4	5.7	3.7 J	0.50
Percent Fine-Grained Sediment	%	41.35	49.84	51.44	27.54	NS
(SEM-AVS)/f_{OC}	µmol/g_{oc}	33.8	7.4	NA	NA	NA

L6_14	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	2.2 J	4.2 J	1.2 J	2.1 J
Barium	mg/kg	38	41	38	45
Cadmium	mg/kg	0.59 J	0.3 J	**1.9 J**	**2.6 J**
Chromium	mg/kg	21 J	16 J	**47 J**	**50 J**
Lead	mg/kg	16	17	**38**	**44**
Mercury	mg/kg	0.047 J	0.073 J	0.13 J	**0.33 J**
Selenium	mg/kg	0.25 J	0.35 J	0.3 J	0.32 J
Silver	mg/kg	0.068 J	0.056 J	0.18	0.13
Total Organic Carbon	%	1	0.44	1.5	1.8
Percent Fine-Grained Sediment	%	29.41	43.72	12.58	10.67

L6_15	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	2.2 J	2.3 J	2.2 J	1.7 J
Barium	mg/kg	49	37	40	46
Cadmium	mg/kg	**2.3 J**	0.54	**1.3 J**	**1.5 J**
Chromium	mg/kg	30 J	32	34 J	**48 J**
Lead	mg/kg	23	25	29	**42**
Mercury	mg/kg	0.098 J	0.078	0.11 J	**0.27 J**
Selenium	mg/kg	0.36 J	0.25 J	0.33 J	0.43 J
Silver	mg/kg	0.073 J	0.038 J	0.2	0.12
Total Organic Carbon	%	1.7 J	2.6	6.6	5.4
Percent Fine-Grained Sediment	%	33.87	28.03	20.79	33.84

L6_16	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	2.9 J	5.3 J	0.89	0.92
Barium	mg/kg	41 J	42 J	17	12
Cadmium	mg/kg	0.63 J	0.43 J	0.055 J	0.024 J
Chromium	mg/kg	**58 J**	35 J	8.4	2.7
Lead	mg/kg	**59**	**40**	6.2	1.7
Mercury	mg/kg	0.086 J	0.062 J	0.016 J	0.0069 UJ
Selenium	mg/kg	0.3 J	0.37 J	0.15 J	0.095 J
Silver	mg/kg	0.09 J	0.058 J	0.0065 J	0.0024 U
Total Organic Carbon	%	2.2	1.8	0.52	0.11 J
Percent Fine-Grained Sediment	%	13.53	11.82	4.11	1.25
(SEM-AVS)/f_{OC}	µmol/g_{oc}	18.8	71.3	NA	NA

L6_17	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	2.5	2.7	2.2	1.8
Barium	mg/kg	48	64	62	55
Cadmium	mg/kg	**1.6 J**	**5.8 J**	**4.4 J**	**3.4 J**
Chromium	mg/kg	**58**	**110**	**130**	**91**
Lead	mg/kg	**47**	**120**	**130**	**83**
Mercury	mg/kg	**0.25 J**	**0.34 J**	**0.34 J**	**0.51 J**
Selenium	mg/kg	0.32 J	0.51 J	0.49 J	0.38 J
Silver	mg/kg	0.086 J	0.18	0.17	0.15
Total Organic Carbon	%	5.5	8.7	15	8.4
Percent Fine-Grained Sediment	%	38.60	21.98	18.79	30.16

L6_18	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-15"
Arsenic	mg/kg	3.2	3.3	3.6	3.3
Barium	mg/kg	74	63	75	68
Cadmium	mg/kg	**1.4 J**	**1.4 J**	**12 J**	**3.8 J**
Chromium	mg/kg	23	**48**	**160**	**96**
Lead	mg/kg	20	**49**	**180**	**90**
Mercury	mg/kg	0.072 J	0.16 J	**0.72 J**	**0.39 J**
Selenium	mg/kg	0.39 J	0.38 J	0.59 J	0.47 J
Silver	mg/kg	0.074 J	0.085 J	0.25	0.16
Total Organic Carbon	%	1.9	3.2	5.6	3.8
Percent Fine-Grained Sediment	%	78.09	55.78	51.36	NS

L6_19	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	2.8	4.1	3.1	1.7
Barium	mg/kg	64	65	66	41
Cadmium	mg/kg	0.23	0.4 J	0.79 J	0.88 J
Chromium	mg/kg	15	22	28	23
Lead	mg/kg	12	20	26	27
Mercury	mg/kg	0.042	0.063 J	0.094 J	0.086 J
Selenium	mg/kg	0.29 J	0.32 J	0.46 J	0.29 J
Silver	mg/kg	0.043 J	0.052 J	0.12	0.089
Total Organic Carbon	%	1.9	1.7	2	1.7
Percent Fine-Grained Sediment	%	66.97	33.79	49.51	26.55

L6_20	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	2.8	2.1	1.1	1.8
Barium	mg/kg	73	56	35	43
Cadmium	mg/kg	**2.5 J**	**2.9 J**	**1.5 J**	**2.1 J**
Chromium	mg/kg	**63**	**62**	**43**	**85**
Lead	mg/kg	**57**	**53**	**40**	**110**
Mercury	mg/kg	**0.35 J**	**0.33 J**	0.19 J	**0.37 J**
Selenium	mg/kg	0.38 J	0.33 J	0.24 J	0.29 J
Silver	mg/kg	0.12	0.24	0.14	0.13
Total Organic Carbon	%	2.3	2.8	3.2	4.5
Percent Fine-Grained Sediment	%	63.11	34.87	12.46	11.40

L6_21	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	3.6	3.6	3	3
Barium	mg/kg	83	73	70	82
Cadmium	mg/kg	0.29 J	**2 J**	**2 J**	0.26 J
Chromium	mg/kg	21	**68**	**45**	17
Lead	mg/kg	16	**67**	**43**	15
Mercury	mg/kg	0.043 J	**0.32 J**	0.15 J	0.054 J
Selenium	mg/kg	0.36 J	0.39 J	0.42 J	0.47 J
Silver	mg/kg	0.051 J	0.24	0.072 J	0.056 J
Total Organic Carbon	%	1.7	3.8	2.2	2.2
Percent Fine-Grained Sediment	%	78.95	81.08	67.23	52.79

L6_22	Units	Results by Sampling Depth Interval			
		0-2"	2-6"	6-12"	12-24"
Arsenic	mg/kg	3	2.9	2.4	2.7
Barium	mg/kg	63	68	63	65
Cadmium	mg/kg	**1.4 J**	**2.1 J**	**1.7 J**	**3 J**
Chromium	mg/kg	**44**	**59**	37	**57**
Lead	mg/kg	**39**	**52**	28	**48**
Mercury	mg/kg	0.12 J	**0.2 J**	**0.21 J**	**0.23 J**
Selenium	mg/kg	0.4 J	0.42 J	0.31 J	0.43 J
Silver	mg/kg	0.095	0.12	0.11	0.17
Total Organic Carbon	%	2.1	2.5	2.1	2.6
Percent Fine-Grained Sediment	%	57.47	54.87	60.47	62.21
(SEM-AVS)/f_{OC}	µmol/g_{oc}	-136.4	-34.9	NA	NA

Fort Miller Rd
Fort Miller Road
River Rd
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77

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EHS Support consider it done

FORMER CIBA-GEIGY FACILITY
GLENS FALLS, NEW YORK

2015 Sediment Sampling Results Southern Lock #6 Focus Area

Figure 4

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APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Ciba Geigy Main Plant/Pretreatment Plant
Operable Unit No. 04: Hudson River - South of Bakers Falls Dam
RCRA & State Superfund Project
Town of Queensbury, Warren County, New York
Site No. 557011
EPA RCRA No. NYD002069748

The Draft Statement of Basis for the Ciba Geigy Main Plant/Pretreatment Plant site was prepared by the New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on May 30, 2018. The draft Statement of Basis outlined the proposed remedy for the contaminated sediment within Operable Unit 04 of the Ciba Geigy Main Plant site.

The release of the draft Statement of Basis was announced by sending a notice to the public via the Environmental Notice Bulletin (ENB), radio announcements on WWSC-AM 1450AM and WFFG 100.3 FM, newspaper announcements within the Post-Star and Saratogian, notification of local government leaders near the OU 04 boundary, and release of an electronic fact sheet to the contact list via listserve for Warren, Saratoga, and Washington Counties, informing the public of the opportunity to comment on the proposed remedy.

A public meeting was held on June 28, 2018, which included a presentation of the RCRA facility investigation for the Ciba Geigy Main Plant/Pretreatment Plant site as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions, and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period for the draft Statement of Basis ended on July 16, 2018.

This responsiveness summary responds to all questions and comments raised during the public comment period. The following are the comments received, with the Department's responses:

COMMENT 1: Were any dredged materials deposited in the Town of Queensbury?

RESPONSE 1: Sediments dredged by others from the Hudson River downstream of the Bakers Falls Dam were not deposited in the Town of Queensbury. Sediments dredged upstream of the Bakers Falls Dam that were contaminated by site metals were dredged and placed on-site beneath a suitable cover.

COMMENT 2: What would happen to the base sediment in the event of a major flood / turbulence event?

RESPONSE 2: During a major flood event, some base sediments may be scoured by turbulent flow. If the shallow sediments that contain lower concentrations of metals were mobilized during a major flood event, new sediments are anticipated to be deposited naturally over time. Any site

related contamination within disturbed sediments would be dispersed and deposited at lower concentrations in other sediment depositional areas. Minimal dispersion of metals contamination is anticipated since one of the main factors supporting the selected remedy is the limited locations with elevated concentrations of metals detected in the sediments.

COMMENT 3: Has climate change been factored into the recommendation?

RESPONSE 3: The greatest impact climate change is anticipated to have on this site is more frequent major floods of the Hudson River. Yes, climate change was factored into the proposed recommendation since the selected remedy anticipates that the Hudson River will experience floods in the future.

COMMENT 4: Do metals continue to decrease over time?

RESPONSE 4: Metals concentrations are not anticipated to naturally decrease within the sediments.

COMMENT 5: Does Fish and Wildlife consider flood information in their data?

RESPONSE 5: The Division of Fish and Wildlife was part of the Department's review team on the site and assisted in the review of the predictions of sediment scour during flood events. An assessment of the Hudson River hydrology and geomorphology was conducted using available data to understand the transport of sediments in river environments reported in the RFI report, Appendix H. This assessment identified that erosion can occur during flood events and also identified that deposition of sediments occurs during average flow.

COMMENT 6: What is the status of the cancer study for Warren County?

RESPONSE 6: The Governor's Cancer Research Initiative, announced in October 2017, is being undertaken to examine cancer trends and the potential causes of cancer in four regions of the state including Warren County. The study will examine data to detect patterns as well as, look at factors such as occupational, socioeconomic, and environmental. The state is currently seeking input from stakeholders and community members. Please contact the Cancer Surveillance Program at (518) 473-7817 or at canmap@health.ny.gov for questions or to provide comments. Additional information can be found at https://www.health.ny.gov/diseases/cancer/cancer_research_initiative/

EHS Support submitted a letter (dated July 16, 2018) on behalf of Hercules, Inc. and Ciba Corporation which included the following comments:

COMMENT 7: Section 6.3: Summary of Environmental Assessment, paragraph 3: The total number of sediment samples identified for the 2015 investigation (n=130) included samples collected from four sampling depth intervals below the sediment-surface water interface: 0 to 2 inches, 2 to 6 inches, 6 to 12 inches, and 12 to 24 inches. The corresponding maximum

concentration listed for each primary contaminant of concern represents the maximum concentration observed in any sampling depth interval. None of the maximum concentrations were observed within the 6-inch interval below the sediment-surface water interface, where the greatest biological activity and potential for exposure was observed. The vertical distribution of maximum concentrations in subsurface sampling intervals in relation to the greatest potential for exposure in surface sampling intervals indicates limited potential for human health and ecological exposure to the maximum concentrations presented in Section 6.3.

RESPONSE 7: Agreed. The Sediments section of Exhibit A is consistent with this data, stating that "The highest concentrations of metals at most locations were detected within deeper sample intervals, with decreasing concentrations in overlying intervals" and "RFI findings determined that remaining metal contamination is spatially limited and non-contiguous, not significantly impacting fish and wildlife resources, not present at significant concentrations to recreational users within the Hudson River, not present at significant concentrations warranting a catch and release regulation or fish advisory, and not present at significant concentrations to impact surface water quality."

COMMENT 8: Section 6.4: Summary of Human Exposure Pathways, paragraph 2: The Draft Statement of Basis lists fish consumption advisories for all fish obtained from north of the Bakers Falls Dam around the Site ("Eat None") and south of the Bakers Falls Dam ("Catch and Release Fishing Only"). The Draft Statement of Basis indicates that the "contamination in the sediment and fish is not site-related and is from a different source." However, it is important to further clarify that fish consumption advisories are currently issued for reaches of the Hudson River upstream of the Site (and outside of the influence of Site-related activities): 1) Upstream of Corinth Dam (Palmer Falls Dam); and 2) Corinth Dam (Palmer Falls Dam) to South Glens Falls Dam.

RESPONSE 8: Yes, fish consumption advisories exist upstream from Corinth Dam for mercury, and Corinth Dam to South Glens Fall Dam for mercury and PCBs. These advisories are not related to site activities. Specific fish advisory information for the Hudson River can be viewed at the following
link: https://www.health.ny.gov/environmental/outdoors/fish/health_advisories/regional/hudson_river_and_tributaries.htm

COMMENT 9: Exhibit A: Nature and Extent of Contamination, Sediments, paragraph 4: The Draft Statement of Basis states that "Potentially sediments located between these two locations [L6_03 (cadmium) and L6_13 (cadmium and chromium)] with similar site-related metals were previously removed by dredging activities." However, we are not aware of available data to support this statement in the sampling intervals where Class C sediments were identified at L6_03 and L6_13 (0 to 2 inches, 2 to 6 inches, and 6 to 12 inches).

RESPONSE 9: Sediment samples for metals analysis were collected by GE just downstream of Lock 6. Based on the GE data, Lock 6 was identified as an area that warranted further investigation and was a focus of the RFI for OU 04. GE samples were collected from different sampling intervals than RFI OU 04 samples, but at select locations GE samples did detect site related metals (cadmium, chromium, lead, and/or mercury) at similar concentrations as nearby L6_03 and L6_13. GE samples were located within the Certification Units, identified as CU-67, CU-68, CU-

69, and CU-70, that define the horizontal extents of GE dredging and are located between L6_03 and L6_13. The sediments within the identified Certification Units were removed to a specified depth, which typically included some if not all of the GE sample interval. This supports the statement in the document regarding potential removal of site related metal contaminated sediments located between L6_03 and L6_13 by dredging activities. Exposed sediments within the Certification Units were covered by appropriate fill based on river conditions, which is protective of public health and the environment.

COMMENT 10a: Exhibit A: Nature and Extent of Contamination, Sediments, paragraph 5: In the discussion of human contact, the Draft Statement of Basis refers to the collection of samples "deeper than three feet below the surface of the Hudson River" as a factor that "…will significantly limit public contact with the metal contamination." It should be clarified that the depths referenced in this paragraph are water depths.

RESPONSE 10a: The final document will be revised to "deeper than three feet below the water surface of the Hudson River"

COMMENT 10b: Further, it is important to reiterate that elevated concentrations of metals in sediment were typically observed in subsurface sediment intervals, with decreasing concentrations in overlying intervals to the sediment-surface water interface (See Comment 1). In addition to water depths greater than three feet, the presence of surface sediment intervals with lower metal concentrations relative to subsurface sediment intervals is an additional factor that limits human contact.

RESPONSE 10b: See Response to Comment 7.

COMMENT 11: Exhibit A: Nature and Extent of Contamination, Sediments, Table 1: Table 1 in Exhibit A provides a summary of concentration ranges and exceedances of standards, criteria, and guidance values (SCGs) based on the total number of samples collected in the 2015 investigation (n=130) from four sampling depth intervals below the sediment-surface water interface: 0 to 2 inches, 2 to 6 inches, 6 to 12 inches, and 12 to 24 inches. As previously stated, elevated concentrations of metals in sediment were typically observed in subsurface sediment intervals, with decreasing concentrations in overlying intervals to the sediment-surface water interface. None of the maximum concentrations were observed within the 6-inch interval below the sediment-surface water interface, where the greatest biological activity and potential for exposure was observed. Further, sediments sampled within the 6-inch interval below the sediment-surface water interface were categorized as Class A or B at 29 of 34 sampling stations (123 of 130 samples). This point further emphasizes that the sampling depth intervals where exceedances of SCGs were observed were typically deeper than the sampling depth intervals with the greatest potential for ecological and human exposure.

RESPONSE 11: See Response to Comment 7.

APPENDIX B

Administrative Record

Administrative Record

Ciba Geigy Main Plant/Pretreatment Plant
Operable Unit No. 04: Hudson River - South of Bakers Falls Dam
RCRA & State Superfund Project
Town of Queensbury, Warren County, New York
Site No. 557011
EPA RCRA No. NYD002069748

1. *Draft Statement of Basis for the Ciba Geigy Main Plant/Pretreatment Plant site, Operable Unit* No. 4, dated May 2018, prepared by the Department.

2. Post Closure Permit, Permit No. 5-5234-00008/00096, between the Department and Ciba Corporation and Hercules Inc., effective on March 6, 2015.

3. "Fish and Wildlife Resources Impact Analysis Report Part 1: Resource Characterization Former Ciba-Geigy Site Glens Falls, New York", May 2017, prepared by EHS Support.

4. "Final Supplemental RFI for Off-site Sediments in the Hudson River Former Ciba-Geigy Site Glens Falls, New York", May 2017, prepared by EHS Support.

5. Letter dated July 16, 2018 from Gary Long and Cassie Reuter from EHS Support.