REPORT

HUDSON RIVER PCBS SITE
PHASE 1 REMEDIAL ACTION MONITORING PROGRAM
QUALITY ASSURANCE PROJECT PLAN

Prepared by

Anchor QEA, LLC

290 Elwood Davis Road, Suite 230

Liverpool, NY 13088

In conjunction with

Environmental Standards, Inc.

Valley Forge, PA

ARCADIS

Syracuse, NY

May 2009

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Prepared for

General Electric Company
Corporate Environmental Programs
Albany, NY

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TABLES

Table 1-1. Communication drivers, responsible entity, name, phone number, procedure for RAMP.

Communication Drivers	RAM QAPP Role	Responsible Entity	Organization	Contact Information	Procedure (Timing, Pathways)
Overall management of monitoring activities	GE Project Manager	Robert Gibson	General Electric Company	(518) 527-3418	Approve all reports before submission to EPA
Manage collection activities	Data Collection Project Manager	Jim Rhea	Anchor QEA	(315) 453-9009	Direction and management, including QA of monitoring activities and documentation
Technical review of deliverables and program elements	Senior Project Advisor	John Connolly	Anchor QEA	(201) 930-9890	Notify John Connolly for assessment of modifications to program
Coordinate RAMP activities with other construction activities	Construction Manager	Larry Hartman	Parsons	(518) 746-5322	Maintain communication with construction contractors and Field Operations Coordinator for daily activities
Manage RAMP field activities	Field Sampling Manager	Mark LaRue	Anchor QEA	(315) 453-9009	Mark LaRue will be the primary contact for Field Operations Coordinator. Notify for any changes in field activities
Prepare routine progress reports summarizing field activities	Field Operations Coordinator	Chris Yates	Anchor QEA	(518) 792-3709	Notify Chris Yates of any problems or issues in the field collection activities
Development and maintenance of project database	Data Production Manager	John Smith	GenSuite	(513) 774-1030	Notify John Smith when problems occur, report data and supporting quality assurance information as specified in this QAPP
Management of data generated by field activities	Database Manager	Mark Meyers	Anchor QEA	(201) 930-9890	Mark Meyers will coordinate data distribution to end-users
Oversee all QA aspects of project	Quality Assurance Program Manager	David Blye	Environmental Standards	(610) 935-5577	Notify David Blye with any problems associated with analytical data
Oversee far-field water sampling	Far-Field Water Program Coordinator	John Roche	Anchor QEA	(518) 792-3709	Notify John Roche of any changes with sampling activities and schedule

Communication Drivers	RAM QAPP Role	Responsible Entity	Organization	Contact Information	Procedure (Timing, Pathways)
Oversee near-field water sampling	Near-Field Water Program Coordinator	Charlie Szablewski	Anchor QEA	(518) 792-3709	Notify Charlie Szablewski of any changes with sampling activities and schedule
Oversee fish sampling activities	Fish Program Coordinator	Margaret Murphy	Anchor QEA	(315) 453-9009	Notify Margaret Murphy of any changes with sampling activities and schedule
Oversee noise, light, and air monitoring activities	Quality of Life Data Collection Coordinator	Todd Merrell	ARCADIS	(315) 671-9368	Notify Todd Merrell of any changes with sampling activities and schedule
Oversee special studies activities	Special Studies Coordinator	Jim Ryan	Anchor QEA	(315) 453-9009	Notify Jim Ryan of any changes with sampling activities and schedule
Oversee sediment residuals activities	Sediment Residuals Coordinator	Todd Merrell	ARCADIS	(315) 671-9368	Notify Todd Merrell of any changes with sampling activities and schedule
Report data to Data Production Manager	Test America Lab Project Manager – Burlington	Bill Cicero	Test America	(802) 923-1014	Notify David Blye of any deviations in protocols
Report data to Data Production Manager	Test America Lab Project Manager – Pittsburgh	Carrie Gamber	Test America	(412) 963-2428	Notify David Blye of any deviations in protocols
Report data to Data Production Manager	Test America Lab Project Manager – North Canton	Rusty Vicinie	Test America	(412) 963-7058	Notify David Blye of any deviations in protocols
Report data to Data Production Manager	Lancaster Lab Project Manager	Jon-Alan Minehardt	Lancaster Laboratory	(518) 441-8491	Notify David Blye of any deviations in protocols
Report data to Data Production Manager	Northeast Analytical Lab Project Manager	Bob Wagner	Northeast Analytical Laboratory	(518) 346-4592	Notify David Blye of any deviations in protocols

Table 1-2. Summary of data quality objectives and associated measurement performance criteria.

Data Quality Objective	Measurement Performance Criteria
Near-Field Monitoring	
Evaluate on a real-time basis whether dredging activities have caused near-field TSS to be elevated to an extent indicative of elevated rates of PCB export from dredging activities	• Determine TSS concentration in four 6-hour composite samples per day from monitoring buoys upstream and downstream of dredging operation • Determine TSS at location of highest turbidity along transects upstream, downstream, and adjacent to dredging operation(s) twice per day • Measure turbidity, DO, pH, temperature, conductivity continuously at monitoring buoys
Evaluate achievement of the Substantive WQ Requirements for in-river releases of lead and cadmium	• Determine metals and hardness concentrations in one 24-hour composite sample from one monitoring buoy upstream of all dredging operations and one downstream of each monitored operation • Determine metals and hardness concentrations in grab samples collected along transects from points of highest turbidity twice per day (increased to four times per day if criteria exceeded)
Far-Field Monitoring	
Evaluate achievement of the Total PCB, lead, and cadmium concentration components of the Resuspension Standard and the Substantive WQ Requirements	• Measure and electronically transmit water quality data continuously at automated sampling stations • Collect one 24-hour composite from the automated stations (two 12-hour composite samples from TI during high flows) daily for analyses of PCBs, TSS, POC/DOC, hardness, and metals analysis • Utilize expedited turn-around times at TI (Aroclor PCBs reported within 8 hours; other analytes within 24 hours), Schuylerville (24 hours), and Waterford (72 hours)
Rapidly assess water column Total PCB levels so that public water suppliers can be advised when water column concentrations are expected to approach or exceed the federal MCL (applicable when the relevant downstream public water suppliers are not obtaining water from an alternate source on a full-time basis)	• Collect one 24-hour composite from the automated stations (two 12-hour composite samples from TI if flow >8,000 cfs) daily for PCB analysis • Determine river flow during sampling period • Obtain Aroclor PCB data from TI within 8 hours of sample collection (not applicable when downstream public water suppliers are obtaining water from an alternate source on a full-time basis)
Evaluate achievement of the Total and Tri+ PCB load components of the Resuspension Standard	• Collect one 24-hour composite from TI (two 12-hour composite samples if flow >8,000 cfs) daily for Aroclor PCB analysis (or congener PCB analysis by mGBM if downstream public water suppliers are obtaining water on a full-time basis from an alternate source) • Collect one 24-hour composite from Schuylerville and Waterford daily for congener PCB analysis by mGBM • Determine river flow during sampling period • Calculate seven-day running average Total and Tri+ PCB loading and compare to load criteria (as adjusted)

Data Quality Objective	Measurement Performance Criteria
Determine the baseline Total PCB levels entering River Section 1 from upstream sources	• Determine PCB concentrations monthly at Bakers Falls and weekly at Fort Edward • Depth integrated samples, where possible • Analysis of PCBs using large-volume, low MDL mGBM
Determine ancillary remediation-related effects on the river (e.g., barge traffic-related resuspension, and spillage during transit) that may occur in areas that are not captured by the nearest representative far-field station	• Utilize additional far-field monitoring stations further downstream
Water Discharge Monitoring	
Verify that processing facility discharges do not exceed water quality-based effluent limits and other discharge limitations specified in Substantive WQ Requirements for releases to Champlain Canal (land cut above Lock 7) and those specified by EPA for stormwater discharges to Bond Creek.	• Determine PCB concentrations in a weekly 24-hour runtime composite sample at Outfall 001 • Measure discharge flow rate from Outfall 001 daily (gallons per day) • Determine concentration of TSS, TOC, cadmium, chromium, copper, lead, and mercury in weekly grab samples from the water treatment building • Determine PCB concentrations, pH, oil, and grease in a monthly grab sample at Outfalls 002 and 003 • Measure total settleable solids and discharge flow rate daily during periods of sedimentation basin overflow for Outfalls 002 and 003 • Determine concentrations of TSS in grab samples bi-weekly, and cadmium, chromium, copper, mercury, and lead in grab samples every two months when basins are overflowing
Fish Monitoring	
Track PCB levels in key fish species of the Upper Hudson River, the upper reach of the Lower Hudson River, as well as the Tappan Zee Bridge area to understand current trends and any impact of the dredging remedy on those trends	• Sample sport and forage fish that were monitored during baseline monitoring program (BMP), including black bass, yellow/brown bullhead, yearling pumpkinseed, yellow perch, and spottail shiner or substitute forage fish, from multiple locations within each river section sampled during BMP • Sample two additional stations located at Catskill and Tappan Zee biennially • Sample striped bass at the Lower Hudson River stations • Collect maximum of 20-30 fish samples of each species (depending on location) • Use Feeder Dam Pool as a reference location
Sediment Residuals Monitoring	
Identify contaminated sediment inventory remaining in a CU after dredging	• Measure Total PCBs in 0-6 inch interval following first inventory dredging pass from each sampling node in a CU (density of 40 per five acres) • Calculate Tri+ PCBs in 0-6 inch interval using Tri+ regression • If CU average Tri+ PCB concentration > 6 mg/kg, analyze archived deeper core segments for PCBs and delineate dredge prism for removal of remaining inventory

Data Quality Objective	Measurement Performance Criteria
Identify portions of the CU that need to be dredged or capped to achieve a CU arithmetic average Tri+ PCB concentration compliant with the Residuals Standard	• Measure Total PCBs in 0-6 inch segment from selected nodes within the CU • Compare results with criteria for redredging or capping
Determine the type of backfill and cap required in a CU on the basis of the 0- to 6-in. layer Tri+ PCB concentration and the Residual Standard action levels	• Measure Total PCBs and calculate Tri+ PCBs from nodes within the CU • Compare results with criteria for backfilling, capping with Isolation Cap A, and capping with Isolation Cap Type B
Determine in accordance with the CDE whether re-dredging is required in a shoreline area in which the dredging cut lines are shallower than the DoC and determine the type of cover required in accordance with the Residuals Standard and the CDE	• Collect cores from nodes spaced 80 ft apart where dredging cut lines are shallower than the DoC • Measure PCBs in 6-inch increments to a penetration depth of 4 ft • Compare results with criterion for redredging (> 50 mg/kg)
Determine whether the placement of backfill isolates the residual sediments in a CU that does not meet the residual goal of the ROD (i.e., has a concentration less than or equal to 0.25 mg/kg Tri+ PCBs)	• Sample for Tri+ PCBs the 0-6 inch interval in the backfill placed in CUs whose pre-backfilling arithmetic average residual Tri+ PCB concentration is > 1 mg/kg but < 3 mg/kg
Air Monitoring	
Monitor PCB concentrations in ambient air to assess whether airborne emissions of PCBs from the project are causing an exceedance of the QoLPS for PCBs in air at the locations of nearby receptors	• Sample PCBs from locations in dredging corridor, at Lock 7, and around processing facility using Method TO-4A or TO-10A • Collect meteorological data
Obtain opacity data to assess achievement of the QoLPS for opacity	• Perform opacity measurements from sources of potential particulate emissions, including vessels, heavy equipment, and the switcher engine locomotive at initial startup and if complaints received
Odor Monitoring	
Obtain data that can assess achievement of the H_2S standard set forth in the QoLPS	• Sample for odors if workers detect an unacceptable odor or if complaint received using hand-held direct reading H2S meter • Determine one hour average and compare to standard
Noise Monitoring	
Assess achievement of the Noise Standard criteria in the QoLPS during remedial activities	• Conduct monitoring at shoreline nearest to the remedial activity every four hours during the day and night • Conduct noise monitoring at the perimeter of the processing facility for 24 hours a day initially • Determine Leq and Ldn
Light Monitoring	
Assess achievement of the lighting standard in the QoLPS during remedial activities	• Conduct light monitoring at the shoreline during the first night of dredging in an area • Conduct light monitoring at the perimeter of the processing facility when the facility begins activities after dusk or when significant changes to the facility lighting have been made
Special Studies	
Evaluate the extent to which the PCBs released by remedial operations are dissolved or associated with suspended matter	• Measure PCBs (using mGBM), DOC, POC, and TSS on dissolved and particulate water samples from upstream and downstream of dredging operation • Characterize plume using turbidity probe

Data Quality Objective	Measurement Performance Criteria
Determine the spatial extent, concentration, and mass of Tri+ PCB contamination deposited in non-target near-field areas downstream from the dredged target areas	• Place sediment traps at multiple locations prior to start of Phase 1 dredging • Measure deposited solids mass, PCBs, organic carbon, and grain size on temporal basis
Provide sufficient data to assess the relative performance of the near-field monitoring procedures in the EPS and the revised procedures used in Phase 1	• Use monitoring procedures specified in EPS around a single dredging operation during Phase 1, starting in EGIA and moving to location(s) in NTIP after dredging in EGIA is completed • At locations around this operation: – Collect continuous reading pH, DO, temperature, turbidity, and conductivity from fixed buoy locations – Measure TSS in a daily grab sample from each buoy – Measure hardness and metals from one upstream and two downstream stations in a 24-hour composite sample

Table 1-3. Laboratory certifications for the Remedial Action Monitoring Program.

Matrix	Category	Laboratory	Analyte Name	CAS Number	Analytical Method	Certification
Water Column	PCBs	NEA	Aroclor 1016	12674-11-2	EPA 508	NYSDOH Non-Potable Water - EPA 608/NYSDOH Potable Water - EPA 508 PCB Screen
			Aroclor 1221	11104-28-2	EPA 508	NYSDOH Non-Potable Water - EPA 608/NYSDOH Potable Water - EPA 508 PCB Screen
			Aroclor 1232	11141-16-5	EPA 508	NYSDOH Non-Potable Water - EPA 608/NYSDOH Potable Water - EPA 508 PCB Screen
			Aroclor 1242	53469-21-9	EPA 508	NYSDOH Non-Potable Water - EPA 608/NYSDOH Potable Water - EPA 508 PCB Screen
			Aroclor 1248	12672-29-6	EPA 508	NYSDOH Non-Potable Water - EPA 608/NYSDOH Potable Water - EPA 508 PCB Screen
			Aroclor 1254	11097-69-1	EPA 508	NYSDOH Non-Potable Water - EPA 608/NYSDOH Potable Water - EPA 508 PCB Screen
			Aroclor 1260	11096-82-5	EPA 508	NYSDOH Non-Potable Water - EPA 608/NYSDOH Potable Water - EPA 508 PCB Screen
			Total PCBs (sum of Aroclors)	1336-36-3	EPA 508	No Certification Available
			Congeners and Total PCBs (sum of congeners)	1336-36-3	Modified Green Bay Mass Balance Method (NEA 207_03)	No Certification Available
Water Column	Metals	TAPIT	Ag (Silver)	7440-22-4	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8
			Al (Aluminum)	7429-90-5	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8
			As (Arsenic)	7440-38-2	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8
			Ba (Barium)	7440-39-3	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8
			Be (Beryllium)	7440-41-7	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8
			Ca (Calcium)	7440-70-2	EPA 200.8	No Certification Available
			Cd (Cadmium)	7440-43-9	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8
			Co (Cobalt)	7440-48-4	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8
			Cr (Chromium)	7440-47-3	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8
			Cu (Copper)	7440-50-8	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8
			Fe (Iron)	7439-89-6	EPA 200.8	No Certification Available
			Hg (Mercury)	7439-97-6	EPA 245.1	NYSDOH Non-Potable Water - EPA 245.1
			K (Potassium)	7440-09-7	EPA 200.8	No Certification Available
			Mg (Magnesium)	7439-95-4	EPA 200.8	No Certification Available
			Mn (Manganese)	7439-96-5	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8
			Na (Sodium)	7440-23-5	EPA 200.8	No Certification Available
			Ni (Nickel)	7440-02-0	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8
			Pb (Lead)	7439-92-1	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8
			Sb (Antimony)	7440-36-0	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8
			Se (Selenium)	7782-49-2	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8
			Tl (Thallium)	7440-28-0	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8
			V (Vanadium)	7440-62-2	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8
			Zn (Zinc)	7440-66-6	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8
			Hexavalent Chromium	18540-29-9	SW-846 7196A	NYSDOH Non-Potable Water - SW-846 7196A

Matrix	Category	Laboratory	Analyte Name	CAS Number	Analytical Method	Certification
Water Column	Metals	TABUR	Ag (Silver)	7440-22-4	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8 (Pending)
			Al (Aluminum)	7429-90-5	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8 (Pending)
			As (Arsenic)	7440-38-2	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8 (Pending)
			Ba (Barium)	7440-39-3	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8 (Pending)
			Be (Beryllium)	7440-41-7	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8 (Pending)
			Ca (Calcium)	7440-70-2	EPA 200.8	No Certification Available
			Cd (Cadmium)	7440-43-9	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8 (Pending)
			Co (Cobalt)	7440-48-4	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8 (Pending)
			Cr (Chromium)	7440-47-3	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8 (Pending)
			Cu (Copper)	7440-50-8	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8 (Pending)
			Fe (Iron)	7439-89-6	EPA 200.8	No Certification Available
			K (Potassium)	7440-09-7	EPA 200.8	No Certification Available
			Mg (Magnesium)	7439-95-4	EPA 200.8	No Certification Available
			Mn (Manganese)	7439-96-5	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8 (Pending)
			Na (Sodium)	7440-23-5	EPA 200.8	No Certification Available
			Ni (Nickel)	7440-02-0	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8 (Pending)
			Pb (Lead)	7439-92-1	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8 (Pending)
			Sb (Antimony)	7440-36-0	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8 (Pending)
			Se (Selenium)	7782-49-2	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8 (Pending)
			Tl (Thallium)	7440-28-0	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8 (Pending)
			V (Vanadium)	7440-62-2	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8 (Pending)
			Zn (Zinc)	7440-66-6	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8 (Pending)
	Other	TAPIT	Hardness	Q356	SM 2340B	No Certification Available
		TABUR	Hardness	Q356	SM 2340B	No Certification Available
		LLI	TSS	WQ001	SM 2540D	NYSDOH Non-Potable Water - SM 2540D (Pending)
		NEA	TSS	WQ001	SM 2540D	NYSDOH Non-Potable Water - SM 2540D
		NEA	DOC and POC	OC001/ OC002	NE128_06	NYSDOH Non-Potable Water - TOC by SM 5310B (No certification available for POC/DOC)
Other Special Studies	Other	NEA	POC	OC002	Lloyd Kahn	No Certification Available
			Mass of Solids	MS001	NE277_01	No Certification Available
Discharge Water	PCBs	TAPIT	Aroclor 1016	12674-11-2	EPA 608	NYSDOH Non-Potable Water - EPA 608
			Aroclor 1221	11104-28-2	EPA 608	NYSDOH Non-Potable Water - EPA 608
			Aroclor 1232	11141-16-5	EPA 608	NYSDOH Non-Potable Water - EPA 608
			Aroclor 1242	53469-21-9	EPA 608	NYSDOH Non-Potable Water - EPA 608
			Aroclor 1248	12672-29-6	EPA 608	NYSDOH Non-Potable Water - EPA 608
			Aroclor 1254	11097-69-1	EPA 608	NYSDOH Non-Potable Water - EPA 608
			Aroclor 1260	11096-82-5	EPA 608	NYSDOH Non-Potable Water - EPA 608
			Total PCBs (sum of Aroclors)	1336-36-3	EPA 608	No Certification Available
	Metals	TAPIT	Cd (Cadmium)	7440-43-9	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8
		TAPIT	Cr (Chromium)	7440-47-3	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8
		TAPIT	Cu (Copper)	7440-50-8	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8
		TANC	Hg (Mercury)	7439-97-6	EPA 1631E	NYSDOH Non-Potable Water - EPA 1631E
		TAPIT	Pb (Lead)	7439-92-1	EPA 200.8	NYSDOH Non-Potable Water - EPA 200.8
	Other	TAPIT	TSS	WQ001	SM 2540D	NYSDOH Non-Potable Water - SM 2540D
			TOC	OC003	SM 5310B	NYSDOH Non-Potable Water - SM 5310B
			Oil and Grease	Q2240	SM 2540D	NYSDOH Non-Potable Water - EPA 1664
			Settable Solids	Q596	SM 5310C	NYSDOH Non-Potable Water - EPA 160.5

Matrix	Category	Laboratory	Analyte Name	CAS Number	Analytical Method	Certification
Fish	PCBs	NEA	Congeners and Total PCBs (sum of congeners)	1336-36-3	Green Bay Mass Balance Method (NEA 013_09)	No Certification Available
		NEA	Aroclor 1016	12674-11-2	SW846 8082	NYSDOH Solid and Hazardous Waste - SW846 8082
			Aroclor 1221	11104-28-2	SW846 8082	NYSDOH Solid and Hazardous Waste - SW846 8082
			Aroclor 1232	11141-16-5	SW846 8082	NYSDOH Solid and Hazardous Waste - SW846 8082
			Aroclor 1242	53469-21-9	SW846 8082	NYSDOH Solid and Hazardous Waste - SW846 8082
			Aroclor 1248	12672-29-6	SW846 8082	NYSDOH Solid and Hazardous Waste - SW846 8082
			Aroclor 1254	11097-69-1	SW846 8082	NYSDOH Solid and Hazardous Waste - SW846 8082
			Aroclor 1260	11096-82-5	SW846 8082	NYSDOH Solid and Hazardous Waste - SW846 8082
			Total PCBs (sum of Aroclors)	1336-36-3	SW846 8082	No Certification Available
	Other	NEA	Percent Lipid	LP001	NE158_05	No Certification Available
Sediment	PCBs	NEA	Congeners and Total PCBs (sum of congeners)	1336-36-3	Green Bay Mass Balance Method (NEA 013_09)	No Certification Available
		NEA	Aroclor 1016	12674-11-2	GEHR8082	NYSDOH Solid and Hazardous Waste - SW846 8082
			Aroclor 1221	11104-28-2	GEHR8082	NYSDOH Solid and Hazardous Waste - SW846 8082
			Aroclor 1232	11141-16-5	GEHR8082	NYSDOH Solid and Hazardous Waste - SW846 8082
			Aroclor 1242	53469-21-9	GEHR8082	NYSDOH Solid and Hazardous Waste - SW846 8082
			Aroclor 1248	12672-29-6	GEHR8082	NYSDOH Solid and Hazardous Waste - SW846 8082
			Aroclor 1254	11097-69-1	GEHR8082	NYSDOH Solid and Hazardous Waste - SW846 8082
			Aroclor 1260	11096-82-5	GEHR8082	NYSDOH Solid and Hazardous Waste - SW846 8082
			Total PCBs (sum of Aroclors)	1336-36-3	GEHR8082	No Certification Available
	Other	NEA	Percent Moisture	WC002	GEHR8082	No Certification Available
Air	PCBs	NEA	Aroclor 1016	12674-11-2	SW846 8082/TO-4A	No Certification Available
			Aroclor 1221	11104-28-2	SW846 8082/TO-4A	No Certification Available
			Aroclor 1232	11141-16-5	SW846 8082/TO-4A	No Certification Available
			Aroclor 1242	53469-21-9	SW846 8082/TO-4A	No Certification Available
			Aroclor 1248	12672-29-6	SW846 8082/TO-4A	No Certification Available
			Aroclor 1254	11097-69-1	SW846 8082/TO-4A	No Certification Available
			Aroclor 1260	11096-82-5	SW846 8082/TO-4A	No Certification Available
			Total PCBs (sum of Aroclors)	1336-36-3	SW846 8082/TO-4A	No Certification Available
			Aroclor 1016	12674-11-2	SW846 8082/TO-10A	NYSDOH Air and Emissions - TO-10A
			Aroclor 1221	11104-28-2	SW846 8082/TO-10A	NYSDOH Air and Emissions - TO-10A
			Aroclor 1232	11141-16-5	SW846 8082/TO-10A	NYSDOH Air and Emissions - TO-10A
			Aroclor 1242	53469-21-9	SW846 8082/TO-10A	NYSDOH Air and Emissions - TO-10A
			Aroclor 1248	12672-29-6	SW846 8082/TO-10A	NYSDOH Air and Emissions - TO-10A
			Aroclor 1254	11097-69-1	SW846 8082/TO-10A	NYSDOH Air and Emissions - TO-10A
			Aroclor 1260	11096-82-5	SW846 8082/TO-10A	NYSDOH Air and Emissions - TO-10A
			Total PCBs (sum of Aroclors)	1336-36-3	SW846 8082/TO-10A	No Certification Available

Table 2-1. Near-Field Water Sampling Program summary.

Monitoring Station Description				Analyte and Frequency			
Area	**Station ID**	**Locations When Containment Barrier Not in Use**	**Locations When Containment Barrier in Use**	**DO, Temp., pH, Conductivity, Turbidity**	**TSS**	**Metals (Total and Dissolved) and Hardness**	**Metals Contingency**
NTIP - Rogers Island East Channel	Upstream/ Background	NA	Buoy located 100 m upstream of furthest upstream dredging operation in Rogers Island (West Channel)	Continuous	Four 6-hr. composites/day	One 24-hr. composite/day	NA
	Within Containment	NA	Buoy located within containment downstream of dredging	Continuous	Four 6-hr. composites/day	One 24-hr. composite/day	NA
	Downstream Buoys	NA	Two buoys approximately 25 m downstream of containment, one near each shore of east channel	Continuous	Four 6-hr. composites/day	One 24-hr. composite/day	NA
	Downstream Transect	NA	Bank to bank transect ~25 m downstream of containment	Twice daily by boat	One mid-depth grab at point on transect w/highest turbidity or if turbidity peak not observed, at location the same approximate distance from shore as the dredging operation, 2X/day	One mid-depth grab at point on transect w/highest turbidity or if turbidity peak not observed, at location the same approximate distance from shore as the dredging operation, 2X/day	One mid-depth grab at point on transect w/highest turbidity or if turbidity peak not observed, at location the same approximate distance from shore as the dredging operation, 4X/day
NTIP - Rogers Island West Channel	Upstream/Back ground	(Same station as one used for East Channel)	(Same station as one used for East Channel)	Continuous	Four 6-hr. composites/day	One 24-hr. composite/day	NA
	Upstream Cross Channel Transect	100 m upstream of each dredging operation	100 m upstream of each dredging operation	Twice daily by boat	One mid-depth grab at point on transect w/highest turbidity or if turbidity peak not observed, at location the same approximate distance from shore as the dredging operation, 2X/day	NA	NA
	Along-Channel Transect	10 m towards center of channel from dredge; extends from 100 m upstream to 100 m downstream	10 m towards center of channel from dredge; extends from 100 m upstream to 50 m downstream	Twice daily by boat	One mid-depth grab at point on transect w/highest turbidity, 2X/day; collected adjacent to dredge if no peak in turbidity observed	NA	NA
	Downstream Cross Channel Transect	100 m downstream of each dredging operation	50 m downstream of each dredging operation	Twice daily by boat	One mid-depth grab at point on transect w/highest turbidity or if turbidity peak not observed, at location the same approximate distance from shore as the dredging operation, 2X/day	NA	NA
		300 m downstream of each dredging operation	150 m downstream of each dredging operation	Twice daily by boat	One mid-depth grab at point on transect w/highest turbidity or if turbidity peak not observed, at location the same approximate distance from shore as the dredging operation, 2X/day	One mid-depth grab at point on transect w/highest turbidity or if turbidity peak not observed, at location the same approximate distance from shore as the dredging operation, 2X/day	One mid-depth grab at point on transect w/highest turbidity or if turbidity peak not observed, at location the same approximate distance from shore as the dredging operation, 4X/day

Table 2-2a. Measurement Performance Criteria.

Matrix: Water
Analytical Parameter: Total PCBs as Aroclors
Concentration Level: Low to High
Method: USEPA 508 (QAPP Appendix 27)

Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or Activity Used to Assess Measurement Performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or Both (S&A)
Accuracy	< RL, or associated samples >5× blank values	Laboratory or Equipment Blank	S&A
	70-130 %R	Laboratory Control Sample (spiked with Aroclor 1242)	A
	70-130 %R	Matrix Spike/Matrix Spike Duplicate (spiked with Aroclor 1242)	S&A
	70-130 %R	Surrogates (DCB and TCMX)	A
Precision	The RPD for water field duplicates should be ≤35% for results >5x the RL. The difference between results should be ≤ the RL when at least one result is ≤5x the RL	Field Duplicates	S&A
	RPD should be ≤ 20%	Matrix Spike/Matrix Spike Duplicate (spiked with Aroclor 1242)	S&A
Sensitivity	See Table 10-1	Reporting Limits	A
Representativeness	Use of standardized collection and analytical methods	Field audits and laboratory audits. See QAPP Section 10.3.4	S&A
Completeness	95%	See QAPP Section 10.3.6	S&A
Comparability	Based on accuracy and media comparison	Use of standardized SOPs by field and analytical contractors	S&A

Notes:
RL = Reporting Limit; R = Recovery; RPD = Relative Percent Difference
[1] *Data Quality Indicators (a.k.a. PASRCC parameters, i.e., precision, accuracy/bias, sensitivity, representativeness, data completeness, comparability).*

Table 2-2b. Measurement Performance Criteria.

Matrix: Water
Analytical Parameter: Total PCBs as Congeners
Concentration Level: Low to High
Method: Green Bay Congener Method (NEA 207_03, QAPP Appendix 28)

Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or Activity Used to Assess Measurement Performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or Both (S&A)
Accuracy	< RL, or associated samples >5× blank values	Laboratory or Equipment Blank	S&A
	60-140 %R for Total PCB	Laboratory Control Sample (spiked with Aroclor 1242)	A
	60-140 %R for Total PCB	Matrix Spike/Matrix Spike Duplicate (spiked with Aroclor 1242)	S&A
	60-140 %R	Surrogate (2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl)	A
	70-130% for each homolog and Total PCB	Performance Evaluation	A
Precision	The RPD for water field duplicates should be ≤35% for results >5x the RL. The difference between results should be ≤ the RL when at least one result is ≤5x the RL	Field Duplicates	S&A
	RPD should be ≤ 30% (NE207_03)	Matrix Spike/Matrix Spike Duplicate (spiked with Aroclor 1242)	S&A
Sensitivity	See Table 10-1	Reporting Limits	A
Representativeness	Use of standardized collection and analytical methods	Field audits and laboratory audits. See QAPP Section 10.3.4	S&A
Completeness	95%	See QAPP Section 10.3.6	S&A
Comparability	Based on accuracy and media comparison	Use of standardized SOPs by field and analytical contractors	S&A

Notes:
RL = Reporting Limit; R = Recovery; RPD = Relative Percent Difference
[1] Data Quality Indicators (a.k.a. PASRCC parameters, i.e., precision, accuracy/bias, sensitivity, representativeness, data completeness, comparability).

Table 2-2c. Measurement Performance Criteria.

Matrix: Water
Analytical Parameter: Total Suspended Solids
Concentration Level: Low to High
Method: Standard Method 2540D/ASTM 3977-97 (QAPP Appendices 29 and 30)

Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or Activity Used to Assess Measurement Performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or Both (S&A)
Accuracy	< RL, or associated samples >5× blank values	Laboratory or Equipment Blank	S&A
	85-115 %R	Laboratory Control Sample (TSS)	A
Precision	The RPD for water lab duplicates should be ≤20% for results >5x the RL. The difference between results should be ≤ the RL when at least one result is ≤5x the RL	Laboratory Duplicates	A
	The RPD for water field duplicates should be ≤20% for results >5x the RL. The difference between results should be ≤ the RL when at least one result is ≤5x the RL	Field Duplicates	S&A
Sensitivity	See Table 10-1	Reporting Limits	A
Representativeness	Use of standardized collection and analytical methods	Field audits and laboratory audits. See QAPP Section 10.3.4	S&A
Completeness	95%	See QAPP Section 10.3.6	S&A
Comparability	Based on accuracy and media comparison	Use of standardized SOPs by field and analytical contractors	S&A

Notes:
RL = Reporting Limit; R = Recovery; RPD = Relative Percent Difference
[1] *Data Quality Indicators (a.k.a. PASRCC parameters, i.e., precision, accuracy/bias, sensitivity, representativeness, data completeness, comparability).*

Table 2-2d. Measurement Performance Criteria.

Matrix: Water
Analytical Parameter: Dissolved and Particulate Organic Carbon
Concentration Level: Low to High
Method: Standard Method 5310B (NE128_06; QAPP Appendix 31)

Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or Activity Used to Assess Measurement Performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or Both (S&A)
Accuracy	< RL, or associated samples >5× blank values	Laboratory or Equipment Blank	S&A
	60-140 %R	Matrix Spike (POC and DOC)	S&A
Precision	The RPD for water lab duplicates should be ≤20% for results >5x the RL. The difference between results should be ≤ the RL when at least one result is ≤5x the RL	Laboratory Duplicates	A
	The RPD for water field duplicates should be ≤20% for results >5x the RL. The difference between results should be ≤ the RL when at least one result is ≤5x the RL	Field Duplicates	S&A
Sensitivity	See Table 10-1	Reporting Limits	A
Representativeness	Use of standardized collection and analytical methods	Field audits and laboratory audits. See QAPP Section 10.3.4	S&A
Completeness	95%	See QAPP Section 10.3.6	S&A
Comparability	Based on accuracy and media comparison	Use of standardized SOPs by field and analytical contractors	S&A

Notes:
RL = Reporting Limit; R = Recovery; RPD = Relative Percent Difference
[1] *Data Quality Indicators (a.k.a. PASRCC parameters, i.e., precision, accuracy/bias, sensitivity, representativeness, data completeness, comparability).*

Table 2-2e. Measurement Performance Criteria.

Matrix: Water
Analytical Parameter: Metals (except Mercury and Hexavalent Chromium)
Concentration Level: Low to High
Method: USEPA 200.8 (QAPP Appendices 33 and 34)

Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or Activity Used to Assess Measurement Performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or Both (S&A)
Accuracy	< RL, or associated samples >5× blank values	Laboratory or Equipment Blank	S&A
	85-115 %R	Laboratory Control Sample (All Target Metals)	A
	70-130 %R (NA if sample concentration is >4× spike added)	Matrix Spike (All Target Metals)	S&A
Precision	The RPD for water lab duplicates should be ≤20% for results >5x the RL. The difference between results should be ≤ the RL when at least one result is ≤5x the RL	Laboratory Duplicates	A
	The RPD for water field duplicates should be ≤20% for results >5x the RL. The difference between results should be ≤ the RL when at least one result is ≤5x the RL	Field Duplicates	S&A
Sensitivity	See Table 10-1	Reporting Limits	A
Representativeness	Use of standardized collection and analytical methods	Field audits and laboratory audits. See QAPP Section 10.3.4	S&A
Completeness	95%	See QAPP Section 10.3.6	S&A
Comparability	Based on accuracy and media comparison	Use of standardized SOPs by field and analytical contractors	S&A

Notes:
RL = Reporting Limit; R = Recovery; RPD = Relative Percent Difference
[1] *Data Quality Indicators (a.k.a. PASRCC parameters, i.e., precision, accuracy/bias, sensitivity, representativeness, data completeness, comparability).*

Table 2-2f. Measurement Performance Criteria.

Matrix: Water
Analytical Parameter: Mercury
Concentration Level: Low to High
Method: USEPA 245.1 (QAPP Appendix 35)

Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or Activity Used to Assess Measurement Performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or Both (S&A)
Accuracy	< RL, or associated samples >5× blank values	Laboratory or Equipment Blank	S&A
	85-115 %R	Laboratory Control Sample (Mercury)	A
	70-130 %R (NA if sample concentration is >4× spike added)	Matrix Spike (Mercury)	S&A
Precision	The RPD for water lab duplicates should be ≤20% for results >5x the RL. The difference between results should be ≤ the RL when at least one result is ≤5x the RL	Laboratory Duplicates	A
	The RPD for water field duplicates should be ≤20% for results >5x the RL. The difference between results should be ≤ the RL when at least one result is ≤5x the RL	Field Duplicates	S&A
Sensitivity	See Table 10-1	Reporting Limits	A
Representativeness	Use of standardized collection and analytical methods	Field audits and laboratory audits. See QAPP Section 10.3.4	S&A
Completeness	95%	See QAPP Section 10.3.6	S&A
Comparability	Based on accuracy and media comparison	Use of standardized SOPs by field and analytical contractors	S&A

Notes:
RL = Reporting Limit; R = Recovery; RPD = Relative Percent Difference
[1] *Data Quality Indicators (a.k.a. PASRCC parameters, i.e., precision, accuracy/bias, sensitivity, representativeness, data completeness, comparability).*

Table 2-2g. Measurement Performance Criteria.

Matrix: Water
Analytical Parameter: Hexavalent Chromium
Concentration Level: Low to High
Method: SW-846 7196A (QAPP Appendix 36)

Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or Activity Used to Assess Measurement Performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or Both (S&A)
Accuracy	< RL, or associated samples >5× blank values	Laboratory or Equipment Blank	S&A
	85-115 %R	Laboratory Control Sample (Hexavalent Chromium)	A
	85-115 %R (NA if sample concentration is >4× spike added)	Matrix Spike (Hexavalent Chromium)	S&A
Precision	The RPD for water lab duplicates should be ≤20% for results >5x the RL. The difference between results should be ≤ the RL when at least one result is ≤5x the RL	Laboratory Duplicates	A
	The RPD for water field duplicates should be ≤20% for results >5x the RL. The difference between results should be ≤ the RL when at least one result is ≤5x the RL	Field Duplicates	S&A
Sensitivity	See Table 10-1	Reporting Limits	A
Representativeness	Use of standardized collection and analytical methods	Field audits and laboratory audits. See QAPP Section 10.3.4	S&A
Completeness	95%	See QAPP Section 10.3.6	S&A
Comparability	Based on accuracy and media comparison	Use of standardized SOPs by field and analytical contractors	S&A

Notes:
RL = Reporting Limit; R = Recovery; RPD = Relative Percent Difference
[1] *Data Quality Indicators (a.k.a. PASRCC parameters, i.e., precision, accuracy/bias, sensitivity, representativeness, data completeness, comparability).*

Table 2-2h. Measurement Performance Criteria.

Matrix: Water
Analytical Parameter: Hardness
Concentration Level: Low to High
Method: Standard Method 2340B (QAPP Appendices 37 and 38)

Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or Activity Used to Assess Measurement Performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or Both (S&A)
Accuracy	< RL, or associated samples >5× blank values	Laboratory or Equipment Blank	S&A
	85-115 %R	Laboratory Control Sample (Hardness)	A
	70-130% R (NA if sample concentration is >4× spike added)	Matrix Spike (Hardness)	S&A
Precision	The RPD for water lab duplicates should be ≤20% for results >5x the RL. The difference between results should be ≤ the RL when at least one result is ≤5x the RL	Laboratory Duplicates	A
	The RPD for water field duplicates should be ≤20% for results >5x the RL. The difference between results should be ≤ the RL when at least one result is ≤5x the RL	Field Duplicates	S&A
Sensitivity	See Table 10-1	Reporting Limits	A
Representativeness	Use of standardized collection and analytical methods	Field audits and laboratory audits. See QAPP Section 10.3.4	S&A
Completeness	95%	See QAPP Section 10.3.6	S&A
Comparability	Based on accuracy and media comparison	Use of standardized SOPs by field and analytical contractors	S&A

Notes:
RL = Reporting Limit; R = Recovery; RPD = Relative Percent Difference
[1] *Data Quality Indicators (a.k.a. PASRCC parameters, i.e., precision, accuracy/bias, sensitivity, representativeness, data completeness, comparability).*

Table 2-2i. Measurement Performance Criteria.

Matrix: Water - Discharge
Analytical Parameter: Total Suspended Solids
Concentration Level: Low to High
Method: Standard Method 2540D (QAPP Appendix 39)

Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or Activity Used to Assess Measurement Performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or Both (S&A)
Accuracy	< RL, or associated samples >5× blank values	Laboratory Blank	A
	80-120% R	Laboratory Control Sample (TSS)	A
Precision	The RPD for water lab duplicates should be ≤20% for results >5x the RL. The difference between results should be ≤ the RL when at least one result is ≤5x the RL	Batch Laboratory Duplicates	A
Sensitivity	See Table 10-1	Reporting Limits	A
Representativeness	Use of standardized collection and analytical methods	Field audits and laboratory audits. See QAPP Section 10.3.4	S&A
Completeness	95%	See QAPP Section 10.3.6	S&A
Comparability	Based on accuracy and media comparison	Use of standardized SOPs by field and analytical contractors	S&A

Notes:
RL = Reporting Limit; R = Recovery; RPD = Relative Percent Difference
[1] *Data Quality Indicators (a.k.a. PASRCC parameters, i.e., precision, accuracy/bias, sensitivity, representativeness, data completeness, comparability).*

Table 2-2j. Measurement Performance Criteria.

Matrix: Water - Discharge
Analytical Parameter: Total Organic Carbon
Concentration Level: Low to High
Method: Standard Method 5310B (QAPP Appendix 40)

Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or Activity Used to Assess Measurement Performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or Both (S&A)
Accuracy	< RL, or associated samples >5× blank values	Laboratory Blank	A
	80-120% R	Laboratory Control Sample (TOC)	A
	75-125% R	Batch Matrix Spike (TOC)	A
Precision	The RPD for water lab duplicates should be ≤20% for results >5x the RL. The difference between results should be ≤ the RL when at least one result is ≤5x the RL	Batch Laboratory Duplicates	A
Sensitivity	See Table 10-1	Reporting Limits	A
Representativeness	Use of standardized collection and analytical methods	Field audits and laboratory audits. See QAPP Section 10.3.4	S&A
Completeness	95%	See QAPP Section 10.3.6	S&A
Comparability	Based on accuracy and media comparison	Use of standardized SOPs by field and analytical contractors	S&A

Notes:
RL = Reporting Limit; R = Recovery; RPD = Relative Percent Difference
[1] *Data Quality Indicators (a.k.a. PASRCC parameters, i.e., precision, accuracy/bias, sensitivity, representativeness, data completeness, comparability).*

Table 2-2k. Measurement Performance Criteria.

Matrix: Water - Discharge
Analytical Parameter: Oil and Grease
Concentration Level: Low to High
Method: USEPA 1664 (Appendix 41)

Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or activity used to assess measurement performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or Both (S&A)
Accuracy	< RL, or associated samples >5× blank values	Laboratory Blank	A
	78-114 %R	Laboratory Control Sample (Oil and Grease)	A
	78-114 %R	Batch Matrix Spike/Matrix Spike Duplicate (Oil and Grease)	A
Precision	≤ 18% RPD	Batch Matrix Spike/Matrix Spike Duplicate (Oil and Grease)	A
Sensitivity	See Table 10-1	Reporting Limits	A
Representativeness	Use of standardized collection and analytical methods	Field audits and laboratory audits. See QAPP Section 10.3.4	S&A
Completeness	95%	See QAPP Section 10.3.6	S&A
Comparability	Based on accuracy and media comparison	Use of standardized SOPs by field and analytical contractors	S&A

Notes:
RL = Reporting Limit; R = Recovery; RPD = Relative Percent Difference
[1] *Data Quality Indicators (a.k.a. PASRCC parameters, i.e., precision, accuracy/bias, sensitivity, representativeness, data completeness, comparability).*

Table 2-2l. Measurement Performance Criteria.

Matrix: Water - Discharge
Analytical Parameter: Settleable Solids
Concentration Level: Low to High
Method: Standard Method 2540F (QAPP Appendix 39)

Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or Activity Used to Assess Measurement Performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or Both (S&A)
Accuracy	< RL, or associated samples >5× blank values	Laboratory Blank	A
Precision	The RPD for water lab duplicates should be ≤20% for results >5x the RL. The difference between results should be ≤ the RL when at least one result is ≤5x the RL	Batch Laboratory Duplicates	A
Sensitivity	See Table 10-1	Reporting Limits	A
Representativeness	Use of standardized collection and analytical methods	Field audits and laboratory audits. See QAPP Section 10.3.4	S&A
Completeness	95%	See QAPP Section 10.3.6	S&A
Comparability	Based on accuracy and media comparison	Use of standardized SOPs by field and analytical contractors	S&A

Notes:
RL = Reporting Limit; R = Recovery; RPD = Relative Percent Difference
[1] *Data Quality Indicators (a.k.a. PASRCC parameters, i.e., precision, accuracy/bias, sensitivity, representativeness, data completeness, comparability).*

Table 2-2m. Measurement Performance Criteria.

Matrix: Water - Discharge
Analytical Parameter: Total PCBs as Aroclors
Concentration Level: Low to High
Method: USEPA Method 608 (QAPP Appendix 42)

Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or Activity Used to Assess Measurement Performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or Both (S&A)
Accuracy	< RL, or associated samples >5× blank values	Laboratory Blank	A
	50-114 %R (Aroclor 1016); 10-127 %R (Aroclor 1260)	Laboratory Control Sample (spiked with Aroclors 1016 and 1260)	A
	50-114 %R (Aroclor 1016); 10-127 %R (Aroclor 1260)	Batch Matrix Spike/Matrix Spike Duplicate (spiked with Aroclors 1016 and 1260)	A
	57-144 %R (DCB); 36-129 %R (TCMX)	Surrogates	A
Precision	≤20% RPD	Batch Matrix Spike/Matrix Spike Duplicate (spiked with Aroclors 1016 and 1260)	A
Sensitivity	See Table 10-1	Reporting Limits	A
Representativeness	Use of standardized collection and analytical methods	Field audits and laboratory audits. See QAPP Section 10.3.4	S&A
Completeness	95%	See QAPP Section 10.3.6	S&A
Comparability	Based on accuracy and media comparison	Use of standardized SOPs by field and analytical contractors	S&A

Notes:
RL = Reporting Limit; R = Recovery; RPD = Relative Percent Difference
[1] *Data Quality Indicators (a.k.a. PASRCC parameters, i.e., precision, accuracy/bias, sensitivity, representativeness, data completeness, comparability).*

Table 2-2n. Measurement Performance Criteria.

Matrix: Water - Discharge
Analytical Parameter: Mercury
Concentration Level: Low to High
Method: USEPA 1631 (QAPP Appendix 44)

Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or Activity Used to Assess Measurement Performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or Both (S&A)
Accuracy	< RL, or associated samples >5× blank values	Laboratory Blank	A
	77-125 %R	Laboratory Control Sample (Mercury)	A
	71-125 %R	Batch Matrix Spike (Mercury)	A
Precision	≤ 24% RPD	Batch Laboratory Duplicates	A
Sensitivity	See Table 10-1	Reporting Limits	A
Representativeness	Use of standardized collection and analytical methods	Field audits and laboratory audits. See QAPP Section 10.3.4	S&A
Completeness	95%	See QAPP Section 10.3.6	S&A
Comparability	Based on accuracy and media comparison	Use of standardized SOPs by field and analytical contractors	S&A

Notes:
RL = Reporting Limit; R = Recovery; RPD = Relative Percent Difference

[1] *Data Quality Indicators (a.k.a. PASRCC parameters, i.e., precision, accuracy/bias, sensitivity, representativeness, data completeness, comparability).*

Table 2-3. Field data collection for near-field monitoring.

Data Field	Valid Values	Data Entry Type
Location ID		Automatic
Location Type Code	WQN (Near-field station) WQT (Near-field station transect point)	Drop-down selection list
X Coordinate		YSI Probe
Y Coordinate		YSI Probe
Coordinate System Code	NYE (New York State Plane East (ft) NAD 83)	Automatic
Party ID		Automatic (GenSuite) based on User ID
User ID		Manual
Sample ID		Automatic
Parent Sample ID		Drop-down selection list
Near Field Transect ID		Drop-down selection list (from Gensuite)
Sample Type Code	ENV (Normal field sample) DUP (Field duplicate) FDBL (Field blank)	Drop-down selection list
Start Date/Time collected	MM/DD/YYYY HH:MM	Calculated based on End Date Time
End Date/Time collected	MM/DD/YYYY HH:MM	Manual
Sample Matrix Code	W (Unfiltered Water) R (Filter Residue) D (Filtrate)	Drop-down selection list
Temporal Composite Type	24HR 12HR 6HR GRAB	Drop-down selection list
Spatial Composite Type	Buoy (composite) GRAB (Not composited)	Automatic (based on selected location)
Laboratory Analyses	TSS, total Pb/Cd, dissolved Pb/Cd, total TAL metals, dissolved TAL metals, Hg, Cr+6, Hardness	Drop-down selection list
Sample Archived	Y (Yes) N (No)	Manual
Volume		Automatic
EPA split	Y (Yes) N (No)	Manual
Team ID		Automatic (value loaded on computer)
Observations		Manual
Sampler Initials		Manual
# Containers		Automatic (based on selected analytes)
WQ Start Date Time	MM/DD/YYYY HH:MM	Manual or automatic (using data logger)
Specific Conductivity	Range (0 to 500 mS/cm)	Manual or automatic (using data logger)
Temperature	Range (0 to 45 C)	Manual or automatic (using data logger)
Dissolved Oxygen	Range (0 to 20 mg/L)	Manual or automatic (using data logger)
pH	Range (0 to 14)	Manual or automatic (using data logger)
Turbidity	Range (0 to 50 NTU)	Manual or automatic (using data logger)
Depth	Range (0 to 100 feet)	Manual or automatic (using data logger)

Table 2-4. Near-field sample collection, handling, and analysis summary.

Analyte	Container Specifications	Preservation	Analytical Method	Turnaround Time[1]	
				Routine Sampling	Metals Exceedance Sampling [2,3]
TSS	1L HDPE plastic bottle	Cool, 4°C +/- 2°C	SM 2540D [3,4]	24 hrs.	NA
Dissolved Cadmium, Lead	1L HDPE plastic bottle (no liner)	Field Filter, HNO_3 to pH <2	EPA 200.8	24 hrs.	NA
Dissolved TAL metals	1L HDPE plastic bottle (no liner)	Field Filter, HNO_3 to pH <2	EPA 200.8	NA	24 hrs.
Total Cadmium, Lead	1L HDPE plastic bottle (no liner)	HNO_3 to pH <2	EPA 200.8	24 hrs.	NA
Total TAL metals	1L HDPE plastic bottle (no liner)	HNO_3 to pH <2	EPA 200.8	NA	24 hrs.
Hardness	(from total 1L HDPE plastic container)	--	SM 2340B	24 hrs.	24 hrs.
Total Chromium (hexavalent)	250 ml HDPE plastic bottle (no liner)	Cool, 4°C +/- 2°C	EPA 7196A	NA	24 hrs.
Dissolved Chromium (hexavalent)	250 ml HDPE plastic bottle (no liner)	Field Filter, cool, 4°C +/- 2 °C	EPA 7196A	NA	24 hrs.
Total Mercury	(from total TAL metals container)	--	EPA 245.1	NA	24 hrs.
Dissolved Mercury	(from dissolved TAL metals container)	--	EPA 245.1	NA	24 hrs.

Notes:

NA = not analyzed.

[1] *Turnaround time to be expedited to the extent logistics permit; TSS based on time since collection, metals and hardness based on verified time of sample receipt.*

[2] *Sampling only performed at station(s) exhibiting exceedance.*

[3] *TAL metals, hexavalent chromium, and mercury only performed if lead and/or cadmium criterion is exceeded.*

[4] *Modified to be consistent with ASTM Method 3977-97.*

Table 2-5. Water quality instrument accuracy criteria[1].

Parameter	Range	Range Between Paired WQ Data
Dissolved Oxygen	0-50 mg/L	± 5% of reading or 0.2 mg/L (whichever is greater)
Conductivity	0-100 mS/cm	± 5%
Temperature	-5 to 45 °C	±1 °C
pH	0-14	±0.2
Turbidity	0-1,000 NTU	± 10% of reading or 2 NTU (whichever is greater)

Notes:
[1]Based on a paper published by USEPA and Battelle, who performed verification testing of two identical multi-parameter YSI 6600 EDS water probes. Information can be found at:
http://www.epa.gov/NHSRC/pubs/vrYSI031704.pdf
http://www.epa.gov/NHSRC/pubs/vrYSI2ndRnd071404.pdf

Table 2-6. Far-field water sampling program summary.

Station	Sampling Method	Analyte and Frequency					
		Water Quality	PCBs, DOC, POC		TSS	Metals and Hardness[1]	
		DO, Temp., pH, Conductivity, Turbidity	Routine	Contingency	Routine	Routine	Contingency
Bakers Falls	Manual depth integrated composite at centroid (~center channel)	Monthly	Monthly (7 day. TAT)	NA	Monthly	NA	NA
Rogers Island	Manual (grab) at centroid (~center channel)	Weekly	Weekly (7 day TAT)	Daily manual grab if TI or SV > 500 ng/L, 2 day minimum; TAT reduced to 24 hrs. (only PCBs analyzed)	Weekly (7 day TAT)	NA	NA
Thompson Island	Automated EDI Transect	Continuous	Daily 24-hr composite (PCBs by Aroclor; 8 hr. TAT; POC/DOC 24-hr TAT). Twice/week 24-hr composite (mGBM PCBs, 7 day TAT). Daily 24-hr composite at TI (mGBM PCBs, 24-hr TAT) if both Waterford and Halfmoon on Troy water	2 12-hr. composites/day if flow at FE > 8,000 cfs (Aroclor PCBs; 8 hr TAT) unless both Waterford and Halfmoon are on Troy water. Submit PCB samples in triplicate on next day if PCBs are > 500 ng/L at TI or SV.	Daily 24-hr composite (2 12-hr composites/day if flow at FE >8,000 cfs, unless both Waterford and Halfmoon are on Troy water); all 24-hr TAT	Daily 24-hr composite for total and dissolved Cd and Pb (24 hr. TAT from time of collection)	2 12-hr composites/day (for total and dissolved Cd & Pb) if flow at FE > 8,000 cfs (unless Waterford and Halfmoon are on Troy water). If exceedance, 4 6-hr. composites/day for all TAL metals (total and dissolved) plus Hg & Cr6 (24 hr. TAT from time of collection)
Schuylerville	Automated EDI Transect	Continuous	Daily 24-hr composite (24 hr. TAT)	Submit samples for Aroclor PCBs (8 hr. TAT) if TI station down; 2 12-hr. composites/day if flow at FE > 5,000 cfs and TI station is down -- not applicable if both Waterford and Halfmoon on Troy water. Submit PCB samples in triplicate on next day if PCBs are > 500 ng/L at TI or SV. No contingency for POC/DOC.	Daily 24-hr composite (2 12-hr composites/day if flow at FE> 5,000 cfs and TI station is down, unless both Waterford and Halfmoon are on Troy water); all 24 hr TAT	Daily 24-hr composite for total and dissolved Cd and Pb (24 hr. TAT from time of laboratory receipt)	2 12-hr composites/day (for total and dissolved Cd & Pb) if flow at FE > 5,000 cfs and TI station is down (unless Waterford and Halfmoon are on Troy water). If exceedance, 4 6-hr. composites/day for all TAL metals (total and dissolved) plus Hg & Cr6 (24 hr. TAT from time of laboratory receipt)
Stillwater	Manual EDI Transect	Weekly	Weekly (7 day TAT)	NA	(Same as PCBs)	NA	NA
Waterford	Automated Single Point	Continuous	Daily 24-hr composite (72 hr. TAT)	PCB TAT reduced to 24 hr. if PCBs > 500 ng/L at TI or SV	(Same as PCBs)	Daily 24-hr composite (72 hr. TAT from time of laboratory receipt)	4 6-hr. composites/day (24 hr. TAT from time of laboratory receipt)
Mohawk River	Manual depth integrated composite at centroid (~center channel)	Every other month (May-Nov)	Every other month (May-Nov; 7 day TAT)	If Albany PCBs > WF, collect one sample as soon as practicable. If Mohawk PCBs increase significantly, sample at same frequency as Albany	(Same as PCBs)	NA	NA
Albany/ Troy	Manual depth integrated composite at centroid (~center channel)	Monthly	Monthly (7 day TAT)	Sampling increased to weekly with 24 hr. TAT if PCBs at Waterford > 350 ng/L	(Same as PCBs)	NA	NA
Poughkeepsie	Manual depth integrated composite at centroid (~center channel)	Monthly	Monthly (7day TAT)	Sampling increased to weekly with 24 hr. TAT if PCBs at Albany > 350 ng/L	(Same as PCBs)	NA	NA

Notes:
NA = not analyzed/applicable.

[1] *Hardness, total lead and cadmium and dissolved lead and cadmium reported routinely; if criterion for lead or cadmium is exceeded chromium, all TAL total and dissolved metals by EPA Method 208, and hexavalent chromium and mercury added.*

Table 2-7. Source of flow data for far-field monitoring stations.

Station	Source of Flow Data
Bakers Falls	USGS gage at Fort Edward.
Thompson Island	USGS gage at Fort Edward multiplied by a proration factor of 1.043[1].
Schuylerville (station to be located at Lock 5)	USGS gage at Fort Edward multiplied by a proration factor of 1.043[1].
Stillwater	USGS gage at Fort Edward multiplied by a proration factor of 1.043[1] plus USGS gage at Battenville (Battenkill flow).
Waterford	When available: USGS gage above Lock 1. When not available: USGS gage at Fort Edward multiplied by a proration factor of 1.043[1] plus USGS gage at Battenville (Battenkill flow) and USGS gage at Eagle Bridge (Hoosic River).

Notes:
[1]Proration factor from hydrodynamic model of Hudson River (QEA 1999).

Table 2-8. Field data collection for far-field monitoring.

Data Field	Valid Values	Data Entry Type
Location ID	(BAFA) Bakers Falls (ROIS) Rogers Island (THIS) Thompson Island (SCHU) Schuylerville (STWA) Stillwater (WAFO) Waterford (LHAL) Albany (LHPK) Poughkeepsie (MOCO) Mohawk River at Cohoes	Drop-down selection list
Location Type Code	WQF (Far-field station) WQT (Far-field station transect point)	Drop-down selection list
X Coordinate		YSI Probe
Y Coordinate		YSI Probe
Coordinate System Code	NYE (New York State Plane East (ft) NAD 83)	Automatic
Party ID		Automatic (GenSuite)
User ID		Manual
Sample ID		Automatic
Parent Sample ID		Drop-down selection list
Sample Type Code	ENV (Normal field sample) DUP (Field duplicate) FDBL (Field blank)	Drop-down selection list
Start Date/Time collected	MM/DD/YYYY HH:MM	Calculated based on End Date Time
End Date/Time collected	MM/DD/YYYY HH:MM	Manual
Sample Matrix Code	W (Unfiltered Water) R (Filter Residue) D (Filtrate)	Drop-down selection list
Temporal Composite Type	24HR 12HR 6HR GRAB	Drop-down selection list
Spatial Composite Type	CEN CHAN (Center channel) TRAN COMP (Transect composite) GRAB (Not composited)	Automatic (based on selected location)
Laboratory Analyses	Aroclor PCBs, mGBM PCBs, POC/DOC, TSS, total Pb/Cd, dissolved Pb/Cd, total TAL metals, dissolved TAL metals, Hg, Cr+6, Hardness	Drop-down selection list
Sample Archived	Y (Yes) N (No)	Manual
Volume	TBA?	Automatic
EPA split	Y (Yes) N (No)	Manual
Team ID		Automatic (value loaded on computer)
Observations		Manual
Sampler Initials		Manual
# Containers		Automatic (based on selected analytes)
# Transects		Automatic (based on selected location)
WQ Start DateTime[1]	MM/DD/YYYY HH:MM	Manual or automatic (using data logger)
Specific Conductivity[1]	Range (0 to 500 mS/cm)	Manual or automatic (using data logger)
Temperature[1]	Range (0 to 45 C)	Manual or automatic (using data logger)
Dissolved Oxygen[1]	Range (0 to 20 mg/L)	Manual or automatic (using data logger)
pH[1]	Range (0 to 14)	Manual or automatic (using data logger)
Turbidity[1]	Range (0 to 50 NTU)	Manual or automatic (using data logger)
Depth[1]	Range (0 to 100 feet)	Manual or automatic (using data logger)

Notes:
[1]*One entry for each transect*

Table 2-9. Far-Field sample collection, handling, and analysis summary.

Station	Analyte	Container Specifications	Preservation	Analytical Method	Turnaround Time[1]		
					Routine	Contingency	Metals Exceedance Sampling
Bakers Falls	C.S. PCBs	2 - 4L amber glass bottles	Cool, 4°C +/- 2°C	Low MDL Modified Green Bay	7 days	NA	NA
	POC/DOC	1L glass bottle	Cool, 4°C +/- 2°C	SM 5310B	7 days	NA	NA
	TSS	1L HDPE plastic bottle	Cool, 4°C +/- 2°C	SM 2540D (1)	7 days	NA	NA
Rogers Island	C.S. PCBs	2 - 4L amber glass bottles	Cool, 4°C +/- 2°C	Low MDL Modified Green Bay	7 days	24 hrs.	NA
	POC/DOC	250 ml glass bottle	Cool, 4°C +/- 2°C	SM 5310B	7 days	24 hrs.	NA
	TSS	1L HDPE plastic bottle	Cool, 4°C +/- 2°C	SM 2540D (1)	7 days	24 hrs.	NA
Thompson Island	Aroclor PCBs	1L amber glass bottle	Cool, 4°C +/- 2°C	Modified EPA 508	8 hrs	8 hrs	NA
	C.S. PCBs	1L amber glass bottle	Cool, 4°C +/- 2°C	Modified Green Bay	7 days	NA	NA
	POC/DOC	1L glass bottle	Cool, 4°C +/- 2°C	SM 5310B	24 hrs.	NA	NA
	TSS	1L HDPE plastic bottle	Cool, 4°C +/- 2°C	SM 2540D (1)	24 hrs.	NA	NA
	Total Cadmium, Lead (plus Calcium and Magnesium for Hardness)	1L HDPE plastic bottle (no liner)	HNO_3 to pH <2	EPA 200.8	24 hrs.	NA	NA
	Dissolved Cadmium, Lead	1L HDPE plastic bottle (no liner)	Filter at Lab, HNO_3 to pH <2	EPA 200.8	24 hrs.	NA	NA
	Hardness	(from 1L total HDPE plastic container)	--	SM 2340B	24 hrs.	NA	24 hrs.
	Total TAL metals	1L HDPE plastic bottle (no liner)	HNO_3 to pH <2	EPA 200.8	NA	NA	24 hrs.
	Dissolved TAL metals	1L HDPE plastic bottle (no liner)	Filter at Lab, HNO_3 to pH <2	EPA 200.8	NA	NA	24 hrs.
	Total Chromium (hexavalent)	250 ml HDPE plastic bottle (no liner)	Cool, 4°C +/- 2°C	EPA 7196A	NA	NA	24 hrs.*
	Dissolved Chromium (hexavalent)	250 ml HDPE plastic bottle (no liner)	Cool, 4°C +/- 2°C	EPA 7196A	NA	NA	24 hrs.*
	Total Mercury	1L HDPE plastic bottle (no liner)	HNO_3 to pH <2	EPA 245.1	NA	NA	24 hrs.*
	Dissolved Mercury	1L HDPE plastic bottle (no liner)	Field Filter, HNO_3 to pH <2	EPA 245.1	NA	NA	24 hrs.*

Station	Analyte	Container Specifications	Preservation	Analytical Method	Turnaround Time[1]		
					Routine	Contingency	Metals Exceedance Sampling
Schuylerville	Aroclor PCBs (only if Thompson Island is offline)	1L amber glass bottle	Cool, 4°C +/- 2°C	Modified EPA 508	8 hrs	8 hrs	NA
	C.S. PCBs	1L amber glass bottle	Cool, 4°C +/- 2°C	Modified Green Bay	24 hrs.	NA	NA
	POC/DOC	1L glass bottle	Cool, 4°C +/- 2°C	SM 5310B	24 hrs.	NA	NA
	TSS	1L HDPE plastic bottle	Cool, 4°C +/- 2°C	SM 2540D (1)	24 hrs.	NA	NA
	Total Cadmium, Lead (plus Calcium and Magnesium for Hardness)	1L HDPE plastic bottle (no liner)	HNO_3 to pH <2	EPA 200.8	24 hrs.*	NA	NA
	Dissolved Cadmium, Lead	1L HDPE plastic bottle (no liner)	Filter at Lab, HNO_3 to pH <2	EPA 200.8	24 hrs.*	NA	NA
	Hardness	(from 1L total HDPE plastic container)	--	SM 2340B	24 hrs.*	NA	24 hrs.*
	Total TAL metals	1L HDPE plastic bottle (no liner)	HNO_3 to pH <2	EPA 200.8	NA	NA	24 hrs.*
	Dissolved TAL metals	1L HDPE plastic bottle (no liner)	Field Filter, HNO_3 to pH <2	EPA 200.8	NA	NA	24 hrs.*
	Total Chromium (hexavalent)	250 ml HDPE plastic bottle (no liner)	Cool, 4°C +/- 2°C	EPA 7196A	NA	NA	24 hrs.*
	Dissolved Chromium (hexavalent)	250 ml HDPE plastic bottle (no liner)	Cool, 4°C +/- 2°C	EPA 7196A	NA	NA	24 hrs.*
	Total Mercury	(from total TAL metals container)	HNO_3 to pH <2	EPA 245.1	NA	NA	24 hrs.*
	Dissolved Mercury	(from dissolved TAL metals container)	Field Filter, HNO_3 to pH <2	EPA 245.1	NA	NA	24 hrs.*
Stillwater	C.S. PCBs	1L amber glass bottle	Cool, 4°C +/- 2°C	Modified Green Bay	7 days	NA	NA
	POC/DOC	1L glass bottle	Cool, 4°C +/- 2°C	SM 5310B	7 days	NA	NA
	TSS	1L HDPE plastic bottle	Cool, 4°C +/- 2°C	SM 2540D (1)	7 days	NA	NA
Waterford	C.S. PCBs	1L amber glass bottle	Cool, 4°C +/- 2°C	Modified Green Bay	72 hrs.	24 hrs.	NA
	POC/DOC	1L glass bottle	Cool, 4°C +/- 2°C	SM 5310B	72 hrs.	24 hrs.	NA
	TSS	1L HDPE plastic bottle	Cool, 4°C +/- 2°C	SM 2540D (1)	72 hrs.	24 hrs.	NA
	Total Cadmium, Lead (plus Calcium and Magnesium for Hardness)	1L HDPE plastic bottle (no liner)	HNO_3 to pH <2	EPA 200.8	72 hrs.*	NA	NA
	Dissolved Cadmium, Lead	1L HDPE plastic bottle (no liner)	Filter at Lab, HNO_3 to pH <2	EPA 200.8	72 hrs.*	NA	NA
	Hardness	(from 1L total HDPE plastic container)	--	SM 2340B	72 hrs.*	NA	24 hrs.*
	Total TAL metals	1L HDPE plastic bottle (no liner)	HNO_3 to pH <2	EPA 200.8	NA	NA	24 hrs.*
	Dissolved TAL metals	1L HDPE plastic bottle (no liner)	Field Filter, HNO_3 to pH <2	EPA 200.8	NA	NA	24 hrs.*
	Total Chromium (hexavalent)	250 ml HDPE plastic bottle (no liner)	Cool, 4°C +/- 2°C	EPA 7196A	NA	NA	24 hrs.*
	Dissolved Chromium (hexavalent)	250 ml HDPE plastic bottle (no liner)	Cool, 4°C +/- 2°C	EPA 7196A	NA	NA	24 hrs.*
	Total Mercury	(from total TAL metals container)	HNO_3 to pH <2	EPA 245.1	NA	NA	24 hrs.*
	Dissolved Mercury	(from dissolved TAL metals container)	Field Filter, HNO_3 to pH <2	EPA 245.1	NA	NA	24 hrs.*

Station	Analyte	Container Specifications	Preservation	Analytical Method	Turnaround Time[1]		
					Routine	Contingency	Metals Exceedance Sampling
Albany, Poughkeepsie	C.S. PCBs	1L amber glass bottle	Cool, 4°C +/- 2°C	Modified Green Bay	7 days	24 hrs.	NA
	POC/DOC	1L glass bottle	Cool, 4°C +/- 2°C	SM 5310B	7 days	24 hrs.	NA
	TSS	1L HDPE plastic bottle	Cool, 4°C +/- 2°C	SM 2540D [2]	7 days	24 hrs.	NA
Mohawk River	C.S. PCBs	1L amber glass bottle	Cool, 4°C +/- 2°C	Modified Green Bay	Standard	Standard	NA
	POC/DOC	1L glass bottle	Cool, 4°C +/- 2°C	SM 5310B	Standard	Standard	NA
	TSS	1L HDPE plastic bottle	Cool, 4°C +/- 2°C	SM 2540D[2]	Standard	Standard	NA

Notes:
NA = Not analyzed.
[1] *all TATs run from time of collection except for those with asterisks which run from VTSR*
[2] *Modified to be consistent with ASTM Method 3977-97.*

Table 2-10. Off-season water sampling program summary[1].

Station	Hudson RM	Sample Type	PCBs, Dissolved OC, Suspended OC, TSS	DO, Temp, pH, Conductivity, Turbidity
Bakers Falls	197.0	Manual at centroid (~center channel)	Monthly	Monthly
Rogers Island	194.2	Manual at centroid (~center channel)	Weekly	Weekly
Thompson Island	187.5	Automated or Manual EDI Transect	Weekly	Weekly
Schuylerville	181.4	Automated or Manual EDI Transect	Weekly (Only performed if elevated PCB loading is observed at TI)	Weekly (Only performed if elevated PCB loading is observed at TI)
Waterford	156	Automated station or Manual EDI Transect	Weekly	Weekly
Mohawk River	--	Manual at centroid (~center channel)	Every other month	Every other month
Albany/ Troy	145	Manual at centroid (~center channel)	Monthly	Monthly
Poughkeepsie	75	Manual at centroid (~center channel)	Monthly	Monthly

Notes:
[1]Sampling will only be performed when weather/ice conditions permit working safely.

Table 2-11. Off-season water sample collection, handling, and analysis summary.

Station	Analyte	Container Specifications	Preservation	Analytical Method	Holding Time
Bakers Falls	C.S. PCBs	2 - 4L amber glass bottles	Cool, 4°C +/- 2°C	Low MDL Modified Green Bay	365 days to extraction, 40 days to analysis
	POC/DOC	1L glass bottle	Cool, 4°C +/- 2°C	SM 5310B	14 days
	TSS	1L HDPE plastic bottle	Cool, 4°C +/- 2°C	SM 2540D (1)	7 days
Rogers Island	C.S. PCBs	2 - 4L amber glass bottles	Cool, 4°C +/- 2°C	Low MDL Modified Green Bay	365 days to extraction, 40 days to analysis
	POC/DOC	500 ml glass bottle	Cool, 4°C +/- 2°C	SM 5310B	14 days
	TSS	1L HDPE plastic bottle	Cool, 4°C +/- 2°C	SM 2540D (1)	7 days
Thompson Island, Schuylerville[2], Waterford	C.S. PCBs	1L amber glass bottle	Cool, 4°C +/- 2°C	Modified Green Bay	365 days to extraction, 40 days to analysis
	POC/DOC	1L glass bottle	Cool, 4°C +/- 2°C	SM 5310B	14 days
	TSS	1L HDPE plastic bottle	Cool, 4°C +/- 2°C	SM 2540D (1)	7 days
Mohawk River, Albany, Poughkeepsie	C.S. PCBs	1L amber glass bottle	Cool, 4°C +/- 2°C	Modified Green Bay	365 days to extraction, 40 days to analysis
	POC/DOC	1L glass bottle	Cool, 4°C +/- 2°C	SM 5310B	14 days
	TSS	1L HDPE plastic bottle	Cool, 4°C +/- 2°C	SM 2540D (1)	7 days

Notes:
NA = Not analyzed.
C.S. PCBs = congener specific PCBs.
[1] *Modified to be consistent with ASTM Method 3977-97.*
[2] *Sampling at Schuylerville only performed if PCB loading at Thompson Island is elevated above baseline levels.*

Table 2-12. Outfall 001 discharge monitoring program summary.

Parameter	Monitoring Method	Discharge Limitations		Units	Minimum Monitoring Frequency Requirements	Footnote
		Daily Avg.	Daily Max			
OUTFALL 001 MONITORING LOCATION: Sample Tap Located in Eastern Corner of the Water Treatment Building						
Flow	Palmer-Bowlus flume with ultrasonic level	Monitor	Monitor	GPD	Continuous	
pH (range)	Grab	6.0 to 9.0		SU	Monthly	
Solids, Total Suspended	Grab	Monitor	50	mg/L	Weekly	8
Total Organic Carbon	Grab	Monitor	Monitor	mg/L	Weekly	8
PCBs, Aroclor 1016	Runtime 24-hour composite	Monitor	0.3	µg/L	Weekly	1,8
PCBs, Aroclor 1221	Runtime 24-hour composite	Monitor	0.3	µg/L	Weekly	1,8
PCBs, Aroclor 1232	Runtime 24-hour composite	Monitor	0.3	µg/L	Weekly	1,8
PCBs, Aroclor 1242	Runtime 24-hour composite	Monitor	0.3	µg/L	Weekly	1,8
PCBs, Aroclor 1248	Runtime 24-hour composite	Monitor	0.3	µg/L	Weekly	1,8
PCBs, Aroclor 1254	Runtime 24-hour composite	Monitor	0.3	µg/L	Weekly	1,8
PCBs, Aroclor 1260	Runtime 24-hour composite	Monitor	0.3	µg/L	Weekly	1,8
PCBs, Total	Runtime 24-hour composite	Monitor	Monitor	µg/L	Weekly	1,8
Cadmium, Total	Grab	Monitor	0.04	mg/L	Weekly	2,8
Chromium, Total	Grab	Monitor	0.21	mg/L	Weekly	2,8
Copper, Total	Grab	Monitor	0.136	mg/L	Weekly	2,8
Lead, Total	Grab	Monitor	0.038	mg/L	Weekly	2,8
Mercury, Total	Grab	Monitor	0.0002	mg/L	Weekly	3,8
Dissolved Oxygen	Grab	Monitor	Monitor	mg/L	Weekly	8

Additional Conditions and Footnotes:

1. *PCBs:*
   a. *GE must monitor this discharge for PCBs using USEPA laboratory Method 608. The laboratory must make all reasonable attempts to achieve the Minimum Detection Levels (MDLs) of 0.065 µg/L for each of the subject Aroclors. Monitoring requirements may be modified in the future if the USEPA approves a method different from Method 608.*
   b. *Non-detect at the MDL of 0.065 µg/L is the discharge goal. GE shall report all values above the MDL. If the level of any Aroclor is above its listed MDL, GE must evaluate the treatment system and identify the cause of the detectable level of PCBs in the discharge. Following three consecutive months that include analytical results above any MDL, GE shall prepare an approvable report identifying the measures undertaken to eliminate the detections and propose additional steps to be taken to eliminate the recurrence of such detections. This report shall be submitted to USEPA within 28 days following receipt of sampling results from the third monitoring period.*
   c. *If USEPA determines that effluent monitoring results above the MDL of 0.065 µg/L can be prevented by implementation of additional measures as proposed by GE, GE shall implement such additional measures.*
   d. *The treatment technology for this discharge shall be the maximum feasible treatment technology for treatment of PCBs. As treatment technology improvements become available, GE shall, at its own initiative or the USEPA's request, review the available technology and submit for USEPA approval, plans to improve the treatment technology and/or Best Management Practices employed to remove maximum feasible amount of PCBs from the wastewater discharge.*

e. This limit is a phased Total Maximum Daily Loading limit, prepared in accordance with 6 NYCRR 702.16(b). Discharge is not authorized until such time as an engineering submission showing the method of treatment is approved by USEPA. The discharge rate may not exceed the effective or design treatment system capacity.

2. *Mass based effluent limits may apply for these metals. The mass based limits for the maximum mass flow rate are as follows:*
    - *Chromium: 18.9 lb/day*
    - *Cadmium: 0.62 lb/day*
    - *Lead: 0.31 lb/day*
    - *Copper: 0.75 lb/day*

3. *Mercury, Total shall be analyzed using USEPA Method 1631.*
4. *All monitoring data, engineering submissions, and modification requests must be submitted to:*

    Doug Garbarini
    Hudson River Team
    USEPA
    290 Broadway, 19th Floor
    New York, NY 10007
    (212) 637-3952

    With a copy sent to:

    William Daigle, Hudson River Unit
    Division of Environmental Remediation
    NYSDEC
    625 Broadway
    Albany, NY 12233-7010
    (518) 402-9770

5. *Only site generated wastewater related to the Hudson River PCB Site Remedial Action is authorized for treatment and discharge.*
6. *Both concentration (mg/L or µg/L) and mass loadings (lbs/day) must be reported for all parameters except flow and pH.*
7. *Any use of corrosion/scale inhibitors or biocidal-type compounds used in the treatment process must be approved by USEPA prior to use.*
8. *In accordance with CERCLA Sections 121(d)(2) and 121(e), no permits are required for on-site CERCLA response actions.*
9. *Monitoring will occur for the period beginning with the effective date of discharge and lasting until the completion of discharges during Phase 1 (i.e., until initiation of Phase 2 field activities).*
10. *In the event of an exceedance of the discharge limitations, GE will perform an engineering evaluation and propose, for USEPA approval, appropriate corrective action in an Engineering Evaluation Report to be submitted to USEPA and NYSDEC. The corrective action may include additional testing to assess the problem. GE will implement any additional monitoring in accordance with the USEPA-approved report recommending such monitoring.*
11. *GE will submit to USEPA and NYSDEC a monthly report that includes the routine monitoring results for discharges to the Hudson River and the Champlain Canal (Land Cut above Lock 7). Both concentrations (mg/L or µg/L) and mass loadings (in lbs/day) will be reported for all parameters except flow and pH. Copies of the monitoring data and reports submitted to USEPA will be provided to the NYSDEC.*
12. *Any proposed modifications to the Water Discharge Monitoring Program will be submitted to USEPA for their review and approval prior to implementation.*

Table 2-13. Outfalls 002 and 003 discharge monitoring program summary.

Parameter	Monitoring Method	Discharge Limitations		Units	Minimum Monitoring Frequency Requirements	Footnote
		Daily Avg.	Daily Max			
Outfalls 002 and 003 - Stormwater Runoff Discharged from Stormwater Basins A and B						
Flow	Estimate	Monitor	Monitor	GPD	Daily	
pH (range)	Grab	6.0 to 9.0		SU	Monthly	
Solids, Total Suspended	Grab	Monitor	50	mg/L	Once/2 Weeks	
Solids, Settleable	Grab	Monitor	0.1	ml/L	Daily	
Oil & Grease	Grab	Monitor	15	mg/L	Monthly	
Cadmium, Total	Grab	Monitor	13	µg/L	Once/2 Months	
Chromium, Total	Grab	Monitor	210	µg/L	Once/2 Months	
Copper, Total	Grab	Monitor	60	µg/L	Once/2 Months	
Lead, Total	Grab	Monitor	28	µg/L	Once/2 Months	
Mercury, Total	Grab	Monitor	0.20	µg/L	Once/2 Months	
Aroclor 1016	Grab	Monitor	0.30	µg/L	Monthly	1
Aroclor 1221	Grab	Monitor	0.30	µg/L	Monthly	1
Aroclor 1232	Grab	Monitor	0.30	µg/L	Monthly	1
Aroclor 1242	Grab	Monitor	0.30	µg/L	Monthly	1
Aroclor 1248	Grab	Monitor	0.30	µg/L	Monthly	1
Aroclor 1254	Grab	Monitor	0.30	µg/L	Monthly	1
Aroclor 1260	Grab	Monitor	0.30	µg/L	Monthly	1

Additional Conditions and Footnotes:

(1) PCBs:

a. GE must monitor this discharge for PCBs using EPA Laboratory Method 608. The laboratory must make all reasonable attempts to achieve the Minimum Detection Levels (MDLs) of 0.065 µg/l for each of the subject Aroclors. Monitoring requirements may be modified in the future if EPA approves a method different from Method 608.

b. Non-detect at the MDL of 0.065 µg/l is the discharge goal. GE shall report all values above the MDL. If the level of any Aroclor is above its listed MDL, GE must evaluate the sedimentation basins and identify the cause of the detectable level of PCBs in the discharge. Following two consecutive sampling events that include analytical results above any MDL, GE shall prepare an approvable report identifying the measures undertaken to eliminate the detections and propose additional steps to be taken to eliminate the recurrence of such detections. This report shall be submitted to EPA within 45 days following receipt of sampling results from the second monitoring period.

c. If EPA determines that effluent monitoring results above the MDL of 0.065 µg/l can be prevented by implementation of additional measures, GE shall propose such measures for EPA review and approval, and then implement the approved measures.

This limit is a phased Total Maximum Daily Loading limit prepared in accordance with 6 NYCRR 702.16(b).

(2) All monitoring data, engineering submissions, and modification requests must be submitted to:

Doug Garbarini
Hudson River Team
USEPA
290 Broadway, 19th Floor
New York, NY 10007
(212) 637-3952

With a copy sent to:

William Daigle, Hudson River Unit
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233-7010
(518) 402-9770

(3) Only site-generated Type II stormwater runoff related to the Hudson River PCBs Site Remedial Action is authorized for discharge through Outfalls 002 and 003.

(4) Any use of corrosion/scale inhibitors or biocidal-type compounds used in the treatment process must be approved by EPA prior to use.

(5) In accordance with CERCLA Sections 121(d)(2) and 121(e), no permits are required for on-site CERCLA response actions. This discharge and the administration of this discharge shall comply with the substantive requirements of 6 NYCRR Part 750.

(6) Monitoring of Outfalls 002 and 003 is not required during the period beginning 2 weeks after the cessation of sediment management activities in the fall/winter and ending when these activities resume in the spring.

(7) Compliance with the substantive requirements of SPDES General Permits GP-02-01 and GP-98-03 shall also be maintained.

(8) Compliance with the Substantive Requirements of State Pollutant Discharge Elimination System Permit for Potential Discharges to Bond Creek is explicitly conditioned on the provisions contained in Section 2.8.

(9) Mercury, Total shall be analyzed using USEPA Method 1631.

Table 2-14. Processing facility discharge monitoring sample collection, handling, and analysis summary.

Parameter	Method (Note)	Bottle Type	Preservation	Holding Time [1]
TSS	SM 2540D [2]	500 mL plastic bottle	Cool to 4°C±2°C	7 days to analysis
Settleable Solids	SM 2540F [2]	1 L resistant glass bottle	Cool to 4°C±2°C	7 days to analysis
Oil and Grease	EPA 1664 [3]	1 L glass bottle with PTFE-lined screw cap	HCl or H_2SO_4 to pH<2, Cool to 4°C+2°C	28 days to analysis
TOC	SM 5310B [4]	40 mL Volatile Vial	HCl to pH<2, Cool to 4°C±2°C	28 days to analysis
Polychlorinated Biphenyls	EPA 608 [5]	2 1L amber glass bottle with Teflon®-lined lid	Cool to 4°C±2°C	365 days to extraction 40 days to analysis
Metals (except mercury)	EPA 200.8 [4]	1L HDPE plastic bottle (no liner)	HNO_3 to pH<2	180 days to analysis
Mercury	EPA 1631[6]	4x40 mL volatile vials	Cool to 4°C+2°C	Laboratory to preserve with 5 ml/L BrCl solution within 48 hours of collection. Holding time from time of collection to the time of preservation is extended to 28 days when the oxidation step is performed in the sample bottle used for collection. Once preserved, holding time is 90 days from sample collection to analysis.

Notes:

[1] *Holding times are measured from date of collection.*

[2] *Standard Methods for the Examination of Water and Wastewater, 21st Edition, Method 2540A & F. 2005.*

[3] *USEPA, Method 1664, N-Hexane Extractable Material (HEM) and Silica Gel Treated N-Hexane Extractable Material (SGT-HEM) be Extraction and Gravimetry (Oil and Grease and Total Petroleum Hydrocarbons). 1995. This method is subject to change based on Contract Laboratory.*

[4] *USEPA. 1983. Methods for Chemical Analysis of Water and Wastes. EPA/600/4-79/020. EMSL-Cincinnati.*

[5] *40 CFR Part 136, Guidelines for Establishing Test Procedures for the Analysis of Pollutants, Appendix A.*

[6] *USEPA, Method 1631 (Revision E), Guidelines Establishing Test Procedures for the Analysis of Pollutants; Measurement of Mercury in Water, 2002.*

°C = Degrees Celsius.
mL/L = Milliliters per Liter.
TOC = Total Organic Carbon.
TSS = Total Suspended Solids.

Table 3-1a. Measurement Performance Criteria.

Matrix: Fish
Analytical Parameter: Total PCBs as Aroclors
Concentration Level: Low to High
Method: SW-846 8082 (NE148_06, QAPP Appendix 45)

Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or activity used to assess measurement performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or both (S&A)
Accuracy	< RL or associated samples >5× blank values	Laboratory Blank	A
	70-130 %R	Laboratory Control Sample (spiked with Aroclor 1242)	A
	70-130 %R	Matrix Spike/Matrix Spike Duplicate (spiked with Aroclor 1242)	A
	60-140 %R	Surrogates (TCMX and DCB)	A
Precision	The RPD for lab duplicates should be ≤40% for results >5× the RL. The difference between results should be ≤ 2× the RL when at least one result is ≤5× the RL	Laboratory Duplicates	A
Precision	≤30 %RPD	Matrix Spike/Matrix Spike Duplicate (spiked with Aroclor 1242)	A
Sensitivity	See Table 10-1	Reporting Limits	A
Representativeness	Use of standardized collection and analytical methods	Field audits and laboratory audits. See QAPP Section 10.3.4	S&A
Completeness	95%	See QAPP Section 10.3.6	S&A
Comparability	Based on accuracy and media comparison	Use of standardized SOPs by field and analytical contractors	S&A

Notes:
RL = Reporting Limit; R = Recovery; RPD = Relative Percent Difference
[1] *Data Quality Indicators (a.k.a. PASRCC parameters, i.e., precision, accuracy/bias, sensitivity, representativeness, data completeness, comparability).*

Table 3-1b. Measurement Performance Criteria.

Matrix: Fish
Analytical Parameter: Total PCBs as Congeners
Concentration Level: Low to High
Method: NEA 013_09 (QAPP Appendix 46)

Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or activity used to assess measurement performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or both (S&A)
Accuracy	< RL or associated samples >5× blank values	Laboratory Blank	A
	60-140 %R	Laboratory Control Sample (spiked with Aroclor 1242)	A
	60-140 %R	Matrix Spike/Matrix Spike Duplicate (spiked with Aroclor 1242)	S&A
	60-140 %R	Surrogates (TCMX and DCB)	A
Precision	The RPD for lab duplicates should be ≤40% for results >5× the RL. The difference between results should be ≤ 2× the RL when at least one result is ≤5× the RL	Laboratory Duplicates	A
Precision	≤30 %RPD	Matrix Spike/Matrix Spike Duplicate (spiked with Aroclor 1242)	A
Sensitivity	See Table 10-1	Reporting Limits	A
Representativeness	Use of standardized collection and analytical methods	Field audits and laboratory audits. See QAPP Section 10.3.4	S&A
Completeness	95%	See QAPP Section 10.3.6	S&A
Comparability	Based on accuracy and media comparison	Use of standardized SOPs by field and analytical contractors	S&A

Notes:
RL = Reporting Limit; R = Recovery; RPD = Relative Percent Difference
[1] *Data Quality Indicators (a.k.a. PASRCC parameters, i.e., precision, accuracy/bias, sensitivity, representativeness, data completeness, comparability).*

Table 3-1c. Measurement performance criteria for fish samples.

Matrix: Fish
Analytical Parameter: Percent Lipid
Concentration Level: Low to High
Method: NE158_05 (QAPP Appendix 47)

Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or activity used to assess measurement performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or both (S&A)
Accuracy	< RL or associated samples >5× blank values	Laboratory Blank	A
Precision	The RPD for lab duplicates should be ≤40% for results >5× the RL. The difference between results should be ≤ 2× the RL when at least one result is ≤5× the RL	Laboratory Duplicates	S&A
Sensitivity	See Table 10-1	Reporting Limits	A
Representativeness	Use of standardized collection and analytical methods	Field audits and laboratory audits. See QAPP Section 10.3.4	S&A
Completeness	95%	See QAPP Section 10.3.6	S&A
Comparability	Based on accuracy and media comparison	Use of standardized SOPs by field and analytical contractors	S&A

Notes:
RL = Reporting Limit; R = Recovery; RPD = Relative Percent Difference
[1] *Data Quality Indicators (a.k.a. PASRCC parameters, i.e., precision, accuracy/bias, sensitivity, representativeness, data completeness, comparability).*

Table 3-2. Hudson River fish sampling program summary.

Sampling Location	Hudson River Miles	Sampling Approach	Species/ Station[2]	Samples/ Species[3]	Sampling Frequency	Analytes[4]
Feeder Dam Pool	201.1	1 location	5	20	May/June August/September	Total PCBs lipid content
Thompson Island Pool	188.5 - 195	Reach Average[1]	5	30	May/June August/September	
Northumberland Dam / Fort Miller Pools	183.4 - 188.5	Reach Average[1]	5	25	May/June August/September	
Stillwater Pool	168.2 - 183.4	Reach Average[1]	5	30	May/June August/September	
Albany/Troy	153.2 - 142	1 location	6	20	May/June August/September	
Catskill	112	1 location	3	20	May/June	
Tappan Zee Area	22	1 location	1	20	May/June	

Notes:

[1] *Approximately 5 fish samples per species (10 samples per species at historical NYSDEC locations) will be targeted at sub-locations approximately evenly distributed (depending on habitat availability) within Thompson Island Pool, Northumberland Dam/Fort Miller Pool, and Stillwater pool, with a maximum of 25 per species at Northumberland Dam/Ft. Miller, and a maximum of 30 per species at Thompson Island and Stillwater Pools.*

[2] *Fish species groups to be collected annually at the Upper Hudson stations include black bass (largemouth or smallmouth), bullhead (yellow or brown), yellow perch, pumpkinseed, and forage fish. At Albany/Troy striped bass, black bass (largemouth or smallmouth), ictalurids [bullhead (brown or yellow) or channel catfish (channel or white)], perch (white or yellow), yearling pumpkinseed, and forage fish will be collected annually. At Catskill striped bass, black bass (largemouth or smallmouth), and ictalurids [bullhead (brown or yellow) or channel catfish (channel or white)] will be collected every two years. At Tappan Zee striped bass will be collected every two years.*

[3] *Sample numbers are for bass, ictalurids, perch, and yearling pumpkinseed individual fish. For forage fish, 10 composite samples will be collected for each sampling location.*

[4] *Total PCBs and lipid contents will be measured in all fish. Total PCBs will be measured as Aroclor totals. The Green Bay Congener Method will be performed on 5% of the fish sample collections during every other sampling event at each location.*

Table 3-3. Fish sample collection, handling, and analysis summary.

Sampling Location	Approx. HRM	Description	Sample Preparation	Sampling Method	Analyte	Holding Times
Feeder Dam Pool	201.1	Above Feeder Dam.	Standard fillet: bass, bullhead, catfish, and perch. Whole body: yearling pumpkinseed. Whole body composite: spottail shiners and other forage fish.	Electrofishing/ netting/angling	Total PCBs Lipid content	One year to extraction; 40 days to analysis
Thompson Island Pool	188.5 - 195	Griffin Island is the historical sampling station (east channel; yearling pumpkinseed and forage, west channel; adult); approximately 10 fish samples per species will be collected from this station while additional samples will be collected on a reach average basis, targeting approximately 5 fish samples per species at sub-locations that are approximately evenly distributed within the pool.				
Ft. Miller/ Northumberland Pools	183.4 - 188.5	Samples will be collected on a reach average basis targeting approximately 5 fish samples per species per river mile.				
Stillwater Pool	168.2 - 183.4	Historical sampling stations include the east side of the Hudson River above Lock C4 (yearling pumpkinseed and forage fish) and Coveville (adult fish); approximately 10 fish samples per species will be collected from these stations while additional samples will be collected on a reach average basis, targeting approximately 5 fish samples per species at sub-locations that are approximately evenly distributed (depending on habitat availability) within the pool.				
Albany/Troy	153.2 and 142	Below Federal Dam between Troy and Green Island (adult fish; RM 153.2) and South Turning Basin (yearling pumpkinseed and forage fish; RM 142).				
Catskill	112	At Rip Van Winkle Bridge.				
Tappan Zee Area	22	At Tappan Zee Bridge.				

Table 3-4. Field data collection for fish sampling.

Data Field	Valid Values	Data Entry Type
Location ID		Drop-down selection list
Sample Collection Method	NET (netting) ELT (electroshocking) ANG (angling)	Drop-down selection list
Date Collected	MM/DD/YYYY	Automatic (based on current computer time)
Start Time	HH:MM	Automatic (based on current computer time)
End Time	HH:MM	Automatic (based on current computer time)
Temperature	≥ 0	Manual
Turbidity	≥ 0	Manual
Northing	≥ 0	Manual
Easting	≥ 0	Manual
Distance	≥ 0	Manual
Weather Conditions		Manual
Sampling Event ID		Automatic
Sample ID [1]		Automatic
Species [1]		Drop-down selection list
Sample Type	Individual Composite	Drop-down selection list
Sample Prep	Fillet or whole body	Drop-down selection list
Weight [1]	≥ 0	Manual
Length [1]	≥ 0	Manual
Sex [1]	M (male) F (female) ND (undetermined)	Drop-down selection list
Scales/Spines[2]	Yes/No	Check box
Otolith[2]	Yes/No	Check box
General Description [1]		Manual
Sampler Initials		Manual

Notes:
[1] One entry for individual. Individuals in a composite will be recorded separately.
[2] Collected for age estimation, if conducted; not collected on forage fish.

Table 4-1. Summary of the performance standard for dredging residuals.

Case	Certification Unit Arithmetic Average (mg/kg Tri+ PCBs)	No. of Samples Results ≥15 mg/kg Tri+ PCBS AND <27 mg/kg Tri+ PCBs	No. of Sample Results ≥27 mg/kg Tri+ PCBs	No. of Re-Dredging Attempts Conducted	Required Action (when all conditions are met)[1]
A	Avg. ≤1	≤1	0	N/A	Backfill certification unit (where appropriate); no testing of backfill required.
B	N/A	≥2	N/A	<2	Re-dredge sampling nodes and re-sample.
C	N/A	N/A	1 or more	<2	Re-dredge sampling node(s) and re-sample.
D	1 < avg. ≤3	≤1	0	N/A	Evaluate 20-acre area-weighted average concentration. If 20-acre area-weighted average concentration ≤1 mg/kg Tri+ PCBs, place and sample backfill.[2] If 20-acre area-weighted average concentration >1 mg/kg, follow actions for Case E below.
E	3 < avg. ≤6	≤1	0	<2	Construct sub-aqueous cap immediately OR re-dredge. Construct cap so that arithmetic avg. of uncapped nodes is ≤1 mg/kg Tri+ PCBs and no nodes >15 mg/kg Tri+ PCBs.
F	Avg. >6	N/A	N/A	0	Collect additional sediment samples to re-characterize vertical extent of contamination and re-dredge. If certification unit median >6 mg/kg Tri+ PCBs, entire certification unit must be sampled for vertical extent. If certification unit median ≤6 mg/kg Tri+ PCBs, additional sampling required only in portions of certification unit contributing to elevated mean concentration.
G	Avg. >6	N/A	N/A	1	Re-dredge.[3]
H	Avg. >1 (20-acre avg. >1)	≥2	≥1	2	Construct sub-aqueous cap (if any of these arithmetic average/sample result conditions are true) as described in Case E and two re-dredging attempts have been conducted OR choose to continue to re-dredge.

Notes:
[1]Except for Case H, where any of the listed conditions will require cap construction.
[2]Following placement of backfill, sampling of the 0 to 6 inch backfill surface must demonstrate average concentration ≤0.25 mg/kg Tri_ PCBs. If backfill surface average concentration is >0.25 mg/kg Tri+ PCBs, backfill must be dredged and replaced or otherwise remediated with input from EPA.
[3]GE shall not install an Isolation Cap Type B without receiving EPA approval to cease re-dredging attempts, except for CUs where the average concentration in the CU is <6 mg/kg Tri_ PCBs and the only non-compliant areas are due to exceedances of the prediction limits.

Table 4-2. Sediment residuals sampling program summary.

Sample Type	Conditions Controlling Sampling	Samples Collected	Analyses
Post First Inventory Dredging Sampling	Perform after dredging to design cut lines complete	Core samples, 48 in. max. penetration (or grab when <6 in. sediment, core cannot be collected), 0-6 in. interval retained for analysis, 6-24 in. segments archived in laboratory; > 24 in. segments sectioned in 6 in. increments and archived at Hudson Falls	100% of samples for Aroclor PCBs; 4% for congener specific PCBs[1]
Post Second Inventory Dredging (if needed)	Perform after second inventory dredging (if needed)	Core samples, 24 in. max. penetration or grab (when <6 in. sediment, core cannot be collected), 0-6 in. interval retained for analysis	(Same as above)
Post Residuals Redredging	Perform after last redredging attempt	Core samples, 24 in. max. penetration or grab (when <6 in. sediment, core cannot be collected), 0-6 in. interval retained for analysis	(Same as above)
Backfill	Perform after backfill placed over sediment containing 1< avg <3 Tri+ PCBs (only when 20 acre area weighted avg <1)	Core samples, 24 in. max. penetration, 0-6 in. interval retained for analysis	(Same as above)

Notes:

[1] *Front loaded at beginning of program in accordance with Section 4.2.*

Table 4-3. Sediment residuals sample collection, handling, and analysis summary.

Sample Type	Interval	Analyses	Analytical Method	Container Specifications	Preservation	Holding Time
Sediment Cores	0-6 in.	Aroclor PCBs	GEHR8082	4 oz. glass jar	Cool, 4°C +/- 2°C	14 days to extraction, 40 days to analysis
		Congener specific PCBs (4% of total)[1]	Modified Green Bay	4 oz. glass jar	Cool, 4°C +/- 2°C	14 days to extraction, 40 days to analysis
	Segments below 6 in.	Archived in 6 in. intervals for possible future analysis	NA	4 oz. glass jar	Freeze to <-10°C	365 days to extraction, 40 days to analysis
Grabs	Surface	(same as 0-6 in. interval)	(same as 0-6 in. interval)	(same as 0-6 in. interval)	(same as 0-6 in. interval)	(same as 0-6 in. interval)

Notes:

[1] *Front loaded at beginning of program in accordance with Section 4.2.*

Table 4-4a. Measurement performance criteria for residuals sampling.

Matrix: Sediment
Analytical Parameter: Total PCBs as Aroclors
Concentration Level: Low to High
Method: GEHR8082 (QAPP Appendix 50)

Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or activity used to assess measurement performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or both (S&A)
Accuracy	< RL, or associated samples >5× blank values	Laboratory or Equipment Blank	A
	50-150 %R	Laboratory Control Sample (spiked with Aroclors 1221 and 1242)	A
	60-140 %R	Surrogates (TCMX and DCB)	A
	50-150 %R	Performance Evaluation (PE) Sample (spiked with Aroclors 1221 and 1242)	A
Precision	The RPD for field duplicates should be ≤40% for results >5× the RL. The difference between results should be ≤ 2× the RL when at least one result is ≤5× the RL	Field Duplicates	S&A
Sensitivity	See Table 10-1	Reporting Limits	A
Representativeness	Use of standardized collection and analytical methods	Field audits and laboratory audits. See QAPP Section 10.3.4	S&A
Completeness	95%	See QAPP Section 10.3.6	S&A
Comparability	Based on accuracy and media comparison	Use of standardized SOPs by field and analytical contractors	S&A

Notes:
RL = Reporting Limit; R = Recovery; RPD = Relative Percent Difference
[1] Data Quality Indicators (a.k.a. PASRCC parameters, i.e., precision, accuracy/bias, sensitivity, representativeness, data completeness, comparability).

Table 4-4b. Measurement performance criteria for residuals sampling.

Matrix: Sediment
Analytical Parameter: Total PCBs as Congeners
Concentration Level: Low to High
Method: Modified Green Bay Method (NEA 013_09, QAPP Appendix 46)

Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or activity used to assess measurement performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or both (S&A)
Accuracy	< RL, or associated samples >5× blank values	Laboratory or Equipment Blank	A
	50-150 %R (sediment residuals split GEHR8082 extract spiked with Aroclors 1221 and 1242); 70-130 %R (mGBM extract for special studies spiked with Aroclor 1242)	Laboratory Control Sample (sediment residuals split GEHR8082 extract spiked with Aroclors 1221 and 1242 and mGBM extract for special studies spiked with Aroclor 1242)	A
	50-150 %R (sediment residuals split GEHR8082 extract spiked with Aroclors 1221 and 1242); 70-130 %R (mGBM extract for special studies spiked with Aroclor 1242)	Matrix Spike/Matrix Spike Duplicate (sediment residuals split GEHR8082 extract spiked with Aroclors 1221 and 1242 and mGBM extract for special studies spiked with Aroclor 1242)	S&A
	60-140 %R (sediment residuals split GEHR8082 extract spiked with TCMX and DCB); 70-130 %R (mGBM extract for special studies spiked with 2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl)	Surrogates (sediment residuals split GEHR8082 extract spiked with TCMX and DCB and mGBM extract for special studies spiked with 2,2',3,3',4,4',5,6,6'-Nonachlorobiphenyl)	A
Precision	The RPD for field duplicates should be ≤40% for results >5× the RL. The difference between results should be ≤ 2× the RL when at least one result is ≤5× the RL	Field Duplicates	S&A
Sensitivity	See Table 10-1	Reporting Limits	A
Representativeness	Use of standardized collection and analytical methods	Field audits and laboratory audits. See QAPP Section 10.3.4	S&A
Completeness	95%	See QAPP Section 10.3.6	S&A
Comparability	Based on accuracy and media comparison	Use of standardized SOPs by field and analytical contractors	S&A

Notes:
RL = Reporting Limit; R = Recovery; RPD = Relative Percent Difference
[1] Data Quality Indicators (a.k.a. PASRCC parameters, i.e., precision, accuracy/bias, sensitivity, representativeness, data completeness, comparability).

Table 4-4c. Measurement performance criteria for residuals sampling.

Matrix: Sediment
Analytical Parameter: Percent Moisture
Concentration Level: Low to High
Method: ASTM D2216-98 (QAPP Appendix 50)

Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or activity used to assess measurement performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or both (S&A)
Precision	The RPD for field duplicates should be ≤40% for results >5× the RL. The difference between results should be ≤ 2× the RL when at least one result is ≤5× the RL	Field Duplicates	S&A
	The RPD for lab duplicates should be ≤40% for results >5× the RL. The difference between results should be ≤ 2× the RL when at least one result is ≤5× the RL	Laboratory Duplicates	A
Sensitivity	See Table 10-1	Reporting Limits	A
Representativeness	Use of standardized collection and analytical methods	Field audits and laboratory audits. See QAPP Section 10.3.4	S&A
Completeness	95%	See QAPP Section 10.3.6	S&A
Comparability	Based on accuracy and media comparison	Use of standardized SOPs by field and analytical contractors	S&A

Notes:
RL = Reporting Limit; R = Recovery; RPD = Relative Percent Difference
[1] Data Quality Indicators (a.k.a. PASRCC parameters, i.e., precision, accuracy/bias, sensitivity, representativeness, data completeness, comparability).

Table 4-5. Field data collection for sediment residuals sampling.

Data Field	Valid Values	Data Entry Type
Core ID		Drop-down selection list
Date collected	MM/DD/YYYY	Automatic (based on current computer time)
Time collected	HH:MM	Automatic (based on current computer time)
Northing	Within tolerated distance of actual northing	Manual
Easting	Within tolerated distance of actual easting	Manual
Calculated distance from Target		Automatic (based on calculated distance between actual and target coordinates)
Water Depth	Range (0 to 80 feet)	Manual
Probing Depth	Range (-1 to 200 inches) -1 refers to "too deep to probe"	Manual
Probing Sediment Type	FINE TRANSITIONAL COARSE ROCK	Drop-down selection list
Core/Grab Recovered	True False	Manual
Sample Type	CORE GRAB	Drop-down selection list
Core Tube Material	LEXAN ALUMINUM	Drop-down selection list
Penetration Depth	Range (recovery depth to 200 inches)	Manual
Recovery Depth	Range (0 inches to penetration depth)	Manual
Percent Recovery	Range (0 to 100%)	Automatic (calculation based on penetration and recovery values)
# Attempts		Manual
Sampler Initials		Manual
Contractor		Automatic (value loaded on computer)
Crew ID		Automatic (value loaded on computer)

Table 4-6. Distribution of moisture content of environmental sediment samples collected during the SSAP.

Moisture Content Range (%)	Total Number of Environmental Samples	Percentage of Environmental Samples	Total Number of Environmental Samples with End Depth of 2 ft. or less	Percentage of Environmental Samples with End Depth of 2 ft. or Less
0-10	1597	3.31	128	1.50
11-20	11810	24.5	906	10.6
21-30	10574	21.9	1833	21.5
31-40	6934	14.4	1637	19.2
41-50	6944	14.4	1400	16.4
51-60	7497	15.6	1582	18.5
61-70	1622	3.36	417	4.88
71-80	892	1.85	409	4.79
81-90	342	0.709	223	2.61
91-100	8	0.0166	8	0.0936
Total	**48220**		**8543**	

Table 5-1a. Measurement Performance Criteria for air monitoring.

Matrix: Air
Analytical Parameter: PCBs by GC/ECD
Concentration Level: Low to High
Method: SW-846 Method 8082/Method TO-4A and TO-10A (Appendices 45, 54, and 55)

Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or activity used to assess measurement performance	Frequency	Corrective Action	QC Sample Assesses Error for Sampling (S), Analytical (A) or both (S&A)
Accuracy	60-120 %R	Surrogates (TCMX and DCB)	every sample, blank, QC	Reanalyze if both surrogates outside limits or one <10%, and/or qualify data	A
	< RL, or associated samples >5× blank values	Method Blanks	1/prep batch or 1/20 samples, whichever is more frequent	Assess laboratory precision, review laboratory procedures, inspect equipment, and/or qualify data	A
	< RL, or associated samples >5× blank values	Field/Trip Blanks	10% of the TO-10A and TO-4A field samples collected	Assess laboratory precision, review laboratory procedures, review sampling procedures, inspect sampling equipment, and/or qualify data	S&A
	< RL, or associated samples >5× blank values	PUF Media Cleaning Verification Check	1/batch cleaned	Reclean batch	A
	70-130 %R	Laboratory Control Sample/ Laboratory Control Sample Duplicate (spiked with Aroclor 1242)	1/prep batch	Determine cause of problem, reanalyze, and/or qualify data	A
	70-130 %R	Matrix spike (unused spiked sorbent trap spiked with Aroclor 1242)	Before each sampling episode, one/batch of ≤ 20 samples	Determine cause of problem, reanalyze, narrate, and/or qualify data	S&A
Precision	The RPD for field duplicates should be ≤40% for results >5× the RL. The difference between results should be ≤ 2× the RL when at least one result is ≤5× the RL	Field Duplicates (Co-Located Samples)	10% of the TO-10A and TO-4A field samples collected	Assess laboratory precision, review sampling procedures, inspect sampling equipment, and/or qualify data	S&A
	RPD≤35%	Laboratory Control Sample/ Laboratory Control Sample Duplicate (spiked with Aroclor 1242)	1/prep batch	Determine cause of problem, reanalyze, and/or qualify data	A
	%D between columns < 25%	Dual Column Analysis	NA	Narrate/flag data	A
Sensitivity	See Table 10-1	Reporting Limits	every sample, blank, QC	Narrate	A
Representativeness	Use of standardized collection and analytical methods	Field audits and laboratory audits. See QAPP Section 10.3.4	NA	NA	S&A
Completeness	95%	See QAPP Section 10.3.6	NA	NA	S&A
Comparability	Based on accuracy and media comparison	Use of standardized SOPs by field and analytical contractors	NA	NA	S&A

Notes:
RL = Reporting Limit; R = Recovery; RPD = Relative Percent Difference
[1] *Data Quality Indicators (a.k.a. PASRCC parameters, i.e., precision, accuracy/bias, sensitivity, representativeness, data completeness, comparability).*

Table 5-1b. Measurement Performance Criteria for air monitoring.

Matrix: Air
Analytical Parameter: Opacity
Concentration Level: Low to High
Method: SOP Sampling for visual emissions (Appendix 11)

Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or activity used to assess measurement performance	Frequency	Corrective Action	QC Sample Assesses Error for Sampling (S), Analytical (A) or both (S&A)
Precision/Accuracy- Overall	Observer meets the requirements of Section 3.12.1 Certification and Training of Observers, from the Quality Assurance Handbook for Air Pollution Measurement Systems: Volume III. Stationary Source Specific Methods, EPA-600/4-77-027b Feb. 1984, Section 3.12 Method 9 – Visible Determination of the Opacity of Emissions from Stationary Sources.	Qualified observations	All	Determine certification of observer, replace observer	S&A
Accuracy and Precision	24 consecutive observations recorded at 15 second intervals.	Review observation data sheets/logs for discrepancies or incomplete data	All observations	Narrate/flag data	S&A
Data Completeness	Field 80%.[2]	Data Completeness Check	NA	Narrate/flag data	S&A

Notes:
RL = Reporting Limit; R = Recovery; RPD = Relative Percent Difference
[1] *Data Quality Indicators (a.k.a. PASRCC parameters, i.e., precision, accuracy/bias, sensitivity, representativeness, data completeness, comparability).*
[2] *Field 80% means that 80% of the opacity readings required by the method (15-second intervals over a period of six minutes representing 24 consecutive observations) are recorded.*

Table 5-2. Air monitoring program summary.

Location	Parameter(s)	Sample Frequency	Analysis Method
Permanent Background (Upwind)	PCBs – Method TO-4A	Each Day (24 hr. Basis)	GC/ECD
Dredging Corridor	PCBs – Method TO-10A / Method TO-4A	Each Day (24 hr. Basis)	GC/ECD
	Opacity	Initial start-up and as needed	Visual observation
Processing Facility/Unloading Area	Meteorological Monitoring	Continuously "Real-Time" Each Day	
	PCBs – Method TO-4A	Each Day (24 hr. Basis)	GC/ECD
	Opacity	As needed	Visual observation

Table 5-3. Candidate PCBs air monitoring sites.

Location Number	Location Description	Location Use
Background - Rogers Island and Griffin Island Dredge Areas		
1.	Rogers Island Dredge Area Idle Hour Club Rogers Island	Open field in front of Club. Field adjacent to club. High ground parcel adjacent to Idle Hour.
2.	Rogers Island Access Road to Idle Hour Club	Field with Rogers Rangers Monument.
3.	Rogers Island Open Field	Abutting E. Channel of Hudson River. SW Dredge Area adjacent to RR Bridge (overhead) and Island Visitors Center.
4.	Rogers Island Visitor Center Property	Three (3) candidate sites spanning Island from W channel to E channel Hudson.
5.	Rogers Island – Bradley Park Public Property	Junction of E/W Channels River. Site adjacent to north edge of Moreau Dredge Area.
6.	Rogers Island	Recreation complex/pool adjacent to Bradley Park.
7.	Fort Edward Public Dock/ Yacht Station	Adjacent to E. channel Hudson River.
8.	Moreau Dredge Area	Open field public area adjacent to dock.
9.	NE of Rogers Island and E/W channels of River	DW Site Moreau Dredge Area.
10.	Lock 7 NYS Canal Corp.	DW site for Moreau Dredge Area. Three (3) locations at site: • Jetty • Shore • Park Area
Background Station		
11.	Fort Edward Park/ Baseball Diamond	SW & UW of canal and processing facility. Three candidate locations as follows: • Concession stand roof • At scoreboard • At tennis court
Griffin Island Dredge Area		
12.	E. bank Hudson River at DeGroot Road	Residential properties along DeGroot Rd. Locations NE and DW of Griffin Island Dredge Area.
13.	Mabb Oil Property	Route 4 southbound and river serve as E/W boundaries.
14.	Junction of E & W Channels of Hudson River	Northern-most tip of Griffin Island. Candidate UW location for Griffin Island Dredge Area.
15.	E. side of Griffin Island at shoreline	Adjacent to air field. Candidate UW site for Griffin Island Dredge Area.
16.	Shoreline E. side center line Griffin Island	Residential property of Island Owner. Candidate UW site for Griffin Island Dredge Area.
17.	River edge at shoreline	Private boat dock. UW site for Griffin Island Dredge Area.
18.	Buoy 196 in river channel	Buoys represent both UW and DW locations for monitoring in Griffin Island and all other Dredge Areas.

Table 5-4. Air quality sample collection, handling, and analysis summary.

Analytical Parameter	Sampling Method	Estimated Sample Volume	Media	Analytical Method	Preservation Requirements	Maximum Holding Time
PCBs	TO-4A SOP - Appendix 9	288-432 m^3 (200 L/min for 24 hours)	PUF Cartridge	SW-846 Method 8082	Cool to 4±2°C; keep in dark	7 days to extraction; 40 days from extraction to analysis
PCBs	TO-10A SOP - Appendix 10	7.2 m^3 (5 L/min for 24 hours)	PUF Cartridge	SW-846 Method 8082	Cool to 4±2°C; keep in dark	7 days to extraction; 40 days from extraction to analysis
Opacity	EPA Method 9 SOP - Appendix 11	N/A	N/A	USEPA Method 9 SOP – Appendix 11	N/A	N/A

Table 5-5. Field data collection for air quality sampling.

Field Data	Valid Value	Data Entry Type
PCBs by Method TO-4A		
Location ID	Location ID	Manual
Start Date	MM/DD/YYYY	Manual
Start Time	HH:MM	Manual
End Date	MM/DD/YYYY	Manual
End Time	HH:MM	Manual
Total Sampling Time	MM	Calculation
Initial Flow Rate	LPM	Manual
Final Flow Rate	LPM	Manual
Total Sample Volume	M^3	Calculation
Initial/Final Flow Rate Relative Percent Difference	%	Calculation
Average Daily Temperature	°C	Manual
Average Daily Barometric Pressure	mm Hg	Manual
PCBs by Method TO-10A		
Location ID	Location ID	Manual
Start Date	MM/DD/YYYY	Manual
Start Time	HH:MM	Manual
End Date	MM/DD/YYYY	Manual
End Time	HH:MM	Manual
Total Sampling Time	MM	Calculation
Initial Flow Rate	LPM	Manual
Final Flow Rate	LPM	Manual
Total Sample Volume	M^3	Calculation
Initial/Final Flow Rate Relative Percent Difference	%	Calculation
Average Daily Temperature	°C	Manual
Average Daily Barometric Pressure	mm Hg	Manual
Opacity		
Date	MM/DD/YYYY	Manual
Time	HH:MM	Manual
Vehicle or Fugitive Emission	n/a	Manual
Operation of Vehicle	n/a	Manual
Emission Point Description	n/a	Manual
Height of Emission Point Relative to Ground/Water Surface	feet	Manual
Height of Emission Point Relative to Observer	feet	Manual
Distance Observer from Emission Point	feet	Manual
Position of Emission Point Relative to Observer	° (compass); WD[1]	Manual
Sky Conditions	n/a	Manual
Wind Speed		Manual
Wind Direction	° (compass); WD[1]	Manual
Temperature	°C	Manual
Relative Humidity	%	Manual
% Opacity (24 Consecutive Observations)	%	Manual
Average % Opacity	%	Calculation

Notes:
[1] WD denotes actual direction(s) (N, NE, SW, E, W, etc.) of wind origin or position of emission point relative to the observer.
n/a - Entry will require a text description at the time the observation is being made.

Table 5-6. Maintenance, testing, and inspection requirements for the high volume sampler - USEPA Method TO-4A.

Equipment	Frequency/Method	Acceptance	Corrective Action
High volume sampler	Initial and final flow check for each sampling period	Flow rates within ± 10% of the sampler set point	Service sampler and perform a new multi-point calibration.
Power cords	Check for crimps or cracks	No obvious damage	Replace as necessary
Cartridge assembly	Visually check on sample recovery days	No obvious deposits	Wipe clean daily
Gaskets	At 3-month intervals, inspect all gaskets in the sampler	No leaks or compression damage evident	Replace as necessary
Brushes	Replace after 600 – 1000 hrs. of operation	Stable flow rate	Replace as necessary
Motor	Replace as needed	Consult manufacturer for correct model of motor	Obtain the correct model
Tubing and fittings	Visually inspect on sample recovery days	No crimps, cracks, or obstructions; no crossthreading	Replace as necessary

Table 5-7. Maintenance, testing, and inspection requirements for the low volume sampler - USEPA Method TO-10A.

Equipment	Frequency/Method	Acceptance	Corrective Action
Low volume sampler	Initial and final flow check for each sampling period	Flow rates within ± 5% of the sampler set point[1]	Service sampler and perform a new multi-point calibration.
Power supply	Check the battery status icon	Battery fully charged	Replace/recharge as necessary
Cartridge assembly	Visually check on sample recovery days	No obvious deposits	Wipe clean daily
Valves	Replace every 2,000 hours of operation	Stable flow rate	Replace as necessary
Pump diaphragm	Replace every 2,500 hours of operation	Stable flow rate	Replace as necessary
Damper	Replace every 2,500 hours of operation	Stable flow rate	Replace as necessary
Motor	Replace every 4,500 hours of operation	Consult manufacturer for correct model of motor	Obtain the correct model
Tubing and fittings	Visually inspect on sample recovery days	No crimps, cracks, or obstructions; no crossthreading	Replace as necessary

Notes:
[1]If flow rates within ± 5% of the sampler set point cannot be maintained, the agency will be promptly notified. If this criterion cannot be maintained during project implementation, GE will then use the criterion of ±10%.

Table 5-8. Calibration requirements for high volume samplers - USEPA Method TO-4A.

Equipment	Activity	Acceptance Criteria	Corrective Action
High Volume Sampler	Initial Calibration: Multipoint calibration performed before first use, quarterly thereafter, after relocation to new site, or after repairs which may affect calibration.	NA.	NA.
	Initial and final flow rate check per sampling period (24 hrs).	Flow rates within ± 10% of the sampler set point.	Service sampler and perform a new multi-point calibration.
	Pre- and post-sample collection single point orifice check	Flow rates within ± 10% of the sampler set	
Orifice Transfer Standard	Annual calibration by manufacturer and when visual inspection reveals new dents in the device.[1]	NA.	NA.

Notes:
[1]Calibration records maintained and tracked by Quality Assurance Officer and Field Sampling Coordinator.

Table 5-9. Calibration requirements for low volume samplers - USEPA Method TO-10A.

Equipment	Activity	Acceptance Criteria	Corrective Action
Low Volume Sampler	Initial Calibration: Multipoint calibration performed before first use, annually thereafter, or after repairs which may affect calibration.[1] Initial and final flow rate check per sampling period.	NA. Flow rates within ±5% RPD.	NA. Service sampler and perform a new multi-point calibration.
Dry Cell Calibrator	Annual calibration by manufacturer.[2]	NA.	NA.

Notes:
[1]The multi-point initial calibration is a calibration procedure specifically required and performed by the manufacturer for the SKC Legacy pump. This requirement applies only to the use of these units.
[2] Calibration records maintained and tracked by Quality Assurance Officer and Field Sampling Coordinator.

Table 5-10. Opacity measurement locations.

Sediment Processing and Unloading Facility	Dredging Locations	Sediment Handling (Fugitive Emissions)
Scraper, Caterpillar 623	Dredging Excavator PC 750	Drops
Roller, Caterpillar CS-433C	Dredging Excavator PC 1100	Remove from barge
Grader, Caterpillar 14G	Pumps	Coarse pile
Loader, Caterpillar 436B	Crew Boat	Place coarse in storage
Dozer, Caterpillar D8	Dredging Tender Tug	Coarse storage
Truck, bottom dump	Dredging Push Tug	Remove roll-off boxes
Paver, Asphalt, Caterpillar AP-800C		Fines storage
Water Truck, 10 Wheel, 2000 gallons		Load coarse into railcar
Excavator, Caterpillar 330		Load fines into railcar
Transport Roll-offs		Load debris into railcar
Switcher locomotive		Paved Roads
Clam shell		Remove coarse
Emergency Generators		Debris into storage
		Load coarse into railcar
		Load fines into railcar
		Load debris into railcar
		Piles
		Coarse pile
		Coarse storage
		Fines storage
		Debris pile

Table 6-1. Measurement Performance Criteria for odor.

Matrix: Air
Analytical Parameter: Odor
Concentration Level: Low to High
Method: H_2S analysis by Jerome Analyzer (Appendix 12)

Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or activity used to assess measurement performance	Frequency	Corrective Action
Accuracy	20% Difference	Initial/Final Flow Rate Calibration	Every Sample	Narrate/flag data.
Accuracy/Bias-Contamination	H_2S<QL	Zero	Daily	Perform zero adjust.
Accuracy/Bias and Precision	Percent Recovery 80-120%	Calibration Check	1/week samples analyzed	Determine cause of problem, restart instrument, reanalyze sample.
Accuracy/Bias-Contamination	25-50% sensor saturation	Sensor Saturation	Every Sample	Perform sensor regeneration.
Precision - Overall	*RPD $\leq$ 40 when positive results for both samples are $\geq$ 5x QL. *No situation where one result is detected at > 5x QL and other result is not detected.	Field Duplicates	1/week samples collected	Assess Jerome meter, and/or qualify data.

Notes:
RL = Reporting Limit; R = Recovery; RPD = Relative Percent Difference; LWL = Lower Warning Limit; UWL = Upper Warning Limit; LCL = Lower Control Limit; UCL = Upper Control Limit

[1] *Data Quality Indicators (a.k.a. PASRCC parameters, i.e., precision, accuracy/bias, sensitivity, representativeness, data completeness, comparability).*

Table 6-2. Odor Monitoring Program Summary.

Location	Parameter(s)	Sample Frequency	Analysis Method
Dredging Corridor	Odor	As needed	H_2S Analyzer
Processing Facility/Unloading Area	Odor	As needed	H_2S Analyzer

Table 6-3. Odor sample collection, handling, and analysis summary.

Analytical Parameter	Sampling Method	Estimated Sample Volume	Media	Analytical Method	Preservation Requirements	Maximum Holding Time
Odor	Tedlar Bag SOP - Appendix 12	6 - 9 liters (0.1 – 0.15 L/min for 1 hour)	Tedlar Bag	H_2S Analyzer SOP – Appendix 12	None	1 hour from collection to analysis

Table 6-4. Field data collection for odor sampling.

Field Data	Valid Value	Data Entry Type
Location	n/a	Manual
Data of Collection	MM/DD/YYYY	Manual
Start Time	HH:MM	Manual
Final Time	HH:MM	Manual
Total Sampling Time	MM	Calculation
Initial Flow Rate	LPM	Manual
Final Flow Rate	LPM	Manual
Total Sample Volume	L	Calculation
Initial/Final Flow Rate Relative Percent Difference	%	Calculation
H_2S Readings (1^{st}, 2^{nd}, 3^{rd})	PPBv	Manual
Average H_2S Reading	PPBv	Calculation

Notes:
n/a - Entry will require a text description at the time the observation is being made.

Table 7-1. Noise monitoring program summary.

Operation	Monitoring Locations	Monitoring Method	Monitoring Frequency	Monitoring Duration
Dredging	Noise monitoring will occur at the shoreline nearest to dredging operations or at both shorelines of the river if dredging is in the middle of the river. Where the shoreline level is above the numerical noise standards, monitoring will occur at the nearest receptors to the dredging noise sources.	Noise monitoring will be conducted with a noise meter. The noise meter will be placed approximately 5 feet off the ground and parallel to the ground, with the microphone pointed towards the noise source at an angle of 10 degrees.	Monitoring will be conducted every four hours.	Monitoring will be conducted during all dredging activities at a given dredge area. Monitoring will be repeated whenever the dredging operation is moved to a different dredge area. A new monitoring location will be selected when the dredge operations move to within 200 feet (or revised distance based on the initial two-week study) of a different, unmonitored residential receptor.
Processing Facility	Noise monitoring will occur at one location along the southern perimeter of the processing facility when the perimeter level is within numerical noise standards. When the perimeter level is above the numerical noise standards, monitoring will occur at the two nearest receptors to the processing facility noise sources. Additionally, noise monitoring will occur at two residential receptor locations east of the Champlain Canal to assess modeling predictions.	Noise monitoring will be conducted with a noise meter. The noise meter will be placed approximately 5 feet off the ground and parallel to the ground, with the microphone pointed towards the noise source at an angle of 10 degrees.	Monitoring will be conducted every hour for a 24-hour period, and whenever significant changes in facility activity occur.	Monitoring will be conducted when the facility initially begins activities. Monitoring will be repeated when significant changes in noise from the facility occur.

Table 7-2. Noise monitoring methods and analysis summary.

Action Level	Noise Levels	Required Action	Reporting/Notification
Typical Operations Level	Noise monitoring in compliance with control level and standard.	• For dredging operations, continue monitoring when operation moved to different dredge area. • For processing facility, continue monitoring if significant changes in facility noise occur.	• Submit monthly report to USEPA.
Concern Level	Noise levels are above control level. OR Noise levels are above numerical standards and exceedances can be easily and immediately mitigated. OR A project-related noise complaint is received from the public.	• Verify that noise problem is project-related. • In the event of a public complaint, conduct monitoring at the site of complaint to determine if the control level or standard has been exceeded. • Implement mitigation measures provided that any equipment modifications or additions that are part of such measures are reasonably available from a schedule and cost standpoint, recognizing that substitutions for major equipment approved in the Phase 1 FDR and being used in Phase 1 will be impractical. Noise mitigation will not supersede worker health and safety noise requirements established by the OSHA.	• Submit follow-up report to USEPA, include description of exceedance and of immediate actions taken to mitigate temporary exceedances. • Communicate mitigation actions taken to person who made complaint.
Exceedance Level	Noise levels are above numerical noise standards and exceedances are not easily and immediately mitigated. OR Frequent, recurrent complaints are received from the public related to project activities.	• Verify that noise problem is project-related. • Establish additional monitoring (as needed) to evaluate cause of noise increases. • Develop action plan. • Implement mitigation measures provided that any equipment modifications or additions that are part of such measures are reasonably available from a schedule and cost standpoint, recognizing that substitutions for major equipment approved in the Phase 1 FDR and being used in Phase 1 will be impractical. Noise mitigation will not supersede worker health and safety noise requirements established by the OSHA. • Monitor noise levels until compliance with the standard is confirmed.	• Notify USEPA of unmitigated exceedance within 24 hours of discovery. • Provide daily monitoring reports. • Submit corrective action report to USEPA within 10 days of discovery, with description of causes of exceedance and mitigation implemented. • Communicate mitigation actions taken to person who made complaint.

Table 7-3. Field data collection for noise monitoring.

Data Field	Valid Values	Data Entry Type
Sampling Personnel		Manual
Activity Description and ID	BGRD (Background) CON (Construction Activity) DO (Dredging Operation) BFILL(Backfilling Operation) PF (Processing Facility) ID (Dredge Cell ID)	Manual
Event	RT (Routine Sampling) CL (Sampling in Response to Concern Level Exceedance) EL (Sampling in Response to Exceedance Level Exceedance) COM (Complaint Sampling)	Manual
Weather		Manual
Date	MM/DD/YYYY	Manual
Time	HH:MM (use 24-hr. Clock)	Manual
Significant Sound Sources		Manual
Sample Coordinates	Global Positioning System (GPS) Coordinates	Manual
Sample Location Description	PF (Processing Facility) DO (Dredging Operation)	Manual
Model of Sound Meter		Manual
Serial Number of Sound Meter		Manual
Monitoring Time Interval		Manual
Sound Meter Result	L_{eq}, L90 Recorded in dBA	Manual
Site Map	Field Sketch	Manual

Table 8-1. Light monitoring program summary.

Operation	Monitoring Location	Monitoring Method	Monitoring Frequency	Monitoring Duration
Dredging	Light monitoring will occur at the shoreline nearest to dredging operations or at both shorelines of the river if dredging is in the middle of the river if the shoreline is within numerical lighting standards. If the shoreline is above the numerical lighting standards, monitoring will occur at the nearest receptor to the dredging operation.	Light monitoring will be conducted with a light meter. The light meter will be held approximately 3.5 ft off the ground and parallel to the ground with the light sensor pointed up.	Monitoring will be conducted three times between 10:00 pm and dawn. Monitoring events will be at least two hours apart.	Monitoring will be conducted during the first night of dredging activities at a given dredge area. Monitoring will be repeated whenever the dredging operation is moved to a different dredge area.
Processing Facility	Five locations along the perimeter of the processing facility operation if the perimeter is within numerical lighting standards. If the perimeter is above the numerical lighting standards, monitoring will occur at the nearest receptor to the processing facility.	Light monitoring will be conducted with a light meter. The light meter will be held approximately 3.5 ft off the ground and parallel to the ground with the light sensor pointed up.	Monitoring will be conducted three times between 10:00 pm and dawn. Monitoring events will be at least two hours apart.	Monitoring will be conducted when the facility initially begins activities after dusk. Monitoring will be repeated when significant changes in lighting for the facility have been made.

Table 8-2. Light monitoring methods and analysis summary.

Action Level	Lighting Levels	Required Action	Reporting/Notification
Typical Operations Level	Lighting complies with OSHA, United States Coast Guard, and New York State laws.	• For dredging operations, continue monitoring when operation moved to different dredge area. • For processing facility, continue monitoring if significant changes in facility lighting occur.	• Submit monthly report to USEPA.
Concern Level	Lighting levels are above numerical lighting standards and exceedances can be easily and immediately mitigated. OR A project-related complaint is received from the public.	• Verify that lighting problem is project-related. • Implement mitigation measures provided that any equipment modifications or additions that are part of such measures are reasonably available from a schedule and cost standpoint, recognizing that substitutions for major equipment approved in the Phase 1 FDR and being used in Phase 1 will be impractical. Lighting mitigation will not supersede worker health and safety lighting requirements established by the OSHA. Lighting mitigation also will not supersede United States Coast Guard and New York State navigation laws. • Monitor lighting levels to confirm compliance with standards.	• Submit follow-up report to USEPA, include description of exceedance and of immediate actions taken to mitigate temporary exceedances. • Communicate mitigation actions taken to person who made complaint.
Exceedance Level	Lighting levels are above numerical lighting standards and exceedances are not easily and immediately mitigated. OR Frequent, recurrent complaints are received from the public.	• Verify that lighting problem is project-related. • Develop action plan. • Implement mitigation measures provided that any equipment modifications or additions that are part of such measures are reasonably available from a schedule and cost standpoint, recognizing that substitutions for major equipment approved in the Phase 1 FDR and being used in Phase 1 will be impractical. Lighting mitigation will not supersede worker health and safety lighting requirements established by the OSHA. Lighting mitigation also will not supersede United States Coast Guard and New York State navigation laws. • Monitor lighting levels to confirm compliance with standards.	• Notify USEPA of unmitigated exceedance within 24 hours of discovery. • Submit corrective action report to USEPA within 10 days of discovery, with description of causes of exceedance and mitigation implemented. • Communicate mitigation actions taken to person who made complaint.

Table 8-3. Field data collection for light monitoring.

Data Field	Valid Values	Data Entry Type
Sampling Personnel		Manual
Event	RT (Routine Sampling) CL (Sampling in Response to Concern Level Exceedance) EL (Sampling in Response to Exceedance Level Exceedance)	Manual
Weather		Manual
Date	MM/DD/YYYY	Manual
Time	HH:MM (Use 24-hr. Clock)	Manual
Significant Light Sources		Manual
Sample Coordinates	Global Positioning System (GPS) Coordinates	Manual
Sample Location Description	PF (Processing Facility) DO (Dredging Operation)	Manual
Model of Light Meter		Manual
Serial Number of Light Meter		Manual
Light Meter Result	Recorded in Footcandles	Manual
Miscellaneous Observations		Manual

Table 9-1. Special Studies Program summary.

Program	No. of Study Areas	No. of Sampling Events/Area	Station Locations	Samples Collected	Analyses	Analytical Method	Container Specifications	Preservation	Holding Time
Near-Field PCB Release Mechanism	5	3	Single station, 100 m upstream Transect, 30 m downstream, Transect, 100 m downstream Transect, 300 m downstream	Composite developed from aliquots pumped from 0.2 and 0.8 water depth, filtered continuously with in-line 0.7 um glass fiber filter during collection.	Dissolved Congener Specific PCBs	Modified Green Bay	2 - 4L amber glass bottle	Cool, 4°C +/- 2°C	365 days to extraction, 40 days to analysis
					DOC	SM 5310B	500 ml glass bottle	Cool, 4°C +/- 2°C	14 days
					TSS	SM 2540D[1]	1L HDPE plastic bottle	Cool, 4°C +/- 2°C	7 days
				Filter pad(s) w/solids.	Particulate Congener Specific PCBs	Modified Green Bay	Filter pad(s) wrapped in aluminum foil, placed in resealable plastic bag.	Cool, 4°C +/- 2°C	14 days to extraction, 40 days to analysis
					POC	Lloyd Kahn	(from filters above)	Cool, 4°C +/- 2°C	14 days
				Continuous probe measurements.	DO, Temp., pH, Conductivity, Turbidity[2]	NA	NA	NA	NA
Non-Target Downstream Area Contamination[2]	3	6	Transect, 15 m downstream, Transect, 30 m downstream, Transect, 100 m downstream, 2 nodes, 300 m downstream	Sediment collected in traps; traps deployed in pairs (approx. 10 ft apart), 1 trap in each pair sampled and redeployed during each sampling event, remaining trap in each pair retrieved during final event. Captured sediment submitted for analysis.	Aroclor PCBs	GEHR8082	After decanting free water, place remaining water and sediment in 1 gallon glass jar.	Cool, 4°C +/- 2°C	14 days to extraction, 40 days to analysis
					POC	Lloyd Kahn	(from above)	Cool, 4°C +/- 2°C	14 days
					Mass of solids	NEA SOP NE277_01	(from above)	NA	NA
					Grain Size	ASTM D4464	(from above)	NA	NA

Notes:
NA = not analyzed/applicable.
[1] Modified to be consistent with ASTM Method 3977-97.
[2] A boat-mounted continuous turbidity probe will be used to assess the location of plumes and place stations accordingly.

Table 9-2a. Measurement performance criteria for special studies.

Matrix: Filter/Sediment
Analytical Parameter: Particulate Organic Carbon
Concentration Level: Low to High
Method: Lloyd Kahn (QAPP Appendix 59)

Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or activity used to assess measurement performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or both (S&A)
Accuracy	< RL, or associated samples >5× blank values	Laboratory or Equipment Blank	S&A
	75-125 %R	Matrix Spike (POC)	S&A
	The RPD for lab duplicates should be ≤40% for results >5× the RL. The difference between results should be ≤ 2× the RL when at least one result is ≤5× the RL	Laboratory Duplicates	S&A
Sensitivity	See Table 10-1	Reporting Limits	A
Representativeness	Use of standardized collection and analytical methods	Field audits and laboratory audits. See QAPP Section 10.3.4	S&A
Completeness	95%	See QAPP Section 10.3.6	S&A
Comparability	Based on accuracy and media comparison	Use of standardized SOPs by field and analytical contractors	S&A

Notes:
RL = Reporting Limit; R = Recovery; RPD = Relative Percent Difference
[1] *Data Quality Indicators (a.k.a. PASRCC parameters, i.e., precision, accuracy/bias, sensitivity, representativeness, data completeness, comparability).*

Table 9-2b. Measurement performance criteria for special studies.

Matrix: Sediment
Analytical Parameter: Mass of Solids
Concentration Level: Low to High
Method: NEA SOP NE277_01 (Appendix 60)

Data Quality Indicators (DQIs)[1]	Measurement Performance Criteria	QC Sample and/or activity used to assess measurement performance	QC Sample Assesses Error for Sampling (S), Analytical (A) or both (S&A)
Sensitivity	See Table 10-1	Reporting Limits	A
Representativeness	Use of standardized collection and analytical methods	Field audits and laboratory audits. See QAPP Section 10.3.4	S&A
Completeness	95%	See QAPP Section 10.3.6	S&A
Comparability	Based on accuracy and media comparison	Use of standardized SOPs by field and analytical contractors	S&A

Notes:
RL = Reporting Limit; R = Recovery; RPD = Relative Percent Difference
[1] *Data Quality Indicators (a.k.a. PASRCC parameters, i.e., precision, accuracy/bias, sensitivity, representativeness, data completeness, comparability).*

Table 9-3. Summary statistics for special study areas.

Locations (see Figures 9-1 and 9-2)	Side-scan sonar designation	Mean % silt and clay	Mean % fine sand	Mean % med./coarse sand and gravel	Mean % organic	Mean TPCB Conc (mg/kg)	Mean DOC (in.)	Mean Tri+ PCB MPA (g/m^2)
1	Transitional	24	31	44	1	17	15	8
2	Transitional	18	8	73	1	32	27	18
3	Sand	9	21	68	2	34	25	17
4	Fine	19	45	34	2	50	33	18
5	Fine	73	17	11	0	444	21	24

Notes:

1. Mean DOC and mean Tri+ PCB MPA are area-weighted.

2. Mean percent sediment type and the mean total PCB concentration are volume-weighted, and were calculated using measured or extrapolated data down to the average depth of dredging.

3. Average depth of dredging is based on the 6/8/05 version of the married grid which covers both dredge and non-dredge areas.

Table 9-4. Field data collection for near-field PCB release mechanism field data.

Data Field	Valid Values	Data Entry Type
QA/QC	ENV DUP FDBL	Drop-down selection list
Study Area	NTIP1 NTIP2 NTIP3 NTIP4 EGIA1	Drop-down selection list
Station		Drop-down selection list
Sample Type		Automatic
Parent Sample ID		Drop-down selection list
Sample ID		Automatic
Start Northing		Manual
Start Easting		Manual
End Northing		Manual
End Easting		Manual
Start Date	MM/DD/YYYY	Automatic (based on current computer time)
Start Time	HH:MM	Automatic (based on current computer time)
End Date	MM/DD/YYYY	Automatic (based on current computer time)
End Time	HH:MM	Automatic (based on current computer time)
Observations		Manual
Sampler Initials		Manual
Crew ID		Automatic (value loaded on computer)

Table 9-5. Field data collection for non-target, downstream area contamination.

Data Field	Valid Values	Data Entry Type
QA/QC	ENV DUP FDBL	Drop-down selection list
Study Area	NTIP1 NTIP3 EGIA1	Drop-down selection list
Action	Deployment Retrieval	Drop-down selection list
Station		Drop-down selection list
Sample Type		Automatic
Transect	T1 T2 T3 T4 T5	Drop-down selection list
Sediment Trap	Primary Secondary	Drop-down selection list
Parent Sample ID		Drop-down selection list
Sample ID		Automatic
Northing		Manual
Easting		Manual
Date	MM/DD/YYYY	Automatic (based on current computer time)
Time	HH:MM	Automatic (based on current computer time)
Observations		Manual
Sampler Initials		Manual
Crew ID		Automatic (value loaded on computer)

Table 10-1. Reference limit and evaluation table.

Matrix	Category	Analyte Name	CAS number(s)	Analytical Method	Units	Laboratory Method Detection Limits[1]	Laboratory Reporting Limits[1]
Water Column	PCBs (Aroclors)	Aroclor 1016	12674-11-2	EPA 508.1	ug/L	0.00609	0.0250
		Aroclor 1221	11104-28-2	EPA 508.1	ug/L	0.00609	0.0250
		Aroclor 1232	11141-16-5	EPA 508.1	ug/L	0.00609	0.0250
		Aroclor 1242	53469-21-9	EPA 508.1	ug/L	0.00609	0.0250
		Aroclor 1248	12672-29-6	EPA 508.1	ug/L	0.00609	0.0250
		Aroclor 1254	11097-69-1	EPA 508.1	ug/L	0.00609	0.0250
		Aroclor 1260	11096-82-5	EPA 508.1	ug/L	0.00609	0.0250
		Total PCBs (sum of Aroclors)	1336-36-3	EPA 508.1	ug/L	0.00609	0.0250
	PCBs (1 liter)	Total PCB (sum of congeners)	1336-36-3	Modified Green Bay Mass Balance Method (NEA 207_03)	ng/L	9.10	32.2
	DB-1 Peak:	02	2051-60-7	NEA 207_03	ng/L	0.529	2.19
		03	2051-61-8	NEA 207_03	ng/L	6.63	1000
		04	2051-62-9	NEA 207_03	ng/L	0.355	1.28
		05	13029-08-8 33146-45-1	NEA 207_03	ng/L	0.134	0.621
		06	33284-50-3 34883-39-1	NEA 207_03	ng/L	0.0721	0.219
		07	25569-80-6	NEA 207_03	ng/L	0.158	0.347
		08	16605-91-7 34883-43-7	NEA 207_03	ng/L	0.542	2.56
		09	34883-41-5	NEA 207_03	ng/L	0.294	25.0
		10	38444-73-4	NEA 207_03	ng/L	0.0604	0.102
		11	35693-92-6	NEA 207_03	ng/L	0.198	25.0
		12	2050-67-1	NEA 207_03	ng/L	0.306	25.0
		13	2974-92-7 2974-90-5	NEA 207_03	ng/L	0.0559	0.0975
		14	2050-68-2 37680-65-2	NEA 207_03	ng/L	0.128	0.676
		15	37680-66-3	NEA 207_03	ng/L	0.143	0.676
		16	55702-45-9 38444-76-7	NEA 207_03	ng/L	0.0374	0.047
		17	38444-78-9 38444-77-8	NEA 207_03	ng/L	0.166	0.713
		19	55720-44-0 37680-68-5 15968-05-5	NEA 207_03	ng/L	0.128	25.0
		20	15862-07-4	NEA 207_03	ng/L	0.0108	0.0194
		21	38444-81-4	NEA 207_03	ng/L	0.0606	0.132
		22	55712-37-3	NEA 207_03	ng/L	0.0426	0.0585
		23	16606-02-3	NEA 207_03	ng/L	0.487	0.753
		24	7012-37-5 62796-65-0	NEA 207_03	ng/L	0.211	0.964
		25	38444-84-7 55702-46-0 38444-86-9 41464-41-9	NEA 207_03	ng/L	0.105	0.726
		26	38444-85-8 68194-04-7	NEA 207_03	ng/L	0.120	0.530
		27	70362-45-7	NEA 207_03	ng/L	0.0367	0.163
		28	38444-87-0	NEA 207_03	ng/L	0.375	25.0
		29	41464-47-5	NEA 207_03	ng/L	0.127	0.127
		30	38444-88-1	NEA 207_03	ng/L	0.120	25.0
		31	35693-99-3 60233-24-1 74338-23-1	NEA 207_03	ng/L	0.204	0.872
		32	70362-46-8 41464-40-8	NEA 207_03	ng/L	0.0978	0.420
		33	53555-66-1 2437-79-8	NEA 207_03	ng/L	0.0656	0.183
		34	70362-47-9 32598-12-2	NEA 207_03	ng/L	0.0579	0.183
		35	54230-22-7 33284-54-7	NEA 207_03	ng/L	0.205	25.0
		36	37680-69-6	NEA 207_03	ng/L	0.144	25.0
		37	56558-16-8 41464-39-5	NEA 207_03	ng/L	0.160	0.786
		38	38444-90-5 36559-22-5 74472-33-6	NEA 207_03	ng/L	0.115	0.475
		39	52663-59-9 52663-58-8 41464-46-4 41464-42-0	NEA 207_03	ng/L	0.121	0.749
		41	73575-52-7 73575-54-9	NEA 207_03	ng/L	0.115	25.0
		42	38444-93-8	NEA 207_03	ng/L	0.0968	0.172

Table 10-1. Reference limit and evaluation table.

Matrix	Category	Analyte Name	CAS number(s)	Analytical Method	Units	Laboratory Method Detection Limits[1]	Laboratory Reporting Limits[1]
Water Column (Continued)	PCBs (1 liter) (Continued)	43	70424-67-8 60145-21-3	NEA 207_03	ng/L	0.152	25.0
		44	41464-49-7 73575-53-8 39485-83-1	NEA 207_03	ng/L	0.0225	0.0402
		45	74472-34-7	NEA 207_03	ng/L	0.0299	0.0384
		46	32690-93-0 73575-55-0 33284-53-6	NEA 207_03	ng/L	0.0821	0.347
		47	32598-11-1	NEA 207_03	ng/L	0.164	0.621
		48	32598-10-0 70362-48-0 60233-25-2 33284-52-5 73575-56-1 38379-99-6 68194-06-9 55215-17-3	NEA 207_03	ng/L	0.243	1.32
		49	74338-24-2 68194-05-8 56558-18-0	NEA 207_03	ng/L	0.0376	0.093
		50	41464-43-1 33025-41-1	NEA 207_03	ng/L	0.359	0.640
		51	52663-60-2 52663-61-3 33979-03-2	NEA 207_03	ng/L	0.0888	0.329
		52	73575-57-2	NEA 207_03	ng/L	0.0384	0.0384
		53	68194-07-0 37680-73-2	NEA 207_03	ng/L	0.0691	0.329
		54	41464-48-6 38380-01-7 68194-10-5	NEA 207_03	ng/L	0.101	0.135
		55	56558-17-9 68194-08-1	NEA 207_03	ng/L	0.00644	0.0102
		56	70362-49-1 60145-20-2 74472-36-9 70362-41-3	NEA 207_03	ng/L	0.0647	0.0647
		57	41464-51-1 68194-09-2 55312-69-1	NEA 207_03	ng/L	0.0435	0.102
		58	70362-50-4 38380-02-8 68194-11-06 74472-39-2 39635-32-0 74472-38-1 74472-40-5	NEA 207_03	ng/L	0.0841	0.212
		59	18259-05-7 65510-45-4	NEA 207_03	ng/L	0.0484	0.128
		60	68194-12-7 38411-22-2	NEA 207_03	ng/L	0.0772	0.137
		61	32598-13-3 38380-03-9 74472-41-6	NEA 207_03	ng/L	0.0668	0.389
		62	60145-22-4	NEA 207_03	ng/L	0.113	25.0
		63	52663-62-4	NEA 207_03	ng/L	0.0201	0.0804
		64	52663-63-5	NEA 207_03	ng/L	0.0518	0.311
		65	70424-70-3 52744-13-5	NEA 207_03	ng/L	0.0149	0.0530
		66	68194-14-9	NEA 207_03	ng/L	0.0541	0.110
		67	70424-68-9 74472-35-8 68194-13-8	NEA 207_03	ng/L	0.0348	0.0475
		68	65510-44-3	NEA 207_03	ng/L	0.125	25.0
		69	70424-69-0 31508-00-6 56030-56-9 38380-04-0	NEA 207_03	ng/L	0.0938	0.731
		70	59291-64-4	NEA 207_03	ng/L	0.0829	25.0
		71	74472-37-0 52704-70-8 68194-15-0	NEA 207_03	ng/L	0.0348	0.0369
		72	76842-07-4 61798-70-7 35694-04-3 41411-61-4	NEA 207_03	ng/L	0.00638	0.0106

Table 10-1. Reference limit and evaluation table.

Matrix	Category	Analyte Name	CAS number(s)	Analytical Method	Units	Laboratory Method Detection Limits[1]	Laboratory Reporting Limits[1]
Water Column (Continued)	PCBs (1 liter) (Continued)	73	51908-16-8 74472-46-1 74487-85-7	NEA 207_03	ng/L	0.0320	0.0713
		74	32598-14-4 38380-05-1 74472-43-8	NEA 207_03	ng/L	0.0721	0.248
		75	35065-27-1	NEA 207_03	ng/L	0.109	0.538
		76	39635-33-1 59291-65-5 74472-48-3	NEA 207_03	ng/L	0.107	25.0
		77	52712-04-6	NEA 207_03	ng/L	0.064	0.311
		78	52663-64-6	NEA 207_03	ng/L	0.0470	0.267
		79	35694-06-5	NEA 207_03	ng/L	0.0501	0.0501
		80	52663-66-8 52663-65-7	NEA 207_03	ng/L	0.0151	0.0475
		82	35065-28-2 74472-44-9 74472-45-0	NEA 207_03	ng/L	0.108	0.493
		83	74472-42-7 41411-62-5 74472-49-4	NEA 207_03	ng/L	0.0450	0.0457
		84	57465-28-8 55215-18-4	NEA 207_03	ng/L	0.00310	0.00473
		85	41411-63-6 52663-67-9	NEA 207_03	ng/L	0.0677	0.201
		87	40186-70-7 39635-35-3	NEA 207_03	ng/L	0.0156	0.0731
		88	60145-23-5 52663-68-0	NEA 207_03	ng/L	0.102	0.658
		89	38380-07-3 39635-34-2	NEA 207_03	ng/L	0.0199	0.0366
		90	52663-69-1	NEA 207_03	ng/L	0.0679	0.311
		91	52663-72-6	NEA 207_03	ng/L	0.0348	0.0348
		92	52712-05-7	NEA 207_03	ng/L	0.0225	0.0859
		93	38411-25-5 74472-47-2	NEA 207_03	ng/L	0.102	0.585
		94	52663-70-4	NEA 207_03	ng/L	0.0936	0.311
		95	38380-08-4 52663-71-5	NEA 207_03	ng/L	0.0871	0.144
		96	69782-90-7 2136-99-4	NEA 207_03	ng/L	0.00942	0.0121
		98	68194-16-1	NEA 207_03	ng/L	0.0133	0.0139
		99	40186-71-8	NEA 207_03	ng/L	0.0863	0.0863
		100	52663-74-8 74472-52-9	NEA 207_03	ng/L	0.127	0.127
		101	74472-51-8 33091-17-7	NEA 207_03	ng/L	0.217	0.217
		102	35065-29-3	NEA 207_03	ng/L	0.150	1.11
		103	69782-91-8	NEA 207_03	ng/L	0.0640	0.0768
		104	74472-50-7	NEA 207_03	ng/L	0.0374	0.0438
		105	52663-73-7 32774-16-6	NEA 207_03	ng/L	0.0460	0.0786
		106	35065-30-6	NEA 207_03	ng/L	0.0538	0.234
		107	41411-64-7	NEA 207_03	ng/L	0.0213	0.0768
		108	68194-17-2	NEA 207_03	ng/L	0.0324	0.0438
		109	52663-75-9	NEA 207_03	ng/L	0.116	0.768
		110	42740-50-1 52663-76-0	NEA 207_03	ng/L	0.184	0.786
		111	39635-31-9	NEA 207_03	ng/L	0.0231	0.0231
		112	52663-78-2	NEA 207_03	ng/L	0.0368	0.101
		113	52663-77-1	NEA 207_03	ng/L	0.0438	0.0902
		114 (surrogate)	52663-79-3	NEA 207_03	ng/L	0.0154	0.0340
		115	35694-08-7	NEA 207_03	ng/L	0.0969	0.329
		116	74472-53-0	NEA 207_03	ng/L	0.0838	0.084
		117	40186-72-9	NEA 207_03	ng/L	0.0384	0.124
		118	2051-24-3	NEA 207_03	ng/L	0.0126	0.0126
	PCBs (8 liter)	Total PCB (sum of congeners)	1336-36-3	Modified Green Bay Mass Balance Method (NEA 207_03)	ng/L	1.00	4.03
	DB-1 Peak:	02	2051-60-7	NEA 207_03	ng/L	0.050	0.274
		03	2051-61-8	NEA 207_03	ng/L	0.986	125
		04	2051-62-9	NEA 207_03	ng/L	0.0333	0.160
		05	13029-08-8 33146-45-1	NEA 207_03	ng/L	0.0153	0.0777
		06	33284-50-3 34883-39-1	NEA 207_03	ng/L	0.00574	0.0274
		07	25569-80-6	NEA 207_03	ng/L	0.00952	0.0434

Table 10-1. Reference limit and evaluation table.

Matrix	Category	Analyte Name	CAS number(s)	Analytical Method	Units	Laboratory Method Detection Limits[1]	Laboratory Reporting Limits[1]
Water Column (Continued)	PCBs (8 liter) (Continued)	08	16605-91-7 34883-43-7	NEA 207_03	ng/L	0.0422	0.320
		09	34883-41-5	NEA 207_03	ng/L	0.0302	3.13
		10	38444-73-4	NEA 207_03	ng/L	0.00277	0.0128
		11	35693-92-6	NEA 207_03	ng/L	0.0281	3.13
		12	2050-67-1	NEA 207_03	ng/L	0.0332	3.13
		13	2974-92-7 2974-90-5	NEA 207_03	ng/L	0.00671	0.0122
		14	2050-68-2 37680-65-2	NEA 207_03	ng/L	0.0133	0.0845
		15	37680-66-3	NEA 207_03	ng/L	0.0185	0.0845
		16	55702-45-9 38444-76-7	NEA 207_03	ng/L	0.00424	0.00594
		17	38444-78-9 38444-77-8	NEA 207_03	ng/L	0.0126	0.0891
		19	55720-44-0 37680-68-5 15968-05-5	NEA 207_03	ng/L	0.0255	3.13
		20	15862-07-4	NEA 207_03	ng/L	0.00271	0.00271
		21	38444-81-4	NEA 207_03	ng/L	0.00425	0.0164
		22	55712-37-3	NEA 207_03	ng/L	0.00326	0.00793
		23	16606-02-3	NEA 207_03	ng/L	0.0384	0.0942
		24	7012-37-5 62796-65-0	NEA 207_03	ng/L	0.0284	0.121
		25	38444-84-7 55702-46-0 38444-86-9 41464-41-9	NEA 207_03	ng/L	0.0175	0.0907
		26	38444-85-8 68194-04-7	NEA 207_03	ng/L	0.0140	0.0662
		27	70362-45-7	NEA 207_03	ng/L	0.00817	0.0203
		28	38444-87-0	NEA 207_03	ng/L	0.0283	3.13
		29	41464-47-5	NEA 207_03	ng/L	0.0127	0.0127
		30	38444-88-1	NEA 207_03	ng/L	0.0335	3.13
		31	35693-99-3 60233-24-1 74338-23-1	NEA 207_03	ng/L	0.0180	0.109
		32	70362-46-8 41464-40-8	NEA 207_03	ng/L	0.00923	0.0525
		33	53555-66-1 2437-79-8	NEA 207_03	ng/L	0.0122	0.0228
		34	70362-47-9 32598-12-2	NEA 207_03	ng/L	0.00809	0.0228
		35	54230-22-7 33284-54-7	NEA 207_03	ng/L	0.0342	3.13
		36	37680-69-6	NEA 207_03	ng/L	0.0324	3.13
		37	56558-16-8 41464-39-5	NEA 207_03	ng/L	0.0175	0.0982
		38	38444-90-5 36559-22-5 74472-33-6	NEA 207_03	ng/L	0.0166	0.0594
		39	52663-59-9 52663-58-8 41464-46-4 41464-42-0	NEA 207_03	ng/L	0.0130	0.0937
		41	73575-52-7 73575-54-9	NEA 207_03	ng/L	0.0259	3.13
		42	38444-93-8	NEA 207_03	ng/L	0.0120	0.0215
		43	70424-67-8 60145-21-3	NEA 207_03	ng/L	0.0198	3.13
		44	41464-49-7 73575-53-8 39485-83-1	NEA 207_03	ng/L	0.00345	0.00503
		45	74472-34-7	NEA 207_03	ng/L	0.00520	0.00520
		46	32690-93-0 73575-55-0 33284-53-6	NEA 207_03	ng/L	0.00685	0.0434
		47	32598-11-1	NEA 207_03	ng/L	0.0159	0.0777
		48	32598-10-0 70362-48-0 60233-25-2 33284-52-5 73575-56-1 38379-99-6 68194-06-9 55215-17-3	NEA 207_03	ng/L	0.0596	0.164

Table 10-1. Reference limit and evaluation table.

Matrix	Category	Analyte Name	CAS number(s)	Analytical Method	Units	Laboratory Method Detection Limits[1]	Laboratory Reporting Limits[1]
Water Column (Continued)	PCBs (8 liter) (Continued)	49	74338-24-2 68194-05-8 56558-18-0	NEA 207_03	ng/L	0.00312	0.0117
		50	41464-43-1 33025-41-1	NEA 207_03	ng/L	0.0301	0.0799
		51	52663-60-2 52663-61-3 33979-03-2	NEA 207_03	ng/L	0.0150	0.0411
		52	73575-57-2	NEA 207_03	ng/L	0.00741	0.00741
		53	68194-07-0 37680-73-2	NEA 207_03	ng/L	0.00631	0.0411
		54	41464-48-6 38380-01-7 68194-10-5	NEA 207_03	ng/L	0.00363	0.0169
		55	56558-17-9 68194-08-1	NEA 207_03	ng/L	0.000850	0.00128
		56	70362-49-1 60145-20-2 74472-36-9 70362-41-3	NEA 207_03	ng/L	0.00458	0.00685
		57	41464-51-1 68194-09-2 55312-69-1	NEA 207_03	ng/L	0.0075	0.0128
		58	70362-50-4 38380-02-8 68194-11-06 74472-39-2 39635-32-0 74472-38-1 74472-40-5	NEA 207_03	ng/L	0.00689	0.0265
		59	18259-05-7 65510-45-4	NEA 207_03	ng/L	0.0069	0.0160
		60	68194-12-7 38411-22-2	NEA 207_03	ng/L	0.00759	0.0171
		61	32598-13-3 38380-03-9 74472-41-6	NEA 207_03	ng/L	0.0137	0.0487
		62	60145-22-4	NEA 207_03	ng/L	0.0312	3.13
		63	52663-62-4	NEA 207_03	ng/L	0.00241	0.0100
		64	52663-63-5	NEA 207_03	ng/L	0.00580	0.0388
		65	70424-70-3 52744-13-5	NEA 207_03	ng/L	0.00185	0.00663
		66	68194-14-9	NEA 207_03	ng/L	0.00423	0.0137
		67	70424-68-9 74472-35-8 68194-13-8	NEA 207_03	ng/L	0.00374	0.00594
		68	65510-44-3	NEA 207_03	ng/L	0.0215	3.13
		69	70424-69-0 31508-00-6 56030-56-9 38380-04-0	NEA 207_03	ng/L	0.0136	0.0914
		70	59291-64-4	NEA 207_03	ng/L	0.0210	3.13
		71	74472-37-0 52704-70-8 68194-15-0	NEA 207_03	ng/L	0.00451	0.00461
		72	76842-07-4 61798-70-7 35694-04-3 41411-61-4	NEA 207_03	ng/L	0.00142	0.00142
		73	51908-16-8 74472-46-1 74487-85-7	NEA 207_03	ng/L	0.00484	0.00891
		74	32598-14-4 38380-05-1 74472-43-8	NEA 207_03	ng/L	0.00529	0.0309
		75	35065-27-1	NEA 207_03	ng/L	0.0100	0.0673
		76	39635-33-1 59291-65-5 74472-48-3	NEA 207_03	ng/L	0.0330	3.13
		77	52712-04-6	NEA 207_03	ng/L	0.0123	0.0388
		78	52663-64-6	NEA 207_03	ng/L	0.00878	0.0334
		79	35694-06-5	NEA 207_03	ng/L	0.00611	0.00611
		80	52663-66-8 52663-65-7	NEA 207_03	ng/L	0.00190	0.00594
		82	35065-28-2 74472-44-9 74472-45-0	NEA 207_03	ng/L	0.00813	0.0617

Table 10-1. Reference limit and evaluation table.

Matrix	Category	Analyte Name	CAS number(s)	Analytical Method	Units	Laboratory Method Detection Limits[1]	Laboratory Reporting Limits[1]
Water Column (Continued)	PCBs (8 liter) (Continued)	83	74472-42-7 41411-62-5 74472-49-4	NEA 207_03	ng/L	0.00326	0.00571
		84	57465-28-8 55215-18-4	NEA 207_03	ng/L	0.000301	0.000591
		85	41411-63-6 52663-67-9	NEA 207_03	ng/L	0.00590	0.0251
		87	40186-70-7 39635-35-3	NEA 207_03	ng/L	0.00462	0.00914
		88	60145-23-5 52663-68-0	NEA 207_03	ng/L	0.0133	0.0822
		89	38380-07-3 39635-34-2	NEA 207_03	ng/L	0.00278	0.00457
		90	52663-69-1	NEA 207_03	ng/L	0.00541	0.0388
		91	52663-72-6	NEA 207_03	ng/L	0.00358	0.00358
		92	52712-05-7	NEA 207_03	ng/L	0.00216	0.0107
		93	38411-25-5 74472-47-2	NEA 207_03	ng/L	0.00951	0.0731
		94	52663-70-4	NEA 207_03	ng/L	0.00745	0.0388
		95	38380-08-4 52663-71-5	NEA 207_03	ng/L	0.0132	0.0180
		96	69782-90-7 2136-99-4	NEA 207_03	ng/L	0.00177	0.00177
		98	68194-16-1	NEA 207_03	ng/L	0.00413	0.00413
		99	40186-71-8	NEA 207_03	ng/L	0.00200	0.00891
		100	52663-74-8 74472-52-9	NEA 207_03	ng/L	0.0434	0.0434
		101	74472-51-8 33091-17-7	NEA 207_03	ng/L	0.00777	0.00777
		102	35065-29-3	NEA 207_03	ng/L	0.0176	0.139
		103	69782-91-8	NEA 207_03	ng/L	0.00905	0.00959
		104	74472-50-7	NEA 207_03	ng/L	0.00245	0.00548
		105	52663-73-7 32774-16-6	NEA 207_03	ng/L	0.00260	0.00982
		106	35065-30-6	NEA 207_03	ng/L	0.00399	0.0292
		107	41411-64-7	NEA 207_03	ng/L	0.0119	0.0119
		108	68194-17-2	NEA 207_03	ng/L	0.00197	0.00548
		109	52663-75-9	NEA 207_03	ng/L	0.0144	0.0959
		110	42740-50-1 52663-76-0	NEA 207_03	ng/L	0.0174	0.0982
		111	39635-31-9	NEA 207_03	ng/L	0.00313	0.00313
		112	52663-78-2	NEA 207_03	ng/L	0.00287	0.0126
		113	52663-77-1	NEA 207_03	ng/L	0.00722	0.0113
		114 (surrogate)	52663-79-3	NEA 207_03	ng/L	0.00251	0.00425
		115	35694-08-7	NEA 207_03	ng/L	0.0121	0.0411
		116	74472-53-0	NEA 207_03	ng/L	0.00783	0.00783
		117	40186-72-9	NEA 207_03	ng/L	0.00316	0.0155
		118	2051-24-3	NEA 207_03	ng/L	0.00131	0.00133
	Metals - Test America - Pittsburgh	Ag (Silver)	7440-22-4	EPA 200.8	ug/L	0.044	1.0
		Al (Aluminum)	7429-90-5	EPA 200.8	ug/L	2.3	30.0
		As (Arsenic)	7440-38-2	EPA 200.8	ug/L	0.099	1.0
		Ba (Barium)	7440-39-3	EPA 200.8	ug/L	0.081	10.0
		Be (Beryllium)	7440-41-7	EPA 200.8	ug/L	0.050	1.0
		Ca (Calcium)	7440-70-2	EPA 200.8	ug/L	6.6	100
		Cd (Cadmium)	7440-43-9	EPA 200.8	ug/L	0.12	0.50
		Co (Cobalt)	7440-48-4	EPA 200.8	ug/L	0.019	0.50
		Cr (Chromium)	7440-47-3	EPA 200.8	ug/L	0.12	2.0
		Cu (Copper)	7440-50-8	EPA 200.8	ug/L	0.11	2.0
		Fe (Iron)	7439-89-6	EPA 200.8	ug/L	9.7	50.0
		Hg (Mercury)	7439-97-6	EPA 245.1	ug/L	0.021	0.20
		K (Potassium)	7440-09-7	EPA 200.8	ug/L	6.6	100
		Mg (Magnesium)	7439-95-4	EPA 200.8	ug/L	4.1	100
		Mn (Manganese)	7439-96-5	EPA 200.8	ug/L	0.042	0.40
		Na (Sodium)	7440-23-5	EPA 200.8	ug/L	10.8	100
		Ni (Nickel)	7440-02-0	EPA 200.8	ug/L	0.062	1.0
		Pb (Lead)	7439-92-1	EPA 200.8	ug/L	0.022	1.0
		Sb (Antimony)	7440-36-0	EPA 200.8	ug/L	0.072	2.0
		Se (Selenium)	7782-49-2	EPA 200.8	ug/L	0.17	5.0
		Tl (Thallium)	7440-28-0	EPA 200.8	ug/L	0.019	1.0
		V (Vanadium)	7440-62-2	EPA 200.8	ug/L	0.11	1.0
		Zn (Zinc)	7440-66-6	EPA 200.8	ug/L	0.39	5.0
		Hexavalent Chromium	18540-29-9	SW-846 7196A	mg/L	0.0026	0.010

Table 10-1. Reference limit and evaluation table.

Matrix	Category	Analyte Name	CAS number(s)	Analytical Method	Units	Laboratory Method Detection Limits[1]	Laboratory Reporting Limits[1]
Water Column (Continued)	Metals - Test America - Burlington	Ag (Silver)	7440-22-4	EPA 200.8	ug/L	0.019	1.0
		Al (Aluminum)	7429-90-5	EPA 200.8	ug/L	4.6	30.0
		As (Arsenic)	7440-38-2	EPA 200.8	ug/L	0.12	1.0
		Ba (Barium)	7440-39-3	EPA 200.8	ug/L	0.10	10.0
		Be (Beryllium)	7440-41-7	EPA 200.8	ug/L	0.035	1.0
		Ca (Calcium)	7440-70-2	EPA 200.8	ug/L	6.9	500
		Cd (Cadmium)	7440-43-9	EPA 200.8	ug/L	0.038	0.50
		Co (Cobalt)	7440-48-4	EPA 200.8	ug/L	0.024	0.50
		Cr (Chromium)	7440-47-3	EPA 200.8	ug/L	0.05	2.0
		Cu (Copper)	7440-50-8	EPA 200.8	ug/L	0.33	2.0
		Fe (Iron)	7439-89-6	EPA 200.8	ug/L	1.2	50.0
		K (Potassium)	7440-09-7	EPA 200.8	ug/L	5.3	100
		Mg (Magnesium)	7439-95-4	EPA 200.8	ug/L	0.88	100
		Mn (Manganese)	7439-96-5	EPA 200.8	ug/L	0.086	0.50
		Na (Sodium)	7440-23-5	EPA 200.8	ug/L	2.1	100
		Ni (Nickel)	7440-02-0	EPA 200.8	ug/L	0.087	1.0
		Pb (Lead)	7439-92-1	EPA 200.8	ug/L	0.035	1.0
		Sb (Antimony)	7440-36-0	EPA 200.8	ug/L	0.13	2.0
		Se (Selenium)	7782-49-2	EPA 200.8	ug/L	0.16	5.0
		Tl (Thallium)	7440-28-0	EPA 200.8	ug/L	0.025	1.0
		V (Vanadium)	7440-62-2	EPA 200.8	ug/L	0.92	2.0
		Zn (Zinc)	7440-66-6	EPA 200.8	ug/L	1.9	5.0
	Other	TSS - LLI	WQ001	SM 2540D	mg/L	1.2	4.0
		TSS - NEA	WQ001	SM 2540D	mg/L	1.0	1.0
		DOC	OC001	NE128_06	mg/L	0.500	0.500
		POC	OC002	NE128_06	mg/L	0.0630	0.0630
		Hardness - Test America - Pittsburgh	Q356	SM 2340B	mg/L	0.033	0.66
		Hardness - Test America - Burlington	Q356	SM 2340B	mg/L	0.021	1.7
Other Special Studies	Other	POC	OC002	Lloyd Kahn	mg/Kg	100	100
		Mass of Solids	MS001	NE277_01	mg	NA	0.10
Discharge Water	PCBs (Aroclors)	Aroclor 1016	12674-11-2	EPA 608	ug/L	0.0029	0.010
		Aroclor 1221	11104-28-2	EPA 608	ug/L	0.0029	0.010
		Aroclor 1232	11141-16-5	EPA 608	ug/L	0.0029	0.010
		Aroclor 1242	53469-21-9	EPA 608	ug/L	0.0029	0.010
		Aroclor 1248	12672-29-6	EPA 608	ug/L	0.0029	0.010
		Aroclor 1254	11097-69-1	EPA 608	ug/L	0.0029	0.010
		Aroclor 1260	11096-82-5	EPA 608	ug/L	0.0029	0.010
		Total PCBs (sum of Aroclors)	1336-36-3	EPA 608	ug/L	0.0029	0.010
	Metals	Cd (Cadmium)	7440-43-9	EPA 200.8	ug/L	0.12	0.500
		Cr (Chromium)	7440-47-3	EPA 200.8	ug/L	0.12	2.000
		Cu (Copper)	7440-50-8	EPA 200.8	ug/L	0.11	2.0
		Hg (Mercury)	7439-97-6	EPA 1631	ng/L	0.12	0.50
		Pb (Lead)	7439-92-1	EPA 200.8	ug/L	0.022	1.0
	Other	TSS	WQ001	SM 2540D	mg/L	NA	4.0
		TOC	OC003	SM 5310B	mg/L	NA	1.0
		Oil and Grease	Q2240	EPA 1664	mg/L	NA	5.0
		Settable Solids	Q596	SM 2540F	ml/L	NA	0.1
Fish	PCBs (Congeners)	Total PCB (sum of congeners)	1336-36-3	Green Bay Mass Balance Method (NE013_09)	ug/g	0.0130	0.313
	DB-1 Peak:	02	2051-60-7	NE013_09	ug/g	0.000677	0.0219
		03	2051-61-8	NE013_09	ug/g	0.0214	5.00
		04	2051-62-9	NE013_09	ug/g	0.000469	0.0128
		05	13029-08-8 33146-45-1	NE013_09	ug/g	0.000273	0.00621
		06	33284-50-3 34883-39-1	NE013_09	ug/g	0.000104	0.00219
		07	25569-80-6	NE013_09	ug/g	0.0000959	0.00347
		08	16605-91-7 34883-43-7	NE013_09	ug/g	0.000919	0.0256
		09	34883-41-5	NE013_09	ug/g	0.000239	0.125
		10	38444-73-4	NE013_09	ug/g	0.000141	0.000512
		11	35693-92-6	NE013_09	ug/g	0.000231	0.125
		12	2050-67-1	NE013_09	ug/g	0.000604	0.125
		13	2974-92-7 2974-90-5	NE013_09	ug/g	0.000204	0.000488
		14	2050-68-2 37680-65-2	NE013_09	ug/g	0.000358	0.00676
		15	37680-66-3	NE013_09	ug/g	0.000195	0.00676
		16	55702-45-9 38444-76-7	NE013_09	ug/g	0.0000221	0.000475
		17	38444-78-9 38444-77-8	NE013_09	ug/g	0.000251	0.00713

Table 10-1. Reference limit and evaluation table.

Matrix	Category	Analyte Name	CAS number(s)	Analytical Method	Units	Laboratory Method Detection Limits[1]	Laboratory Reporting Limits[1]
Fish (Continued)	PCBs (Congeners)(Continued	19	55720-44-0 37680-68-5 15968-05-5	NE013_09	ug/g	0.000163	0.125
		20	15862-07-4	NE013_09	ug/g	0.0000467	0.000097
		21	38444-81-4	NE013_09	ug/g	0.0000743	0.00132
		22	55712-37-3	NE013_09	ug/g	0.000017	0.000585
		23	16606-02-3	NE013_09	ug/g	0.000305	0.00753
		24	7012-37-5 62796-65-0	NE013_09	ug/g	0.000256	0.00964
		25	38444-84-7 55702-46-0 38444-86-9 41464-41-9	NE013_09	ug/g	0.000335	0.00726
		26	38444-85-8 68194-04-7	NE013_09	ug/g	0.000149	0.00530
		27	70362-45-7	NE013_09	ug/g	0.0000654	0.00163
		28	38444-87-0	NE013_09	ug/g	0.000151	0.125
		29	41464-47-5	NE013_09	ug/g	0.0000461	0.0007
		30	38444-88-1	NE013_09	ug/g	0.000131	0.1250
		31	35693-99-3 60233-24-1 74338-23-1	NE013_09	ug/g	0.000579	0.00872
		32	70362-46-8 41464-40-8	NE013_09	ug/g	0.000188	0.00420
		33	53555-66-1 2437-79-8	NE013_09	ug/g	0.0000573	0.00183
		34	70362-47-9 32598-12-2	NE013_09	ug/g	0.0000759	0.00183
		35	54230-22-7 33284-54-7	NE013_09	ug/g	0.000231	0.125
		36	37680-69-6	NE013_09	ug/g	0.000163	0.125
		37	56558-16-8 41464-39-5	NE013_09	ug/g	0.000490	0.00786
		38	38444-90-5 36559-22-5 74472-33-6	NE013_09	ug/g	0.000188	0.00475
		39	52663-59-9 52663-58-8 41464-46-4 41464-42-0	NE013_09	ug/g	0.000259	0.00749
		41	73575-52-7 73575-54-9	NE013_09	ug/g	0.000162	0.125
		42	38444-93-8	NE013_09	ug/g	0.0000636	0.00172
		43	70424-67-8 60145-21-3	NE013_09	ug/g	0.000154	0.125
		44	41464-49-7 73575-53-8 39485-83-1	NE013_09	ug/g	0.0000530	0.000201
		45	74472-34-7	NE013_09	ug/g	0.000151	0.000384
		46	32690-93-0 73575-55-0 33284-53-6	NE013_09	ug/g	0.000107	0.00347
		47	32598-11-1	NE013_09	ug/g	0.000301	0.00621
		48	32598-10-0 70362-48-0 60233-25-2 33284-52-5 73575-56-1 38379-99-6 68194-06-9 55215-17-3	NE013_09	ug/g	0.000401	0.0132
		49	74338-24-2 68194-05-8 56558-18-0	NE013_09	ug/g	0.0000347	0.000932
		50	41464-43-1 33025-41-1	NE013_09	ug/g	0.000180	0.00640
		51	52663-60-2 52663-61-3 33979-03-2	NE013_09	ug/g	0.0000919	0.00329
		52	73575-57-2	NE013_09	ug/g	0.0000613	0.000183
		53	68194-07-0 37680-73-2	NE013_09	ug/g	0.0000910	0.00329
		54	41464-48-6 38380-01-7 68194-10-5	NE013_09	ug/g	0.0000520	0.00135
		55	56558-17-9 68194-08-1	NE013_09	ug/g	0.0000190	0.0000512

Table 10-1. Reference limit and evaluation table.

Matrix	Category	Analyte Name	CAS number(s)	Analytical Method	Units	Laboratory Method Detection Limits[1]	Laboratory Reporting Limits[1]
Fish (Continued)	PCBs (Congeners) (Continued)	56	70362-49-1 60145-20-2 74472-36-9 70362-41-3	NE013_09	ug/g	0.0000804	0.000274
		57	41464-51-1 68194-09-2 55312-69-1	NE013_09	ug/g	0.0000448	0.00102
		58	70362-50-4 38380-02-8 68194-11-06 74472-39-2 39635-32-0 74472-38-1 74472-40-5	NE013_09	ug/g	0.0000654	0.00212
		59	18259-05-7 65510-45-4	NE013_09	ug/g	0.0000490	0.00128
		60	68194-12-7 38411-22-2	NE013_09	ug/g	0.0000535	0.00137
		61	32598-13-3 38380-03-9 74472-41-6	NE013_09	ug/g	0.000184	0.00389
		62	60145-22-4	NE013_09	ug/g	0.000149	0.125
		63	52663-62-4	NE013_09	ug/g	0.0000257	0.000804
		64	52663-63-5	NE013_09	ug/g	0.0000931	0.00311
		65	70424-70-3 52744-13-5	NE013_09	ug/g	0.0000189	0.000530
		66	68194-14-9	NE013_09	ug/g	0.0000354	0.00110
		67	70424-68-9 74472-35-8 68194-13-8	NE013_09	ug/g	0.0000924	0.000237
		68	65510-44-3	NE013_09	ug/g	0.000179	0.125
		69	70424-69-0 31508-00-6 56030-56-9 38380-04-0	NE013_09	ug/g	0.000214	0.00731
		70	59291-64-4	NE013_09	ug/g	0.000172	0.125
		71	74472-37-0 52704-70-8 68194-15-0	NE013_09	ug/g	0.0000991	0.000369
		72	76842-07-4 61798-70-7 35694-04-3 41411-61-4	NE013_09	ug/g	0.0000236	0.0000569
		73	51908-16-8 74472-46-1 74487-85-7	NE013_09	ug/g	0.0000238	0.000713
		74	32598-14-4 38380-05-1 74472-43-8	NE013_09	ug/g	0.0000770	0.00248
		75	35065-27-1	NE013_09	ug/g	0.000335	0.00538
		76	39635-33-1 59291-65-5 74472-48-3	NE013_09	ug/g	0.000157	0.125
		77	52712-04-6	NE013_09	ug/g	0.0000911	0.00311
		78	52663-64-6	NE013_09	ug/g	0.000114	0.00267
		79	35694-06-5	NE013_09	ug/g	0.0000677	0.000137
		80	52663-66-8 52663-65-7	NE013_09	ug/g	0.0000255	0.000475
		82	35065-28-2 74472-44-9 74472-45-0	NE013_09	ug/g	0.000163	0.00493
		83	74472-42-7 41411-62-5 74472-49-4	NE013_09	ug/g	0.0000244	0.000457
		84	57465-28-8 55215-18-4	NE013_09	ug/g	0.00000913	0.0000236
		85	41411-63-6 52663-67-9	NE013_09	ug/g	0.0000616	0.00201
		87	40186-70-7 39635-35-3	NE013_09	ug/g	0.000120	0.000366
		88	60145-23-5 52663-68-0	NE013_09	ug/g	0.000184	0.00658
		89	38380-07-3 39635-34-2	NE013_09	ug/g	0.00000490	0.000183
		90	52663-69-1	NE013_09	ug/g	0.0000920	0.00311
		91	52663-72-6	NE013_09	ug/g	0.0000445	0.0000897
		92	52712-05-7	NE013_09	ug/g	0.0000456	0.000859

Table 10-1. Reference limit and evaluation table.

Matrix	Category	Analyte Name	CAS number(s)	Analytical Method	Units	Laboratory Method Detection Limits[1]	Laboratory Reporting Limits[1]
Fish (Continued)	PCBs (Congeners) (Continued)	93	38411-25-5 74472-47-2	NE013_09	ug/g	0.000190	0.00585
		94	52663-70-4	NE013_09	ug/g	0.000100	0.00311
		95	38380-08-4 52663-71-5	NE013_09	ug/g	0.0000460	0.00144
		96	69782-90-7 2136-99-4	NE013_09	ug/g	0.00000580	0.000121
		98	68194-16-1	NE013_09	ug/g	0.0000329	0.0000695
		99	40186-71-8	NE013_09	ug/g	0.0000257	0.000713
		100	52663-74-8 74472-52-9	NE013_09	ug/g	0.0000435	0.00102
		101	74472-51-8 33091-17-7	NE013_09	ug/g	0.0000653	0.000201
		102	35065-29-3	NE013_09	ug/g	0.000297	0.0111
		103	69782-91-8	NE013_09	ug/g	0.0000215	0.000768
		104	74472-50-7	NE013_09	ug/g	0.0000552	0.000219
		105	52663-73-7 32774-16-6	NE013_09	ug/g	0.0000216	0.000786
		106	35065-30-6	NE013_09	ug/g	0.0000667	0.00234
		107	41411-64-7	NE013_09	ug/g	0.0000202	0.000768
		108	68194-17-2	NE013_09	ug/g	0.0000675	0.000219
		109	52663-75-9	NE013_09	ug/g	0.000225	0.00768
		110	42740-50-1 52663-76-0	NE013_09	ug/g	0.000214	0.00786
		111	39635-31-9	NE013_09	ug/g	0.0000215	0.0000798
		112	52663-78-2	NE013_09	ug/g	0.0000298	0.00101
		113	52663-77-1	NE013_09	ug/g	0.000116	0.000451
		114 (surrogate)	52663-79-3	NE013_09	ug/g	surrogate**	surrogate**
		115	35694-08-7	NE013_09	ug/g	0.000110	0.00329
		116	74472-53-0	NE013_09	ug/g	0.0000629	0.000201
		117	40186-72-9	NE013_09	ug/g	0.0000488	0.00124
		118	2051-24-3	NE013_09	ug/g	0.0000112	0.0000222
Fish (Continued)	PCBs (Aroclors)	Aroclor 1016	12674-11-2	SW846 8082 (NE148_06)	ug/g	0.0175	0.0500
		Aroclor 1221	11104-28-2	SW846 8082 (NE148_06)	ug/g	0.0175	0.0500
		Aroclor 1232	11141-16-5	SW846 8082 (NE148_06)	ug/g	0.0175	0.0500
		Aroclor 1242	53469-21-9	SW846 8082 (NE148_06)	ug/g	0.0175	0.0500
		Aroclor 1248	12672-29-6	SW846 8082 (NE148_06)	ug/g	0.0175	0.0500
		Aroclor 1254	11097-69-1	SW846 8082 (NE148_06)	ug/g	0.0175	0.0500
		Aroclor 1260	11096-82-5	SW846 8082 (NE148_06)	ug/g	0.0175	0.0500
		Total PCBs (sum of Aroclors)	1336-36-3	SW846 8082 (NE148_06)	ug/g	0.0175	0.0500
	Other	Percent Lipid	LP001	NE158_05	%	NA	0.01
Sediment	PCBs (Aroclors)	Aroclor 1016	12674-11-2	GEHR8082	mg/kg	0.00415	0.0100
		Aroclor 1221	11104-28-2	GEHR8082	mg/kg	0.00415	0.0100
		Aroclor 1232	11141-16-5	GEHR8082	mg/kg	0.00415	0.0100
		Aroclor 1242	53469-21-9	GEHR8082	mg/kg	0.00415	0.0100
		Aroclor 1248	12672-29-6	GEHR8082	mg/kg	0.00415	0.0100
		Aroclor 1254	11097-69-1	GEHR8082	mg/kg	0.00415	0.0100
		Aroclor 1260	11096-82-5	GEHR8082	mg/kg	0.00415	0.0100
		Total PCBs (sum of Aroclors)	1336-36-3	GEHR8082	mg/kg	0.00415	0.0400
	PCBs (Congeners)	Total PCB (sum of congeners)	1336-36-3	Green Bay Mass Balance Method (NE013_09)	ug/g	NA	0.0627
	DB-1 Peak:	02	2051-60-7	NE013_09	ug/g	NA	0.00439
		03	2051-61-8	NE013_09	ug/g	NA	1.00
		04	2051-62-9	NE013_09	ug/g	NA	0.00256
		05	13029-08-8 33146-45-1	NE013_09	ug/g	NA	0.00124
		06	33284-50-3 34883-39-1	NE013_09	ug/g	NA	0.000439
		07	25569-80-6	NE013_09	ug/g	NA	0.000694
		08	16605-91-7 34883-43-7	NE013_09	ug/g	NA	0.00512
		09	34883-41-5	NE013_09	ug/g	NA	0.0250
		10	38444-73-4	NE013_09	ug/g	NA	0.00010
		11	35693-92-6	NE013_09	ug/g	NA	0.0250
		12	2050-67-1	NE013_09	ug/g	NA	0.0250
		13	2974-92-7 2974-90-5	NE013_09	ug/g	NA	0.0000975
		14	2050-68-2 37680-65-2	NE013_09	ug/g	NA	0.00135
		15	37680-66-3	NE013_09	ug/g	NA	0.00135
		16	55702-45-9 38444-76-7	NE013_09	ug/g	NA	0.0000950
		17	38444-78-9 38444-77-8	NE013_09	ug/g	NA	0.00143

Table 10-1. Reference limit and evaluation table.

Matrix	Category	Analyte Name	CAS number(s)	Analytical Method	Units	Laboratory Method Detection Limits[1]	Laboratory Reporting Limits[1]
Sediment (Continued)	PCBs (Congeners) (Continued)	19	55720-44-0 37680-68-5 15968-05-5	NE013_09	ug/g	NA	0.0250
		20	15862-07-4	NE013_09	ug/g	NA	0.0000194
		21	38444-81-4	NE013_09	ug/g	NA	0.000263
		22	55712-37-3	NE013_09	ug/g	NA	0.000117
		23	16606-02-3	NE013_09	ug/g	NA	0.00151
		24	7012-37-5 62796-65-0	NE013_09	ug/g	NA	0.00193
		25	38444-84-7 55702-46-0 38444-86-9 41464-41-9	NE013_09	ug/g	NA	0.00145
		26	38444-85-8 68194-04-7	NE013_09	ug/g	NA	0.00106
		27	70362-45-7	NE013_09	ug/g	NA	0.000325
		28	38444-87-0	NE013_09	ug/g	NA	0.0250
		29	41464-47-5	NE013_09	ug/g	NA	0.000146
		30	38444-88-1	NE013_09	ug/g	NA	0.0250
		31	35693-99-3 60233-24-1 74338-23-1	NE013_09	ug/g	NA	0.00174
		32	70362-46-8 41464-40-8	NE013_09	ug/g	NA	0.000841
		33	53555-66-1 2437-79-8	NE013_09	ug/g	NA	0.000366
		34	70362-47-9 32598-12-2	NE013_09	ug/g	NA	0.000366
		35	54230-22-7 33284-54-7	NE013_09	ug/g	NA	0.0250
		36	37680-69-6	NE013_09	ug/g	NA	0.0250
		37	56558-16-8 41464-39-5	NE013_09	ug/g	NA	0.00157
		38	38444-90-5 36559-22-5 74472-33-6	NE013_09	ug/g	NA	0.000950
		39	52663-59-9 52663-58-8 41464-46-4 41464-42-0	NE013_09	ug/g	NA	0.00150
		41	73575-52-7 73575-54-9	NE013_09	ug/g	NA	0.0250
		42	38444-93-8	NE013_09	ug/g	NA	0.000344
		43	70424-67-8 60145-21-3	NE013_09	ug/g	NA	0.0250
		44	41464-49-7 73575-53-8 39485-83-1	NE013_09	ug/g	NA	0.0000402
		45	74472-34-7	NE013_09	ug/g	NA	0.0000768
		46	32690-93-0 73575-55-0 33284-53-6	NE013_09	ug/g	NA	0.000694
		47	32598-11-1	NE013_09	ug/g	NA	0.00124
		48	32598-10-0 70362-48-0 60233-25-2 33284-52-5 73575-56-1 38379-99-6 68194-06-9 55215-17-3	NE013_09	ug/g	NA	0.00263
		49	74338-24-2 68194-05-8 56558-18-0	NE013_09	ug/g	NA	0.000186
		50	41464-43-1 33025-41-1	NE013_09	ug/g	NA	0.00128
		51	52663-60-2 52663-61-3 33979-03-2	NE013_09	ug/g	NA	0.000658
		52	73575-57-2	NE013_09	ug/g	NA	0.0000366
		53	68194-07-0 37680-73-2	NE013_09	ug/g	NA	0.000658
		54	41464-48-6 38380-01-7 68194-10-5	NE013_09	ug/g	NA	0.000270
		55	56558-17-9 68194-08-1	NE013_09	ug/g	NA	0.0000102

Table 10-1. Reference limit and evaluation table.

Matrix	Category	Analyte Name	CAS number(s)	Analytical Method	Units	Laboratory Method Detection Limits[1]	Laboratory Reporting Limits[1]
Sediment (Continued)	PCBs (Congeners) (Continued)	56	70362-49-1 60145-20-2 74472-36-9 70362-41-3	NE013_09	ug/g	NA	0.0000548
		57	41464-51-1 68194-09-2 55312-69-1	NE013_09	ug/g	NA	0.000205
		58	70362-50-4 38380-02-8 68194-11-06 74472-39-2 39635-32-0 74472-38-1 74472-40-5	NE013_09	ug/g	NA	0.000424
		59	18259-05-7 65510-45-4	NE013_09	ug/g	NA	0.000256
		60	68194-12-7 38411-22-2	NE013_09	ug/g	NA	0.000274
		61	32598-13-3 38380-03-9 74472-41-6	NE013_09	ug/g	NA	0.000778
		62	60145-22-4	NE013_09	ug/g	NA	0.0250
		63	52663-62-4	NE013_09	ug/g	NA	0.000161
		64	52663-63-5	NE013_09	ug/g	NA	0.000621
		65	70424-70-3 52744-13-5	NE013_09	ug/g	NA	0.000106
		66	68194-14-9	NE013_09	ug/g	NA	0.000219
		67	70424-68-9 74472-35-8 68194-13-8	NE013_09	ug/g	NA	0.0000475
		68	65510-44-3	NE013_09	ug/g	NA	0.0250
		69	70424-69-0 31508-00-6 56030-56-9 38380-04-0	NE013_09	ug/g	NA	0.00146
		70	59291-64-4	NE013_09	ug/g	NA	0.0250
		71	74472-37-0 52704-70-8 68194-15-0	NE013_09	ug/g	NA	0.0000738
		72	76842-07-4 61798-70-7 35694-04-3 41411-61-4	NE013_09	ug/g	NA	0.0000114
		73	51908-16-8 74472-46-1 74487-85-7	NE013_09	ug/g	NA	0.000143
		74	32598-14-4 38380-05-1 74472-43-8	NE013_09	ug/g	NA	0.000495
		75	35065-27-1	NE013_09	ug/g	NA	0.00108
		76	39635-33-1 59291-65-5 74472-48-3	NE013_09	ug/g	NA	0.0250
		77	52712-04-6	NE013_09	ug/g	NA	0.000621
		78	52663-64-6	NE013_09	ug/g	NA	0.000534
		79	35694-06-5	NE013_09	ug/g	NA	0.0000274
		80	52663-66-8 52663-65-7	NE013_09	ug/g	NA	0.0000950
		82	35065-28-2 74472-44-9 74472-45-0	NE013_09	ug/g	NA	0.000987
		83	74472-42-7 41411-62-5 74472-49-4	NE013_09	ug/g	NA	0.0000913
		84	57465-28-8 55215-18-4	NE013_09	ug/g	NA	0.00000473
		85	41411-63-6 52663-67-9	NE013_09	ug/g	NA	0.000402
		87	40186-70-7 39635-35-3	NE013_09	ug/g	NA	0.0000731
		88	60145-23-5 52663-68-0	NE013_09	ug/g	NA	0.00132
		89	38380-07-3 39635-34-2	NE013_09	ug/g	NA	0.0000366
		90	52663-69-1	NE013_09	ug/g	NA	0.000621
		91	52663-72-6	NE013_09	ug/g	NA	0.0000179
		92	52712-05-7	NE013_09	ug/g	NA	0.000172

Table 10-1. Reference limit and evaluation table.

Matrix	Category	Analyte Name	CAS number(s)	Analytical Method	Units	Laboratory Method Detection Limits[1]	Laboratory Reporting Limits[1]
Sediment (Continued)	PCBs (Congeners) (Continued)	93	38411-25-5 74472-47-2	NE013_09	ug/g	NA	0.00117
		94	52663-70-4	NE013_09	ug/g	NA	0.000621
		95	38380-08-4 52663-71-5	NE013_09	ug/g	NA	0.000289
		96	69782-90-7 2136-99-4	NE013_09	ug/g	NA	0.0000241
		98	68194-16-1	NE013_09	ug/g	NA	0.0000139
		99	40186-71-8	NE013_09	ug/g	NA	0.000143
		100	52663-74-8 74472-52-9	NE013_09	ug/g	NA	0.000205
		101	74472-51-8 33091-17-7	NE013_09	ug/g	NA	0.0000402
		102	35065-29-3	NE013_09	ug/g	NA	0.00223
		103	69782-91-8	NE013_09	ug/g	NA	0.000154
		104	74472-50-7	NE013_09	ug/g	NA	0.0000438
		105	52663-73-7 32774-16-6	NE013_09	ug/g	NA	0.000157
		106	35065-30-6	NE013_09	ug/g	NA	0.000468
		107	41411-64-7	NE013_09	ug/g	NA	0.000154
		108	68194-17-2	NE013_09	ug/g	NA	0.0000438
		109	52663-75-9	NE013_09	ug/g	NA	0.00154
		110	42740-50-1 52663-76-0	NE013_09	ug/g	NA	0.00157
		111	39635-31-9	NE013_09	ug/g	NA	0.0000160
		112	52663-78-2	NE013_09	ug/g	NA	0.000202
		113	52663-77-1	NE013_09	ug/g	NA	0.0000902
		114 (surrogate)	52663-79-3	NE013_09	ug/g	surrogate**	surrogate**
		115	35694-08-7	NE013_09	ug/g	NA	0.000658
		116	74472-53-0	NE013_09	ug/g	NA	0.0000402
		117	40186-72-9	NE013_09	ug/g	NA	0.000248
		118	2051-24-3	NE013_09	ug/g	NA	0.00000443
	Other	Percent Moisture	WC002	ASTM D2216-98	%	NA	0.0200
Air	PCBs (Aroclors)	Aroclor 1016	12674-11-2	TO-4A	ug/m3	0.000180	0.000347
		Aroclor 1221	11104-28-2	TO-4A	ug/m3	0.000180	0.000347
		Aroclor 1232	11141-16-5	TO-4A	ug/m3	0.000180	0.000347
		Aroclor 1242	53469-21-9	TO-4A	ug/m3	0.000180	0.000347
		Aroclor 1248	12672-29-6	TO-4A	ug/m3	0.000180	0.000347
		Aroclor 1254	11097-69-1	TO-4A	ug/m3	0.000180	0.000347
		Aroclor 1260	11096-82-5	TO-4A	ug/m3	0.000180	0.000347
		Total PCBs (sum of Aroclors)	1336-36-3	TO-4A	ug/m3	0.000180	0.000347
	PCBs (Aroclors)	Aroclor 1016	12674-11-2	TO-10A	ug/m3	0.00688	0.0139
		Aroclor 1221	11104-28-2	TO-10A	ug/m3	0.00688	0.0139
		Aroclor 1232	11141-16-5	TO-10A	ug/m3	0.00688	0.0139
		Aroclor 1242	53469-21-9	TO-10A	ug/m3	0.00688	0.0139
		Aroclor 1248	12672-29-6	TO-10A	ug/m3	0.00688	0.0139
		Aroclor 1254	11097-69-1	TO-10A	ug/m3	0.00688	0.0139
		Aroclor 1260	11096-82-5	TO-10A	ug/m3	0.00688	0.0139
		Total PCBs (sum of Aroclors)	1336-36-3	TO-10A	ug/m3	0.00688	0.0139

Notes:

[1] The MDLs and RLs will be adjusted for sample specific factors such as % solids, weights/volumes and dilutions that vary from the standard procedure. Sample-specific MDLs and RLs are highly matrix dependent. The MDLs and RLs reported for the Air Matrix are based on the antipated volume of air to be collected in the field (288 m^3 for TO-4A and 7.2 m^3 for TO-10A). Data will be evaluated against sample-specific MDLs and RLs. Non-detects, or values detected at a level below the sample specific MDL, will be reported as the sample specific MDL and U flagged (with the exception of analytes where MDL is NA). Values detected above the sample-specific MDL and below the sample-specific RL will be reported and flagged as estimated ("J").

NA - Not Applicable. Method detection limit (MDL) reporting will not be used for this anlayte. The analyte will be reported to the Reporting Limit (RL).

** - Peak 114 corresponds to IUPAC 207, which is the surrogate. The surrogate was not included in the Green Bay MDL study performed for fish or sediment.

Table 10-2a. Analytical EDD valid values for Remedial Action Monitoring Program.

Analytical Methods - Water

lab_anl_method_name	prep_method
NE207_03	SW846 (3535/3540C/3545)
EPA 200.8	SW846 3005A/200_8
EPA 200.8 SL	SW846 3005A/200_8
EPA 200.8 SLCH	SW846 3005A/200_8
SW-846 7196A	SW-846 7196A
EPA 245.1	EPA 245.1
EPA 508	SW846 (3535/3540C/3545)
NE128_05P	
NE128_05D	
SM 2340B	SM 2340B
SM 2540D	
SM 5310B	
EPA 1664	EPA 1664
SM 2540F	
EPA 608	SW846 (3535/3540C/3545)
EPA 1631	EPA 1631

Analytical Methods - Sediment

lab_anl_method_name	prep_method
GEHR8082	GEHR3545/GEHR3540C
NE013_09	GEHR3545/GEHR3540C
NE013_09	NE143_05
ASTM D2216-98	
Lloyd Kahn	
NE277_01	

Analytical Methods - Air

lab_anl_method_name	prep_method
SW846 8082/TO-4A	SW846 3540C
SW846 8082/TO-10A	SW846 3540C

Analytical Methods - Fish

lab_anl_method_name	prep_method
SW846 8082	NE17_07
NE013_09	NE17_07
NE158_05	NE158_05

Analytical Methods - Surrogates

lab_anl_method_name	cas_rn	chemical_name	reporting_unit
NE207_03	53742-07-7	Nonachlorobiphenyl	ng/L
GEHR8082	877-09-8	Tetrachloro-meta-xylene	mg/kg
GEHR8082	2051-24-3	Decachlorobiphenyl	mg/kg
SW846 8082	877-09-8	Tetrachloro-meta-xylene	mg/kg
SW846 8082	2051-24-3	Decachlorobiphenyl	mg/kg
EPA 508	877-09-8	Tetrachloro-meta-xylene	ug/L
EPA 608	877-09-8	Tetrachloro-meta-xylene	ug/L
EPA 508	2051-24-3	Decachlorobiphenyl	ug/L
EPA 608	2051-24-3	Decachlorobiphenyl	ug/L
NE013_09	877-09-8	Tetrachloro-meta-xylene	ug/g
NE013_09	53742-07-7	Nonachlorobiphenyl	ug/g
NE013_09	2051-24-3	Decachlorobiphenyl	ug/g
SW846 8082/TO-4A	877-09-8	Tetrachloro-meta-xylene	ng/m3
SW846 8082/TO-4A	2051-24-3	Decachlorobiphenyl	ng/m3
SW846 8082/TO-10A	877-09-8	Tetrachloro-meta-xylene	ng/m3
SW846 8082/TO-10A	2051-24-3	Decachlorobiphenyl	ng/m3

Notes:
Spacing, punctuation, and capitalization are required as shown here.

Table 10-2b. Analytical EDD valid values for Remedial Action Monitoring Program.

Analytes - Water

	lab_anl_method_name	cas_rn[1]	cas_rn(s)[2]	IUPAC #(s)[3]	chemical_name	result_unit
PCB Aroclors	EPA 508	12674-11-2	NA	NA	Aroclor 1016	ug/L
	EPA 508	11104-28-2	NA	NA	Aroclor 1221	ug/L
	EPA 508	11141-16-5	NA	NA	Aroclor 1232	ug/L
	EPA 508	53469-21-9	NA	NA	Aroclor 1242	ug/L
	EPA 508	12672-29-6	NA	NA	Aroclor 1248	ug/L
	EPA 508	11097-69-1	NA	NA	Aroclor 1254	ug/L
	EPA 508	11096-82-5	NA	NA	Aroclor 1260	ug/L
	EPA 508	1336-36-3	NA	NA	Total PCBs	ug/L
PCB Congeners	NE207_03	PK002	2051-60-7	001	Peak 2	ng/L
	NE207_03	PK003	2051-61-8	002	Peak 3	ng/L
	NE207_03	PK004	2051-62-9	003	Peak 4	ng/L
	NE207_03	PK005	13029-08-8 33146-45-1	004 010	Peak 5	ng/L
	NE207_03	PK006	33284-50-3 34883-39-1	007 009	Peak 6	ng/L
	NE207_03	PK007	25569-80-6	006	Peak 7	ng/L
	NE207_03	PK008	16605-91-7 34883-43-7	005 008	Peak 8	ng/L
	NE207_03	PK009	34883-41-5	014	Peak 9	ng/L
	NE207_03	PK010	38444-73-4	019	Peak 10	ng/L
	NE207_03	PK011	35693-92-6	030	Peak 11	ng/L
	NE207_03	PK012	2050-67-1	011	Peak 12	ng/L
	NE207_03	PK013	2974-92-7 2974-90-5	012 013	Peak 13	ng/L
	NE207_03	PK014	2050-68-2 37680-65-2	015 018	Peak 14	ng/L
	NE207_03	PK015	37680-66-3	017	Peak 15	ng/L
	NE207_03	PK016	55702-45-9 38444-76-7	024 027	Peak 16	ng/L
	NE207_03	PK017	38444-78-9 38444-77-8	016 032	Peak 17	ng/L
	NE207_03	PK019	55720-44-0 37680-68-5 15968-05-5	023 034 054	Peak 19	ng/L
	NE207_03	PK020	15862-07-4	029	Peak 20	ng/L
	NE207_03	PK021	38444-81-4	026	Peak 21	ng/L
	NE207_03	PK022	55712-37-3	025	Peak 22	ng/L
	NE207_03	PK023	16606-02-3	031	Peak 23	ng/L
	NE207_03	PK024	7012-37-5 62796-65-0	028 050	Peak 24	ng/L
	NE207_03	PK025	38444-84-7 55702-46-0 38444-86-9 41464-41-9	020 021 033 053	Peak 25	ng/L
	NE207_03	PK026	38444-85-8 68194-04-7	022 051	Peak 26	ng/L
	NE207_03	PK027	70362-45-7	045	Peak 27	ng/L
	NE207_03	PK028	38444-87-0	036	Peak 28	ng/L
	NE207_03	PK029	41464-47-5	046	Peak 29	ng/L
	NE207_03	PK030	38444-88-1	039	Peak 30	ng/L
	NE207_03	PK031	35693-99-3 60233-24-1 74338-23-1	052 069 073	Peak 31	ng/L
	NE207_03	PK032	70362-46-8 41464-40-8	043 049	Peak 32	ng/L
	NE207_03	PK033	53555-66-1 2437-79-8	038 047	Peak 33	ng/L
	NE207_03	PK034	70362-47-9 32598-12-2	048 075	Peak 34	ng/L
	NE207_03	PK035	54230-22-7 33284-54-7	062 065	Peak 35	ng/L
	NE207_03	PK036	37680-69-6	035	Peak 36	ng/L
	NE207_03	PK037	56558-16-8 41464-39-5	104 044	Peak 37	ng/L

Table 10-2b. Analytical EDD valid values for Remedial Action Monitoring Program.

Analytes - Water

	lab_anl_method_name	cas_rn[1]	cas_rn(s)[2]	IUPAC #(s)[3]	chemical_name	result_unit
PCB Congeners	NE207_03	PK038	38444-90-5 36559-22-5 74472-33-6	037 042 059	Peak 38	ng/L
	NE207_03	PK039	52663-59-9 52663-58-8 41464-46-4 41464-42-0	041 064 071 072	Peak 39	ng/L
	NE207_03	PK041	73575-52-7 73575-54-9	068 096	Peak 41	ng/L
	NE207_03	PK042	38444-93-8	040	Peak 42	ng/L
	NE207_03	PK043	70424-67-8 60145-21-3	057 103	Peak 43	ng/L
	NE207_03	PK044	41464-49-7 73575-53-8 39485-83-1	058 067 100	Peak 44	ng/L
	NE207_03	PK045	74472-34-7	063	Peak 45	ng/L
	NE207_03	PK046	32690-93-0 73575-55-0 33284-53-6	074 094 061	Peak 46	ng/L
	NE207_03	PK047	32598-11-1	070	Peak 47	ng/L
	NE207_03	PK048	32598-10-0 70362-48-0 60233-25-2 33284-52-5 73575-56-1 38379-99-6 68194-06-9 55215-17-3	066 076 098 080 093 095 102 088	Peak 48	ng/L
	NE207_03	PK049	74338-24-2 68194-05-8 56558-18-0	055 091 121	Peak 49	ng/L
	NE207_03	PK050	41464-43-1 33025-41-1	056 060	Peak 50	ng/L
	NE207_03	PK051	52663-60-2 52663-61-3 33979-03-2	084 092 155	Peak 51	ng/L
	NE207_03	PK052	73575-57-2	089	Peak 52	ng/L
	NE207_03	PK053	68194-07-0 37680-73-2	090 101	Peak 53	ng/L
	NE207_03	PK054	41464-48-6 38380-01-7 68194-10-5	079 099 113	Peak 54	ng/L
	NE207_03	PK055	56558-17-9 68194-08-1	119 150	Peak 55	ng/L
	NE207_03	PK056	70362-49-1 60145-20-2 74472-36-9 70362-41-3	078 083 112 108	Peak 56	ng/L
	NE207_03	PK057	41464-51-1 68194-09-2 55312-69-1	097 152 086	Peak 57	ng/L
	NE207_03	PK058	70362-50-4 38380-02-8 68194-11-06 74472-39-2 39635-32-0 74472-38-1 74472-40-5	081 087 117 125 111 115 145	Peak 58	ng/L
	NE207_03	PK059	18259-05-7 65510-45-4	116 085	Peak 59	ng/L
	NE207_03	PK060	68194-12-7 38411-22-2	120 136	Peak 60	ng/L

Table 10-2b. Analytical EDD valid values for Remedial Action Monitoring Program.

Analytes - Water

	lab_anl_method_name	cas_rn[1]	cas_rn(s)[2]	IUPAC #(s)[3]	chemical_name	result_unit
PCB Congeners			32598-13-3	077		
			38380-03-9	110		
	NE207_03	PK061	74472-41-6	148	Peak 61	ng/L
	NE207_03	PK062	60145-22-4	154	Peak 62	ng/L
	NE207_03	PK063	52663-62-4	082	Peak 63	ng/L
	NE207_03	PK064	52663-63-5	151	Peak 64	ng/L
			70424-70-3	124		
	NE207_03	PK065	52744-13-5	135	Peak 65	ng/L
	NE207_03	PK066	68194-14-9	144	Peak 66	ng/L
			70424-68-9	107		
			74472-35-8	109		
	NE207_03	PK067	68194-13-8	147	Peak 67	ng/L
	NE207_03	PK068	65510-44-3	123	Peak 68	ng/L
			70424-69-0	106		
			31508-00-6	118		
			56030-56-9	139		
	NE207_03	PK069	38380-04-0	149	Peak 69	ng/L
	NE207_03	PK070	59291-64-4	140	Peak 70	ng/L
			74472-37-0	114		
			52704-70-8	134		
	NE207_03	PK071	68194-15-0	143	Peak 71	ng/L
			76842-07-4	122		
			61798-70-7	131		
			35694-04-3	133		
	NE207_03	PK072	41411-61-4	142	Peak 72	ng/L
			51908-16-8	146		
			74472-46-1	165		
	NE207_03	PK073	74487-85-7	188	Peak 73	ng/L
			32598-14-4	105		
			38380-05-1	132		
	NE207_03	PK074	74472-43-8	161	Peak 74	ng/L
	NE207_03	PK075	35065-27-1	153	Peak 75	ng/L
			39635-33-1	127		
			59291-65-5	168		
	NE207_03	PK076	74472-48-3	184	Peak 76	ng/L
	NE207_03	PK077	52712-04-6	141	Peak 77	ng/L
	NE207_03	PK078	52663-64-6	179	Peak 78	ng/L
	NE207_03	PK079	35694-06-5	137	Peak 79	ng/L
			52663-66-8	130		
	NE207_03	PK080	52663-65-7	176	Peak 80	ng/L
			35065-28-2	138		
			74472-44-9	163		
	NE207_03	PK082	74472-45-0	164	Peak 82	ng/L
			74472-42-7	158		
			41411-62-5	160		
	NE207_03	PK083	74472-49-4	186	Peak 83	ng/L
			57465-28-8	126		
	NE207_03	PK084	55215-18-4	129	Peak 84	ng/L
			41411-63-6	166		
	NE207_03	PK085	52663-67-9	178	Peak 85	ng/L
			40186-70-7	175		
	NE207_03	PK087	39635-35-3	159	Peak 87	ng/L
			60145-23-5	182		
	NE207_03	PK088	52663-68-0	187	Peak 88	ng/L
			38380-07-3	128		
	NE207_03	PK089	39635-34-2	162	Peak 89	ng/L
	NE207_03	PK090	52663-69-1	183	Peak 90	ng/L
	NE207_03	PK091	52663-72-6	167	Peak 91	ng/L
	NE207_03	PK092	52712-05-7	185	Peak 92	ng/L
			38411-25-5	174		
	NE207_03	PK093	74472-47-2	181	Peak 93	ng/L
	NE207_03	PK094	52663-70-4	177	Peak 94	ng/L
			38380-08-4	156		
	NE207_03	PK095	52663-71-5	171	Peak 95	ng/L

Table 10-2b. Analytical EDD valid values for Remedial Action Monitoring Program.

Analytes - Water

	lab_anl_method_name	cas_rn[1]	cas_rn(s)[2]	IUPAC #(s)[3]	chemical_name	result_unit
PCB Congeners	NE207_03	PK096	69782-90-7 2136-99-4	157 202	Peak 96	ng/L
	NE207_03	PK098	68194-16-1	173	Peak 98	ng/L
	NE207_03	PK099	40186-71-8	201	Peak 99	ng/L
	NE207_03	PK100	52663-74-8 74472-52-9	172 204	Peak 100	ng/L
	NE207_03	PK101	74472-51-8 33091-17-7	192 197	Peak 101	ng/L
	NE207_03	PK102	35065-29-3	180	Peak 102	ng/L
	NE207_03	PK103	69782-91-8	193	Peak 103	ng/L
	NE207_03	PK104	74472-50-7	191	Peak 104	ng/L
	NE207_03	PK105	52663-73-7 32774-16-6	200 169	Peak 105	ng/L
	NE207_03	PK106	35065-30-6	170	Peak 106	ng/L
	NE207_03	PK107	41411-64-7	190	Peak 107	ng/L
	NE207_03	PK108	68194-17-2	198	Peak 108	ng/L
	NE207_03	PK109	52663-75-9	199	Peak 109	ng/L
	NE207_03	PK110	42740-50-1 52663-76-0	196 203	Peak 110	ng/L
	NE207_03	PK111	39635-31-9	189	Peak 111	ng/L
	NE207_03	PK112	52663-78-2	195	Peak 112	ng/L
	NE207_03	PK113	52663-77-1	208	Peak 113	ng/L
	NE207_03	PK114	52663-79-3	207	Peak 114	ng/L
	NE207_03	PK115	35694-08-7	194	Peak 115	ng/L
	NE207_03	PK116	74472-53-0	205	Peak 116	ng/L
	NE207_03	PK117	40186-72-9	206	Peak 117	ng/L
	NE207_03	PK118	2051-24-3	209	Peak 118	ng/L
	NE207_03	1336-36-3	1336-36-3	NA	Total PCBs	ng/L
PCB Aroclors	EPA 608	12674-11-2	NA	NA	Aroclor 1016	ug/L
	EPA 608	11104-28-2	NA	NA	Aroclor 1221	ug/L
	EPA 608	11141-16-5	NA	NA	Aroclor 1232	ug/L
	EPA 608	53469-21-9	NA	NA	Aroclor 1242	ug/L
	EPA 608	12672-29-6	NA	NA	Aroclor 1248	ug/L
	EPA 608	11097-69-1	NA	NA	Aroclor 1254	ug/L
	EPA 608	11096-82-5	NA	NA	Aroclor 1260	ug/L
	EPA 608	1336-36-3	NA	NA	Total PCBs	ug/L
TAL Metals (Full List)	EPA 200.8	7440-22-4	NA	NA	TAL - Silver	ug/L
	EPA 200.8	7429-90-5	NA	NA	TAL - Aluminum	ug/L
	EPA 200.8	7440-36-0	NA	NA	TAL - Antimony	ug/L
	EPA 200.8	7440-38-2	NA	NA	TAL - Arsenic	ug/L
	EPA 200.8	7440-39-3	NA	NA	TAL - Barium	ug/L
	EPA 200.8	7440-41-7	NA	NA	TAL - Beryllium	ug/L
	EPA 200.8	7440-70-2	NA	NA	TAL - Calcium	ug/L
	EPA 200.8	7440-43-9	NA	NA	TAL - Cadmium	ug/L
	EPA 200.8	7440-48-4	NA	NA	TAL - Cobalt	ug/L
	EPA 200.8	7440-47-3	NA	NA	TAL - Chromium	ug/L
	EPA 200.8	7440-50-8	NA	NA	TAL - Copper	ug/L
	EPA 200.8	7439-89-6	NA	NA	TAL - Iron	ug/L
	EPA 200.8	7440-09-7	NA	NA	TAL - Potassium	ug/L
	EPA 200.8	7439-95-4	NA	NA	TAL - Magnesium	ug/L
	EPA 200.8	7439-96-5	NA	NA	TAL - Manganese	ug/L
	EPA 200.8	7440-23-5	NA	NA	TAL - Sodium	ug/L
	EPA 200.8	7440-02-0	NA	NA	TAL - Nickel	ug/L
	EPA 200.8	7439-92-1	NA	NA	TAL - Lead	ug/L
	EPA 200.8	7782-49-2	NA	NA	TAL - Selenium	ug/L
	EPA 200.8	7440-28-0	NA	NA	TAL - Thallium	ug/L
	EPA 200.8	7440-62-2	NA	NA	TAL - Vanadium	ug/L
	EPA 200.8	7440-66-6	NA	NA	TAL - Zinc	ug/L
	EPA 245.1	7439-97-6	NA	NA	TAL - Mercury	ug/L
	EPA 1631	7439-97-6	NA	NA	TAL - Mercury	ng/L
TAL Metals (Short List with Calclulated	EPA 200.8 SLCH	7440-70-2	NA	NA	TAL - Calcium	ug/L
	EPA 200.8 SLCH	7439-95-4	NA	NA	TAL - Magnesium	ug/L
	EPA 200.8 SLCH	7440-43-9	NA	NA	TAL - Cadmium	ug/L

Table 10-2b. Analytical EDD valid values for Remedial Action Monitoring Program.

Analytes - Water

	lab_anl_method_name	cas_rn[1]	cas_rn(s)[2]	IUPAC #(s)[3]	chemical_name	result_unit
Hardness)	EPA 200.8 SLCH	7439-92-1	NA	NA	TAL - Lead	ug/L
TAL Metals	EPA 200.8 SL	7440-43-9	NA	NA	TAL - Cadmium	ug/L
(Short List)	EPA 200.8 SL	7439-92-1	NA	NA	TAL - Lead	ug/L
Hexavalent Chromium	SW-846 7196A	18540-29-9	NA	NA	Hexavalent Chromium	ug/L
Hardness	SM 2340B	Q356	NA	NA	Hardness	mg/L
TSS	SM 2540D	WQ001	NA	NA	Total Suspended Solids	mg/L
Organic Carbon	NE128_05P	OC001	NA	NA	Particulate OC	mg/L
	NE128_05D	OC002	NA	NA	Dissolved OC	mg/L
	SM 5310B	OC003	NA	NA	Total OC	mg/L
Oil and Grease	EPA 1664	Q2240	NA	NA	Oil and Grease	mg/L
Settleable solids	SM 2540F	Q596	NA	NA	Settleable solids	ml/L

Notes:

[1] The value reported in this column is the Valid Value for cas_rn in the EDD deliverable and database.

[2] The values reported in this column are the individual PCB congener cas_rn(s) associated with the Peak Numbers that will be actually reported in the cas_rn field. These values will not be present in the database.

[3] The values reported in this column are the individual PCB congener IUPAC numbers(s) associated with the Peak Numbers. These values will not be present in the database.

Table 10-2c. Analytical EDD valid values for Remedial Action Monitoring Program.

Analytes - Sediment

	lab_anl_method_name	cas_rn[1]	cas_rn(s)[2]	IUPAC #(s)[3]	chemical_name	result_unit
PCB Aroclors	GEHR8082	12674-11-2	NA	NA	Aroclor 1016	mg/kg
	GEHR8082	11104-28-2	NA	NA	Aroclor 1221	mg/kg
	GEHR8082	11141-16-5	NA	NA	Aroclor 1232	mg/kg
	GEHR8082	53469-21-9	NA	NA	Aroclor 1242	mg/kg
	GEHR8082	12672-29-6	NA	NA	Aroclor 1248	mg/kg
	GEHR8082	11097-69-1	NA	NA	Aroclor 1254	mg/kg
	GEHR8082	11096-82-5	NA	NA	Aroclor 1260	mg/kg
	GEHR8082	1336-36-3	NA	NA	Total PCBs	mg/kg
PCB Congeners	NE013_09	PK002	2051-60-7	001	Peak 2	ug/g
	NE013_09	PK003	2051-61-8	002	Peak 3	ug/g
	NE013_09	PK004	2051-62-9	003	Peak 4	ug/g
	NE013_09	PK005	13029-08-8 33146-45-1	004 010	Peak 5	ug/g
	NE013_09	PK006	33284-50-3 34883-39-1	007 009	Peak 6	ug/g
	NE013_09	PK007	25569-80-6	006	Peak 7	ug/g
	NE013_09	PK008	16605-91-7 34883-43-7	005 008	Peak 8	ug/g
	NE013_09	PK009	34883-41-5	014	Peak 9	ug/g
	NE013_09	PK010	38444-73-4	019	Peak 10	ug/g
	NE013_09	PK011	35693-92-6	030	Peak 11	ug/g
	NE013_09	PK012	2050-67-1	011	Peak 12	ug/g
	NE013_09	PK013	2974-92-7 2974-90-5	012 013	Peak 13	ug/g
	NE013_09	PK014	2050-68-2 37680-65-2	015 018	Peak 14	ug/g
	NE013_09	PK015	37680-66-3	017	Peak 15	ug/g
	NE013_09	PK016	55702-45-9 38444-76-7	024 027	Peak 16	ug/g
	NE013_09	PK017	38444-78-9 38444-77-8	016 032	Peak 17	ug/g
	NE013_09	PK019	55720-44-0 37680-68-5 15968-05-5	023 034 054	Peak 19	ug/g
	NE013_09	PK020	15862-07-4	029	Peak 20	ug/g
	NE013_09	PK021	38444-81-4	026	Peak 21	ug/g
	NE013_09	PK022	55712-37-3	025	Peak 22	ug/g
	NE013_09	PK023	16606-02-3	031	Peak 23	ug/g
	NE013_09	PK024	7012-37-5 62796-65-0	028 050	Peak 24	ug/g
	NE013_09	PK025	38444-84-7 55702-46-0 38444-86-9 41464-41-9	020 021 033 053	Peak 25	ug/g
	NE013_09	PK026	38444-85-8 68194-04-7	022 051	Peak 26	ug/g
	NE013_09	PK027	70362-45-7	045	Peak 27	ug/g
	NE013_09	PK028	38444-87-0	036	Peak 28	ug/g
	NE013_09	PK029	41464-47-5	046	Peak 29	ug/g
	NE013_09	PK030	38444-88-1	039	Peak 30	ug/g
	NE013_09	PK031	35693-99-3 60233-24-1 74338-23-1	052 069 073	Peak 31	ug/g
	NE013_09	PK032	70362-46-8 41464-40-8	043 049	Peak 32	ug/g
	NE013_09	PK033	53555-66-1 2437-79-8	038 047	Peak 33	ug/g
	NE013_09	PK034	70362-47-9 32598-12-2	048 075	Peak 34	ug/g

Table 10-2c. Analytical EDD valid values for Remedial Action Monitoring Program.

Analytes - Sediment

	lab_anl_method_name	cas_rn[1]	cas_rn(s)[2]	IUPAC #(s)[3]	chemical_name	result_unit
PCB Congeners			54230-22-7	062		
	NE013_09	PK035	33284-54-7	065	Peak 35	ug/g
	NE013_09	PK036	37680-69-6	035	Peak 36	ug/g
			56558-16-8	104		
	NE013_09	PK037	41464-39-5	044	Peak 37	ug/g
			38444-90-5	037		
			36559-22-5	042		
	NE013_09	PK038	74472-33-6	059	Peak 38	ug/g
			52663-59-9	041		
			52663-58-8	064		
			41464-46-4	071		
	NE013_09	PK039	41464-42-0	072	Peak 39	ug/g
			73575-52-7	068		
	NE013_09	PK041	73575-54-9	096	Peak 41	ug/g
	NE013_09	PK042	38444-93-8	040	Peak 42	ug/g
			70424-67-8	057		
	NE013_09	PK043	60145-21-3	103	Peak 43	ug/g
			41464-49-7	058		
			73575-53-8	067		
	NE013_09	PK044	39485-83-1	100	Peak 44	ug/g
	NE013_09	PK045	74472-34-7	063	Peak 45	ug/g
			32690-93-0	074		
			73575-55-0	094		
	NE013_09	PK046	33284-53-6	061	Peak 46	ug/g
	NE013_09	PK047	32598-11-1	070	Peak 47	ug/g
			32598-10-0	066		
			70362-48-0	076		
			60233-25-2	098		
			33284-52-5	080		
			73575-56-1	093		
			38379-99-6	095		
			68194-06-9	102		
	NE013_09	PK048	55215-17-3	088	Peak 48	ug/g
			74338-24-2	055		
			68194-05-8	091		
	NE013_09	PK049	56558-18-0	121	Peak 49	ug/g
			41464-43-1	056		
	NE013_09	PK050	33025-41-1	060	Peak 50	ug/g
			52663-60-2	084		
			52663-61-3	092		
	NE013_09	PK051	33979-03-2	155	Peak 51	ug/g
	NE013_09	PK052	73575-57-2	089	Peak 52	ug/g
			68194-07-0	090		
	NE013_09	PK053	37680-73-2	101	Peak 53	ug/g
			41464-48-6	079		
			38380-01-7	099		
	NE013_09	PK054	68194-10-5	113	Peak 54	ug/g
			56558-17-9	119		
	NE013_09	PK055	68194-08-1	150	Peak 55	ug/g
			70362-49-1	078		
			60145-20-2	083		
			74472-36-9	112		
	NE013_09	PK056	70362-41-3	108	Peak 56	ug/g
			41464-51-1	097		
			68194-09-2	152		
	NE013_09	PK057	55312-69-1	086	Peak 57	ug/g

Table 10-2c. Analytical EDD valid values for Remedial Action Monitoring Program.

Analytes - Sediment

	lab_anl_method_name	cas_rn[1]	cas_rn(s)[2]	IUPAC #(s)[3]	chemical_name	result_unit
PCB Congeners	NE013_09	PK058	70362-50-4 38380-02-8 68194-11-06 74472-39-2 39635-32-0 74472-38-1 74472-40-5	081 087 117 125 111 115 145	Peak 58	ug/g
	NE013_09	PK059	18259-05-7 65510-45-4	116 085	Peak 59	ug/g
	NE013_09	PK060	68194-12-7 38411-22-2	120 136	Peak 60	ug/g
	NE013_09	PK061	32598-13-3 38380-03-9 74472-41-6	077 110 148	Peak 61	ug/g
	NE013_09	PK062	60145-22-4	154	Peak 62	ug/g
	NE013_09	PK063	52663-62-4	082	Peak 63	ug/g
	NE013_09	PK064	52663-63-5	151	Peak 64	ug/g
	NE013_09	PK065	70424-70-3 52744-13-5	124 135	Peak 65	ug/g
	NE013_09	PK066	68194-14-9	144	Peak 66	ug/g
	NE013_09	PK067	70424-68-9 74472-35-8 68194-13-8	107 109 147	Peak 67	ug/g
	NE013_09	PK068	65510-44-3	123	Peak 68	ug/g
	NE013_09	PK069	70424-69-0 31508-00-6 56030-56-9 38380-04-0	106 118 139 149	Peak 69	ug/g
	NE013_09	PK070	59291-64-4	140	Peak 70	ug/g
	NE013_09	PK071	74472-37-0 52704-70-8 68194-15-0	114 134 143	Peak 71	ug/g
	NE013_09	PK072	76842-07-4 61798-70-7 35694-04-3 41411-61-4	122 131 133 142	Peak 72	ug/g
	NE013_09	PK073	51908-16-8 74472-46-1 74487-85-7	146 165 188	Peak 73	ug/g
	NE013_09	PK074	32598-14-4 38380-05-1 74472-43-8	105 132 161	Peak 74	ug/g
	NE013_09	PK075	35065-27-1	153	Peak 75	ug/g
	NE013_09	PK076	39635-33-1 59291-65-5 74472-48-3	127 168 184	Peak 76	ug/g
	NE013_09	PK077	52712-04-6	141	Peak 77	ug/g
	NE013_09	PK078	52663-64-6	179	Peak 78	ug/g
	NE013_09	PK079	35694-06-5	137	Peak 79	ug/g
	NE013_09	PK080	52663-66-8 52663-65-7	130 176	Peak 80	ug/g
	NE013_09	PK082	35065-28-2 74472-44-9 74472-45-0	138 163 164	Peak 82	ug/g
	NE013_09	PK083	74472-42-7 41411-62-5 74472-49-4	158 160 186	Peak 83	ug/g
	NE013_09	PK084	57465-28-8 55215-18-4	126 129	Peak 84	ug/g

Table 10-2c. Analytical EDD valid values for Remedial Action Monitoring Program.

Analytes - Sediment

	lab_anl_method_name	cas_rn[1]	cas_rn(s)[2]	IUPAC #(s)[3]	chemical_name	result_unit
PCB Congeners	NE013_09	PK085	41411-63-6 52663-67-9	166 178	Peak 85	ug/g
	NE013_09	PK087	40186-70-7 39635-35-3	175 159	Peak 87	ug/g
	NE013_09	PK088	60145-23-5 52663-68-0	182 187	Peak 88	ug/g
	NE013_09	PK089	38380-07-3 39635-34-2	128 162	Peak 89	ug/g
	NE013_09	PK090	52663-69-1	183	Peak 90	ug/g
	NE013_09	PK091	52663-72-6	167	Peak 91	ug/g
	NE013_09	PK092	52712-05-7	185	Peak 92	ug/g
	NE013_09	PK093	38411-25-5 74472-47-2	174 181	Peak 93	ug/g
	NE013_09	PK094	52663-70-4	177	Peak 94	ug/g
	NE013_09	PK095	38380-08-4 52663-71-5	156 171	Peak 95	ug/g
	NE013_09	PK096	69782-90-7 2136-99-4	157 202	Peak 96	ug/g
	NE013_09	PK098	68194-16-1	173	Peak 98	ug/g
	NE013_09	PK099	40186-71-8	201	Peak 99	ug/g
	NE013_09	PK100	52663-74-8 74472-52-9	172 204	Peak 100	ug/g
	NE013_09	PK101	74472-51-8 33091-17-7	192 197	Peak 101	ug/g
	NE013_09	PK102	35065-29-3	180	Peak 102	ug/g
	NE013_09	PK103	69782-91-8	193	Peak 103	ug/g
	NE013_09	PK104	74472-50-7	191	Peak 104	ug/g
	NE013_09	PK105	52663-73-7 32774-16-6	200 169	Peak 105	ug/g
	NE013_09	PK106	35065-30-6	170	Peak 106	ug/g
	NE013_09	PK107	41411-64-7	190	Peak 107	ug/g
	NE013_09	PK108	68194-17-2	198	Peak 108	ug/g
	NE013_09	PK109	52663-75-9	199	Peak 109	ug/g
	NE013_09	PK110	42740-50-1 52663-76-0	196 203	Peak 110	ug/g
	NE013_09	PK111	39635-31-9	189	Peak 111	ug/g
	NE013_09	PK112	52663-78-2	195	Peak 112	ug/g
	NE013_09	PK113	52663-77-1	208	Peak 113	ug/g
	NE013_09	PK114	52663-79-3	207	Peak 114	ug/g
	NE013_09	PK115	35694-08-7	194	Peak 115	ug/g
	NE013_09	PK116	74472-53-0	205	Peak 116	ug/g
	NE013_09	PK117	40186-72-9	206	Peak 117	ug/g
	NE013_09	PK118	2051-24-3	209	Peak 118	ug/g
	NE013_09	1336-36-3	1336-36-3	NA	Total PCBs	ug/g
Wet Chemistry	ASTM D2216-98	WC002	NA	NA	Moisture Content	%
	NE277_01	MS001	NA	NA	Mass of Solids	g
	Lloyd Kahn	OC001	NA	NA	Particulate OC	mg/kg

Notes:

[1] The value reported in this column is the Valid Value for cas_rn in the EDD deliverable and database.

[2] The values reported in this column are the individual PCB congener cas_rn(s) associated with the Peak Numbers that will be actually reported in the cas_rn field. These values will not be present in the database.

[3] The values reported in this column are the individual PCB congener IUPAC numbers(s) associated with the Peak Numbers. These values will not be present in the database.

Table 10-2d. Analytical EDD valid values for Remedial Action Monitoring Program.

Analytes - Air

	lab_anl_method_name	cas_rn	chemical_name	result_unit
PCB Aroclors	SW846 8082/TO-4A	12674-11-2	Aroclor 1016	ng/m3
	SW846 8082/TO-4A	11104-28-2	Aroclor 1221	ng/m3
	SW846 8082/TO-4A	11141-16-5	Aroclor 1232	ng/m3
	SW846 8082/TO-4A	53469-21-9	Aroclor 1242	ng/m3
	SW846 8082/TO-4A	12672-29-6	Aroclor 1248	ng/m3
	SW846 8082/TO-4A	11097-69-1	Aroclor 1254	ng/m3
	SW846 8082/TO-4A	11096-82-5	Aroclor 1260	ng/m3
	SW846 8082/TO-4A	1336-36-3	Total PCBs	ng/m3
PCB Aroclors	SW846 8082/TO-10A	12674-11-2	Aroclor 1016	ng/m3
	SW846 8082/TO-10A	11104-28-2	Aroclor 1221	ng/m3
	SW846 8082/TO-10A	11141-16-5	Aroclor 1232	ng/m3
	SW846 8082/TO-10A	53469-21-9	Aroclor 1242	ng/m3
	SW846 8082/TO-10A	12672-29-6	Aroclor 1248	ng/m3
	SW846 8082/TO-10A	11097-69-1	Aroclor 1254	ng/m3
	SW846 8082/TO-10A	11096-82-5	Aroclor 1260	ng/m3
	SW846 8082/TO-10A	1336-36-3	Total PCBs	ng/m3

Table 10-2e. Analytical EDD valid values for Remedial Action Monitoring Program.

Analytical - Fish

	lab_anl_method_name	cas_rn[1]	cas_rn(s)[2]	IUPAC #(s)[3]	chemical_name	result_unit
PCB Aroclors	SW846 8082	12674-11-2	NA	NA	Aroclor 1016	mg/kg
	SW846 8082	11104-28-2	NA	NA	Aroclor 1221	mg/kg
	SW846 8082	11141-16-5	NA	NA	Aroclor 1232	mg/kg
	SW846 8082	53469-21-9	NA	NA	Aroclor 1242	mg/kg
	SW846 8082	12672-29-6	NA	NA	Aroclor 1248	mg/kg
	SW846 8082	11097-69-1	NA	NA	Aroclor 1254	mg/kg
	SW846 8082	11096-82-5	NA	NA	Aroclor 1260	mg/kg
	SW846 8082	1336-36-3	NA	NA	Total PCBs	mg/kg
PCB Congeners	NE013_09	PK002	2051-60-7	001	Peak 2	mg/kg
	NE013_09	PK003	2051-61-8	002	Peak 3	mg/kg
	NE013_09	PK004	2051-62-9	003	Peak 4	mg/kg
	NE013_09	PK005	13029-08-8 33146-45-1	004 010	Peak 5	mg/kg
	NE013_09	PK006	33284-50-3 34883-39-1	007 009	Peak 6	mg/kg
	NE013_09	PK007	25569-80-6	006	Peak 7	mg/kg
	NE013_09	PK008	16605-91-7 34883-43-7	005 008	Peak 8	mg/kg
	NE013_09	PK009	34883-41-5	014	Peak 9	mg/kg
	NE013_09	PK010	38444-73-4	019	Peak 10	mg/kg
	NE013_09	PK011	35693-92-6	030	Peak 11	mg/kg
	NE013_09	PK012	2050-67-1	011	Peak 12	mg/kg
	NE013_09	PK013	2974-92-7 2974-90-5	012 013	Peak 13	mg/kg
	NE013_09	PK014	2050-68-2 37680-65-2	015 018	Peak 14	mg/kg
	NE013_09	PK015	37680-66-3	017	Peak 15	mg/kg
	NE013_09	PK016	55702-45-9 38444-76-7	024 027	Peak 16	mg/kg
	NE013_09	PK017	38444-78-9 38444-77-8	016 032	Peak 17	mg/kg
	NE013_09	PK019	55720-44-0 37680-68-5 15968-05-5	023 034 054	Peak 19	mg/kg
	NE013_09	PK020	15862-07-4	029	Peak 20	mg/kg
	NE013_09	PK021	38444-81-4	026	Peak 21	mg/kg
	NE013_09	PK022	55712-37-3	025	Peak 22	mg/kg
	NE013_09	PK023	16606-02-3	031	Peak 23	mg/kg
	NE013_09	PK024	7012-37-5 62796-65-0	028 050	Peak 24	mg/kg
	NE013_09	PK025	38444-84-7 55702-46-0 38444-86-9 41464-41-9	020 021 033 053	Peak 25	mg/kg
	NE013_09	PK026	38444-85-8 68194-04-7	022 051	Peak 26	mg/kg
	NE013_09	PK027	70362-45-7	045	Peak 27	mg/kg
	NE013_09	PK028	38444-87-0	036	Peak 28	mg/kg
	NE013_09	PK029	41464-47-5	046	Peak 29	mg/kg
	NE013_09	PK030	38444-88-1	039	Peak 30	mg/kg
	NE013_09	PK031	35693-99-3 60233-24-1 74338-23-1	052 069 073	Peak 31	mg/kg
	NE013_09	PK032	70362-46-8 41464-40-8	043 049	Peak 32	mg/kg
	NE013_09	PK033	53555-66-1 2437-79-8	038 047	Peak 33	mg/kg
	NE013_09	PK034	70362-47-9 32598-12-2	048 075	Peak 34	mg/kg

Table 10-2e. Analytical EDD valid values for Remedial Action Monitoring Program.

Analytical - Fish

	lab_anl_method_name	cas_rn[1]	cas_rn(s)[2]	IUPAC #(s)[3]	chemical_name	result_unit
PCB Congeners			54230-22-7	062		
	NE013_09	PK035	33284-54-7	065	Peak 35	mg/kg
	NE013_09	PK036	37680-69-6	035	Peak 36	mg/kg
			56558-16-8	104		
	NE013_09	PK037	41464-39-5	044	Peak 37	mg/kg
			38444-90-5	037		
			36559-22-5	042		
	NE013_09	PK038	74472-33-6	059	Peak 38	mg/kg
			52663-59-9	041		
			52663-58-8	064		
			41464-46-4	071		
	NE013_09	PK039	41464-42-0	072	Peak 39	mg/kg
			73575-52-7	068		
	NE013_09	PK041	73575-54-9	096	Peak 41	mg/kg
	NE013_09	PK042	38444-93-8	040	Peak 42	mg/kg
			70424-67-8	057		
	NE013_09	PK043	60145-21-3	103	Peak 43	mg/kg
			41464-49-7	058		
			73575-53-8	067		
	NE013_09	PK044	39485-83-1	100	Peak 44	mg/kg
	NE013_09	PK045	74472-34-7	063	Peak 45	mg/kg
			32690-93-0	074		
			73575-55-0	094		
	NE013_09	PK046	33284-53-6	061	Peak 46	mg/kg
	NE013_09	PK047	32598-11-1	070	Peak 47	mg/kg
			32598-10-0	066		
			70362-48-0	076		
			60233-25-2	098		
			33284-52-5	080		
			73575-56-1	093		
			38379-99-6	095		
			68194-06-9	102		
	NE013_09	PK048	55215-17-3	088	Peak 48	mg/kg
			74338-24-2	055		
			68194-05-8	091		
	NE013_09	PK049	56558-18-0	121	Peak 49	mg/kg
			41464-43-1	056		
	NE013_09	PK050	33025-41-1	060	Peak 50	mg/kg
			52663-60-2	084		
			52663-61-3	092		
	NE013_09	PK051	33979-03-2	155	Peak 51	mg/kg
	NE013_09	PK052	73575-57-2	089	Peak 52	mg/kg
			68194-07-0	090		
	NE013_09	PK053	37680-73-2	101	Peak 53	mg/kg
			41464-48-6	079		
			38380-01-7	099		
	NE013_09	PK054	68194-10-5	113	Peak 54	mg/kg
			56558-17-9	119		
	NE013_09	PK055	68194-08-1	150	Peak 55	mg/kg
			70362-49-1	078		
			60145-20-2	083		
			74472-36-9	112		
	NE013_09	PK056	70362-41-3	108	Peak 56	mg/kg
			41464-51-1	097		
			68194-09-2	152		
	NE013_09	PK057	55312-69-1	086	Peak 57	mg/kg

Table 10-2e. Analytical EDD valid values for Remedial Action Monitoring Program.

Analytical - Fish

	lab_anl_method_name	cas_rn[1]	cas_rn(s)[2]	IUPAC #(s)[3]	chemical_name	result_unit
PCB Congeners	NE013_09	PK058	70362-50-4 38380-02-8 68194-11-06 74472-39-2 39635-32-0 74472-38-1 74472-40-5	081 087 117 125 111 115 145	Peak 58	mg/kg
	NE013_09	PK059	18259-05-7 65510-45-4	116 085	Peak 59	mg/kg
	NE013_09	PK060	68194-12-7 38411-22-2	120 136	Peak 60	mg/kg
	NE013_09	PK061	32598-13-3 38380-03-9 74472-41-6	077 110 148	Peak 61	mg/kg
	NE013_09	PK062	60145-22-4	154	Peak 62	mg/kg
	NE013_09	PK063	52663-62-4	082	Peak 63	mg/kg
	NE013_09	PK064	52663-63-5	151	Peak 64	mg/kg
	NE013_09	PK065	70424-70-3 52744-13-5	124 135	Peak 65	mg/kg
	NE013_09	PK066	68194-14-9	144	Peak 66	mg/kg
	NE013_09	PK067	70424-68-9 74472-35-8 68194-13-8	107 109 147	Peak 67	mg/kg
	NE013_09	PK068	65510-44-3	123	Peak 68	mg/kg
	NE013_09	PK069	70424-69-0 31508-00-6 56030-56-9 38380-04-0	106 118 139 149	Peak 69	mg/kg
	NE013_09	PK070	59291-64-4	140	Peak 70	mg/kg
	NE013_09	PK071	74472-37-0 52704-70-8 68194-15-0	114 134 143	Peak 71	mg/kg
	NE013_09	PK072	76842-07-4 61798-70-7 35694-04-3 41411-61-4	122 131 133 142	Peak 72	mg/kg
	NE013_09	PK073	51908-16-8 74472-46-1 74487-85-7	146 165 188	Peak 73	mg/kg
	NE013_09	PK074	32598-14-4 38380-05-1 74472-43-8	105 132 161	Peak 74	mg/kg
	NE013_09	PK075	35065-27-1	153	Peak 75	mg/kg
	NE013_09	PK076	39635-33-1 59291-65-5 74472-48-3	127 168 184	Peak 76	mg/kg
	NE013_09	PK077	52712-04-6	141	Peak 77	mg/kg
	NE013_09	PK078	52663-64-6	179	Peak 78	mg/kg
	NE013_09	PK079	35694-06-5	137	Peak 79	mg/kg
	NE013_09	PK080	52663-66-8 52663-65-7	130 176	Peak 80	mg/kg
	NE013_09	PK082	35065-28-2 74472-44-9 74472-45-0	138 163 164	Peak 82	mg/kg
	NE013_09	PK083	74472-42-7 41411-62-5 74472-49-4	158 160 186	Peak 83	mg/kg
	NE013_09	PK084	57465-28-8 55215-18-4	126 129	Peak 84	mg/kg

Table 10-2e. Analytical EDD valid values for Remedial Action Monitoring Program.

Analytical - Fish

	lab_anl_method_name	cas_rn[1]	cas_rn(s)[2]	IUPAC #(s)[3]	chemical_name	result_unit
PCB Congeners	NE013_09	PK085	41411-63-6 52663-67-9	166 178	Peak 85	mg/kg
	NE013_09	PK087	40186-70-7 39635-35-3	175 159	Peak 87	mg/kg
	NE013_09	PK088	60145-23-5 52663-68-0	182 187	Peak 88	mg/kg
	NE013_09	PK089	38380-07-3 39635-34-2	128 162	Peak 89	mg/kg
	NE013_09	PK090	52663-69-1	183	Peak 90	mg/kg
	NE013_09	PK091	52663-72-6	167	Peak 91	mg/kg
	NE013_09	PK092	52712-05-7	185	Peak 92	mg/kg
	NE013_09	PK093	38411-25-5 74472-47-2	174 181	Peak 93	mg/kg
	NE013_09	PK094	52663-70-4	177	Peak 94	mg/kg
	NE013_09	PK095	38380-08-4 52663-71-5	156 171	Peak 95	mg/kg
	NE013_09	PK096	69782-90-7 2136-99-4	157 202	Peak 96	mg/kg
	NE013_09	PK098	68194-16-1	173	Peak 98	mg/kg
	NE013_09	PK099	40186-71-8	201	Peak 99	mg/kg
	NE013_09	PK100	52663-74-8 74472-52-9	172 204	Peak 100	mg/kg
	NE013_09	PK101	74472-51-8 33091-17-7	192 197	Peak 101	mg/kg
	NE013_09	PK102	35065-29-3	180	Peak 102	mg/kg
	NE013_09	PK103	69782-91-8	193	Peak 103	mg/kg
	NE013_09	PK104	74472-50-7	191	Peak 104	mg/kg
	NE013_09	PK105	52663-73-7 32774-16-6	200 169	Peak 105	mg/kg
	NE013_09	PK106	35065-30-6	170	Peak 106	mg/kg
	NE013_09	PK107	41411-64-7	190	Peak 107	mg/kg
	NE013_09	PK108	68194-17-2	198	Peak 108	mg/kg
	NE013_09	PK109	52663-75-9	199	Peak 109	mg/kg
	NE013_09	PK110	42740-50-1 52663-76-0	196 203	Peak 110	mg/kg
	NE013_09	PK111	39635-31-9	189	Peak 111	mg/kg
	NE013_09	PK112	52663-78-2	195	Peak 112	mg/kg
	NE013_09	PK113	52663-77-1	208	Peak 113	mg/kg
	NE013_09	PK114	52663-79-3	207	Peak 114	mg/kg
	NE013_09	PK115	35694-08-7	194	Peak 115	mg/kg
	NE013_09	PK116	74472-53-0	205	Peak 116	mg/kg
	NE013_09	PK117	40186-72-9	206	Peak 117	mg/kg
	NE013_09	PK118	2051-24-3	209	Peak 118	mg/kg
	NE013_09	1336-36-3	1336-36-3	NA	Total PCB	mg/kg
Percent Lipid	NE158_05	LP001	LP001	NA	Percent Lipid	%

Notes:

[1] The value reported in this column is the Valid Value for cas_rn in the EDD deliverable and database.

[2] The values reported in this column are the individual PCB congener cas_rn(s) associated with the Peak Numbers that will be actually reported in the cas_rn field. These values will not be present in the database.

[3] The values reported in this column are the individual PCB congener IUPAC numbers(s) associated with the Peak Numbers. These values will not be present in the database.

Table 10-2f. Analytical EDD valid values for Remedial Action Monitoring Program.

Other Analytical Codes

sample_type_code
LR
LCS
LCSD
MS
MB
PE
MSD

lab_name_code
LLI
NEA
TAPIT
TANC
TABUR

lab_qualifiers
U
B
J
E
<J
JB
EB

total_or_dissolved
T
D
N

column_number
1C
2C
NA

organic_yn
Y
N

lab_matrix_code
S
W
A
F

data_package_level
A
B
AB

subsample_amount_unit
L
mL
g
m3

test_type
INITIAL
REANALYSIS
REEXTRACT

result_type_code
TRG
SUR

reportable_result
Yes
No

final_volume_unit
mL

basis
WET
DRY
NA

calibration_compliant
Y
N

analysis_location
FI
FL
LB

test_batch_type
ANALYSIS
PREP
LEACH

sample_source
LAB

detect_flag
Y
N

Table 10-2g. Analytical EDD valid values for Remedial Action Monitoring Program.

Definitions for Valid Values

General
NA - Not Applicable
Y - Yes
N - No

sample_type_code
LR - Laboratory Replicate
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MB - Method Blank
PE - Performance Evaluation
MSD - Matrix Spike Duplicate

lab_matrix_code
S - solid
W - aqueous
A - air
F - fish

lab_name_code
LLI - Lancaster Laboratories Inc.
NEA - Northeast Analytical
TAPIT - Test America (Pittsburgh)
TANC - Test America (North Canton)
TABUR - Test America (Burlington)

analysis_location
FI - field instrument
FL - mobile field laboratory
LB - fixed-based laboratory

result_type_code
TRG - target
SUR - surrogate

total_or_dissolved
T - Total
D - Dissolved
N - Not applicable

lab_qualifiers
U - Analyte was not detected at or above the specified limit.
B - Analyte was also detected in the associated blank.
J - Estimated value. Analyte was detected but the concentration is below the reporting limit.
E - Value exceeded the calibration range.
<J - The sum of all PCB congener peak results above their respective MDL is below the sample-specific

Table 10-3. Hudson River sediment QC limits.

Surrogate Sediment				FD-Sediment (Precision)	
Fraction	Low	High	Reject	Fraction	RPD
PCB	60%	140%	10%	PCB	40%
PCB Congeners	60%	140%	10%	PCB Congeners	40%
LCS and PE-Sediment (Accuracy)					Difference
Fraction	Low	High	Reject	PCB	2×RL
PCB	50%	150%	10%	PCB Congeners	2×RL
PCB Congeners	50%	150%	10%		

Notes:
FD= Field duplicate.
LCS = Laboratory control sample.
PE = Performance Evaluation sample.
RL = Reporting limit.

FIGURES

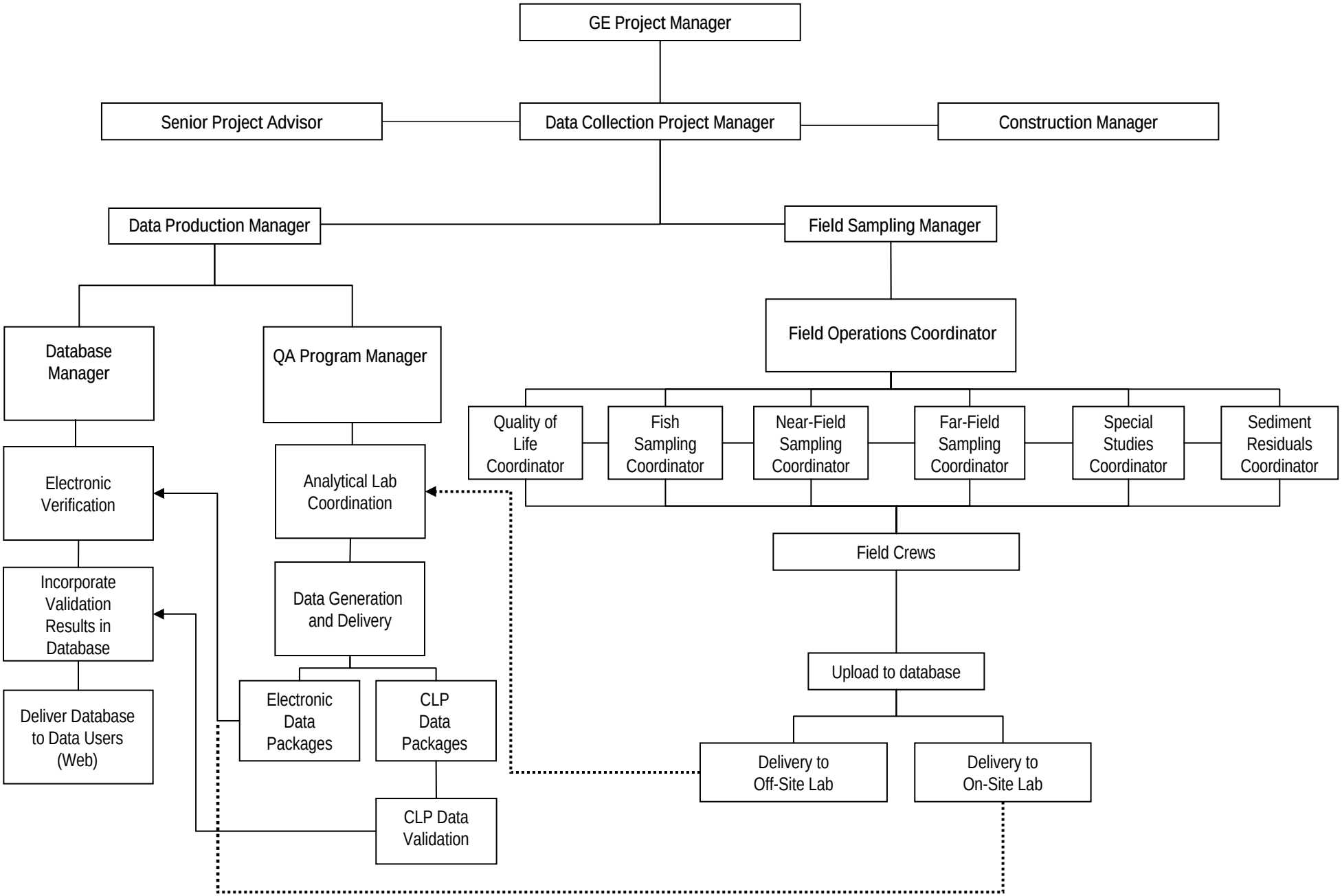

Figure 1-1. Conceptual organizational chart.

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STATION LOCATION	COMPLIANCE CRITERIA	MONITORING	COMPLIANCE EVALUATION
100 m Upstream	• None	• Cross-channel transect run twice/day • 1 TSS grab at point of highest turbidity • Single buoy with probe (continuous turbidity, DO, temp., cond., pH) and composite sampler (4-6 hr. TSS); 24-hr. composite metals sample at single buoy upstream of all dredging	• None (used for net change calculations)
10 m Side Channel	• TSS $\leq$ 700 mg/L > upstream	• Along-channel transect run twice/day • 1 TSS grab at point of highest turbidity twice/day	• Net TSS (TSS_{grab} –TSS_{upstr}) < 700 mg/L
50/100 m Downstream	• TSS $\leq$ 700 mg/L > upstream	• Cross-channel transect run twice/day • 1 TSS grab at point of highest turbidity twice/day	• Net TSS (TSS_{grab} –TSS_{upstr}) < 700 mg/L
150/300 m Downstream	• TSS: 6-hr. avg. for RS1: < net 100 mg/L; • Metals: Diss. Cd, Pb, Cr: NYS aquatic acute standard (hardness dependent), Dis. Cr+6: 16 ug/L, Dis. Hg: 1.4 ug/L • DO: Daily avg. > 5.0 mg/L, > 4.0 at any time • 6.5 < pH< 8.5	• Cross-channel transect run twice/day • 1 TSS and metals grab at point of highest turbidity • Single buoy with probe (continuous turbidity, DO, temp., cond., pH) and composite sampler (4-6 hr. TSS; 24-hr. metals)	• Net TSS (TSS_{6hr} –TSS_{upstr}) < 100 mg/L • Metals (hardness dependent calculations) • Daily average DO > 5 mg/L • Instantaneous DO > 4 mg/L • 6.5 < Daily min and max pH < 8.5

Figure 2-1a. Near-field sample collection logic flow chart.

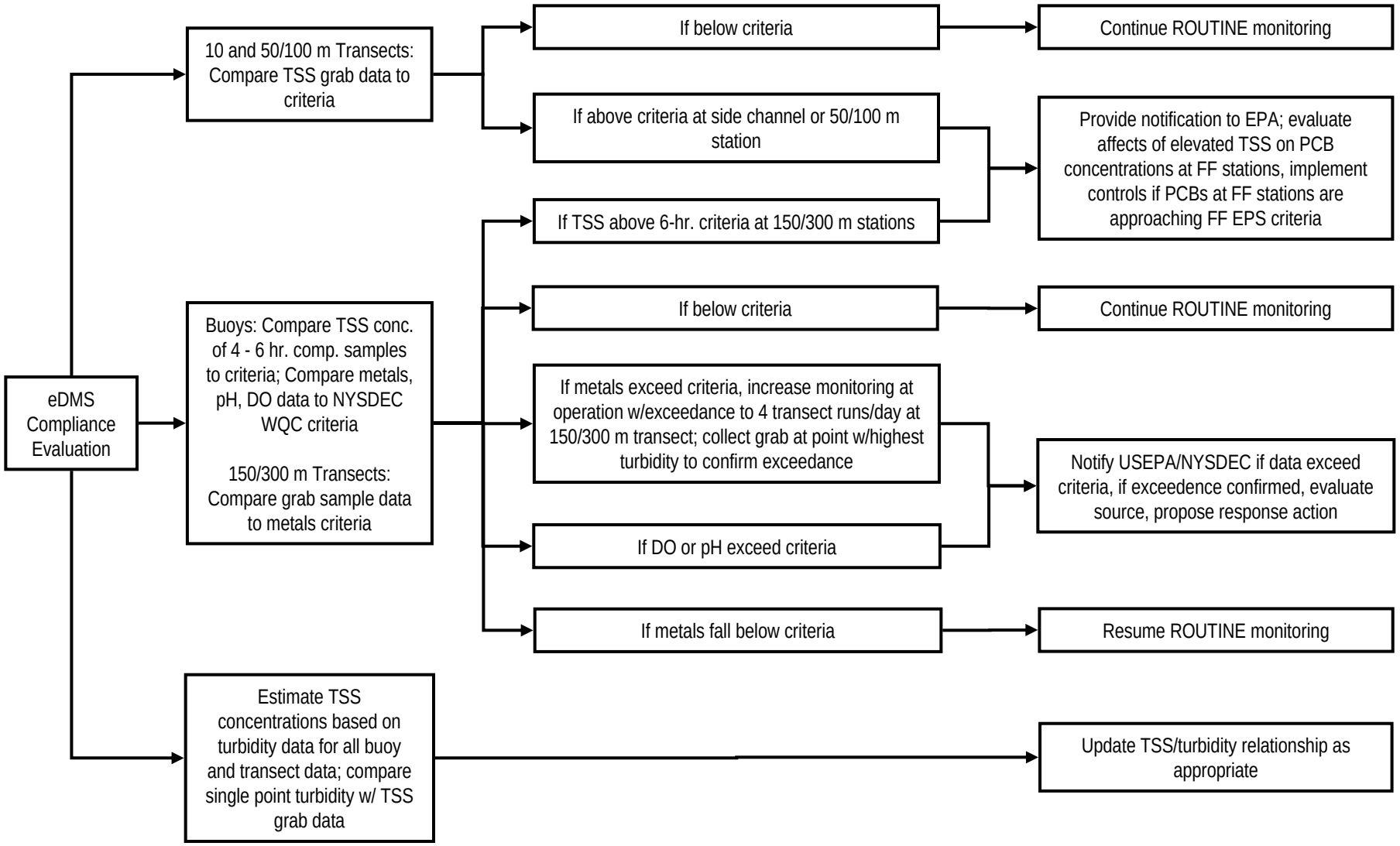
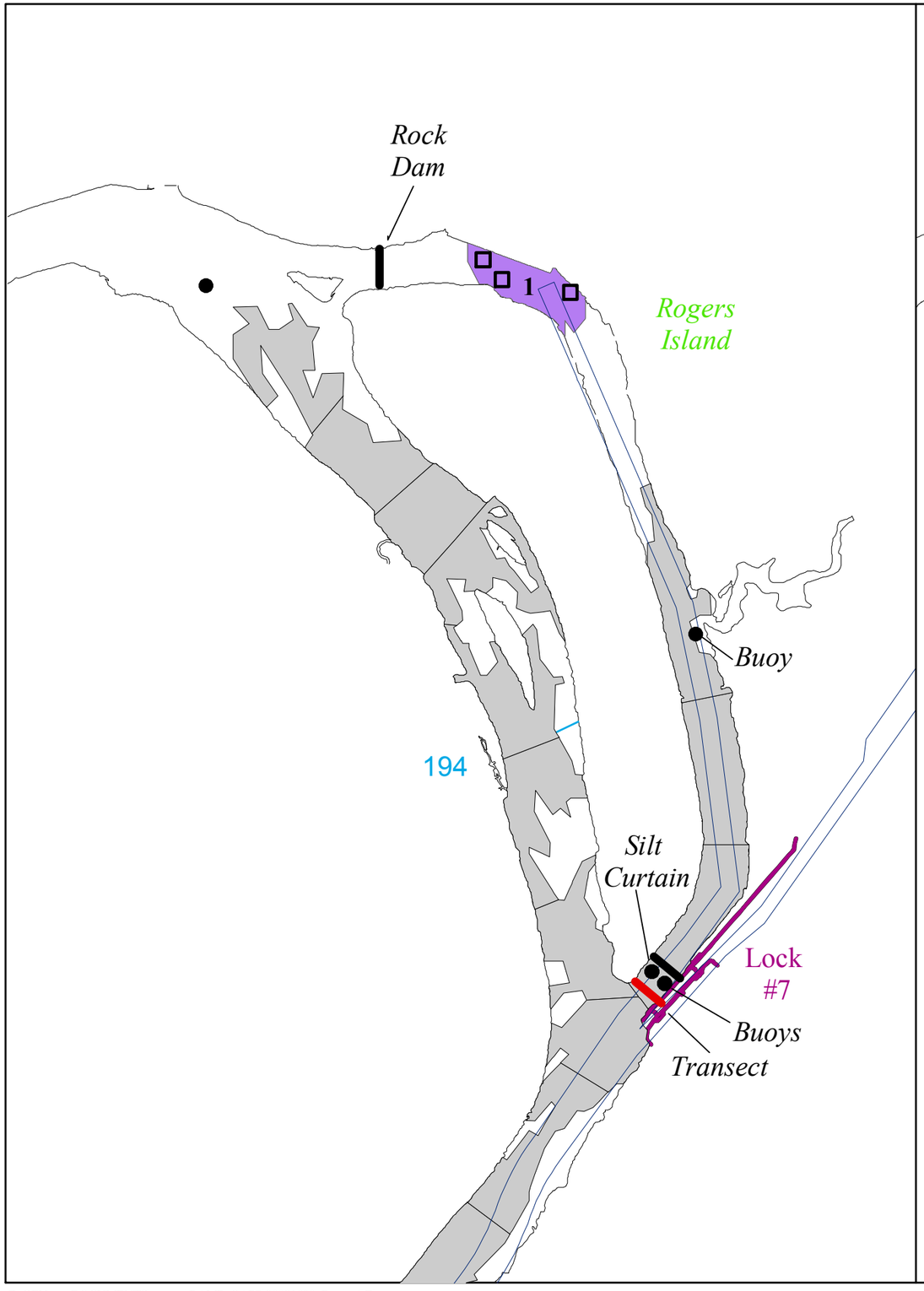
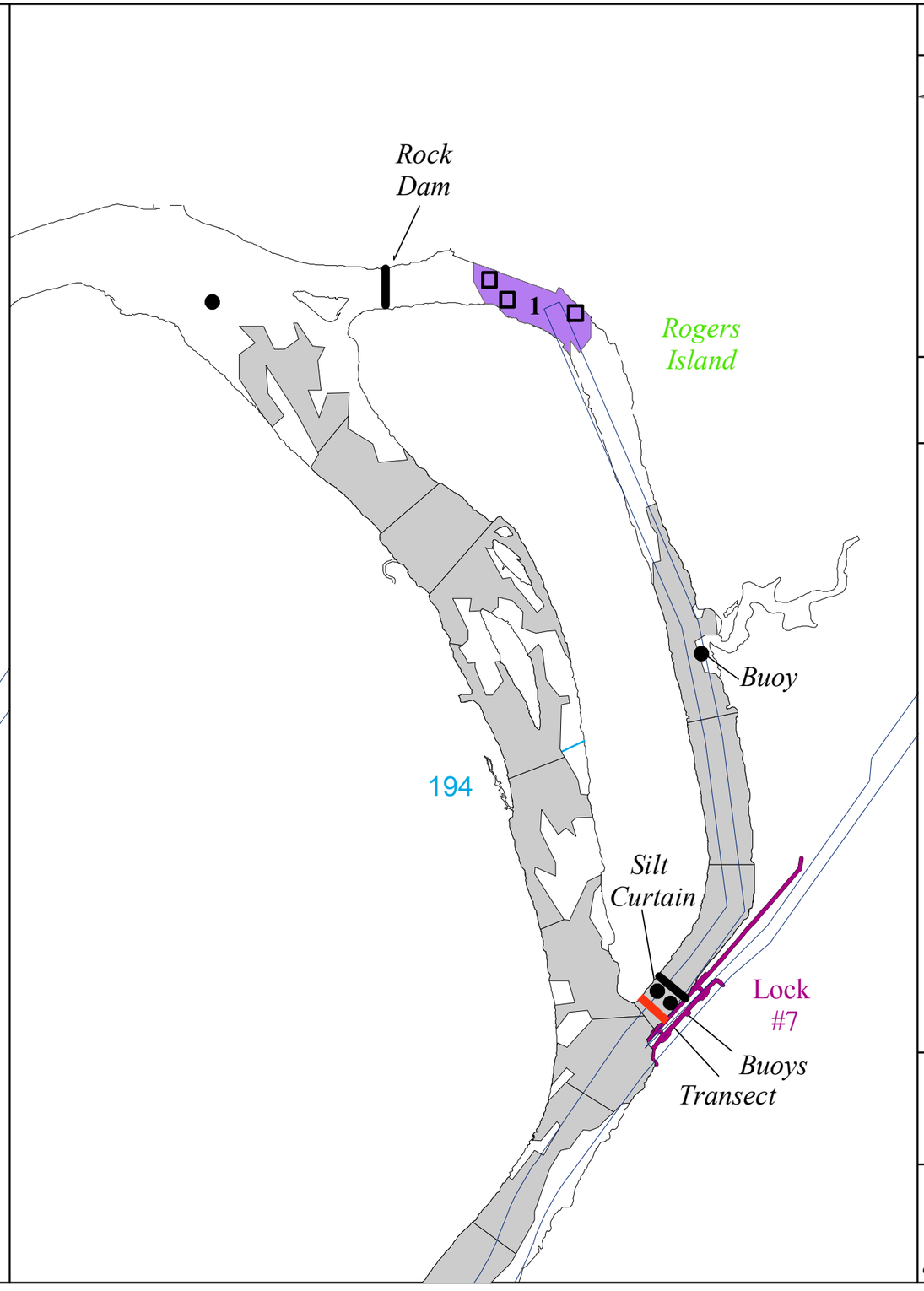


Figure 2-1b. Near-field sample collection logic flow chart.

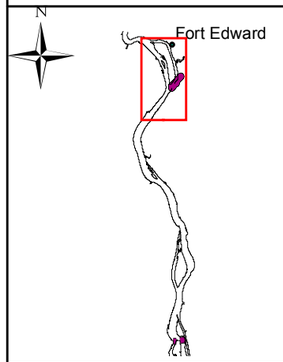
CURRENT MONITORING CONFIGURATION

CONCEPTUAL COMBINED MONITORING CONFIGURATION





LOCATOR MAP OF THE HUDSON RIVER



SCALE

0 0.1 Miles

LEGEND

Dredge Type
- Inventory
- Residual
- Backfill

- Buoy
- Transect
- Champlain Canal

Notes:
CU ID shown for dredged CU areas.

Colors indicate individual dredge teams and their associated monitoring components.

Figure 2-2. Conceptual layout of near-field monitoring stations in Phase 1 Areas - May.

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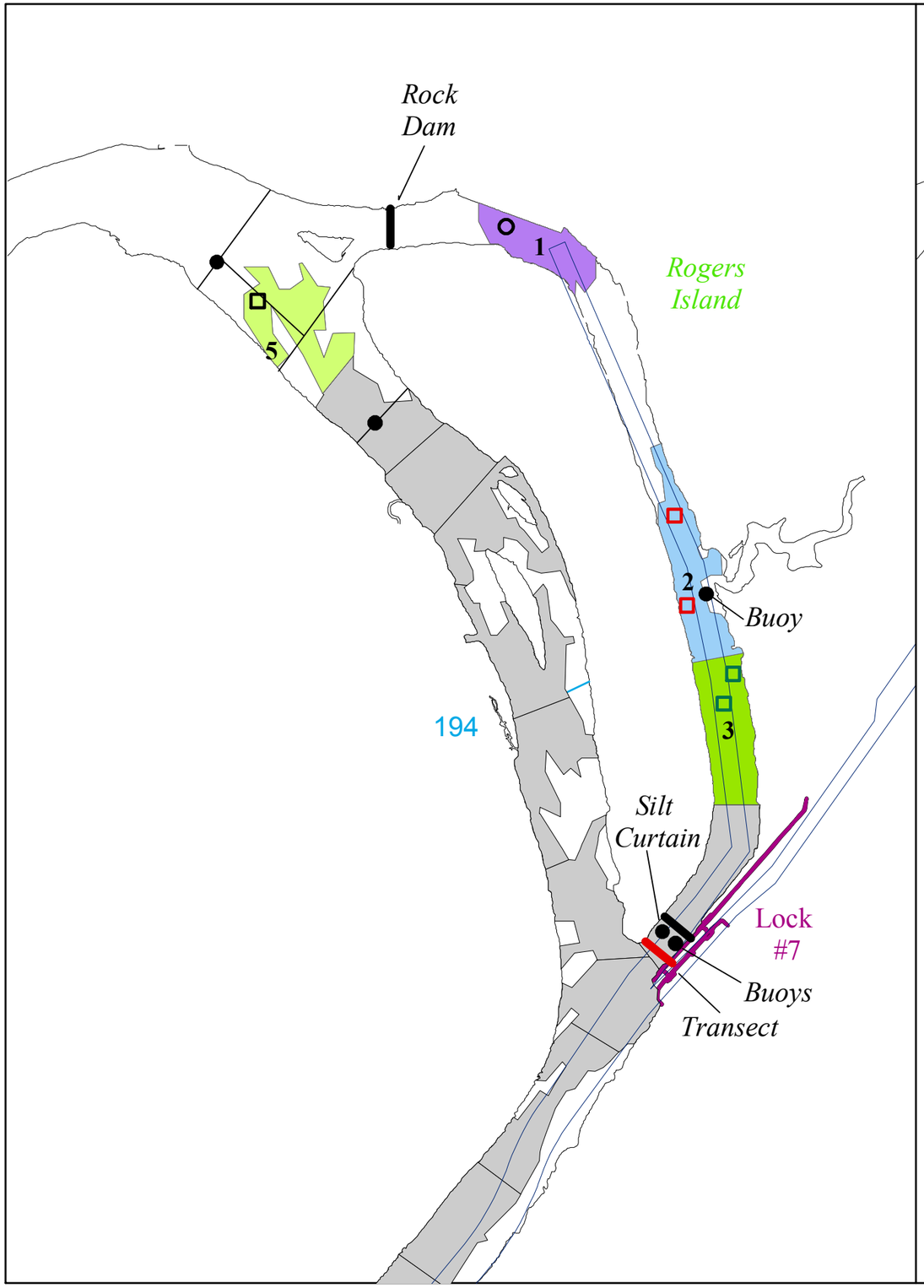
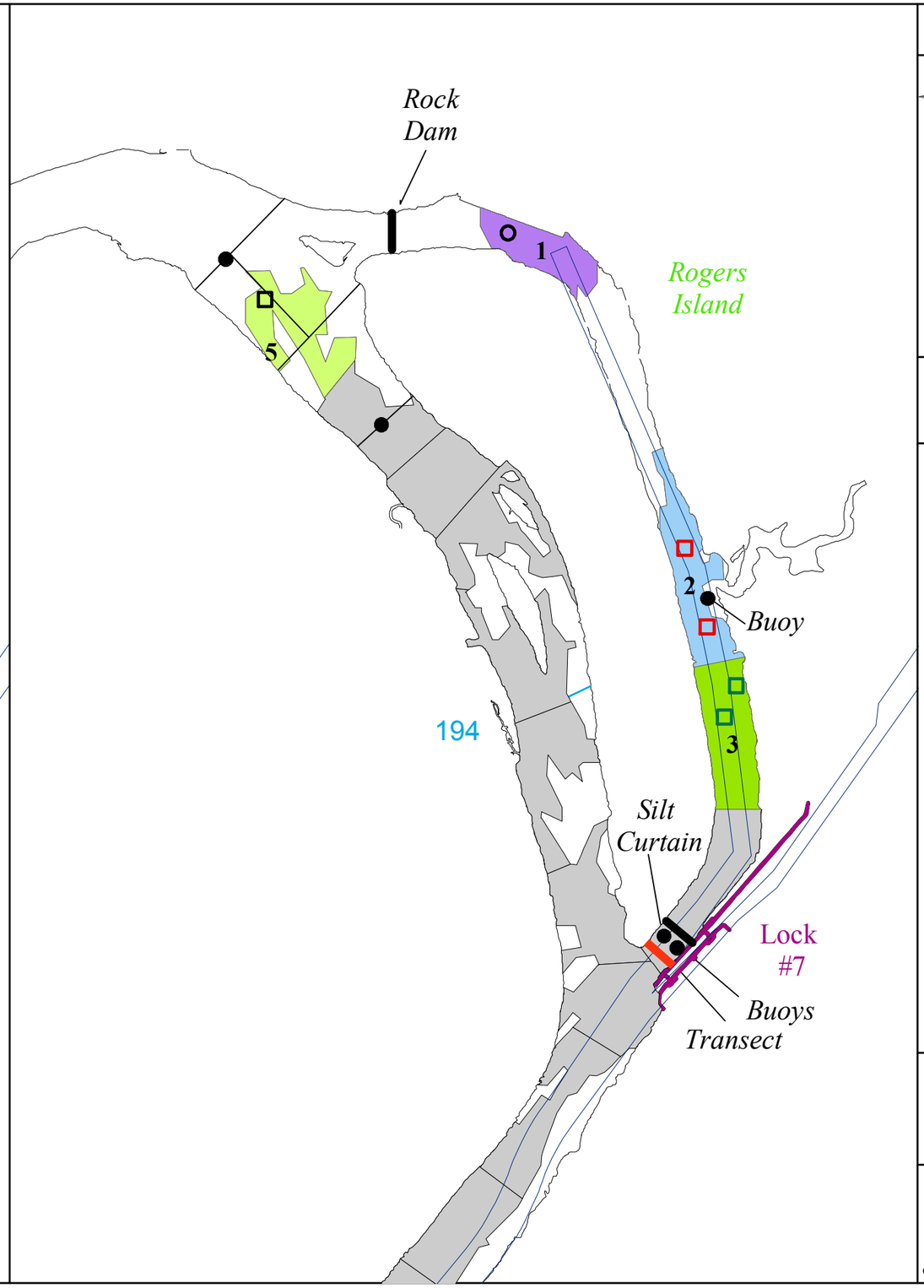
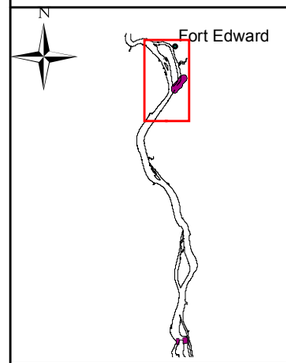
CURRENT MONITORING CONFIGURATION

CONCEPTUAL COMBINED MONITORING CONFIGURATION





LOCATOR MAP OF THE HUDSON RIVER



SCALE

0 0.1 Miles

LEGEND

Dredge Type

- Inventory
- Residual
- Backfill
- Buoy
- Transect
- Champlain Canal

Notes:
CU ID shown for dredged CU areas.

Colors indicate individual dredge teams and their associated monitoring components.

Figure 2-3. Conceptual layout of near-field monitoring stations in Phase 1 Areas - June.

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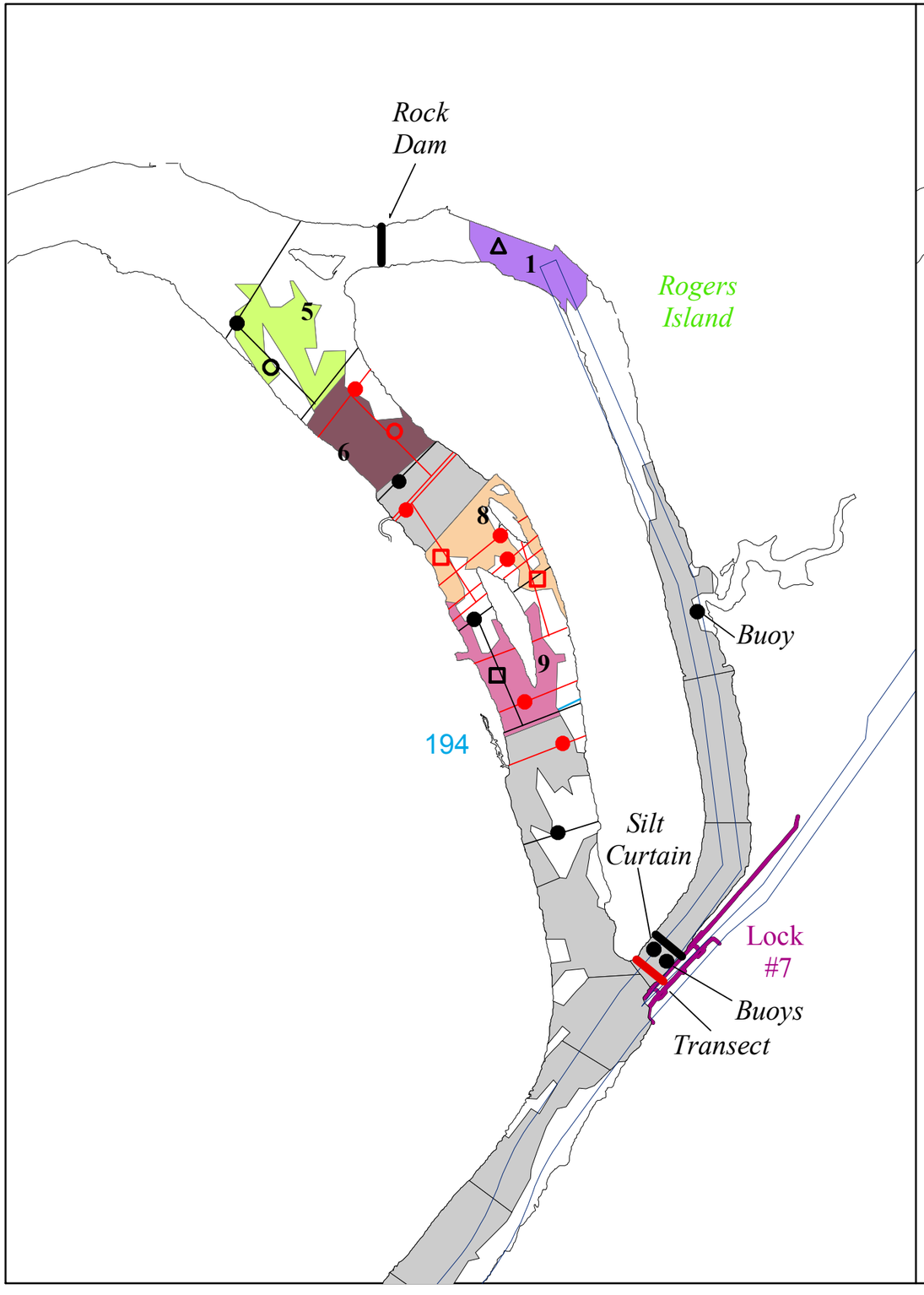
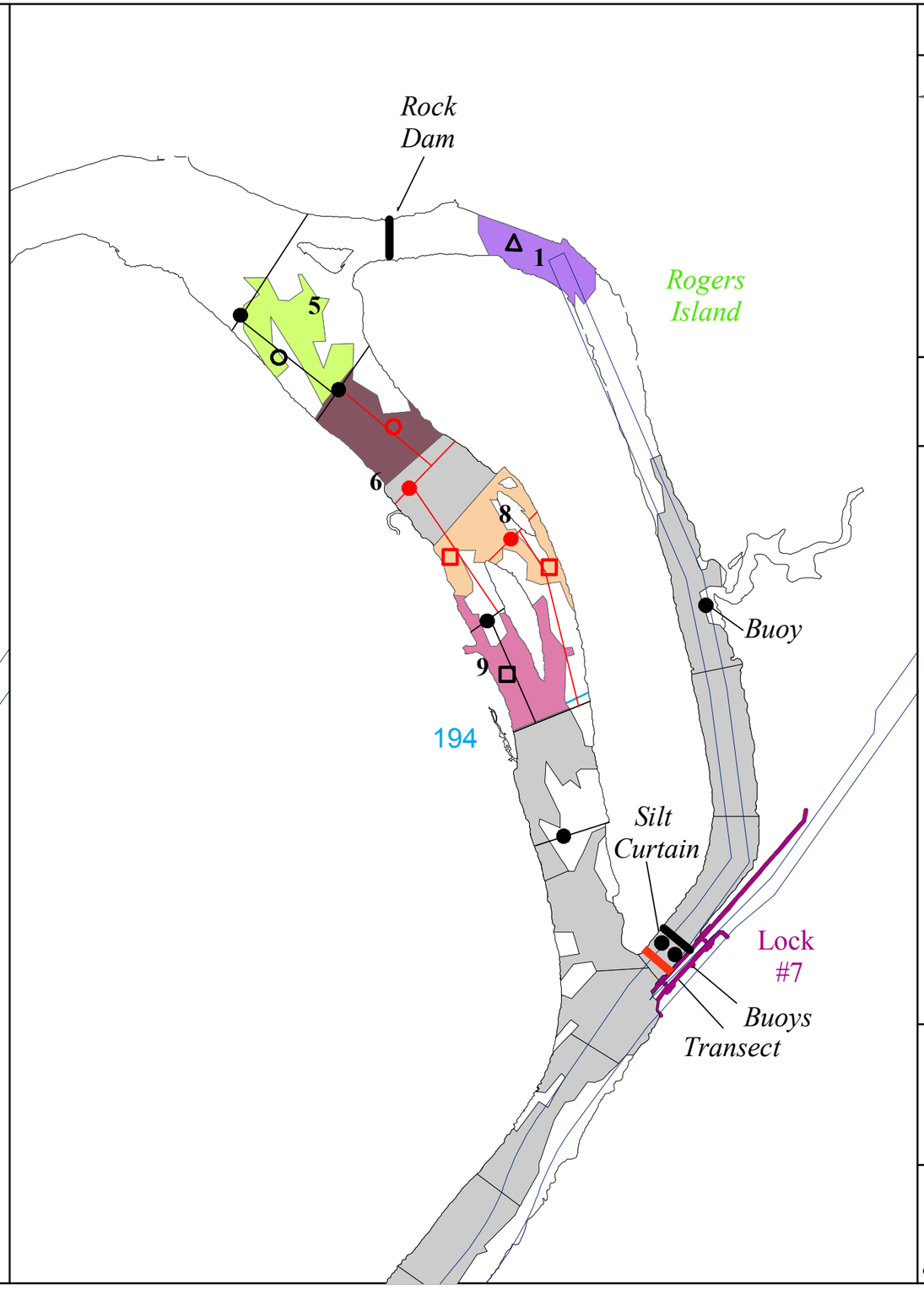
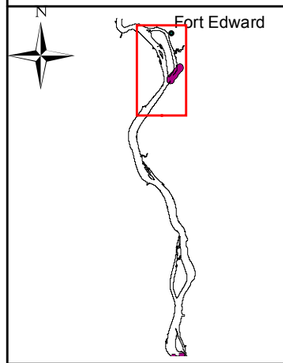
CURRENT MONITORING CONFIGURATION

CONCEPTUAL COMBINED MONITORING CONFIGURATION





LOCATOR MAP OF THE HUDSON RIVER



SCALE

0 0.1 Miles

LEGEND

Dredge Type
- Inventory
- Residual
- Backfill

- Buoy
- Transect
- Champlain Canal

Notes:
CU ID shown for dredged CU areas.

Colors indicate individual dredge teams and their associated monitoring components.

Figure 2-4. Conceptual layout of near-field monitoring stations in Phase 1 Areas - July.

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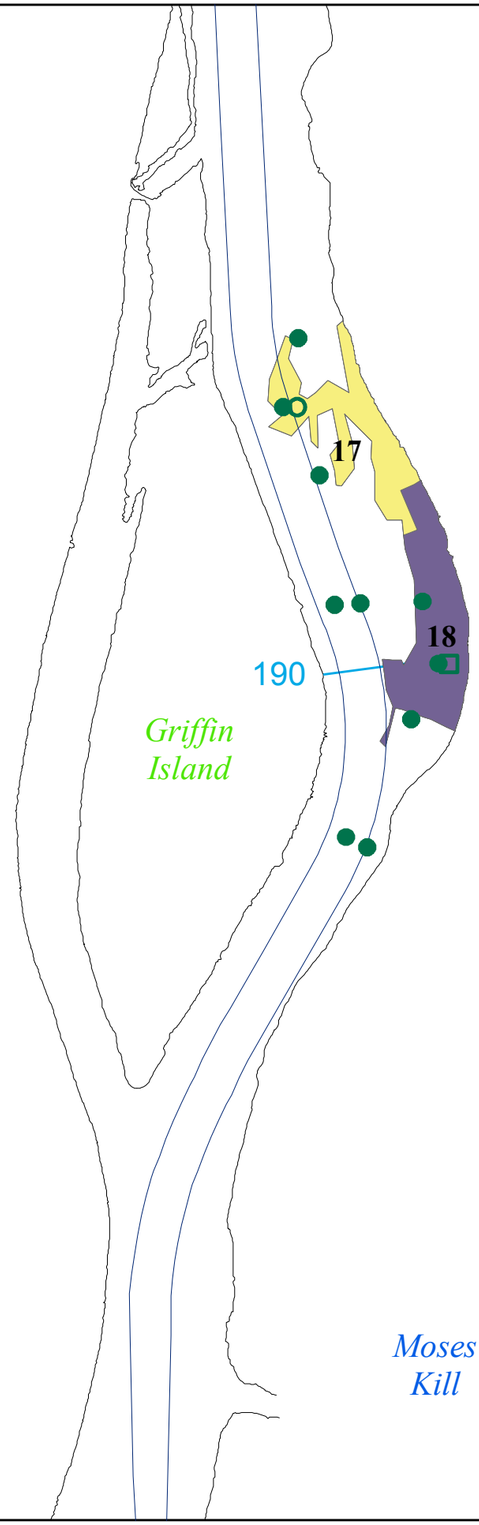
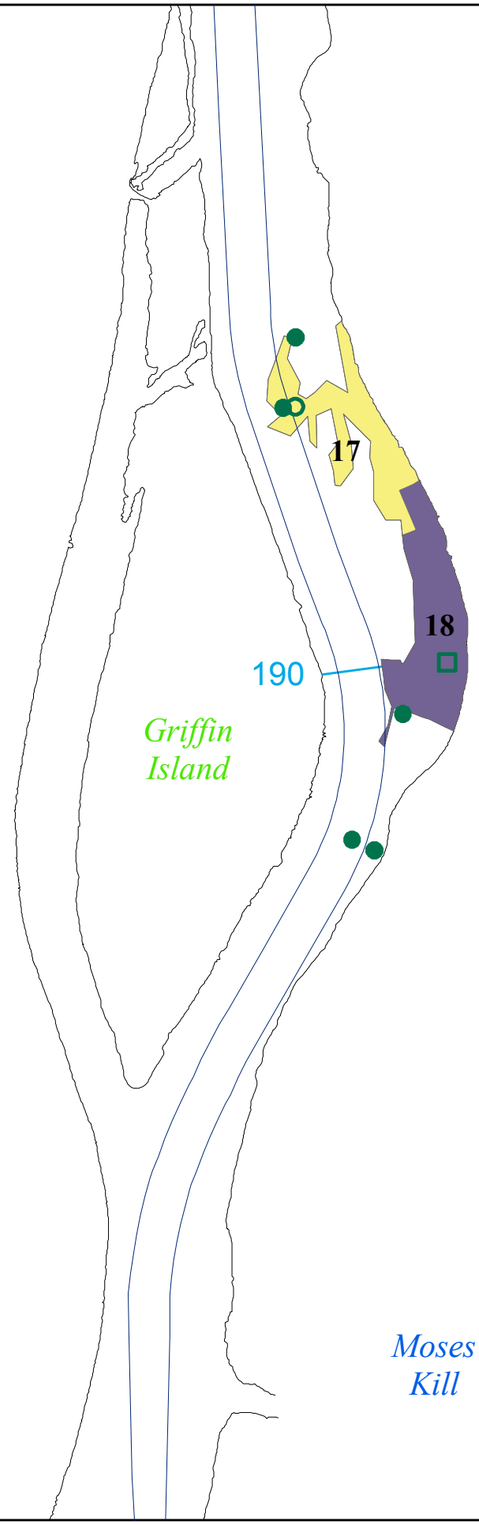
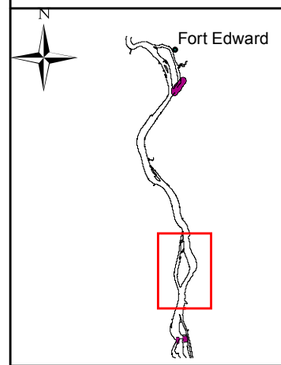
CURRENT MONITORING CONFIGURATION



CONCEPTUAL COMBINED MONITORING CONFIGURATION



LOCATOR MAP OF THE HUDSON RIVER



SCALE

0 0.1 Miles

LEGEND

Dredge Type

- Inventory
- Residual
- Backfill

- Buoy
- Transect
- Champlain Canal

Notes:
CU ID shown for dredged CU areas.

Colors indicate individual dredge teams and their associated monitoring components.

Figure 2-4. Conceptual layout of near-field monitoring stations in Phase 1 Areas - July.

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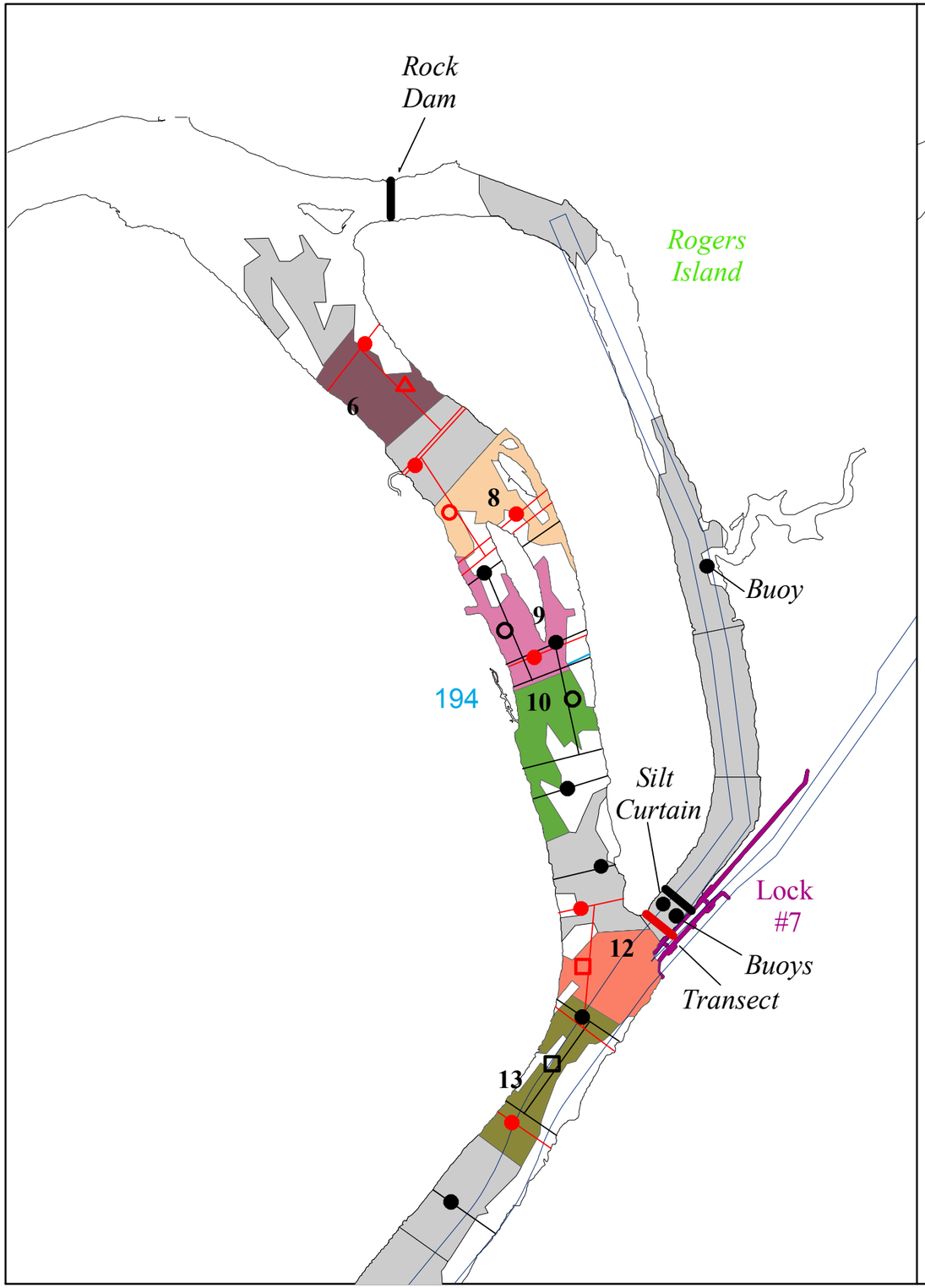
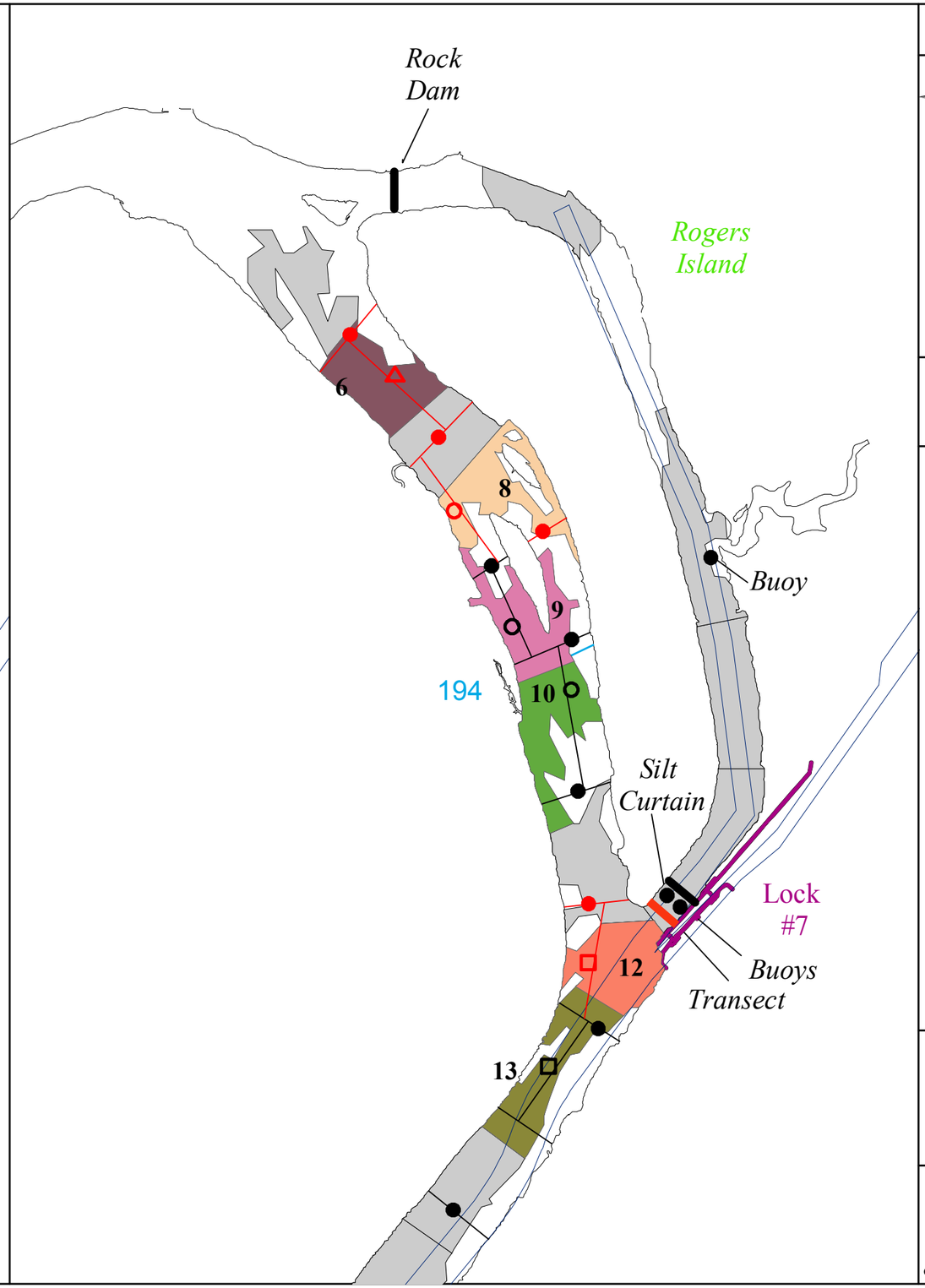
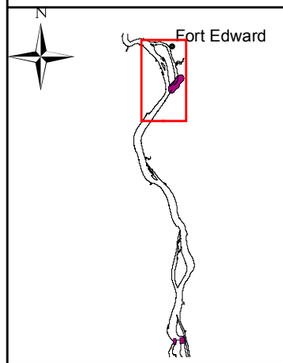
CURRENT MONITORING CONFIGURATION

CONCEPTUAL COMBINED MONITORING CONFIGURATION





LOCATOR MAP OF THE HUDSON RIVER



SCALE

0 0.1 Miles

LEGEND

Dredge Type
- Inventory
- Residual
- Backfill

- Buoy
- Transect
- Champlain Canal

Notes:
CU ID shown for dredged CU areas.

Colors indicate individual dredge teams and their associated monitoring components.

Figure 2-5. Conceptual layout of near-field monitoring stations in Phase 1 Areas - August.

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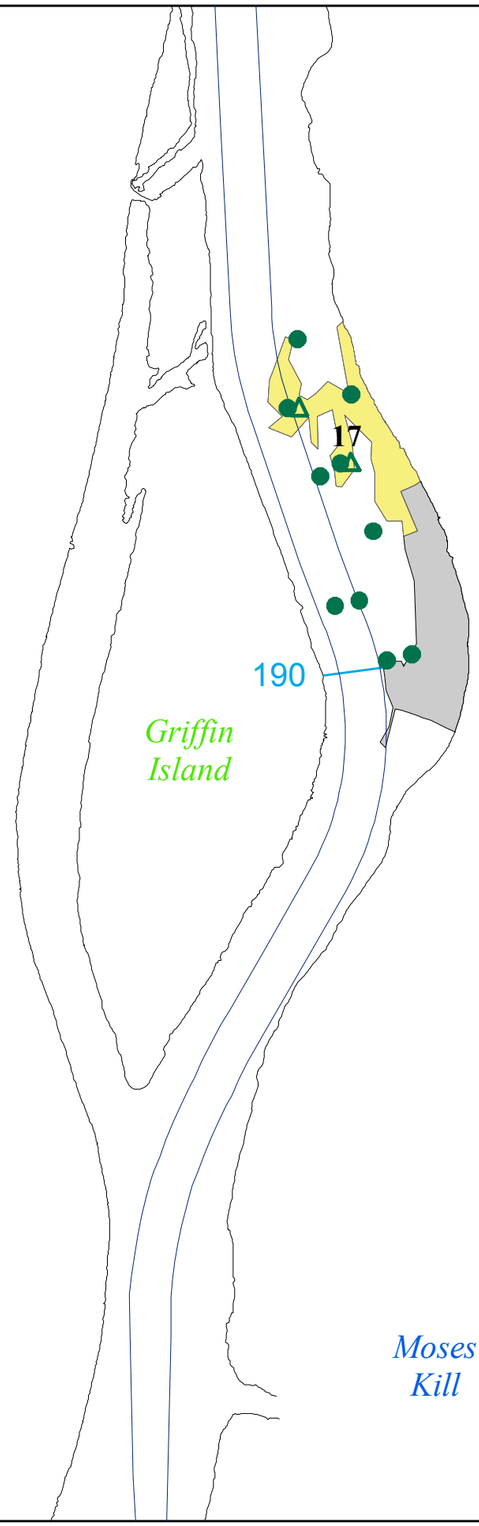
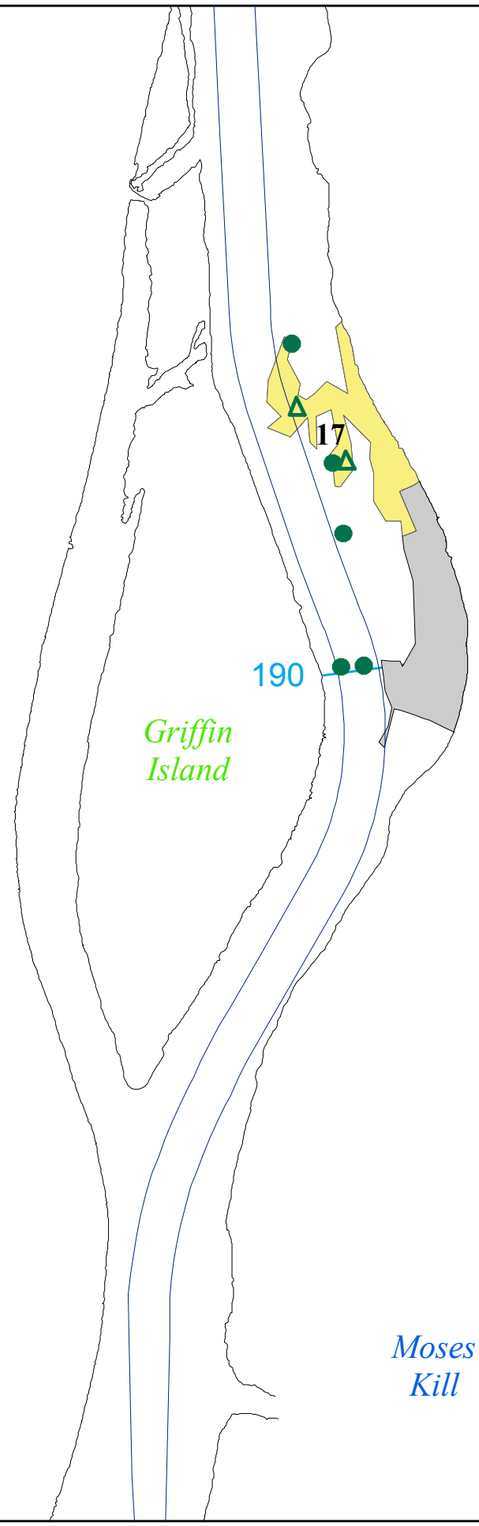
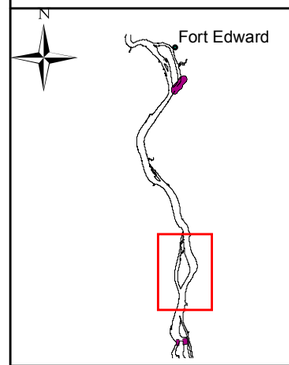
CURRENT MONITORING CONFIGURATION



CONCEPTUAL COMBINED MONITORING CONFIGURATION



LOCATOR MAP OF THE HUDSON RIVER



SCALE

0 0.1 Miles

LEGEND

Dredge Type
- Inventory
- Residual
- Backfill

- Buoy
- Transcect
- Champlain Canal

Notes:
CU ID shown for dredged CU areas.

Colors indicate individual dredge teams and their associated monitoring components.

Figure 2-5. Conceptual layout of near-field monitoring stations in Phase 1 Areas - August.

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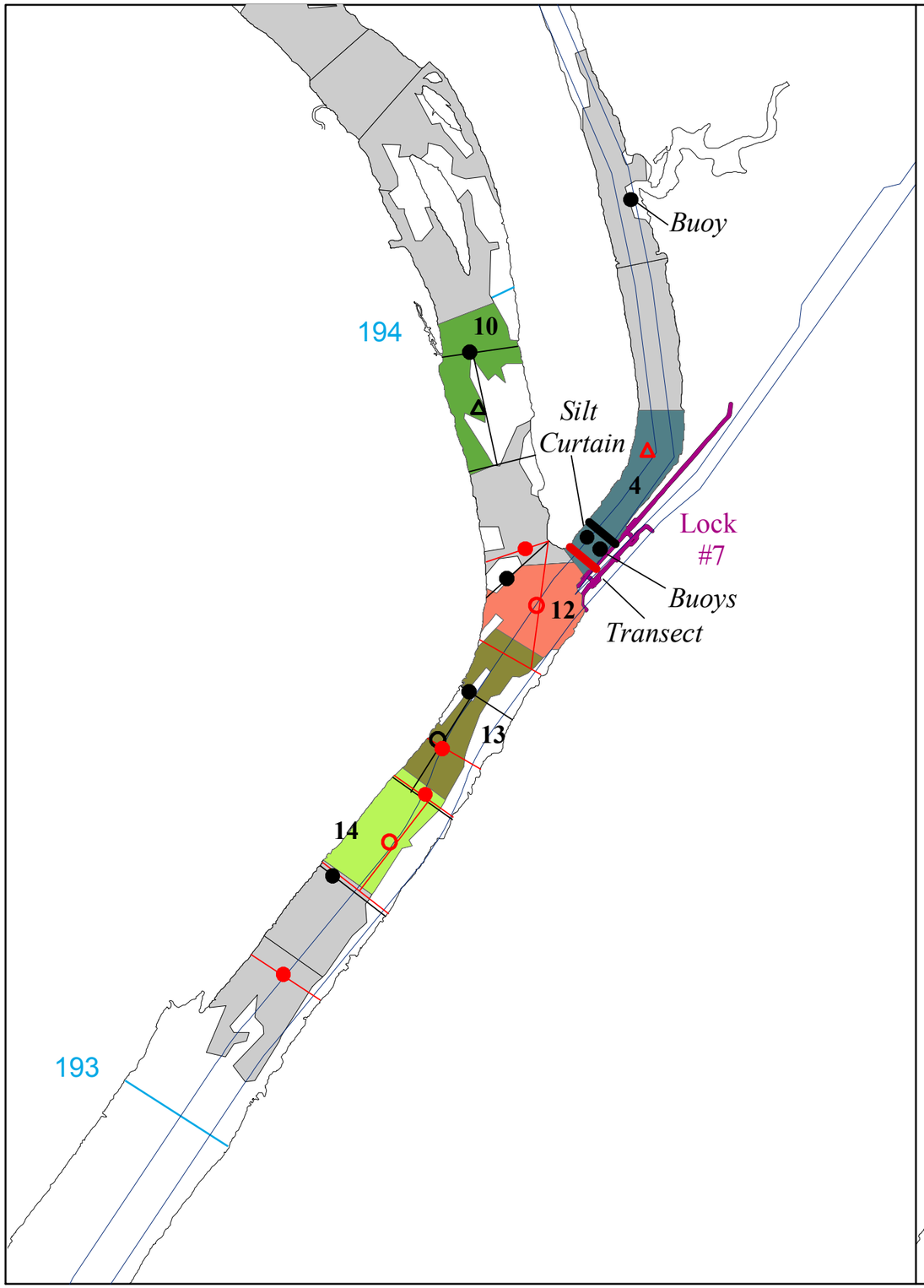
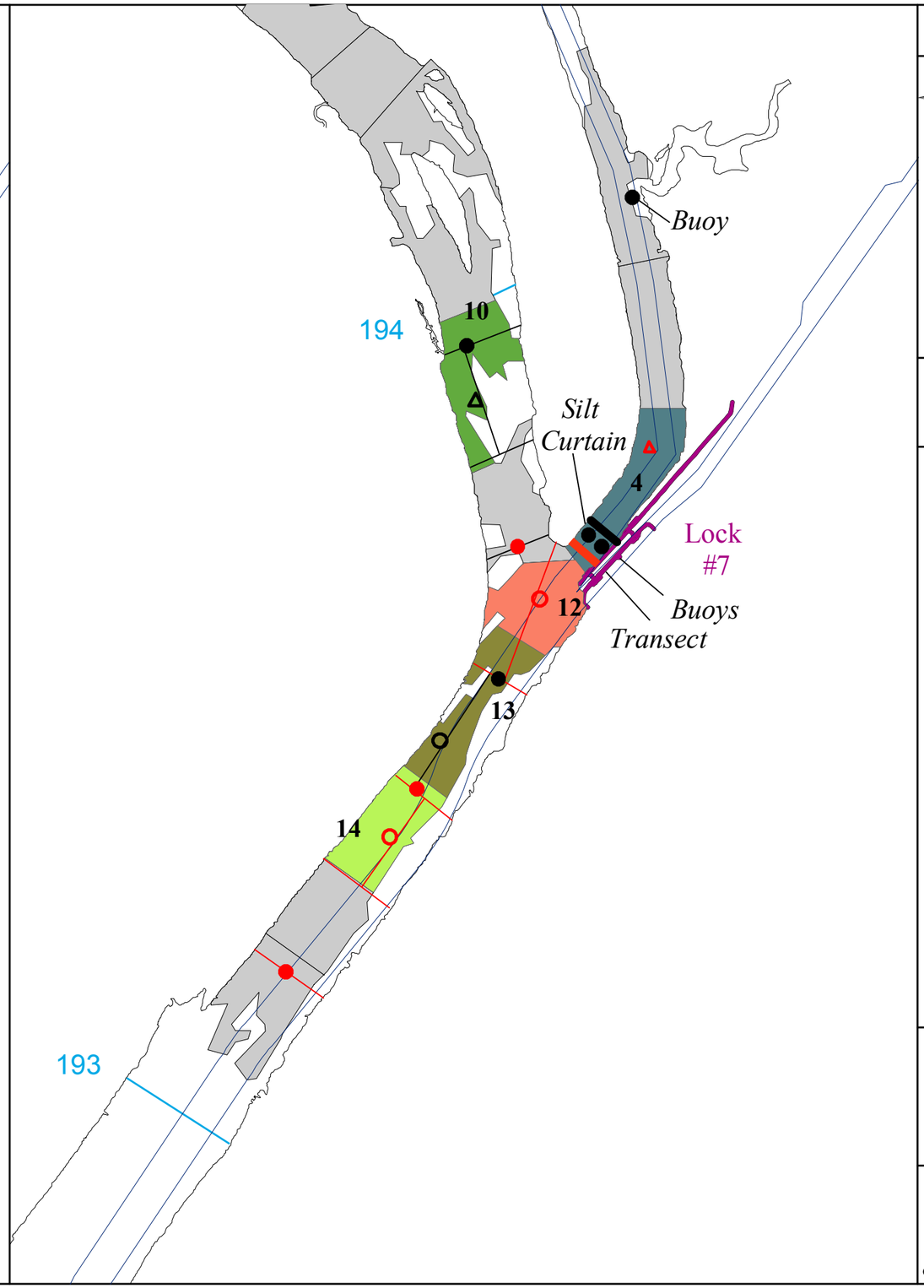
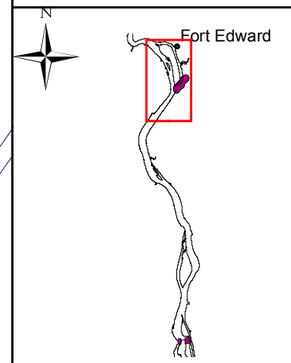
CURRENT MONITORING CONFIGURATION

CONCEPTUAL COMBINED MONITORING CONFIGURATION





LOCATOR MAP OF THE HUDSON RIVER



SCALE

0 0.1 Miles

LEGEND

Dredge Type
- Inventory
- Residual
- Backfill

- Buoy
- Transect
- Champlain Canal

Notes:
CU ID shown for dredged CU areas.

Colors indicate individual dredge teams and their associated monitoring components.

Figure 2-6. Conceptual layout of near-field monitoring stations in Phase 1 Areas - September.

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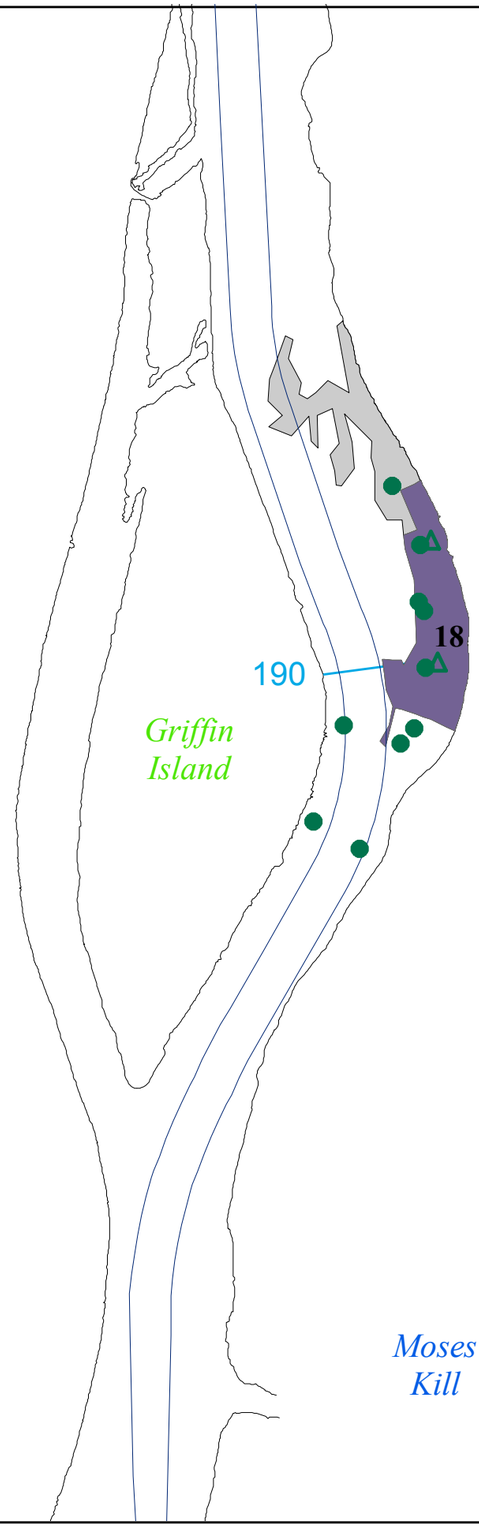
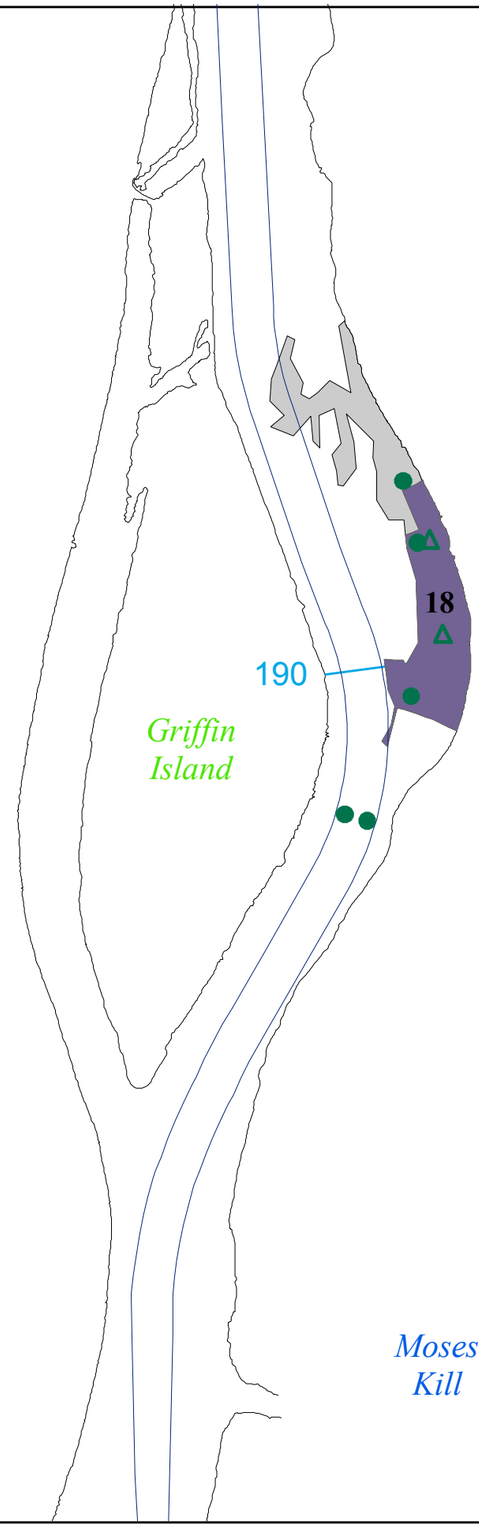
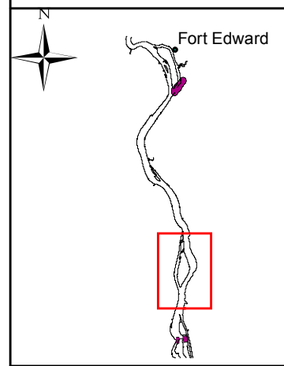
CURRENT MONITORING CONFIGURATION



CONCEPTUAL COMBINED MONITORING CONFIGURATION



LOCATOR MAP OF THE HUDSON RIVER



SCALE

0 0.1 Miles

LEGEND

Dredge Type

- Inventory
- Residual
- Backfill

- Buoy
- Transcect
- Champlain Canal

Notes:
CU ID shown for dredged CU areas.

Colors indicate individual dredge teams and their associated monitoring components.

Figure 2-6. Conceptual layout of near-field monitoring stations in Phase 1 Areas - September.

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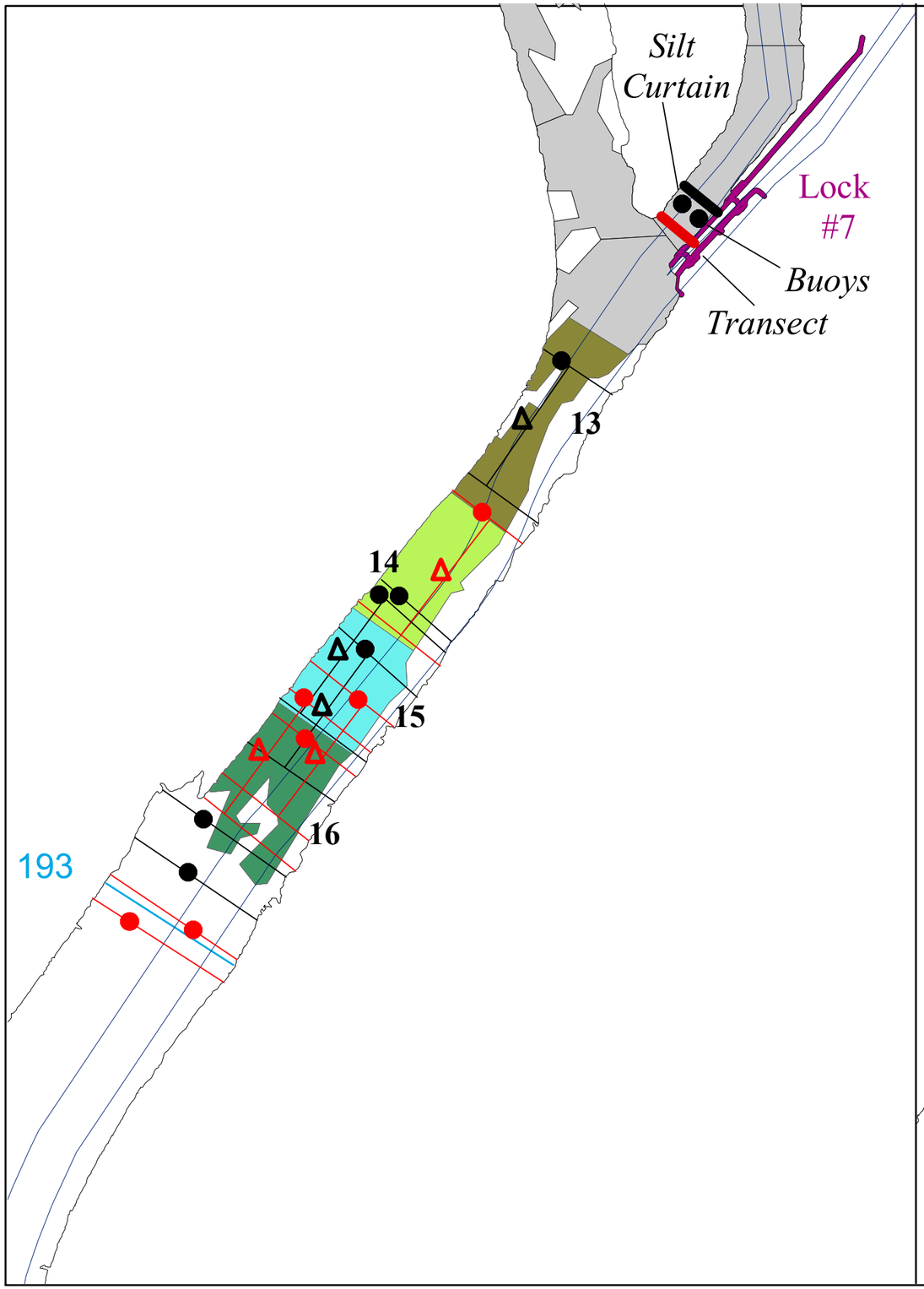
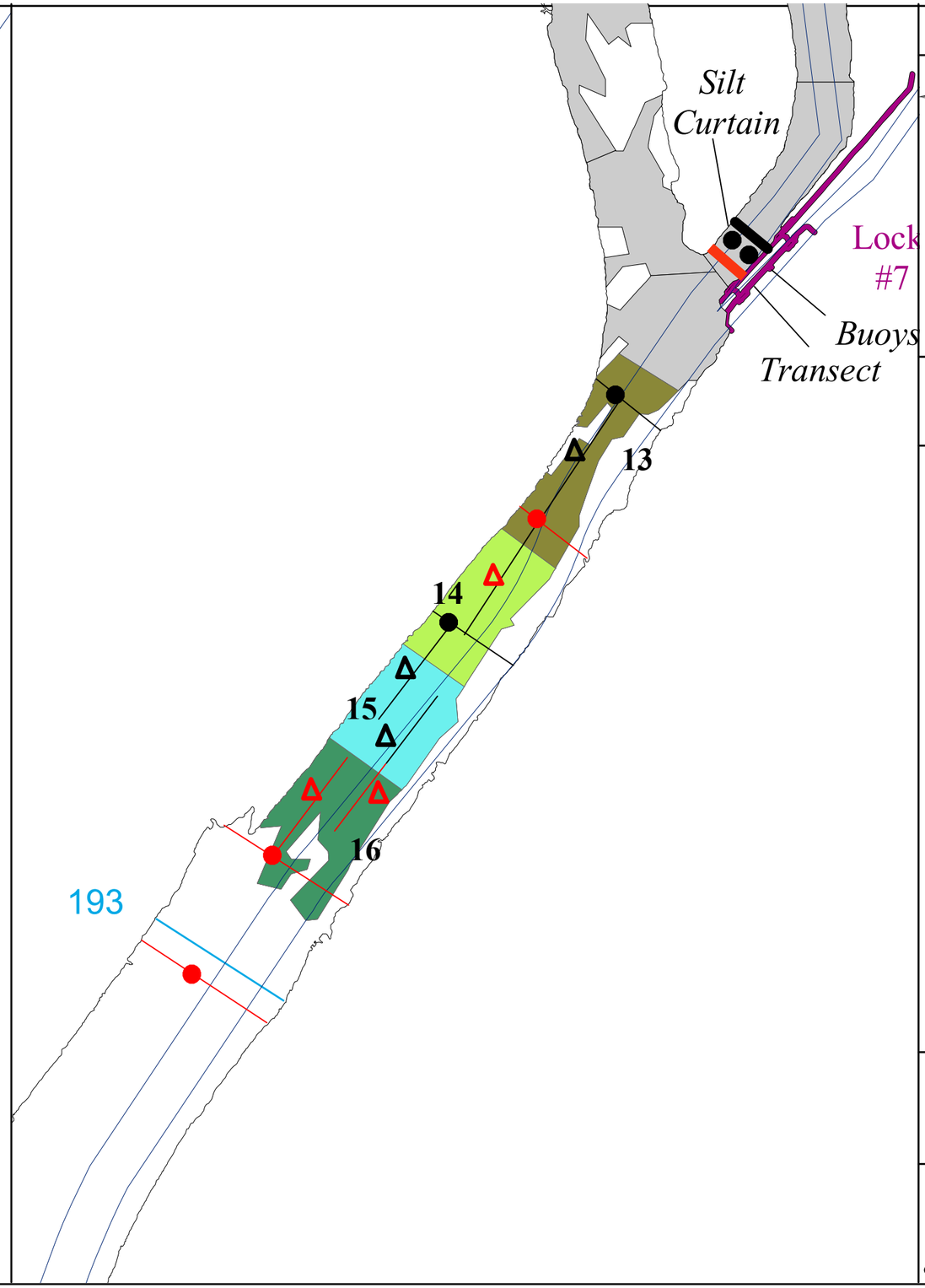
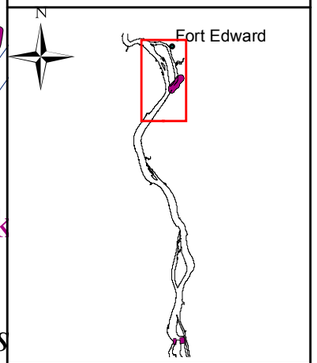
CURRENT MONITORING CONFIGURATION

CONCEPTUAL COMBINED MONITORING CONFIGURATION





LOCATOR MAP OF THE HUDSON RIVER



SCALE

0 0.1 Miles

LEGEND

Dredge Type
- Inventory
- Residual
- Backfill

Buoy

Transect

Champlain Canal

Notes:
CU ID shown for dredged CU areas.

Colors indicate individual dredge teams and their associated monitoring components.

Figure 2-7. Conceptual layout of near-field monitoring stations in Phase 1 Areas - October.

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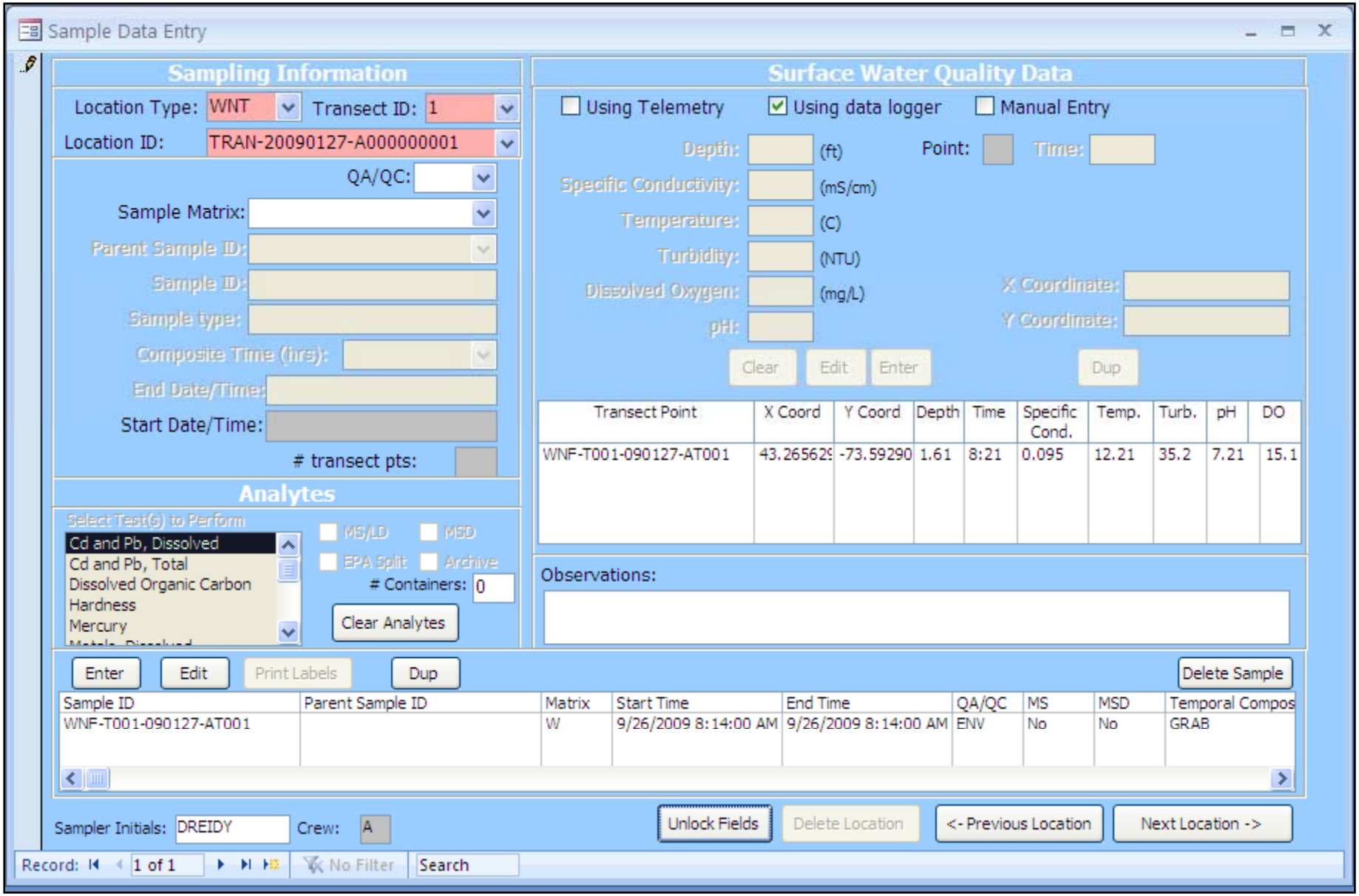

Figure 2-8. Example data entry form for near-field and far-field monitoring.

HUDSON RIVER REMEDIAL ACTION MONITORING PROGRAM

Water Column Sample Field Log

Weather: _____ Sampler: DR Crew: A

FIELD SAMPLE ID	LOCATION	PARENT SAMPLE ID	QA/QC	DATE COLLECTED	TIME COLLECTED	ARCHIVE	EPA SPLIT	OBSERVATIONS	# CONTAINERS	TRANSECT POINT	TIME	DEPTH (ft)	TEMPERATURE (°C)	SPECIFIC CONDUCT. (S/m)	DISSOLVED OXYGEN (mg/L)	PH	TURBIDITY (NTU)
WNF-T001-090127-AT001			ENV	09/26/09	8:14	☐	☐		1								
										TRAN-20070127-A000000002	8:21	1.61	12.2	0.095	15.1	7.21	35.2

Figure 2-9. Example field log for near-field and far-field monitoring.

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305 West Grand Avenue Montvale, NJ 07645 Ph: 201-930-9890

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

COC ID: COC090511-ANEA-01

Sample Custodian: DR

Client: General Electric Company

Project: Hudson River Remedial Action Monitoring Program - Resuspension Monitoring

Lab: NEA

COC Sample Number	Field Sample ID	QA/QC	MS	MSD	LD	Matrix **	Date Collected	Time Collected	Media*	# Containers	4degC Aroclor PCBs EPA 508	4degC NE128_05D DOC	4degC NE128_05P POC	4degC NE207_03 CS PCBs					
001	WFF-LOC5-090511-AT001	ENV	N	N	N	W	05/11/2009	06:00	W	2	☐	☑	☑	☑	☐	☐	☐	☐	☐
002	WFF-THIS-090511-AT001	ENV	N	N	N	W	05/11/2009	09:12	W	1	☑	☐	☐	☐	☐	☐	☐	☐	☐
003	WFF-THIS-090511-AT002	ENV	N	N	N	W	05/11/2009	09:12	W	1	☐	☑	☑	☐	☐	☐	☐	☐	☐

Comments:

Relinquished by:	Received by:	Relinquished by:	Received by:	Relinquished by:	Received by:
Signature	Signature	Signature	Signature	Signature	Signature
Print Name	Print Name	Print Name	Print Name	Print Name	Print Name
Company	Company	Company	Company	Company	Company
Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

Date Printed: 5/11/2009

* S= SEDIMENT, W= WATER ** T = Total, D = Dissolved, R = Residue

*** Air Tight Container; preserved at lab if not analyzed within 48 hrs.

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Note: Analytes listed are dependent on sample type and analytical laboratory; therefore, only samples submitted to NEA for this sampling date are shown for this example.

Figure 2-10. Example chain of custody form for near-field and far-field monitoring.

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Figure 2-11. Floating monitoring station.

Station Location	Compliance criteria[1]	Monitoring	Compliance evaluation
Bakers Falls	• None	• Monthly manual sample for mGBM PCB, TSS, DOC, POC (7-day TAT), turbidity, DO, temp., cond., pH	• None
Rogers Island	• None	• Weekly manual sample for mGBM PCB, TSS, DOC, POC (7-day TAT), turbidity, DO, temp., cond., pH. Increase frequency to once/day for min. of 2 days if PCBs exceed 500 ng/L at TI or SV.	•TPCB conc. at TI or SV < 500 ng/L
Thompson Island	• TPCB: 500 ng/L (confirmed by avg. conc. of 3 samples collected within 24 hrs of first sample at Thompson Island) •TPCB: <350 ng/L • TPCB Load: ≤541 g/day, <1,080 g/day (> upstream) for a 7-day running avg; <117 kg/yr. • Tri+PCB Load: ≤180 g/day, <361 g/day (> upstream) for a 7-day running avg.; <39 kg/yr. TSS: ≤12 mg/L (> upstream) for 6-hr. running avg. • Total Metals: Cd: ≤5.0 ug/L; Cr: ≤50 ug/L; Hg: ≤0.7 ug/L; Pb: ≤15 ug/L	• Routine daily: one 24-hour composite (or two 12-hr if flow > 8,000 cfs at FE) for aroclor PCB (8-hr TAT), TSS, DOC, POC; one 24-hr comp. for total and dissolved Cd and Pb (24-hr TAT). Continuous turbidity, DO, temp., cond., pH. •If Waterford and Halfmoon on full-time Troy water, PCB samples to be single 24-hour composite for mGBM PCBs, 24-hr TAT. •If PCBs > 500 ng/L at TI or SV, composite for PCBs submitted in triplicate on following day (8 hr. TAT). •If metals exceedance, collect four 6-hr composites; analyze tot. and dis. TAL metals, Hg and Cr+6 (24-hr TAT from collection)	• TPCB conc. < 500 ng/L • TPCB conc. < 350 ng/L • Net (TPCB $load_{TI}$ – TPCB $load_{base}$) for 7 day running avg and yearly total • Net (Surrogate TSS_{TI} – Surrogate TSS_{base}) < 12 mg/L (6-hr running avg) • Total metals: Cd ≤5.0 ug/L; Cr: ≤50 ug/L; Hg: ≤0.7 ug/L; Pb: ≤15 ug/L •When Aroclor PCB method used, Tri+ loading not calculated
Schuylerville	• TPCB: 500 ng/L •TPCB: <350 ng/L • TPCB Load: ≤541 g/day, <1,080 g/day (> upstream) for a 7-day running avg; <117 kg/yr. • Tri+PCB Load: ≤180 g/day, <361 g/day (> upstream) for a 7-day running avg.; <39 kg/yr. • TSS: ≤12 mg/L (> upstream) for 6-hr. running avg. • Total Metals: Cd: ≤5.0 ug/L; Cr: ≤50 ug/L; Hg: ≤0.7 ug/L; Pb: ≤15 ug/L (≤ 10 ug/L Pb trigger level at Stillwater and Waterford)	• Daily: one 24-hour composite for mGBM PCB, TSS, DOC, POC, total and dissolved Cd and Pb (24-hr. TAT). Continuous turbidity, DO, temp., cond., pH. •24-hr composite for aroclor PCBs collected (8-hr TAT) if TI station fails (two 12-hr composites if flow at FE > 5,000 cfs). • If Waterford and Halfmoon on full-time Troy water, PCB samples to be single 24-hour composite for mGBM PCBs (24-hr TAT). •If PCBs > 500 ng/L at TI or SV, composite for PCBs submitted in triplicate on following day (24 hr. TAT). • If metals exceedance, collect four 6-hr composites; analyze tot. and dis. TAL metals, Hg and Cr+6 (24-hr TAT from lab receipt)	• TPCB conc. < 500 ng/L • TPCB conc. < 350 ng/L • Net (TPCB $load_{SV}$ – TPCB $load_{base}$) for 7 day running avg and yearly total • Net (Tri^+ PCB $load_{SV}$ – Tri^+ PCB $load_{base}$) for 7 day running avg and yearly total • Net (Surrogate TSS_{SV} – Surrogate TSS_{base}) < 12 mg/L (6-hr running avg) • Total metals: Cd ≤5.0 ug/L; Cr: ≤50 ug/L; Hg: ≤0.7 ug/L; Pb: ≤15 ug/L
Stillwater		• Weekly manual sample for mGBM PCB, TSS, DOC, POC (7-day TAT), turbidity, DO, temp., cond., pH	• TPCB conc. < 500 ng/L • TPCB conc. < 350 ng/L • Net (TPCB instantaneous $load_{SW}$ – TPCB instantaneous $load_{base}$) • Net (Tri^+ PCB instantaneous $load_{SV}$ – Tri^+ PCB instantaneous $load_{base}$) • Net (TSS_{SW} –TSS_{base}) < 12 mg/L • Total metals: Cd ≤5.0 ug/L; Cr: ≤50 ug/L; Hg: ≤0.7 ug/L; Pb: ≤10 ug/L,Pb ≤15 ug/L
Waterford		• Daily: one 24-hour composite for mGBM PCB, TSS, DOC, POC, total and dissolved Cd and Pb (72-hr TAT). Continuous turbidity, DO, temp., cond., pH •TAT reduced to 24-hours if TPCBs at TI > 500 ng/L. •If metals exceedance, collect four 6-hr composites; analyze tot. and dis. TAL metals, Hg and Cr+6 (24-hr TAT from lab receipt)	• TPCB conc. < 500 ng/L • TPCB conc. < 350 ng/L • Net (TPCB $load_{WF}$ – TPCB $load_{base}$) for 7 day running avg and yearly total • Net (Tri^+ PCB $load_{WF}$ – Tri^+ PCB $load_{base}$) for 7 day running avg and yearly total • Net (Surrogate TSS_{WF} – Surrogate TSS_{base}) < 12 mg/L (6-hr running avg) • Total metals: Cd ≤5.0 ug/L; Cr: ≤50 ug/L; Hg: ≤0.7 ug/L; Pb: ≤10 ug/L,Pb ≤15 ug/L
Mohawk River	• None	• Sampled every other month. Manual sample for mGBM PCB, TSS, DOC, POC (standard TAT), turbidity, DO, temp., cond., pH •If Albany PCBs > WF, collect one sample as soon as practicable. •If Mohawk PCBs increase significantly, sample at same frequency as Albany	• None
Albany and Poughkeepsie	• None	• Sampled every 4 weeks. Manual sample for mGBM PCB, TSS, DOC, POC (7-day TAT), turbidity, DO, temp., cond., pH. •Sampling frequency at Albany increases to weekly if Waterford PCB conc. > 350 ng/L (24-hour TAT) • Sampling frequency at Poughkeepsie increases to weekly if Albany PCB conc. > 350 ng/L (24-hour TAT)	• TPCB conc. < 500 ng/L

1. Loading criteria adjusted per predicted mass removal, per Section 2.1 of the QAPP.

Figure 2-12a. Far-field monitoring logic flow chart.

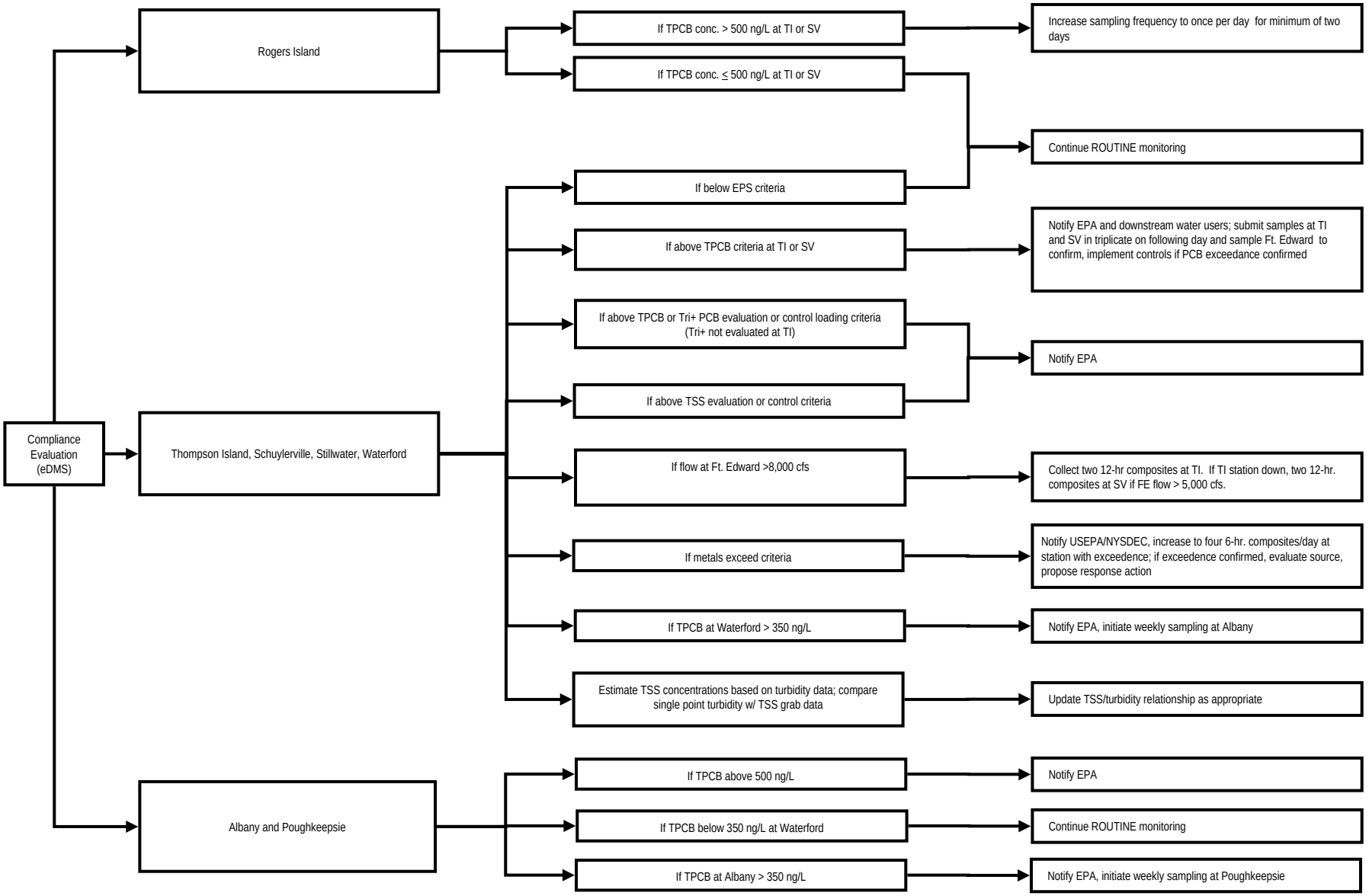
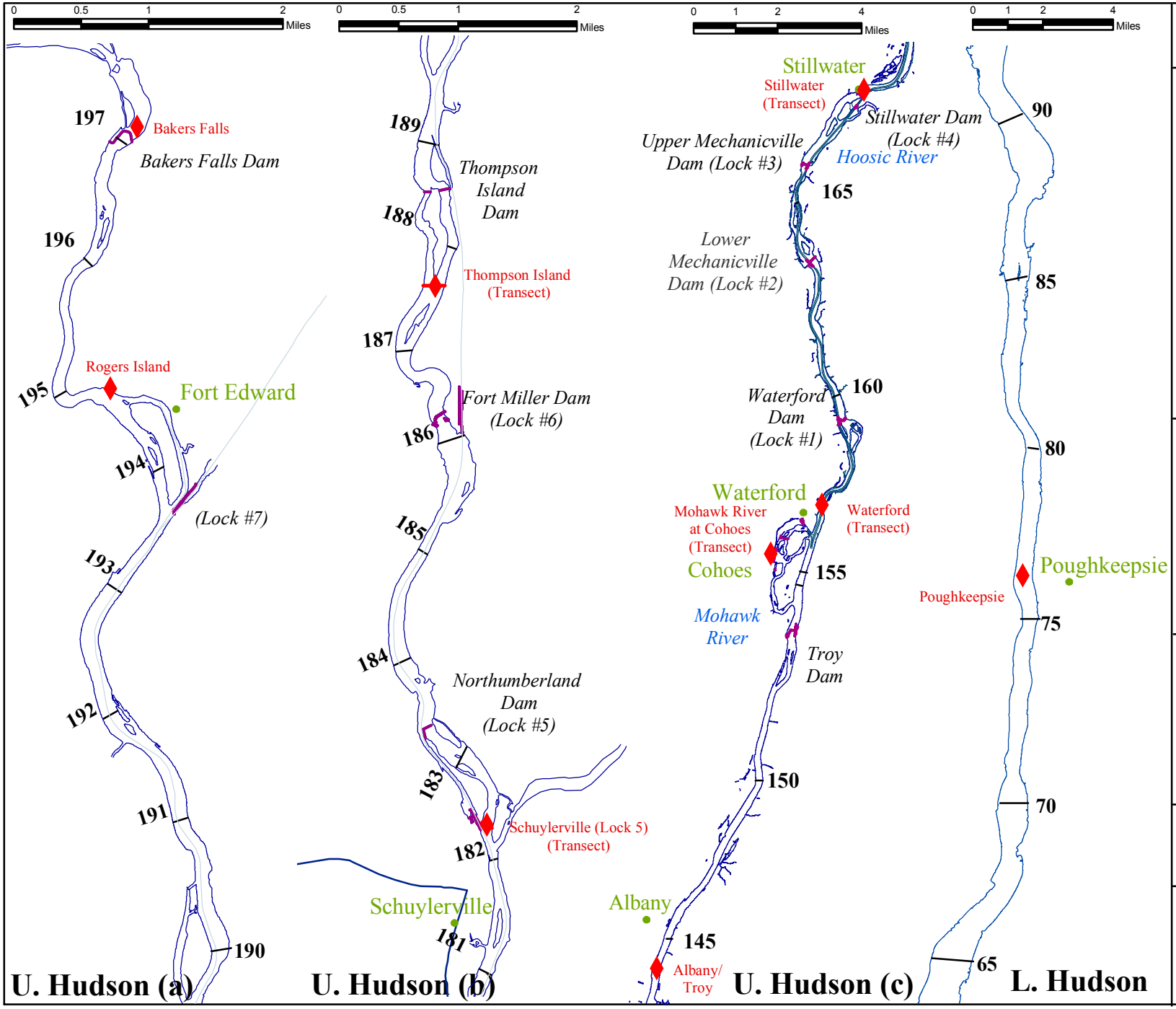
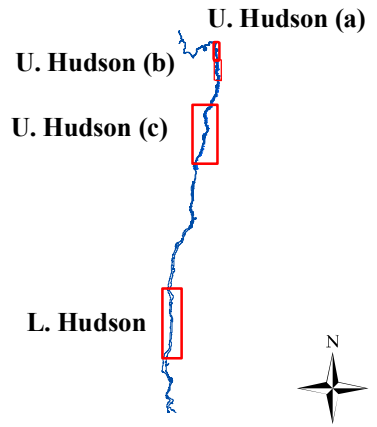


Figure 2-12b. Far-field monitoring logic flow chart.

Z:\GENram\DOCUMENTS\reports\RAMP_QAPP\Final_May_2009\Figures\final



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Monitoring Stations
- Champlain Canal
- Dams and Locks
- Shoreline
- River Miles

General Electric Company
Hudson River Project

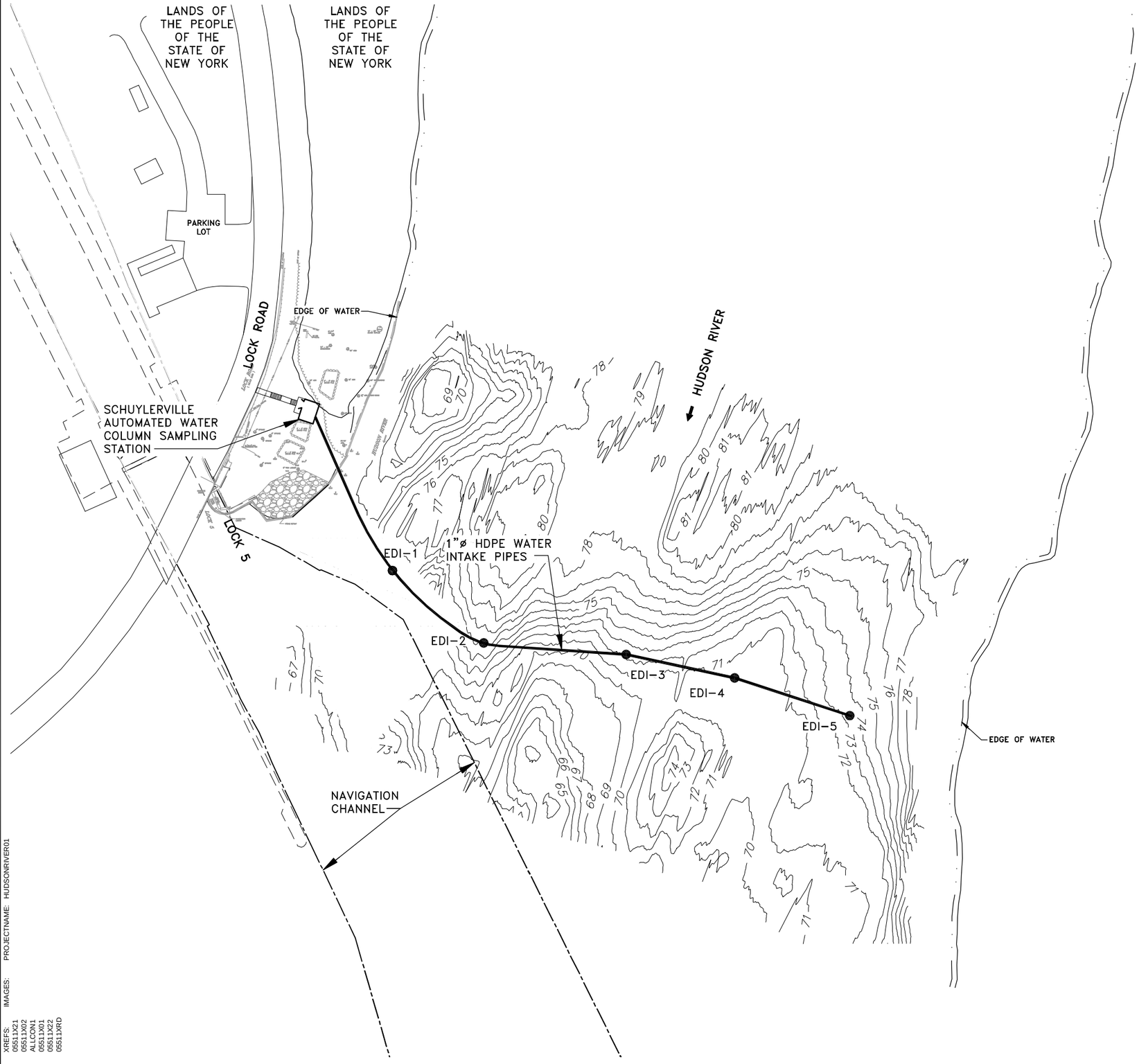
Figure 2-13.
Far-field water monitoring stations.

Note: River miles measured from the Battery (0.0).

ANCHOR QEA

GENram May 2009

Z:\GENram\DOCUMENTS\reports\RAMP_QAPP\Figures\QEA\Far Field\Figure_2-13-Farfield_water_monitoring_stations.mxd



LEGEND:

~72~ RIVER BOTTOM CONTOUR LINE

EDI EQUAL DISCHARGE INTERVAL

—— - —— NAVIGATION CHANNEL

NOTE:

1. RIVER BATHYMETRY PROVIDED BY OCEAN SURVEYS, INC. (DATED JULY 5, 2005). HORIZONTAL DATUM BASED ON NORTH AMERICAN DATUM OF 1983 NEW YORK STATE PLANE – EAST ZONE. VERTICAL DATUM BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988.

EDI NUMBER	HORIZONTAL COORDINATES (FT)		RIVER BOTTOM ELEVATION (FT)
	NORTHING	EASTING	
EDI–1	1560079	738572	74.5
EDI–2	1560023	738641	75.0
EDI–3	1560015	738750	72.2
EDI–4	1559997	738833	70.9
EDI–5	1559968	738920	73.3

0 40' 80'
GRAPHIC SCALE

GENERAL ELECTRIC COMPANY
HUDSON RIVER PCBs SUPERFUND SITE
PHASE 1 REMEDIAL ACTION MONITORING QUALITY ASSURANCE PROJECT PLAN

LOCK 5 AUTOMATED STATION SITE PLAN

ARCADIS

FIGURE
2-14

CITY: SYR DIV/GROUP: 141/ENV DB: GHS KMD BGP LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\GE\ENVCAD\SYRACUSE\ACTIVE\B0005511\0000\00317\DWG\REPORTFIG\AMQAPP05511G01.DWG LAYOUT: 2-14 SAVED: 2/18/2009 8:25 AM ACADVER: 17.0S (LMS TECH) PAGESETUP: C-LD2B-PDF-LEDGER PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 2/18/2009 8:26 AM BY: PITTSLEY, BRIAN
XREFS: IMAGES: PROJECTNAME: HUDSONRIVER01
05511X21
05511X02
ALLCON1
05511X01
05511X22
05511XRD

Isco Product Data

Isco 6712 Full-size Portable Sampler

Isco's 6700 Series Portable Samplers have set the industry standard, providing the most comprehensive and durable performance available. With the introduction of our new 6712, Isco takes another step toward the ultimate by including SDI-12 interface capabilities.

The 6712 uses Isco's advanced 6700 Series Controller, a device that allows you to select from a variety of programming modes, assuring the most suitable routine for your application. Programming is fast and simple, with on-line help just a key stroke away.

The environmentally-sealed 6712 controller delivers maximum accuracy and easily handles all of your sampling applications, including:

- wastewater effluent
- stormwater monitoring
- CSO monitoring
- permit compliance
- pretreatment compliance

In the Standard Programming Mode, the controller walks you through the sampling sequence step-by-step, allowing you to choose all parameters specific to your application. Selecting the Extended Programming Mode lets you enter more detailed programs.

An optional telephone modem allows programming changes and data collection to be performed remotely from a touch-tone phone. It also has dial-out alarm features.

Bottle options are available for practically any sequential or composite application.

Versatile and Convenient

With eleven bottle choices, Isco's 6712 Sampler lets you quickly adapt for simple or intricate sampling routines. Up to 30 pounds (13.5 kg) of ice fits in the insulated base, preserving samples for extended periods, even in extreme conditions. A convenient drain plug aids removal of water from melted ice.

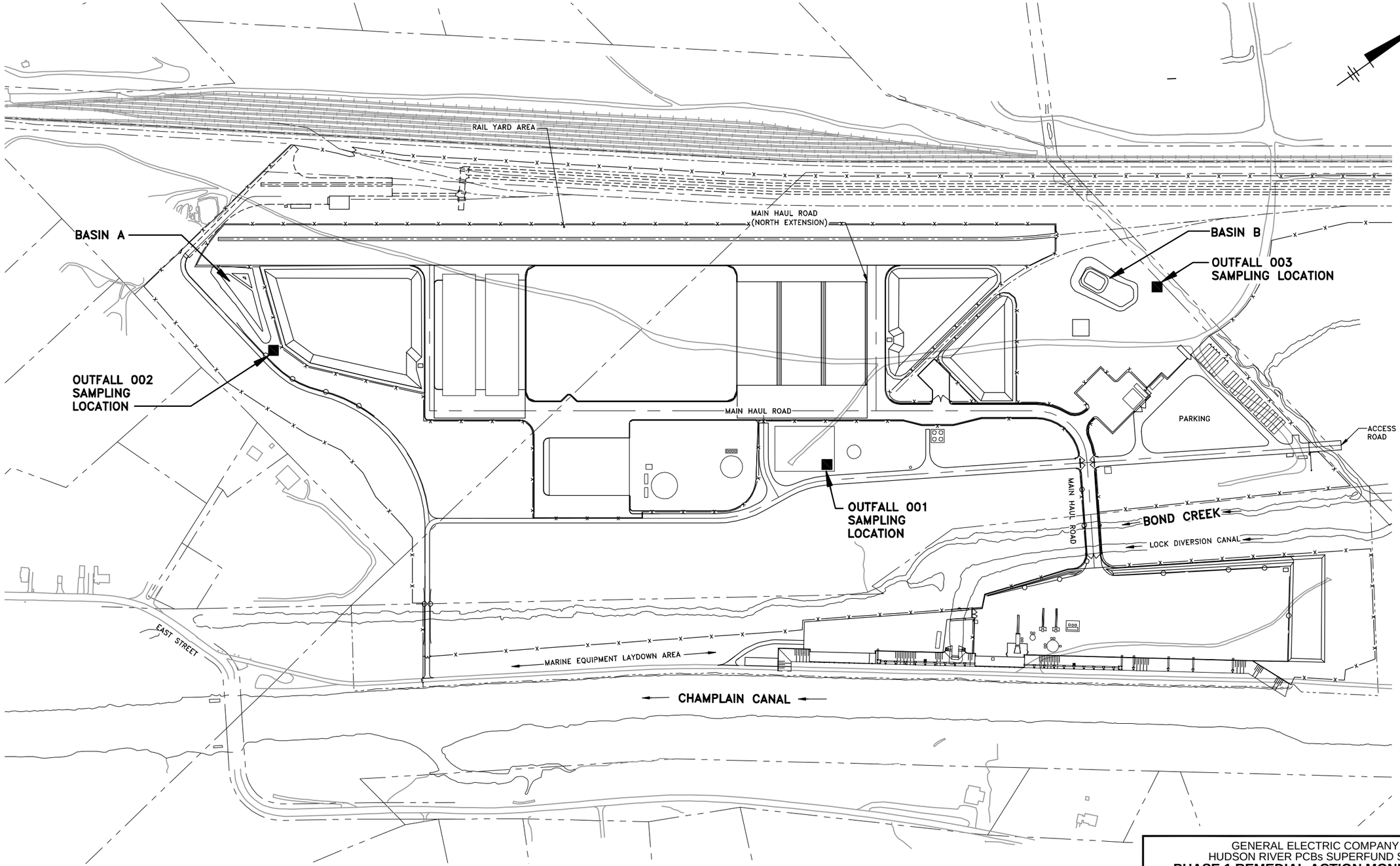
Tough and Reliable

The 6712 Portable Sampler features a vacuum-formed ABS plastic shell to withstand exposure and abuse. Its tapered design and trim 20-inch (50.8 cm) diameter result in easy manhole installation and removal. Large, comfortable handles make transporting safe and convenient—even when wearing gloves.

Isco's 6712 Portable Sampler carries a NEMA 4X, 6 (IP67) enclosure rating. It's submersible, watertight, dust-tight, and resistant to sleet and corrosion.

Superior capability, rugged construction, and unmatched reliability make the 6712 the ideal choice for portable sampling in just about any application.

Figure 2-15. Automatic sampler.



LEGEND:

■ DISCHARGE MONITORING LOCATIONS

NOTE:

1. MAPPING BY CHAS H SELLS, INC. BASED ON AERIAL PHOTOS DATED SPRING 2002.

0 300' 600'

GRAPHIC SCALE

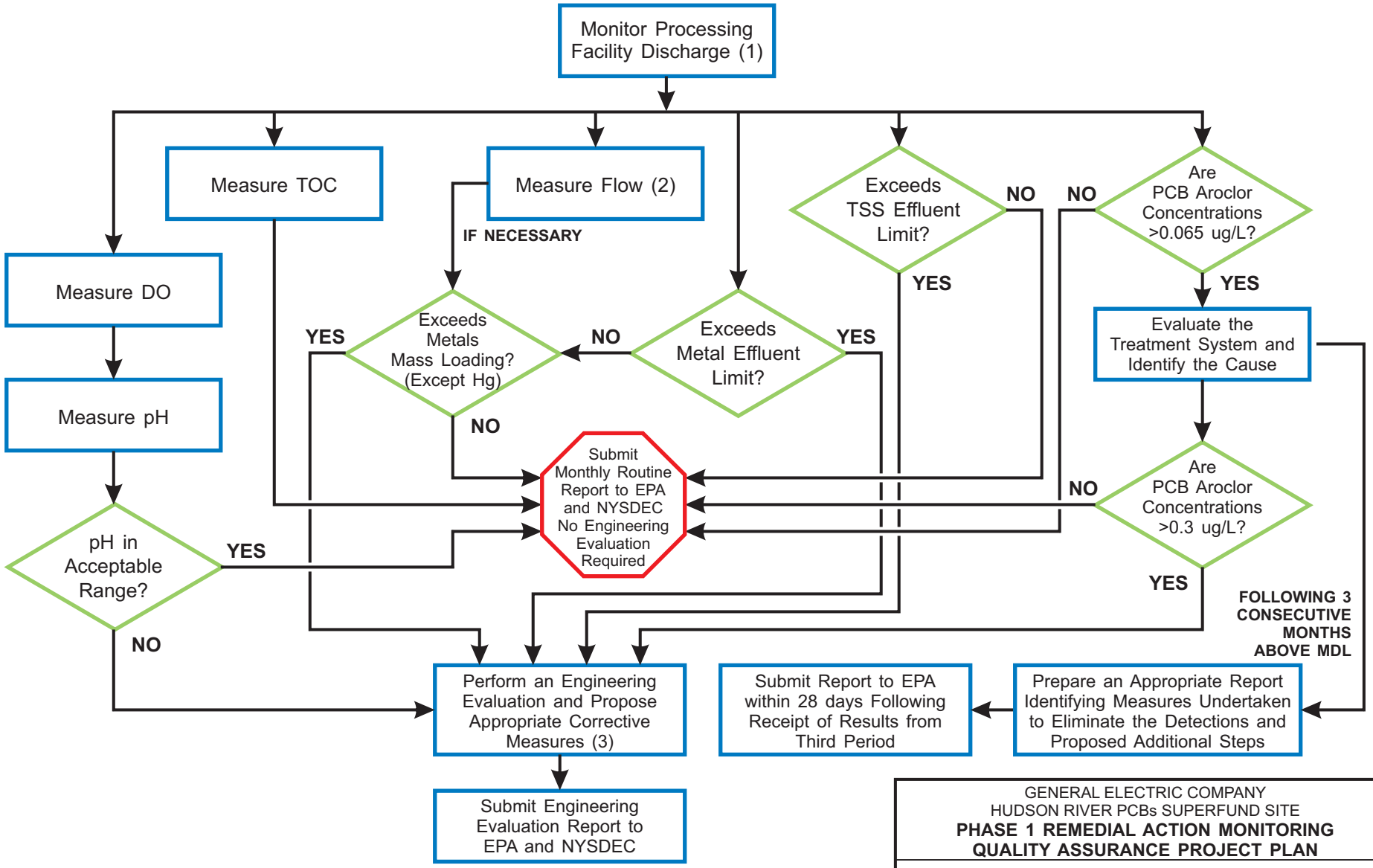
GENERAL ELECTRIC COMPANY
HUDSON RIVER PCBs SUPERFUND SITE

PHASE 1 REMEDIAL ACTION MONITORING QUALITY ASSURANCE PROJECT PLAN

PROCESSING FACILITY DISCHARGE MONITORING LOCATIONS

ARCADIS

FIGURE
2-16



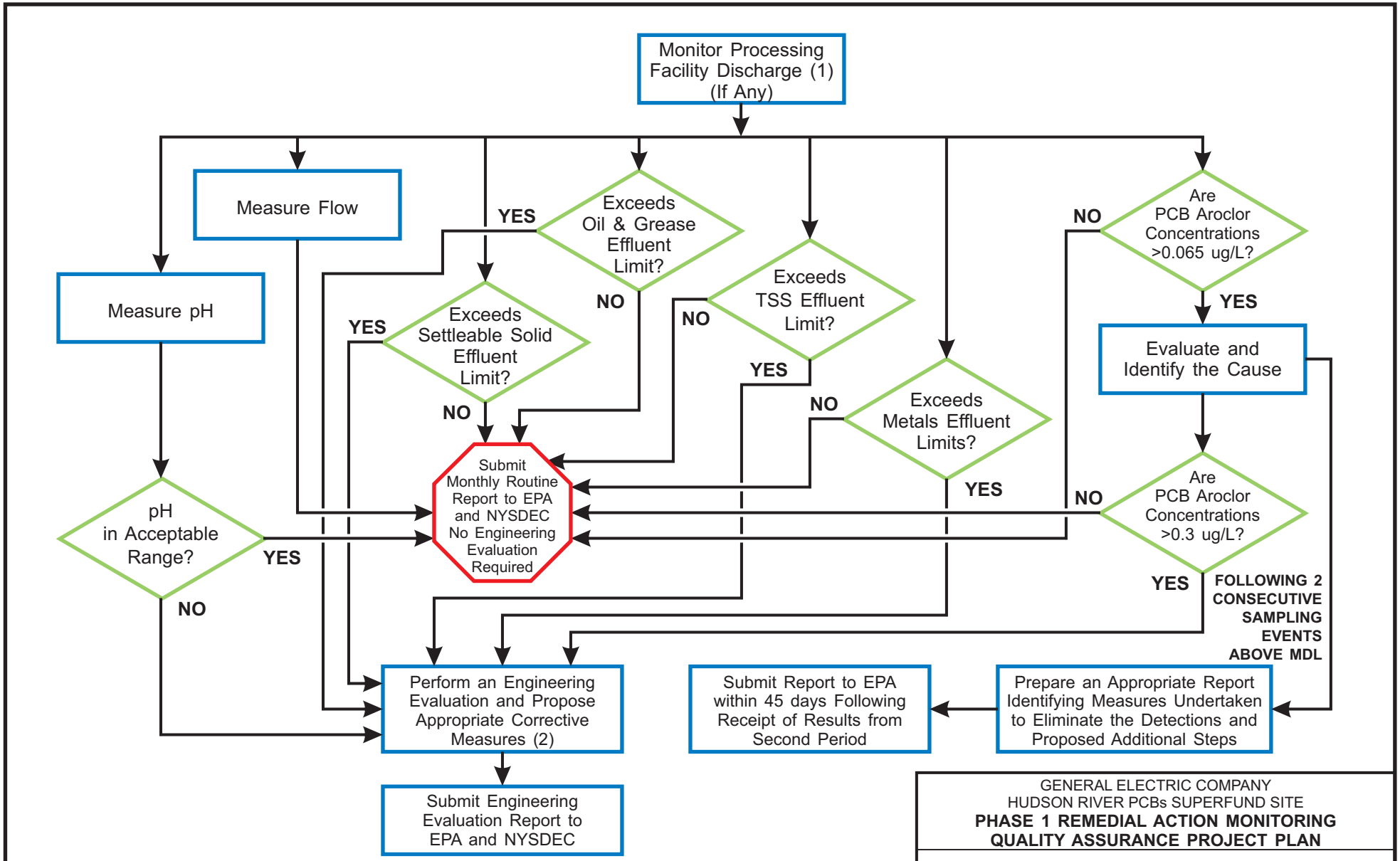
NOTES:
1. Refer to Table 2-12 for monitoring program summary.
2. Mass loading calculations for Cr, Cd, Pb & Cu may be required based on flow.
3. If engineering evaluation is performed, routine monthly report to EPA and NYSDEC will still be performed.

GENERAL ELECTRIC COMPANY
HUDSON RIVER PCBs SUPERFUND SITE
PHASE 1 REMEDIAL ACTION MONITORING QUALITY ASSURANCE PROJECT PLAN

OUTFALL 001 DISCHARGE MONITORING FLOW CHART

ARCADIS

FIGURE
2-17



NOTES:
1. Refer to Table 2-13 for monitoring program summary.
2. If engineering evaluation is performed, routine monthly report to EPA and NYSDEC will still be performed.

GENERAL ELECTRIC COMPANY
HUDSON RIVER PCBs SUPERFUND SITE
PHASE 1 REMEDIAL ACTION MONITORING QUALITY ASSURANCE PROJECT PLAN

OUTFALL 002 & 003 DISCHARGE MONITORING FLOW CHART

ARCADIS

FIGURE
2-18

Processing Facility Discharge Monitoring Form

Date:	
Sampling Personnel:	
SAMPLING LOCATION: (Circle one) 001 002 003	
Project Name:	**Project Number:**
Event:	**Matrix:**
Time In:	**Time Out:**

Field Measurements:

Parameter	Result #1	Result #2	Average
pH			
Dissolved Oxygen			

Flow Measurements:

Monitoring Period	Average Flow	Maximum Flow	Total Flow

Sampling Information:

Analyses:	TSS	Settleable Solids	Oil & Grease	TOC	Metals, except Hg	Mercury	PCB
Sample ID:							
Sample Time:							Start:
							End:
MS/MSD:	--	--	--				
Rinse Blank:	--	--	--	--			
Duplicate ID:							
Duplicate Time:							Start:
							End:
Chain of Custody Signed by:							
EPA Analytical Method:	SM2540D	2540F (1)	1664	SM 5310B	200.8	1631	608

Miscellaneous Observations:

ARCADIS

Signature:

Date:

NOTES:

1. Total settleable solids will be measured by method 2540F from the "*Standard Methods for the Examination of Water and Wastewater.*"

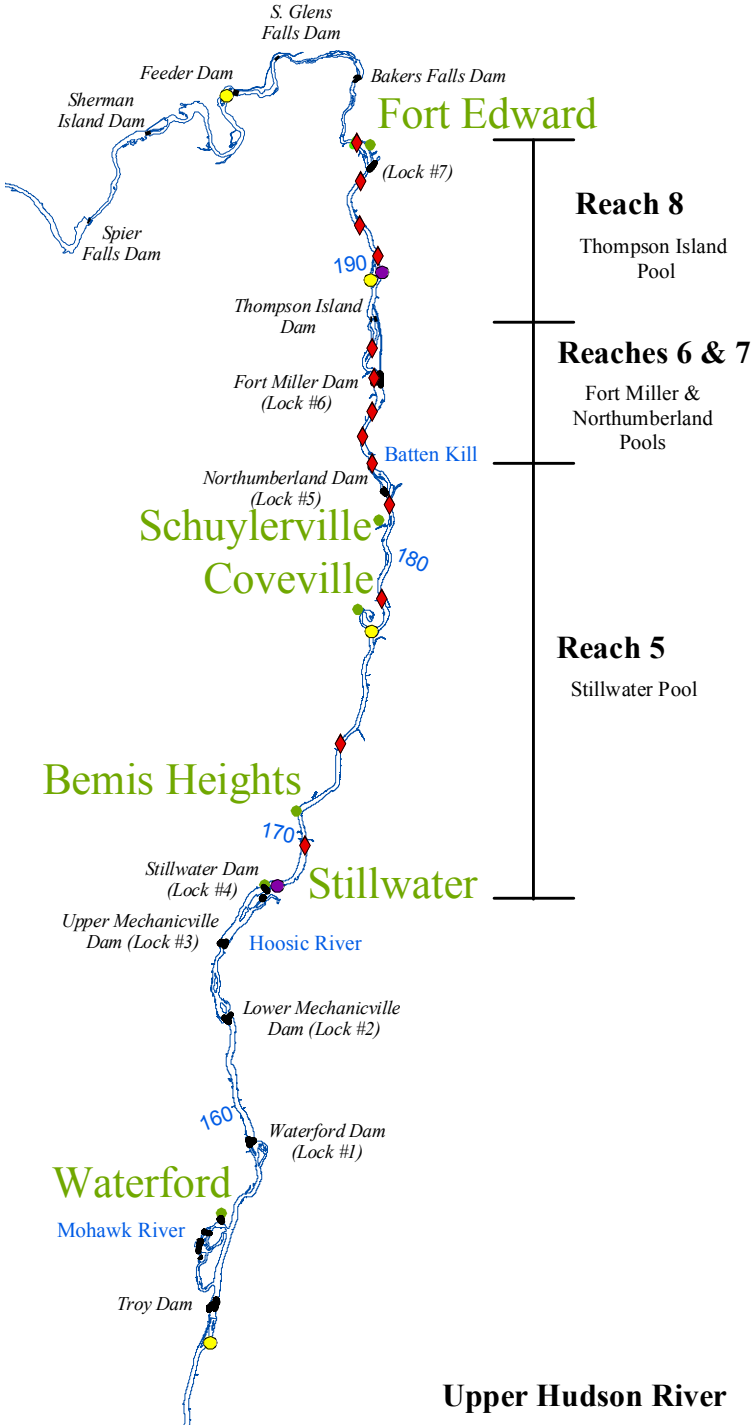
GENERAL ELECTRIC COMPANY
HUDSON RIVER PCBs SUPERFUND SITE
PHASE 1 REMEDIAL ACTION MONITORING QUALITY ASSURANCE PROJECT PLAN

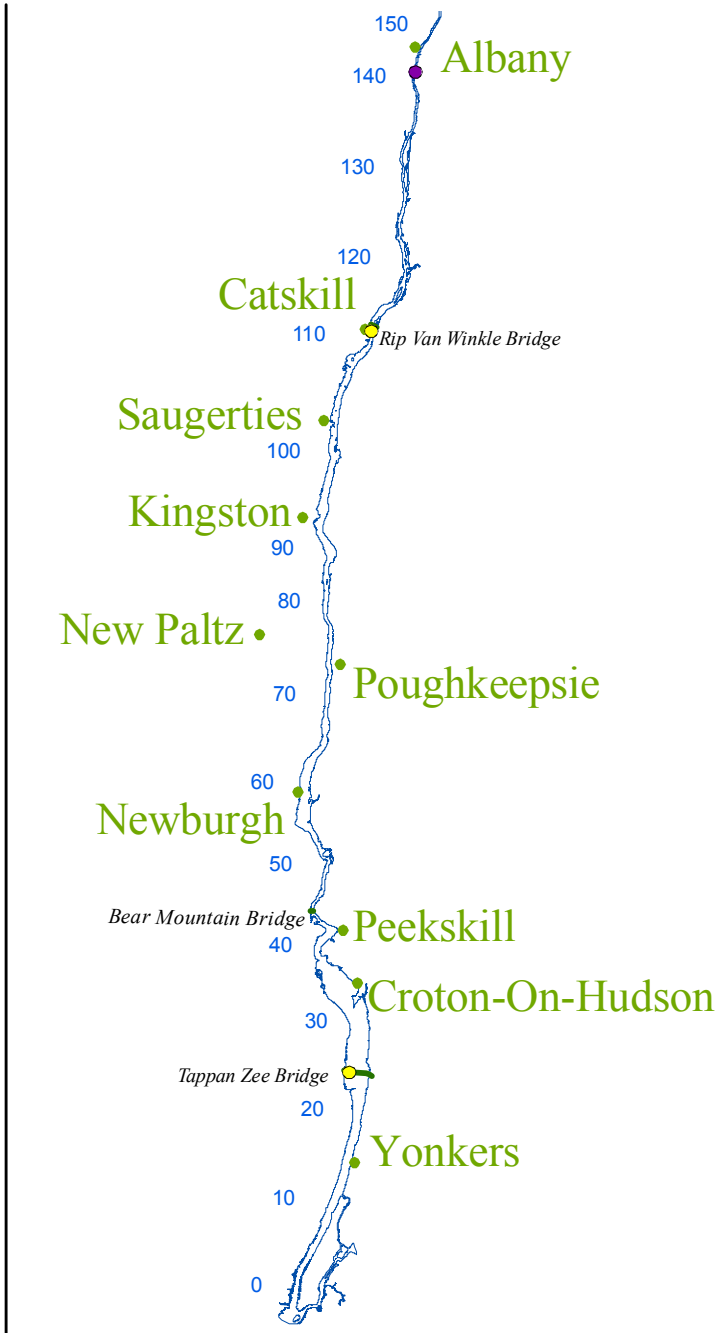
PROCESSING FACILITY DISCHARGE MONITORING FORM

ARCADIS

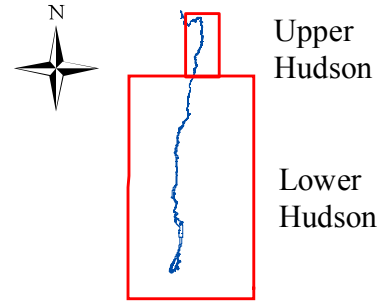
FIGURE **2-19**

02/13/09 SYRACUSE, NY-ENV/CAD-KLS, DJH
C/B0005511/0000/00317/CDR/05511F12.CDR





LOCATOR MAP OF THE HUDSON RIVER



UPPER HUDSON SCALE

0 2 4 8 Miles

LOWER HUDSON SCALE

0 5 10 20 Miles

LEGEND

Est. Proposed Sampling Locations

- NYSDEC Locations - resident adult
- NYSDEC Locations - resident forage
- Additional Proposed Locations

General Electric Company
Hudson River Project

Figure 3-1.
Fish monitoring stations.

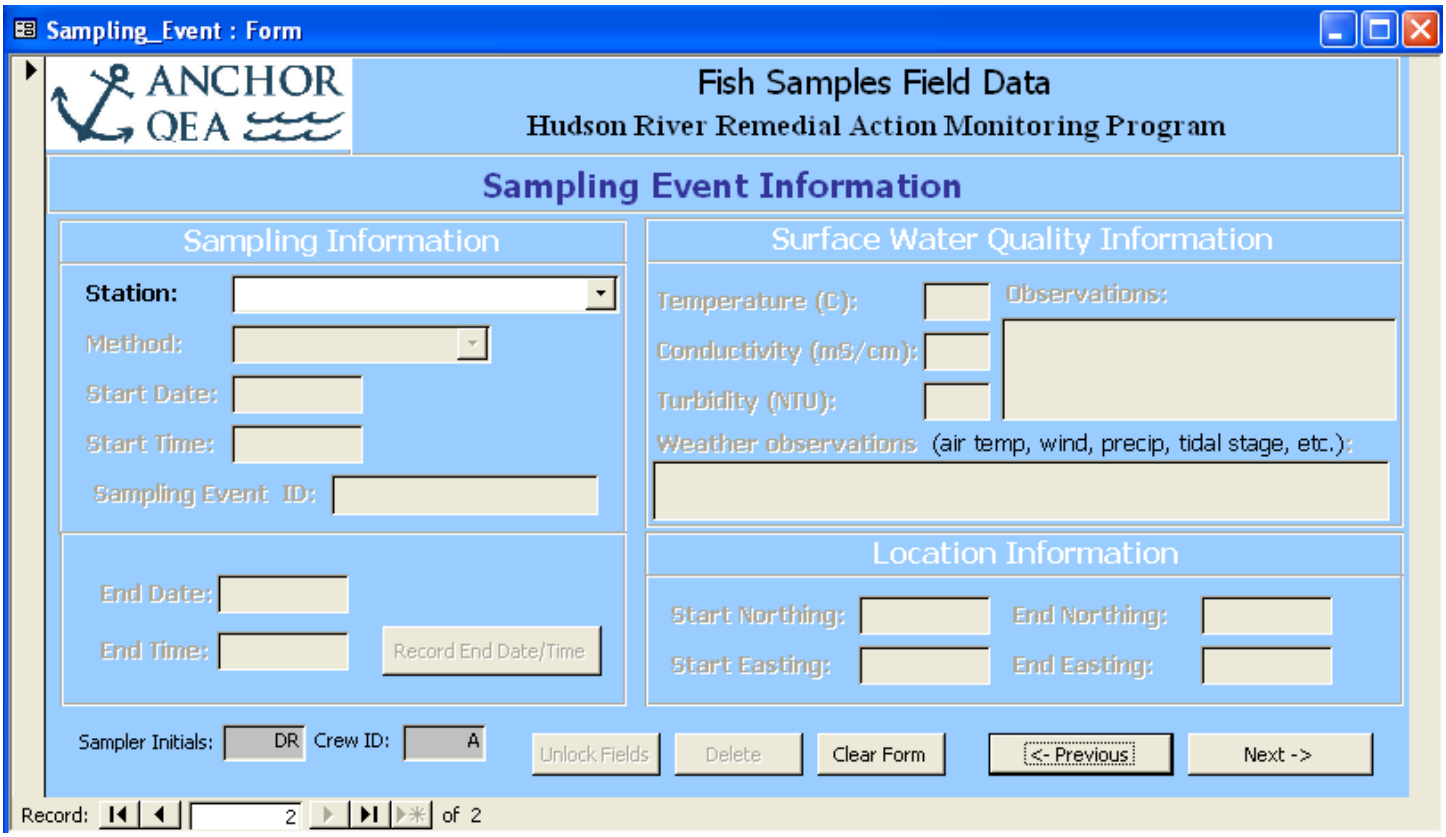
Note:
1. River Miles measured from the Battery (0.0)

ANCHOR QEA

GENram

May 2009

Z:\GENram\DOCUMENTS\reports\RAMP_QAPP\20081030_Revised\Figures



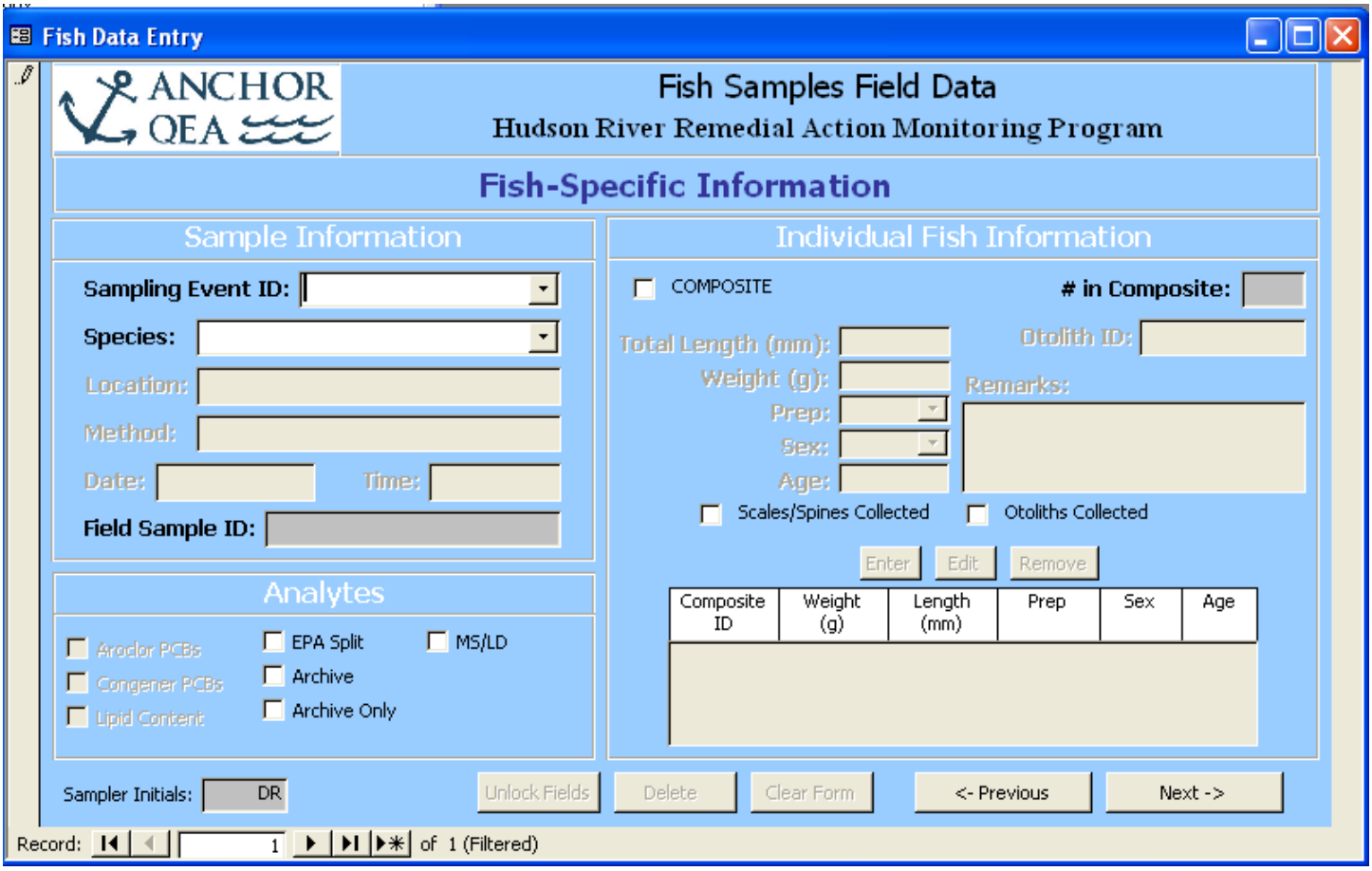


Figure 3-2. Example data entry form for fish sampling.

Z:\GENram\DOCUMENTS\reports\RAMP_QAPP\Final_May_2009\Figures\final

HUDSON RIVER FISH SAMPLING AND ANALYSIS PROGRAM

REMEDIAL ACTION MONITORING

Field Log

SAMPLER INITIALS:_____ CREW: _____

Sampling Event ID: **Station Name:** **Collection Method:** **Start Date/Time:** **End Date/Time:**	**Start Northing (ft):** **Start Easting (ft):** **End Northing (ft):** **End Easting (ft):**	**Water Temperature (°C):** **Turbidity (NTU):** **Conductivity (mS/cm):**

WEATHER: _____

Field Sample ID	Species Code (1)	Otolith ID	Archive Only	Composite (2)	# In Composite	Prep (3)	Sex	Weight (g)	Total Length (mm)	Remarks
			☐	☐						

(1) BB=brown bullhead; BDACE=blacknose dace; BGILL=Bluegill; CMSH=common shiner; FALLF=fallfish; GOSH=golden shiner; LDACE=longnose dace; LMB=largemouth bass; MIN=banded killifish; MNSPP=minnow species; PKSD=pumpkinseed; SMB=smallmouth bass; SPSH=spottail shiner; SUN=sunfish species; TDART=tessellated darter; WP=white perch; YB=yellow bullhead; YP=yellow perch

(2) Data for individual fish in each composite is shown in the "Individuals in Composite Field Log".

(3) F = Fillet, WH = Whole body

Monday, May 11, 2009 *Page 1 of 1*

Figure 3-3. Example field log for fish sampling.

Z:\GENram\DOCUMENTS\reports\RAMP_QAPP\Final_May_2009\Figures\final

HUDSON RIVER FISH SAMPLING AND ANALYSIS PROGRAM

"Individuals in Composite" Field Log

Field Sample ID (Composite)	Individual ID	Species Code (1)	Sex	Weight (g)	Total Length (mm)	Prep (2)	Remarks

1) BB=brown bullhead, BDACE=blacknose dace, BGILL=Bluegill, CMSH=common shiner, FALLF=fallfish, GOSH=golden shiner, LDACE=longnose dace, LMB=largemouth bass, MIN=banded killifish, MNSPP=minnow species, PKSD=pumpkinseed, SMB=smallmouth bass, SPSH=spottail shiner, SUN=sunfish species, TDART=tessellated darter, WP=white perch, YB=yellow bullhead, YP=yellow perch

2) WH = whole body

Monday, May 11, 2009 *Page 1 of 1*

Figure 3-4. Example field log for composite fish sampling.

Z:\GENram\DOCUMENTS\reports\RAMP_QAPP\Final_May_2009\Figures\final

ANCHOR QEA

305 West Grand Avenue Montvale, NJ 07645 Ph: 201-930-9890

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

COC ID:

Sample Custodian: DR

Client: General Electric Company

Project: Hudson River Remedial Action Monitoring Program

Lab:

COC Sample Number	Sampling Event ID	Field Sample ID	Sample Date	Sample Time	MS/LD	# CONTAINERS	Media*	Prep**	Composite	Total PCBs NE013_09	Total PCBs (NE149_08) SW846 8082	Percent Lipid (NE158_05)			
					☐				☐	☐	☐	☐			

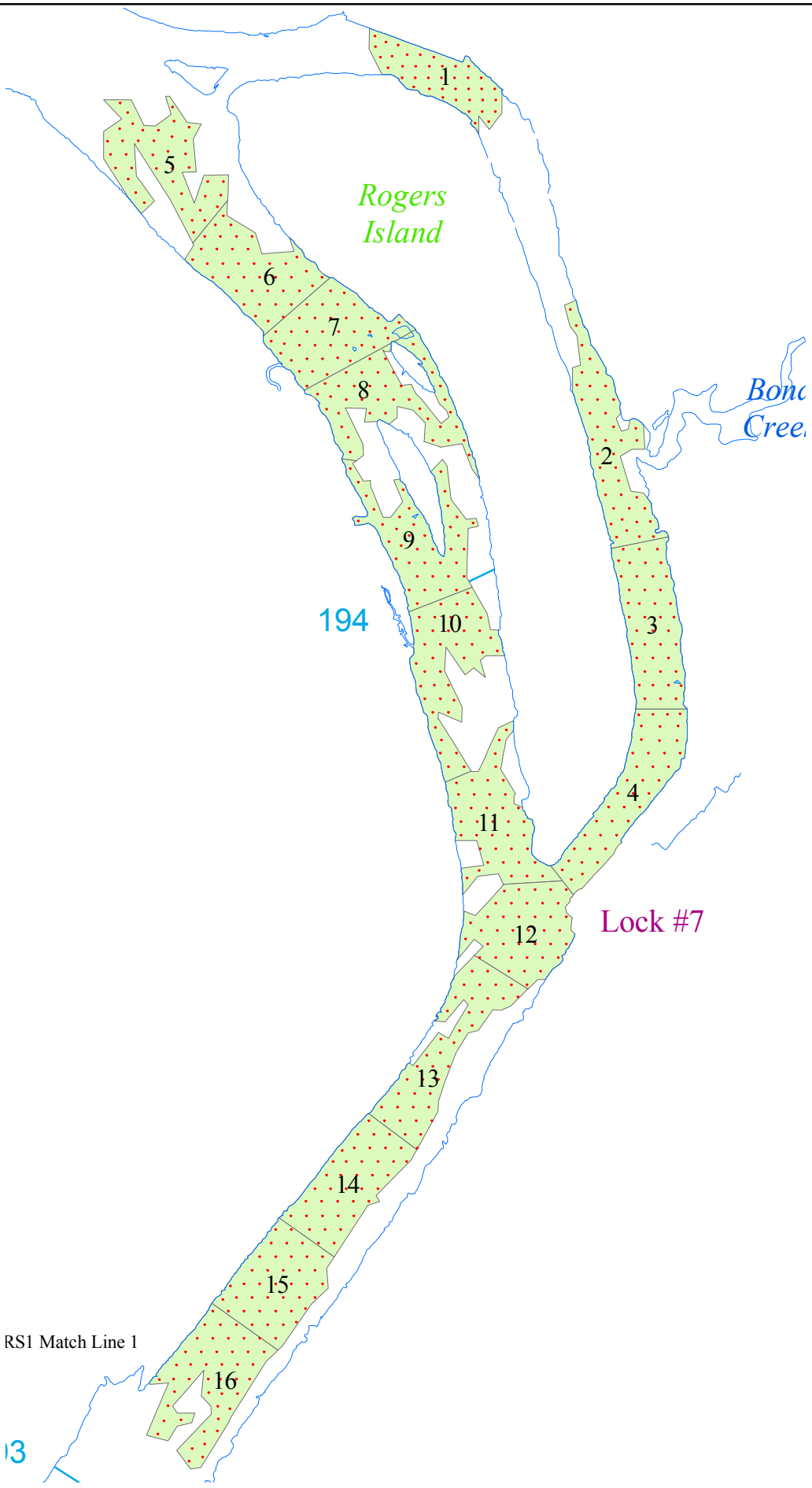
Comments:

Relinquished by:	Received by:	Relinquished by:	Received by:	Relinquished by:	Received by:
Signature	Signature	Signature	Signature	Signature	Signature
Print Name	Print Name	Print Name	Print Name	Print Name	Print Name
Company	Company	Company	Company	Company	Company
Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

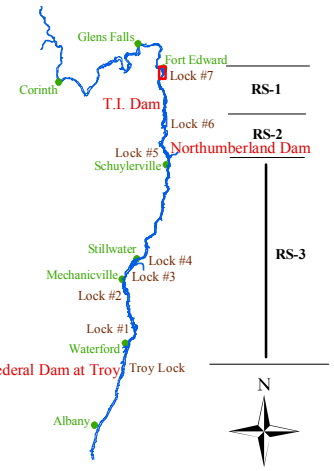
Date Printed: 5/11/2009 * F= FISH **F=Fillet, WH=Whole Body, O=Offal ***COC TYPE:*** ***Page 1 of 1***

Figure 3-5. Example chain of custody form for fish.

Z:\GENram\DOCUMENTS\reports\RAMP_QAPP\Final_May_20_09\Tables\final



LOCATOR MAP OF THE UPPER HUDSON RIVER



GRAPHIC SCALE

0 250 500 Feet

LEGEND

- Certification Unit (CU)
- Representative Sampling Locations
- Shoreline
- River Mile

Notes:
Certification Unit shapefile CU_Rev_7-19-06.shp created by BBL on 7/19/2006.
Grid offset approximately 50% from SSAP locations.
80 ft grid used for all CUs except CU=1.
67 ft grid used for CU=1.
CU area ID posted.

Hudson River Project

Figure 4-1.
Representative sediment residual monitoring locations.

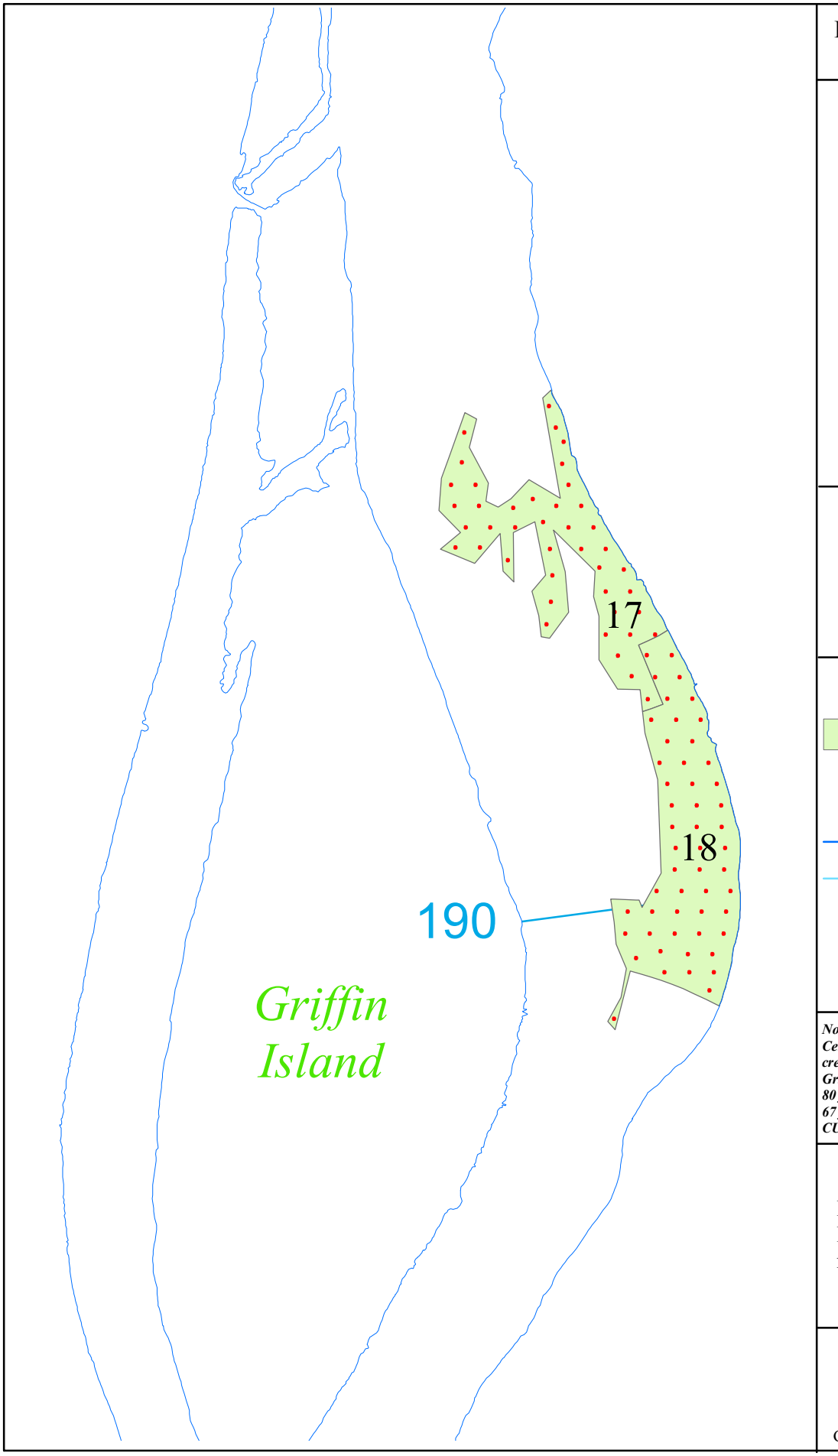
Page 1 of 2

ANCHOR QEA

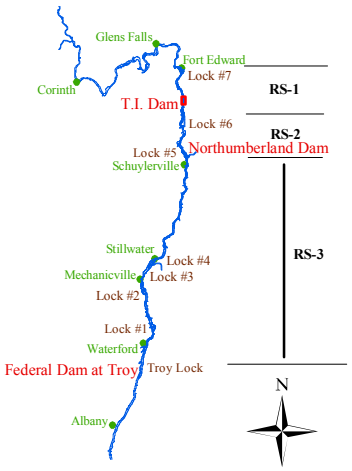
GENram

May 2009

Z:\GENrem\GIS\maps\ArcGIS8_maps\IF_grid_complianceUnits\Phase1_CUsampling_may09.mxd



LOCATOR MAP OF THE UPPER HUDSON RIVER



GRAPHIC SCALE

0 250 500 Feet

LEGEND

- Certification Unit (CU)
- Representative Sampling Locations
- Shoreline
- River Mile

Notes:
Certification Unit shapefile CU_Rev_7-19-06.shp created by BBL on 7/19/2006.
Grid offset approximately 50% from SSAP locations.
80 ft grid used for all CUs except CU=1.
67 ft grid used for CU=1.
CU area ID posted.

Hudson River Project

Figure 4-1.
Representative sediment residual monitoring locations.

ANCHOR QEA

GENram May 2009

Z:\GENrem\GIS\maps\ArcGIS8_maps\IF_grid_complianceUnits\Phase1_CUsampling_may09.mxd

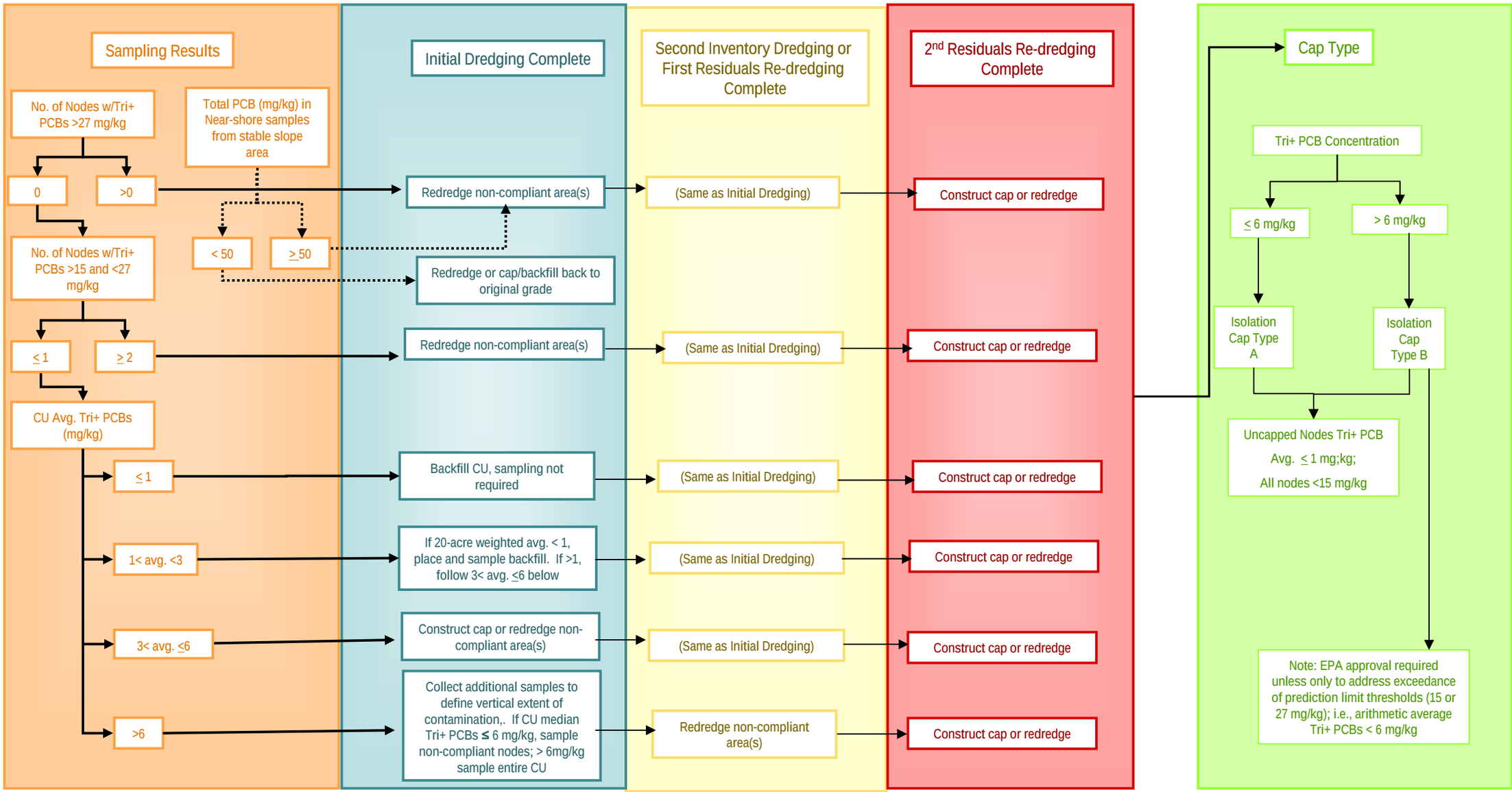


Figure 4-2. Sediment residuals sample collection logic flow chart.

Z:\GENram\DOCUMENTS\reports\RAMP_QAPP\Figures\Final_May_2009\Figures\Final

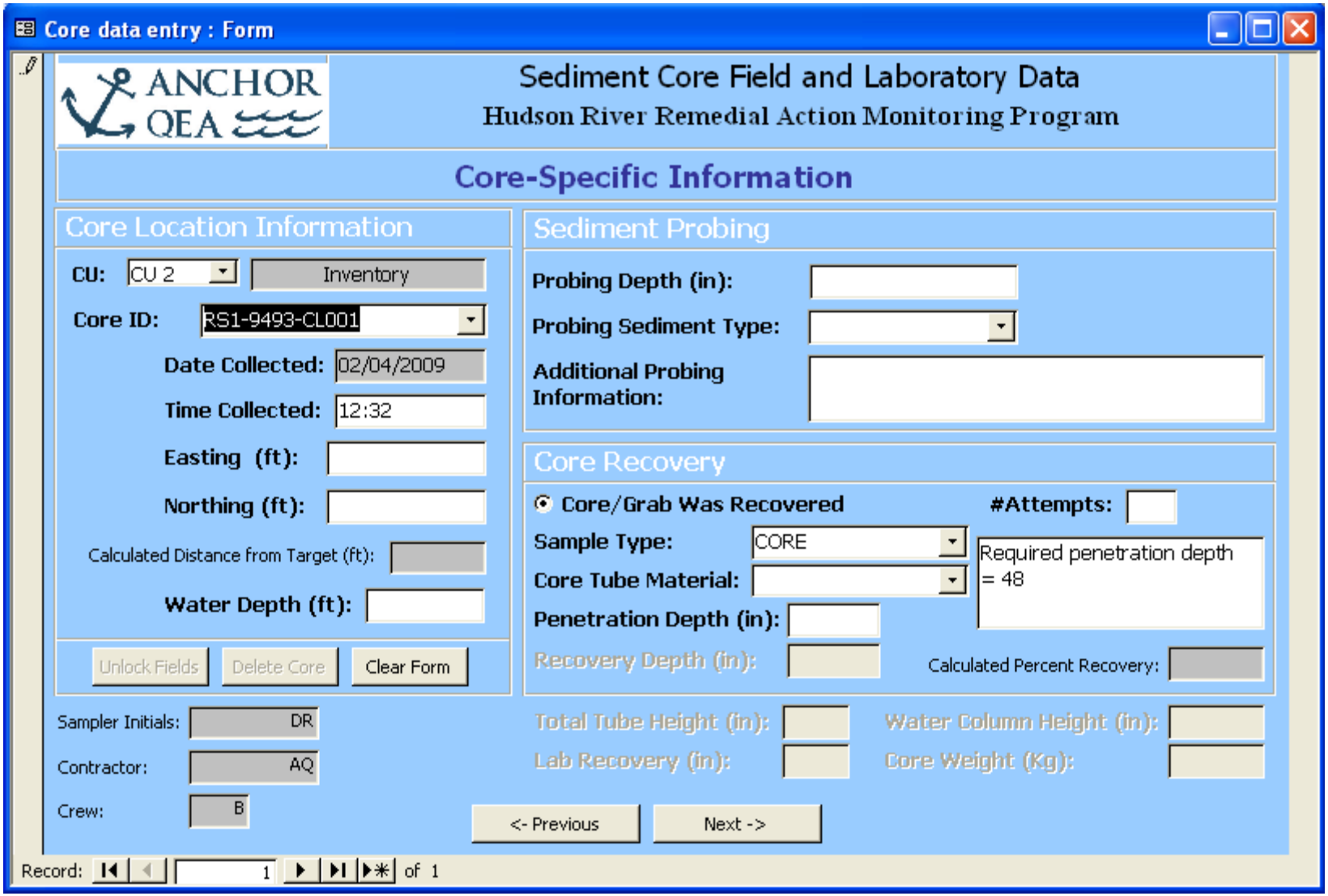


Figure 4-3. Example data entry form for sediment residuals sampling.

HUDSON RIVER REMEDIAL ACTION MONITORING PROGRAM

Coring Field Log

Relinquished: _____ Date/Time: _____ Relinquished: _____ Date/Time: _____ Sampler: DR Company: AQ (B)

Received: _____ Date/Time: _____ Received: _____ Date/Time: _____ Weather: _____

Core ID	CU	Pass	Date	Time	Northing	Easting	Water Depth (ft.)	Probing Depth (in.)	Sediment Type	Sediment Description	Core Recovered	#Attempts	Sample Type *	Tube Material **	Penetration Depth (in.)	Recovery Depth (in.)
RS1-9493-CL001	CU 2	Inventory	02/04/09	12:43	0	0	15	6	COARSE	NONE	☑	1	C	A	50	48

* Sample Type: C = Core, G=Grab
** Tube Material: A = Aluminum, L = Lexan

ANCHOR QEA

Date Printed: 2/4/2009

Figure 4-4. Example field log for sediment residuals sampling.

Z:\GENram\DOCUMENTS\reports\RAMP_QAPP\Final_May_2009\Figures\final

ANCHOR QEA

305 West Grand Avenue Montvale, NJ 07645 Ph: 201-930-9890

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

COC ID: COC090511-NEA-01

Sample Custodian: reidy, deirdre

Client: General Electric Company

Project: Hudson River Remedial Action Monitoring Program

Lab: NEA

COC Sample Number	Field Sample ID	QA/QC	MS /MSD/ LD	Date Processed	Date Collected	Time Collected	Media*	# Containers	PERCENT MOISTURE ASTM D2216-98	AROCLOR GEHR8082	LAB ARCHIVE NONE							
01	RLC-CU001-FI000006-000006	ENV	N	05/11/2009	05/11/2009	07:42	S	1	☑	☑	☐	☐	☐	☐	☐	☐	☐	
02	RLC-CU001-FI000006-006012	ENV	N	05/11/2009	05/11/2009	07:42	S	1	☐	☐	☑	☐	☐	☐	☐	☐	☐	
03	RLC-CU001-FI000006-012018	ENV	N	05/11/2009	05/11/2009	07:42	S	1	☐	☐	☑	☐	☐	☐	☐	☐	☐	
04	RLC-CU001-FI000006-018024	ENV	N	05/11/2009	05/11/2009	07:42	S	1	☐	☐	☑	☐	☐	☐	☐	☐	☐	

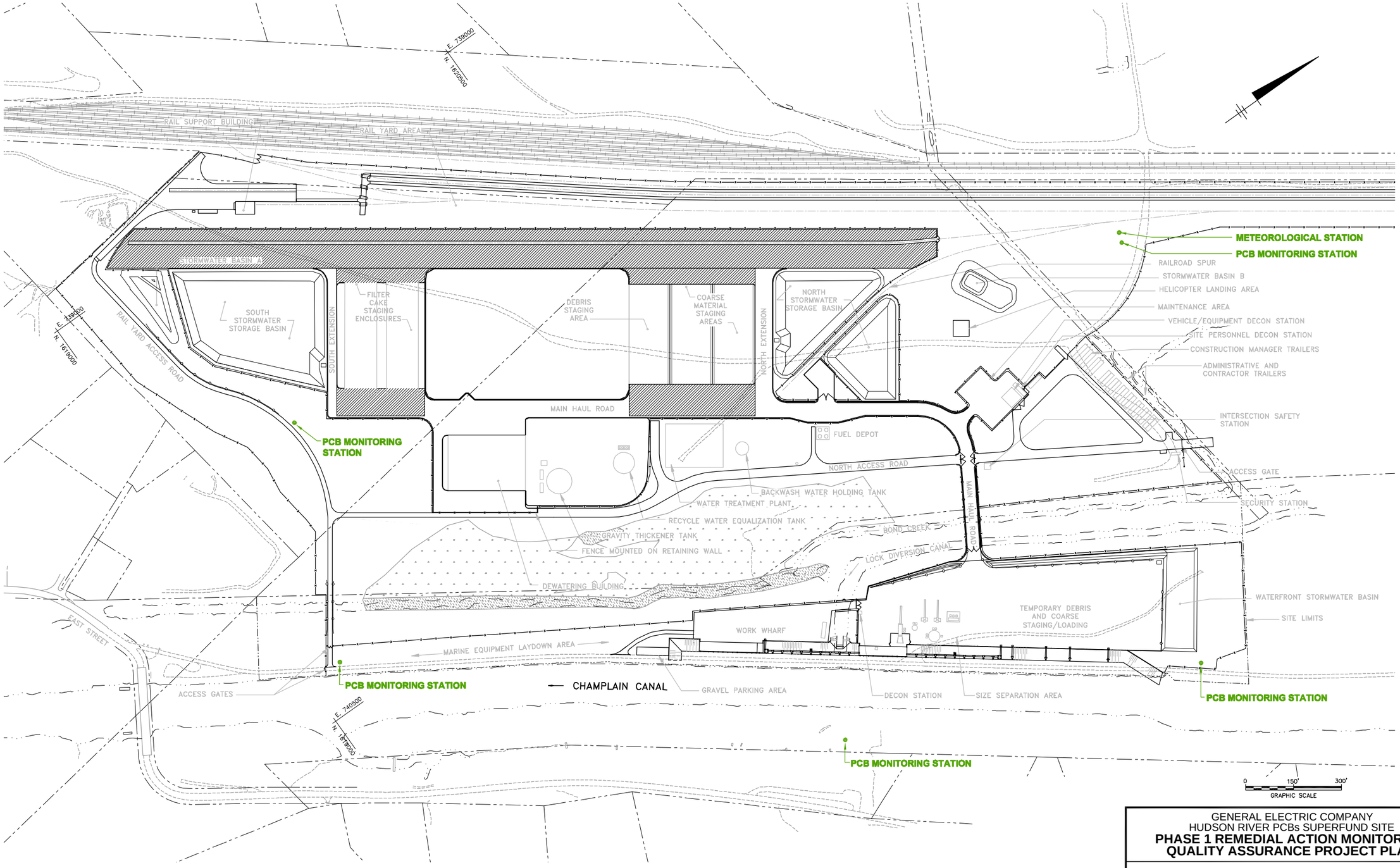
Comments:

Relinquished by:	Received by:	Relinquished by:	Received by:	Relinquished by:	Received by:
Signature	Signature	Signature	Signature	Signature	Signature
Print Name	Print Name	Print Name	Print Name	Print Name	Print Name
Company	Company	Company	Company	Company	Company
Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

Date Printed: 5/11/2009 * S= SEDIMENT, W= WATER ***Page 1 of 1***

Figure 4-5. Sample chain of custody form for sediment residuals sampling.

Z:\GENram\DOCUMENTS\reports\RAMP_QAPP\Final_May_2009\Figures\final



NOTE:

1. PCB MONITORING STATION LOCATED ON EAST SIDE OF CHAMPLAIN CANAL IS PRELIMINARY AND SUBJECT TO CHANGE BASED ON FIELD CONDITIONS. THIS LOCATION WILL BE A LOW FLOW MONITORING STATION.

GENERAL ELECTRIC COMPANY
HUDSON RIVER PCBs SUPERFUND SITE
PHASE 1 REMEDIAL ACTION MONITORING QUALITY ASSURANCE PROJECT PLAN

PROPOSED PCB MONITORING STATION AND METEOROLOGICAL STATION LOCATIONS

ARCADIS

FIGURE
5-1

CITY: SYR DIV/GROUP: 141/ENV DB: GHS KLS BGP LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\GE\ENVCAD\SYRACUSE\ACTIVE\B0005511\00000031\DWG\REPORT\RAMQAPP\05511G03.DWG LAYOUT: 5-1 SAVED: 2/18/2009 8:05 AM BY: PITTSLEY, BRIAN
XREFS: IMAGES: PROJECTNAME: HUDSONRIVER02
XGN-PL01
XGN-EX03
XGN-EX01
05511XRD
PLTFULL.CTB PLOTTED: 2/18/2009 8:05 AM ACADVER: 17.0S (LMS TECH) PAGESETUP:
C-LD2B-PDF-LEDGER PLOTSTYLETABLE:

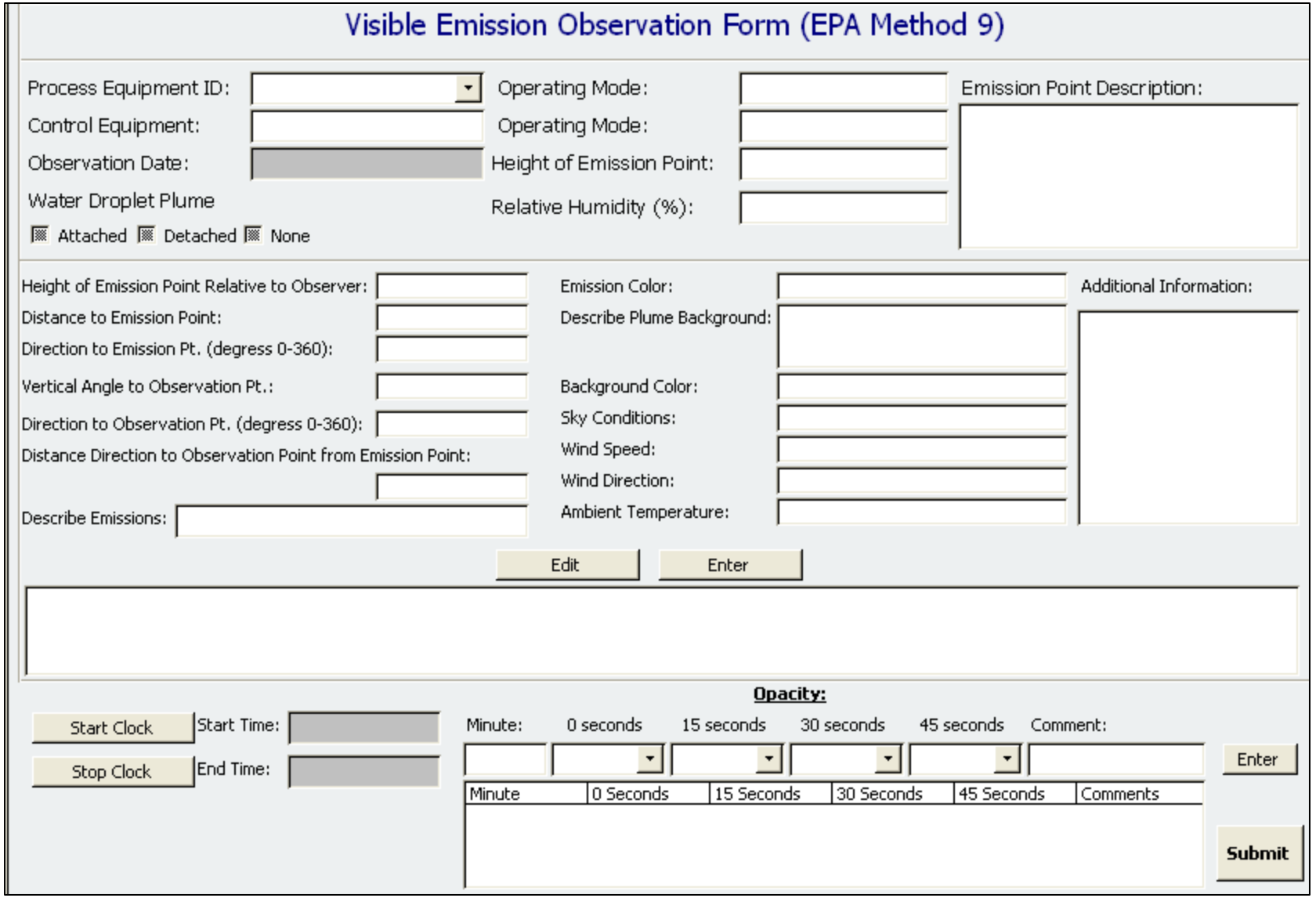


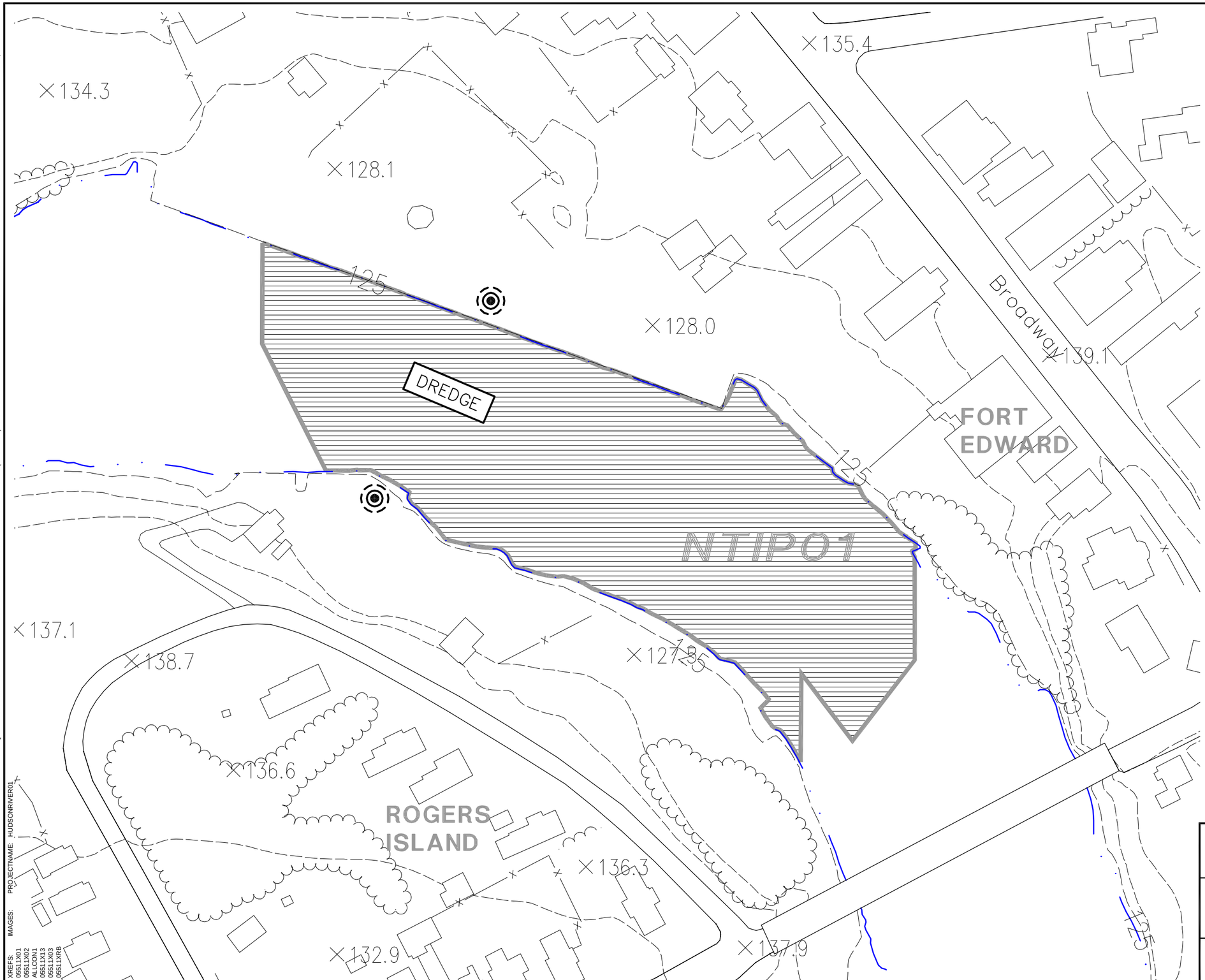
Figure 5-2. Example data entry form for opacity monitoring.

Figure 6-1. Example data entry form for odor monitoring.

ODOR COMPLAINT LOG

Odor Complaint				H2S Sampling Required (Y/N)		H2S Results (ppbv)		Corrective Action Required (Y/N)	Description of Corrective Action
Date	Origin		Description & Location	Direct	Integrated Sample	Direct	Integrated Sample		
	On-site Worker	Public							

Figure 6-2. Odor complaint log.



LEGEND:

NOISE MONITORING LOCATION

NOTE:

1. MAPPING BY CHAS H SELLS, INC. BASED ON AERIAL PHOTOS DATED SPRING 2002.

0 100' 200'

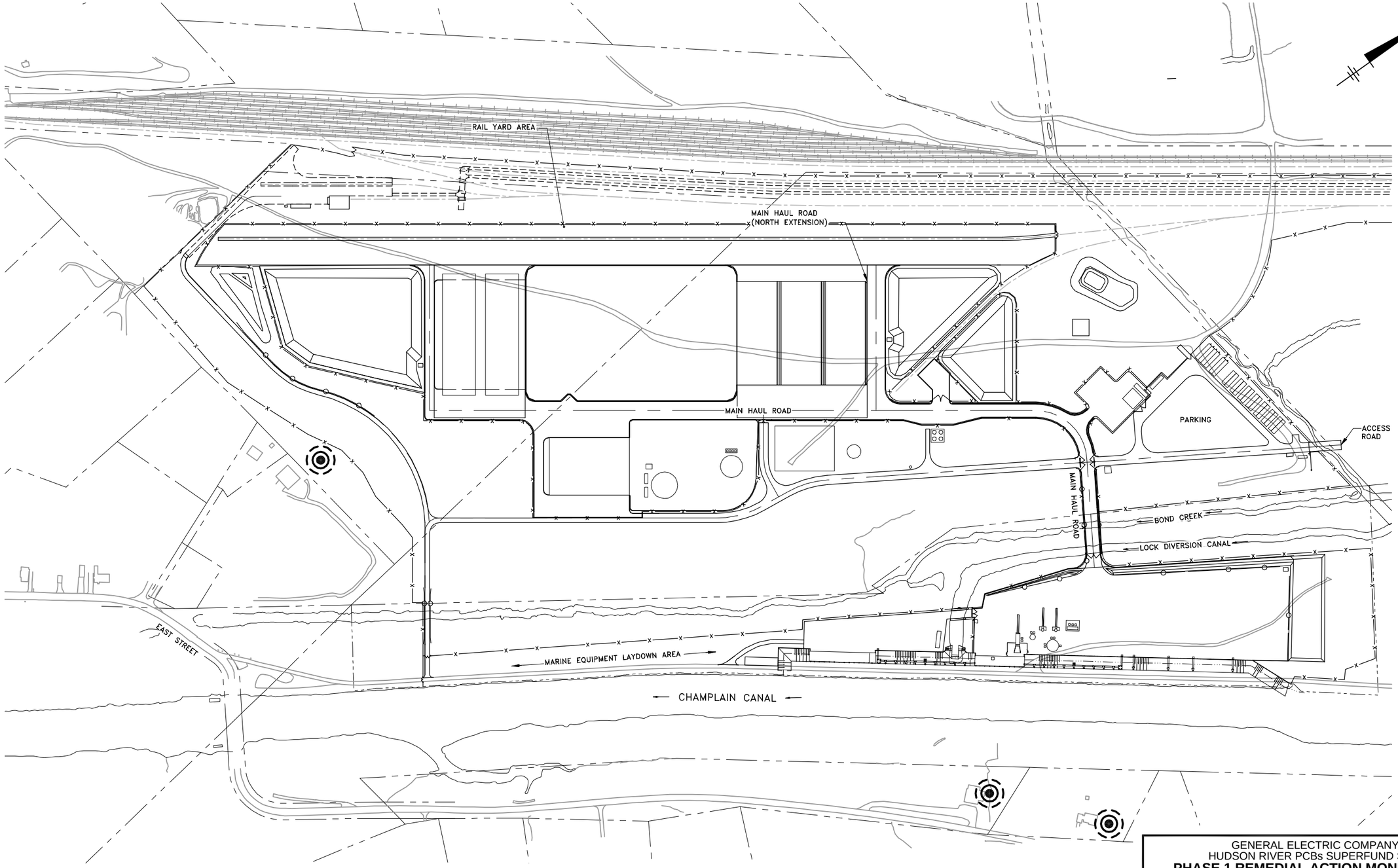
GRAPHIC SCALE

GENERAL ELECTRIC COMPANY
HUDSON RIVER PCBs SUPERFUND SITE
PHASE 1 REMEDIAL ACTION MONITORING QUALITY ASSURANCE PROJECT PLAN

REPRESENTATIVE NOISE MONITORING LOCATIONS DURING DREDGING OPERATIONS

ARCADIS

FIGURE
7-1



LEGEND:

NOISE MONITORING LOCATIONS

NOTE:

1. MAPPING BY CHAS H SELLS, INC. BASED ON AERIAL PHOTOS DATED SPRING 2002.

0 300' 600'

GRAPHIC SCALE

GENERAL ELECTRIC COMPANY
HUDSON RIVER PCBs SUPERFUND SITE

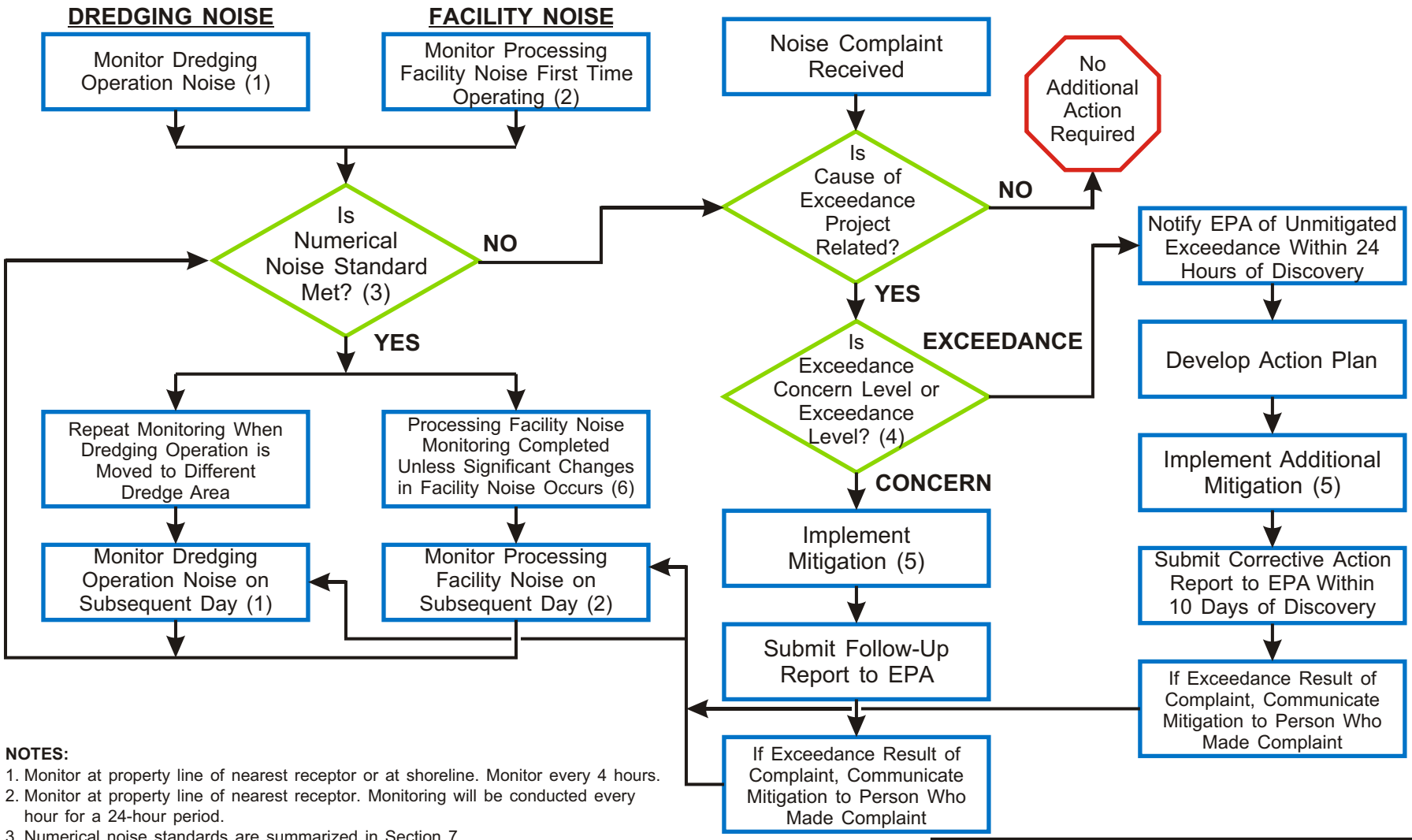
PHASE 1 REMEDIAL ACTION MONITORING QUALITY ASSURANCE PROJECT PLAN

REPRESENTATIVE NOISE MONITORING LOCATIONS DURING PROCESSING FACILITY OPERATIONS

ARCADIS

FIGURE
7-2

CITY: SYR DIV/GROUP: 141/ENV DB: RLP GHS BGP LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\GE\ENV\CAD\SYRACUSE\ACTIC\B0005511\0000\00317\DWG\REPORTTRAMQAPP05511G05.DWG LAYOUT: 7-2SAVED: 2/18/2009 8:06 AM ACADVER: 17.0S (LMS TECH) PAGESETUP: C-LB-PDF-LEDGER PLOTSTYLETABLE: PLTFULLCTB PLOTTED: 2/18/2009 8:06 AM BY: PITTSLEY, BRIAN
XREFS: IMAGES: PROJECTNAME: HUDSONRIVER02
XGN-PL01
XGN-EX03
XGN-EX01
05511XRB



NOTES:

1. Monitor at property line of nearest receptor or at shoreline. Monitor every 4 hours.
2. Monitor at property line of nearest receptor. Monitoring will be conducted every hour for a 24-hour period.
3. Numerical noise standards are summarized in Section 7.
4. Concern level exceedance is defined as noise levels that are above existing standard, although exceedances can be easily and immediately mitigated, or a project-related noise complaint is received from the public. Exceedance level exceedance is defined as a recorded exceedance of the noise standard that is not easily and immediately mitigated or frequent and recurrent complaints related to project activities.
5. Implement mitigation measures provided that any equipment modifications or additions that are part of such measures are reasonably available from a schedule and cost standpoint, recognizing that substitutions for major equipment approved in the Phase 1 FDR and being used in Phase 1 will be impractical. Noise mitigation will not supersede worker health and safety noise requirements established by OSHA.
6. Significant changes in facility noise would be anticipated if additional noise-producing equipment is added at the facility.

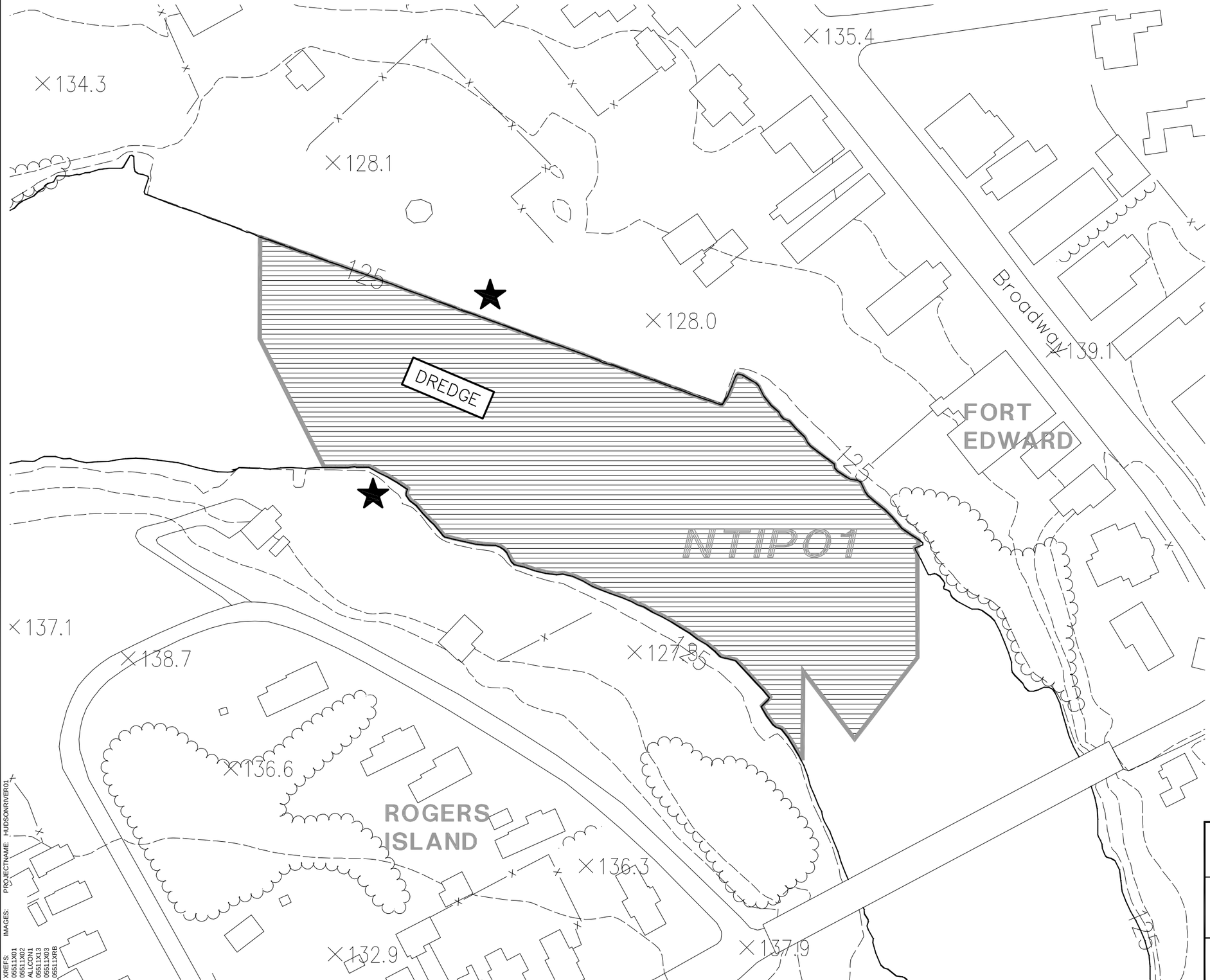
GENERAL ELECTRIC COMPANY
HUDSON RIVER PCBs SUPERFUND SITE
PHASE 1 REMEDIAL ACTION MONITORING QUALITY ASSURANCE PROJECT PLAN

NOISE MONITORING DURING DREDGING AND PROCESSING FACILITY OPERATIONS FLOW CHART

ARCADIS

FIGURE
7-3

Figure 7-4. Example data entry form for noise monitoring.



LEGEND:

★ LIGHT MONITORING LOCATION

NOTE:

1. MAPPING BY CHAS H SELLS, INC. BASED ON AERIAL PHOTOS DATED SPRING 2002.

0 100' 200'

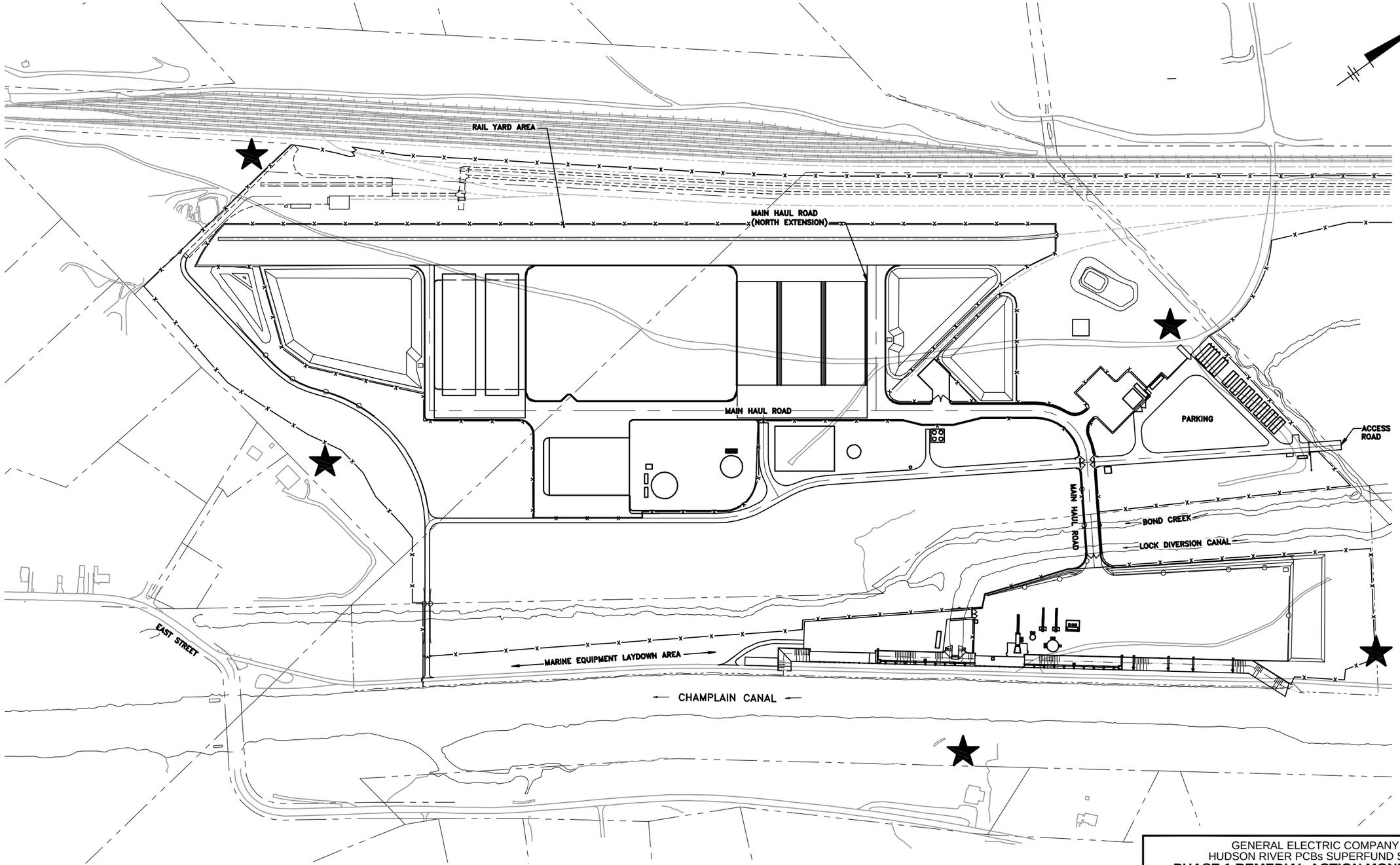
GRAPHIC SCALE

GENERAL ELECTRIC COMPANY
HUDSON RIVER PCBs SUPERFUND SITE
PHASE 1 REMEDIAL ACTION MONITORING QUALITY ASSURANCE PROJECT PLAN

REPRESENTATIVE LIGHT MONITORING LOCATIONS DURING DREDGING OPERATIONS

ARCADIS

FIGURE
8-1



LEGEND:

★ LIGHT MONITORING LOCATION

NOTE:

1. MAPPING BY CHAS H SELLS, INC. BASED ON AERIAL PHOTOS DATED SPRING 2002.

0 300' 600'

GRAPHIC SCALE

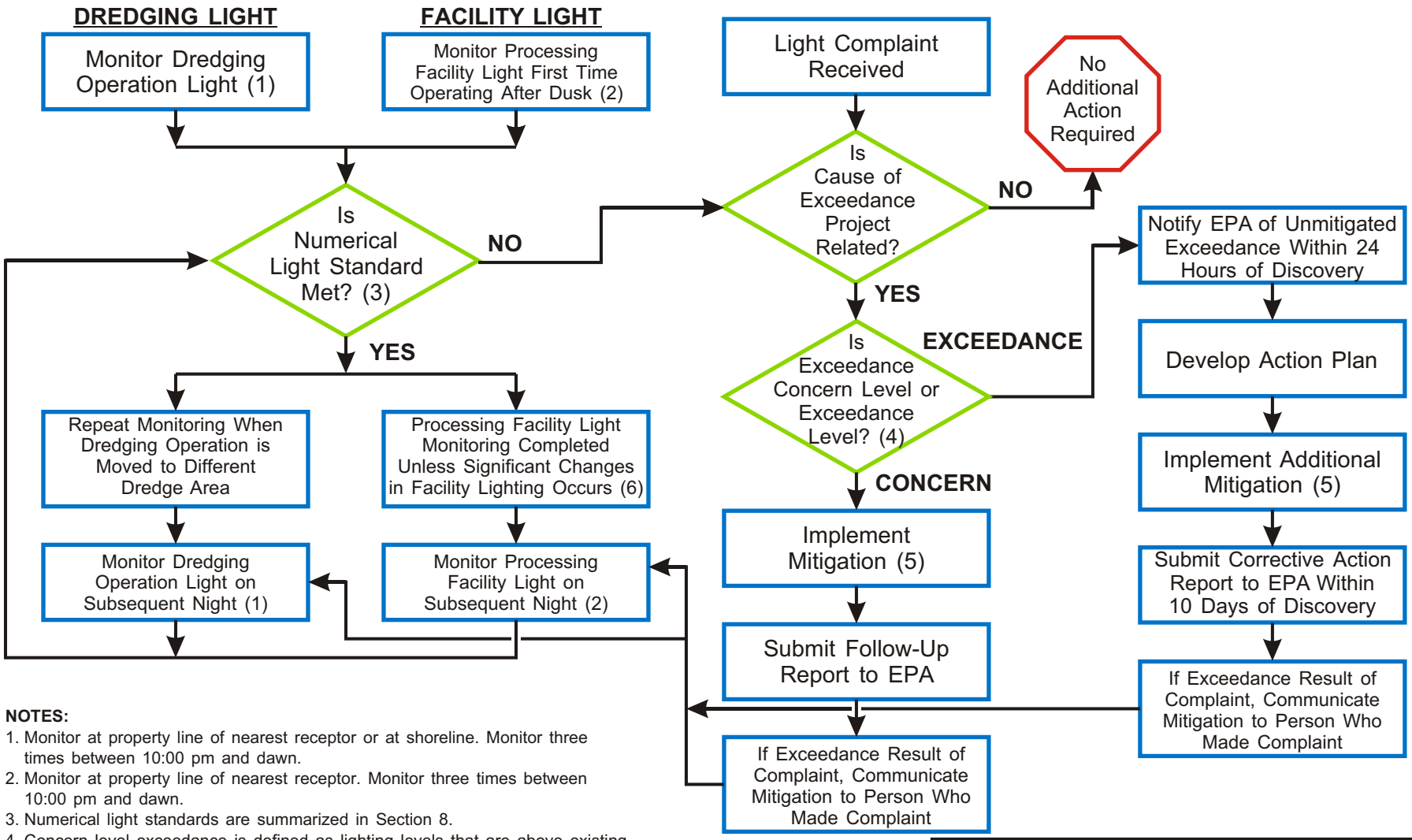
GENERAL ELECTRIC COMPANY
HUDSON RIVER PCBs SUPERFUND SITE

PHASE 1 REMEDIAL ACTION MONITORING QUALITY ASSURANCE PROJECT PLAN

REPRESENTATIVE LIGHT MONITORING LOCATIONS DURING PROCESSING FACILITY OPERATIONS

ARCADIS

FIGURE
8-2



NOTES:

1. Monitor at property line of nearest receptor or at shoreline. Monitor three times between 10:00 pm and dawn.
2. Monitor at property line of nearest receptor. Monitor three times between 10:00 pm and dawn.
3. Numerical light standards are summarized in Section 8.
4. Concern level exceedance is defined as lighting levels that are above existing standard, although exceedances can be easily and immediately mitigated, or a project-related lighting complaint is received from the public. Exceedance level exceedance is defined as a recorded exceedance of the lighting standard that is not easily and immediately mitigated or frequent and recurrent complaints related to project activities.
5. Implement mitigation measures provided that any equipment modifications or additions that are part of such measures are reasonably available from a schedule and cost standpoint, recognizing that substitutions for major equipment approved in the Phase 1 FDR and being used in Phase 1 will be impractical. Lighting mitigation will not supersede worker health and safety lighting requirements established by OSHA. Lighting mitigation also will not supersede United States Coast Guard and New York State navigation laws.
6. Significant changes in facility lighting would be anticipated if additional outdoor lights are added at the facility.

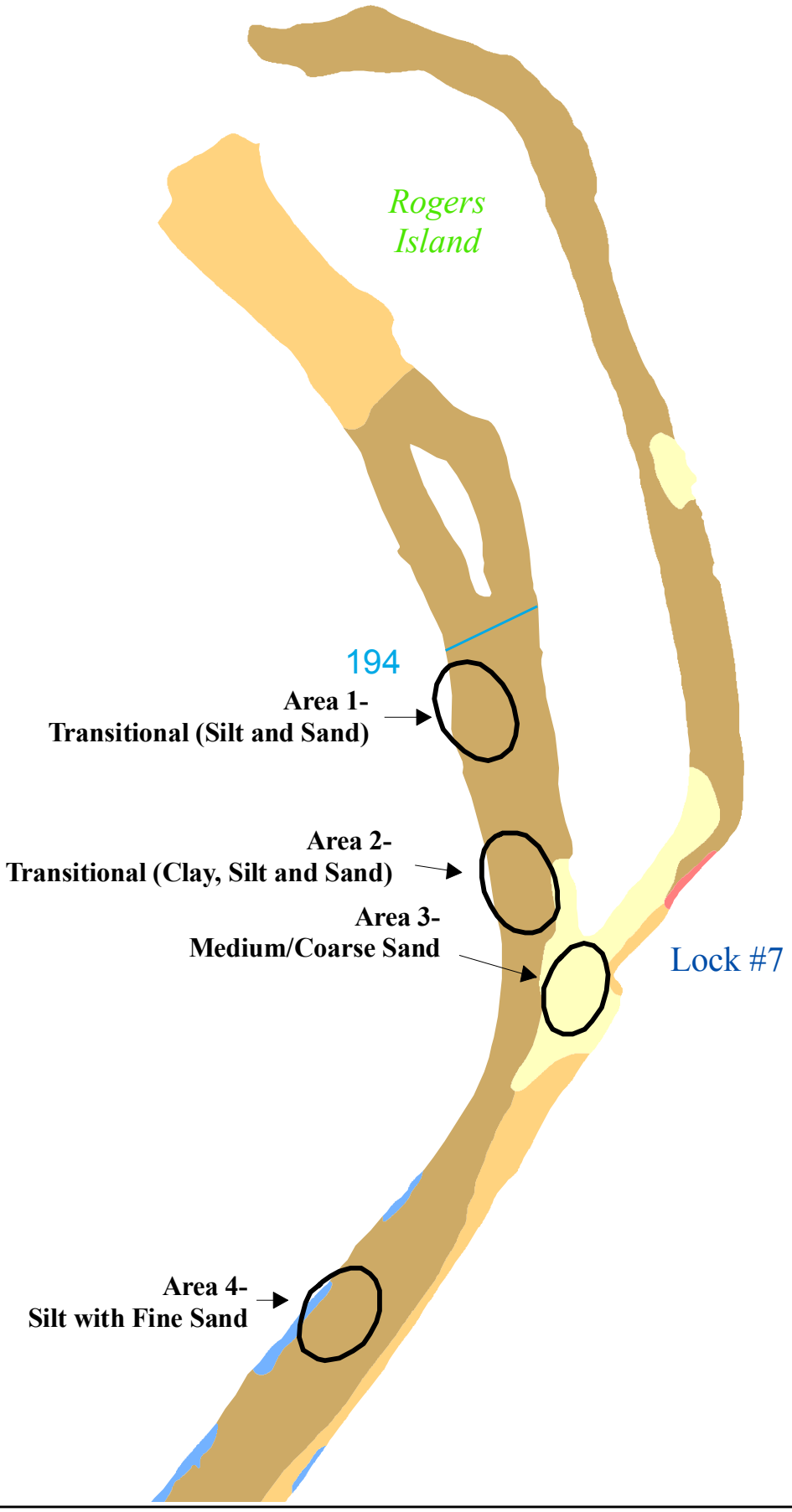
GENERAL ELECTRIC COMPANY
HUDSON RIVER PCBs SUPERFUND SITE
PHASE 1 REMEDIAL ACTION MONITORING QUALITY ASSURANCE PROJECT PLAN

LIGHT MONITORING DURING DREDGING AND PROCESSING FACILITY OPERATIONS FLOW CHART

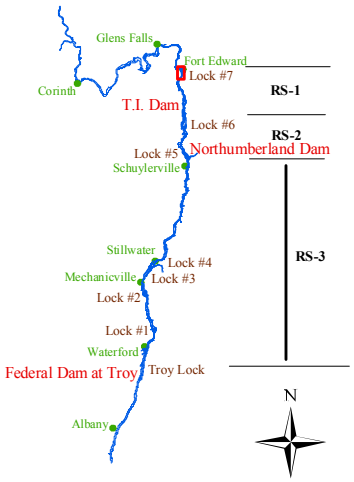
ARCADIS

FIGURE
8-3

Figure 8-4. Example data entry form for lighting monitoring.



LOCATOR MAP OF THE UPPER HUDSON RIVER



GRAPHIC SCALE

0 250 500 Feet

LEGEND

Special Studies

Near-Field PCB Release Mechanism Study Areas

Dredge Areas

Phase 1 Dredge Areas

Preliminary Phase 2 Dredge Areas

Sediment Type

Type I

Type II

Type III

Type IV

Type V

Background Data

River Miles

Shore Line

FIGURE 9-1.

Proposed locations for special studies in NTIP.

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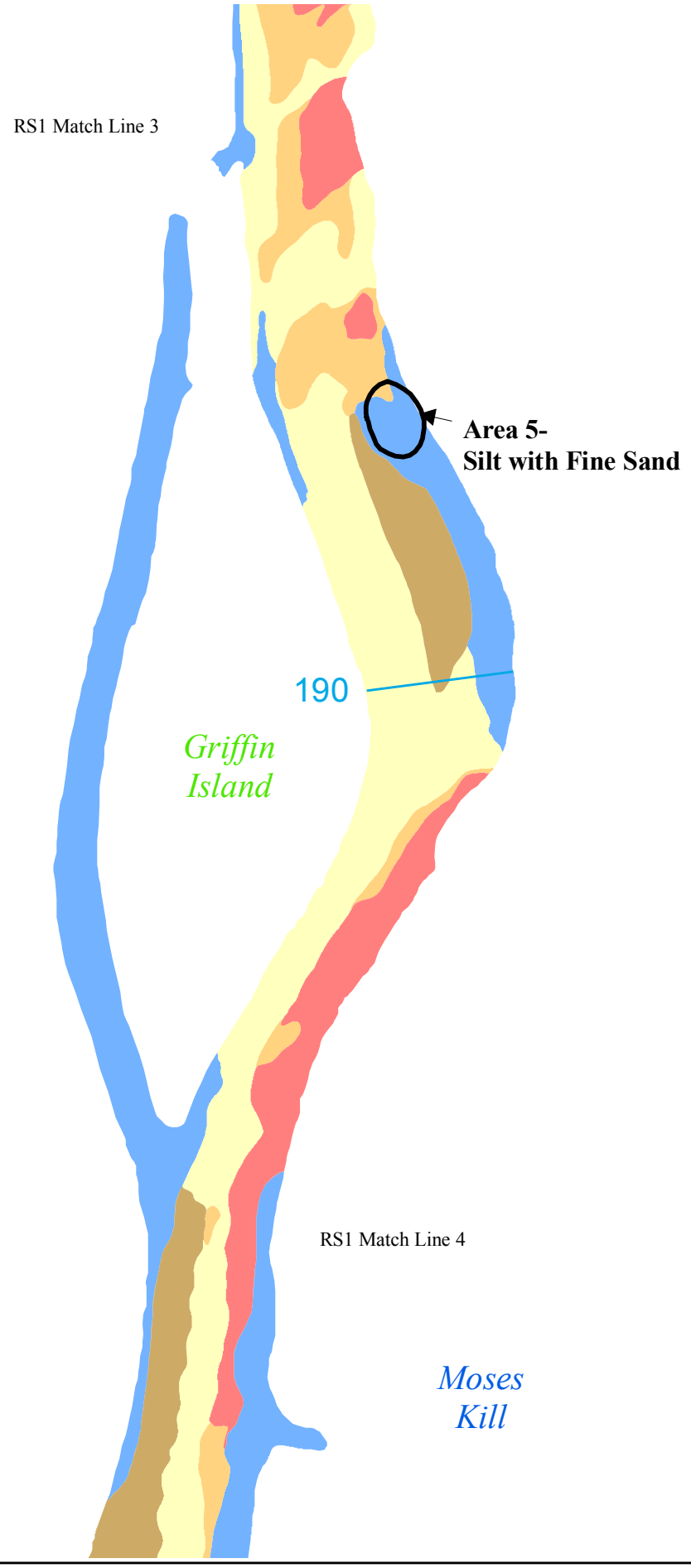
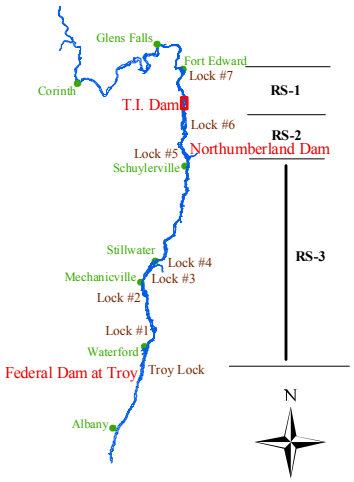
GENram May 2009

Z:\GENram\DOCUMENTS\reports\RAMP_QAPP\20081030_Revised\Figures



LOCATOR MAP OF THE UPPER HUDSON RIVER



GRAPHIC SCALE

0 250 500 Feet

LEGEND

Special Studies

Near-Field PCB Release Mechanism Study Areas

Dredge Areas

Phase 1 Dredge Areas

Preliminary Phase 2 Dredge Areas

Sediment Type

Type I

Type II

Type III

Type IV

Type V

Background Data

River Miles

Shore Line

FIGURE 9-2.

Proposed locations for special studies in EGIA.

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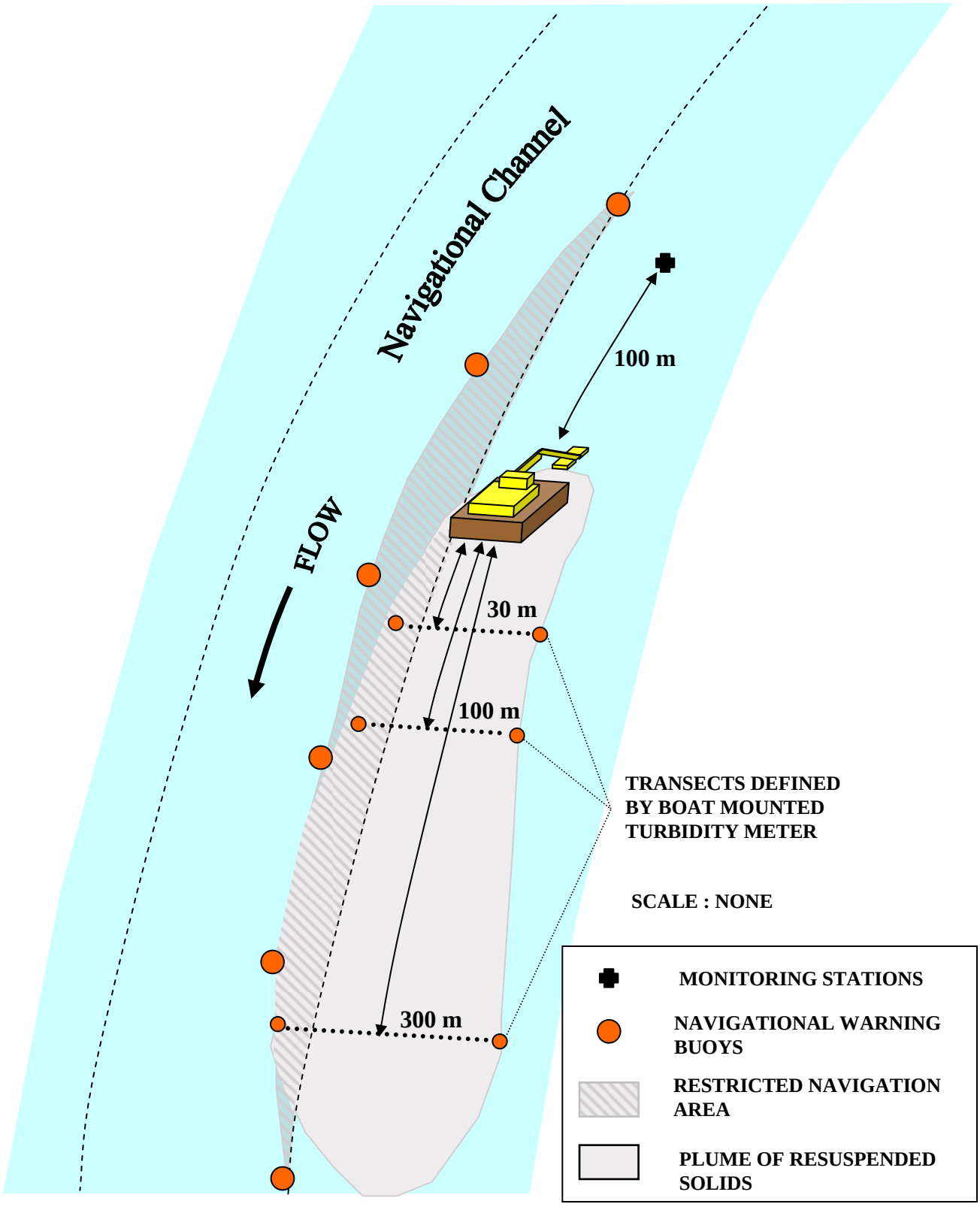

Figure 9-3. Near-field PCB release mechanism conceptual monitoring station layout.

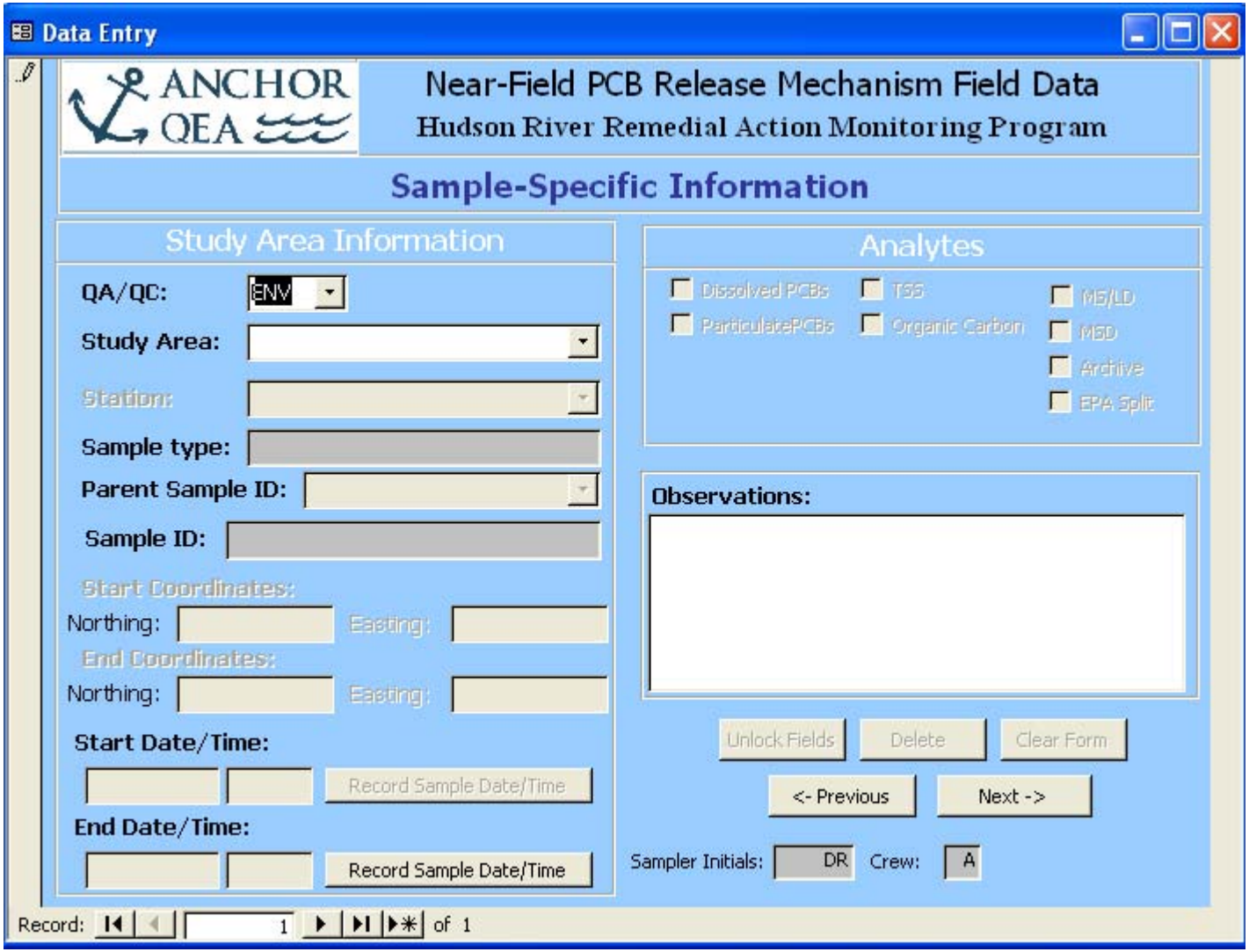

Figure 9-4. Example data entry form for Near-Field PCB Release Mechanism Study.

HUDSON RIVER REMEDIAL ACTION MONITORING PROGRAM

Near-Field PCB Release Mechanism Study Sample Field Log

Weather: _____ Sampler: DR__ Crew: __A____

FIELD SAMPLE ID	LOCATION	PARENT SAMPLE ID	QA/QC	START DATE	START TIME	END DATE	END TIME	END DATE	START NORTHING	START EASTING	END NORTHING	END EASTING	END DATE	ARCHIVE	EPA SPLIT	OBSERVATIONS
														☐	☐	

Figure 9-5. Example field log for Near-Field PCB Release Mechanism Study.

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ANCHOR QEA

305 West Grand Avenue Montvale, NJ 07645 Ph: 201-930-9890

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

COC ID:
Sample Custodian:
Lab:

Client: General Electric Company

Project: Hudson River Remedial Action Monitoring Program

COC Sample Number	Field Sample ID	QA/QC	MS/LD	MSD	Date Collected	Time Collected	Media*	# Containers	Particulate Phase Total PCBs (Green Bay Method NE207_03)	Dissolved Phase Total PCBs (Green Bay Method NE207_03)	Total Suspened Solids SM 2540D (NE117_05)	DOC (SM5310B) POC (Lloyd Kahn)							Cooler ID
			☐	☐					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	

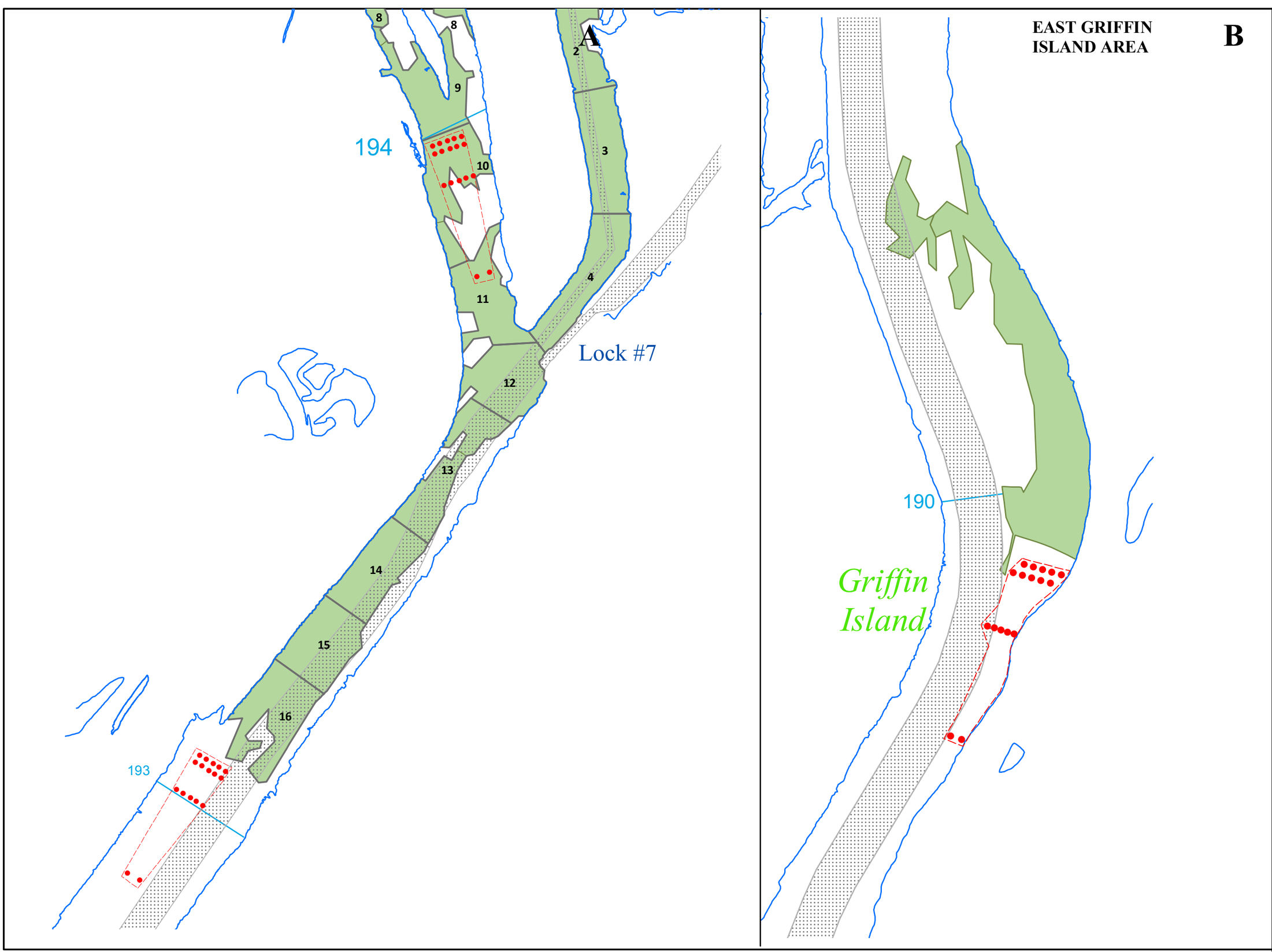
Comments:

Relinquished by:	Received by:	Relinquished by:	Received by:	Relinquished by:	Received by:
Signature	Signature	Signature	Signature	Signature	Signature
Print Name	Print Name	Print Name	Print Name	Print Name	Print Name
Company	Company	Company	Company	Company	Company
Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

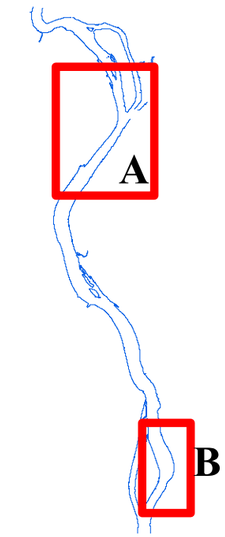
Date Printed: 5/11/2009 * W= WATER, R= FILTER RESIDUE, D= DISSOLVED FILTRATE ***COC TYPE:*** ***Page 1 of 1***

Figure 9-6. Sample chain of custody form for Near-Field PCB Release Mechanism Study.

Z:\GENram\DOCUMENTS\reports\RAMP_QAPP\Final_May_2009\Figures\final



LOCATOR MAP OF THE UPPER HUDSON RIVER



GRAPHIC SCALE

0 50 100

Meters

LEGEND

- Navigational Channel
- Phase 1 Dredge Areas
- Shore Line
- Sediment Trap Deployment Area
- Sediment Traps
- Certification Units

Notes:
Dredge Area shapefile version: ph1_DredgeAreas_FDR_v3.shp

FIGURE 9-7.

Sediment trap locations.

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GENram May 2009

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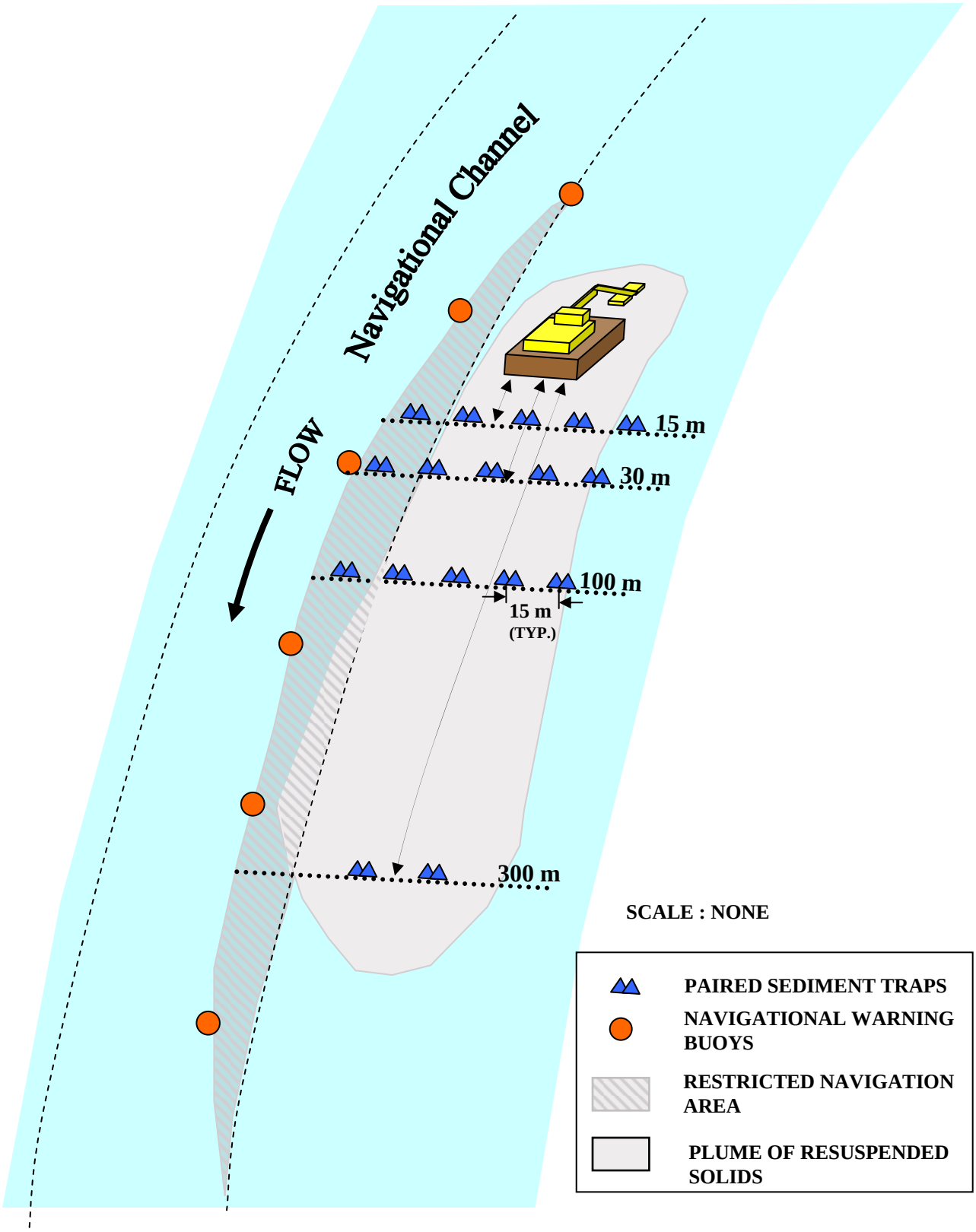

Figure 9-8. Non-target downstream area contamination study conceptual monitoring station layout.

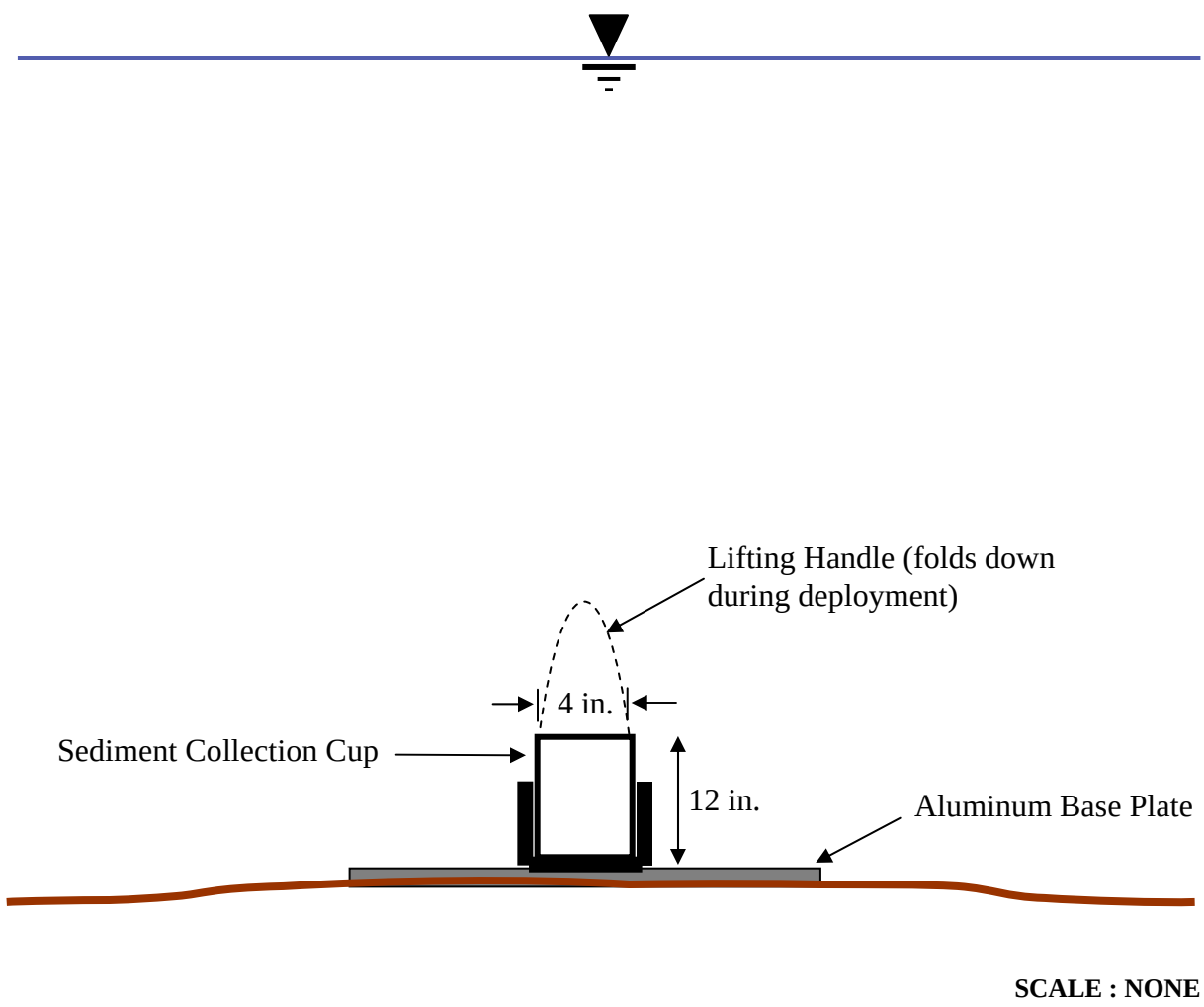

Figure 9-9. Non-target Downstream Area Contamination Study sediment trap configuration.

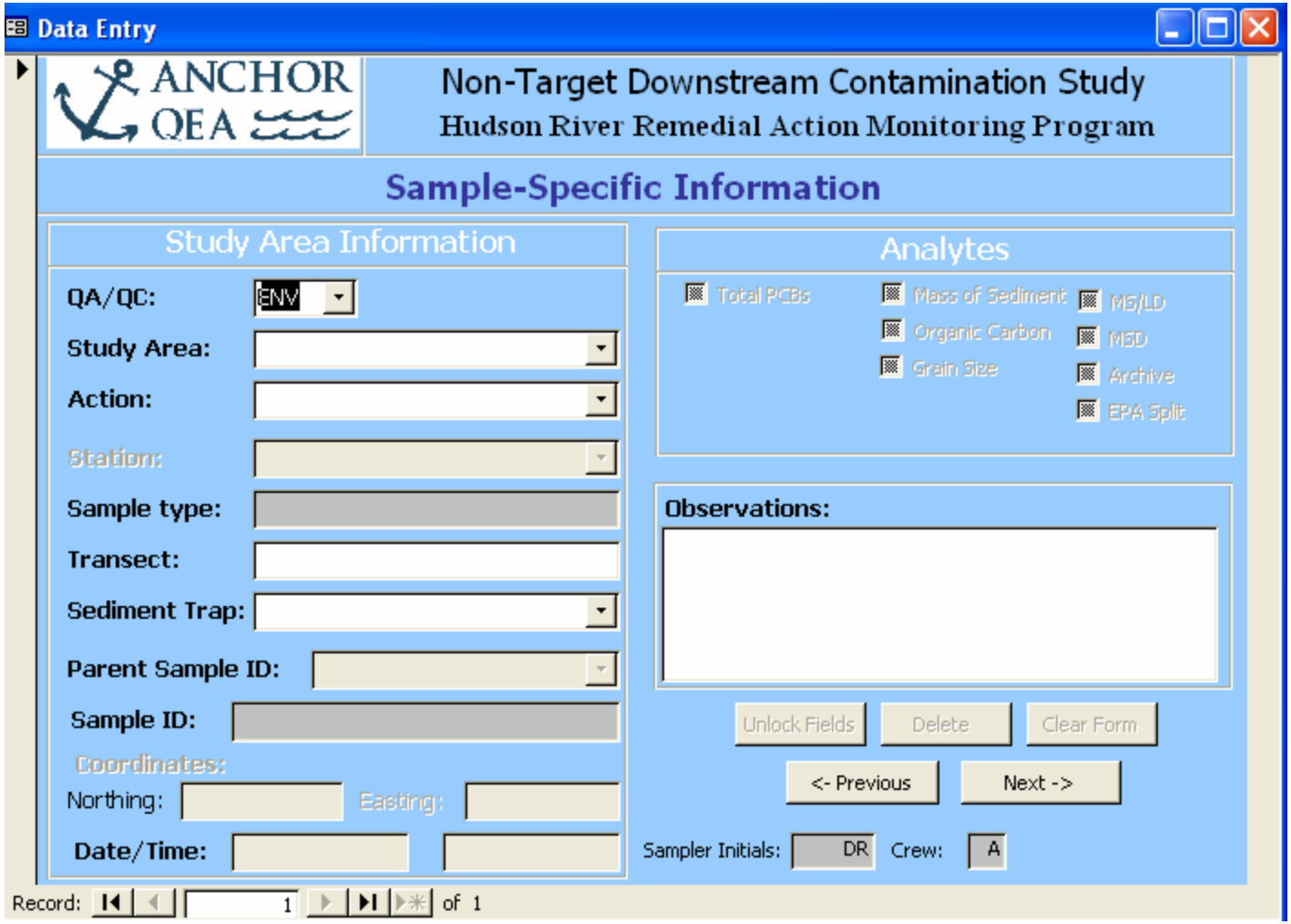

Figure 9-10. Example data entry form for Non-Target Downstream Area Contamination Study.

HUDSON RIVER REMEDIAL ACTION MONITORING PROGRAM

Non-Target, Downstream Area Contamination Field Log

Weather: _____ Sampler: DR__ Crew: __A____

FIELD SAMPLE ID	Study Area	PARENT SAMPLE ID	QA/QC	Action	Station	Transect	Sediment Trap	DATE	TIME	NORTHING	EASTING	ARCHIVE	EPA SPLIT	OBSERVATIONS
												☐	☐	

Date Printed: 2/4/2009

ANCHOR QEA

Figure 9-11. Example field log for Non-Target Downstream Area Contamination Study.

ANCHOR QEA

305 West Grand Avenue Montvale, NJ 07645 Ph: 201-930-9890

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

COC ID:
Sample Custodian:
Lab:

Client: General Electric Company

Project: Hudson River Remedial Action Monitoring Program

COC Sample Number	Field Sample ID	QA/QC	MS/LD	MSD	Date Collected	Time Collected	Media*	# Containers	Total PCBs (GEHR8082)	Mass of Sediment (NE 227_01)	Organic Carbon Particulate (Lloyd Kahn)	Grain Size (ATSM D4464)							Cooler ID
			☐	☐					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	

Comments:

Relinquished by:	Received by:	Relinquished by:	Received by:	Relinquished by:	Received by:
Signature	Signature	Signature	Signature	Signature	Signature
Print Name	Print Name	Print Name	Print Name	Print Name	Print Name
Company	Company	Company	Company	Company	Company
Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

Date Printed: 5/11/2009 * W= WATER, R= FILTER RESIDUE, D= DISSOLVED FILTRATE ***COC TYPE:*** ***Page 1 of 1***

Figure 9-12. Sample chain of custody form for Non-Target Downstream Area Contamination Study.

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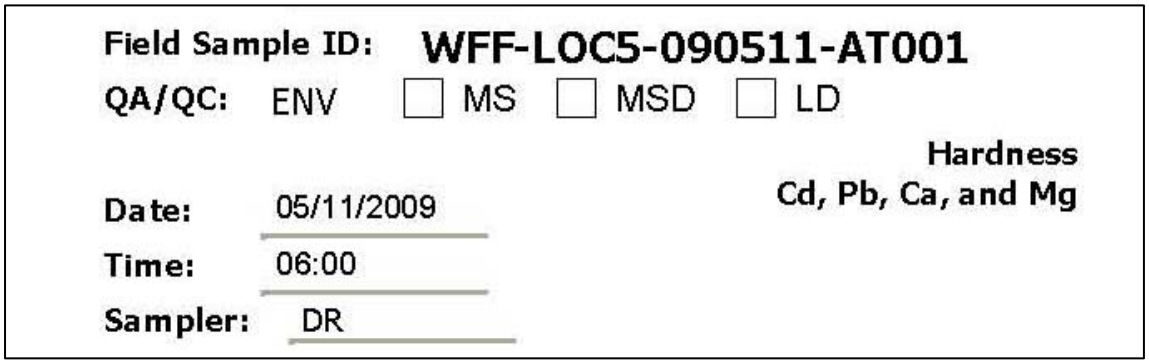

Figure 10-1. Example Container Label.

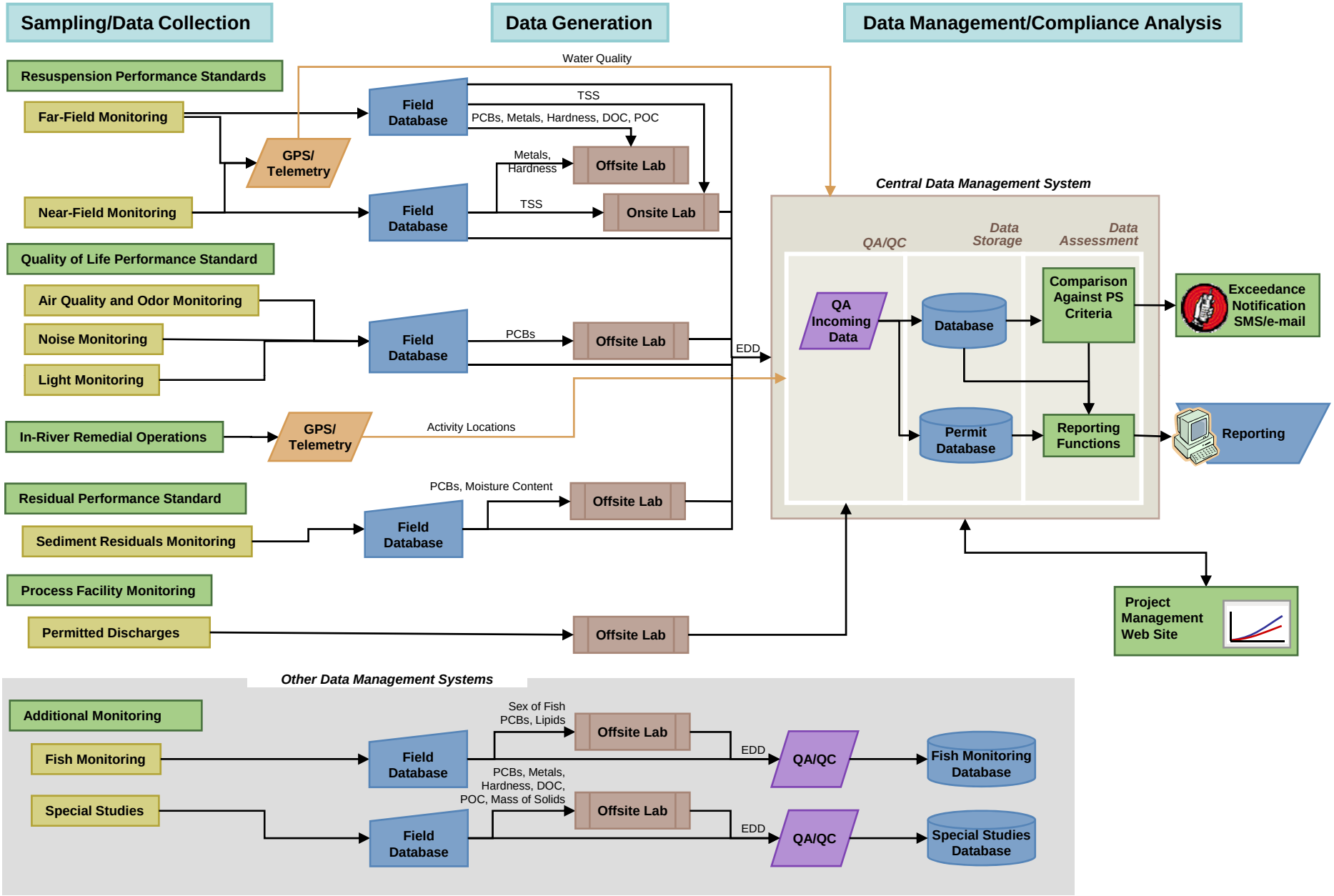

Figure 10-2. Environmental data management systems supporting the Hudson River Remedial Action Monitoring Program.

GENERAL ELECTRIC COMPANY
HUDSON RIVER REMEDIAL ACTION MONITORING PROGRAM

Date: _____
Organization Name: _____
Problem Description: _____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Report To: _____

Corrective Action:_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Approved by (USEPA RPM): _____ Date: _____
Reviewed and Implemented By:_____
cc: GE Program Manager- _____
QA Program Manager- _____
Other Distribution: _____

Figure 11-1. Corrective Action Form

GENERAL ELECTRIC COMPANY
HUDSON RIVER REMEDIAL ACTION MONITORING PROGRAM

TITLE PAGE
TABLE OF CONTENTS
INTRODUCTION AND SAMPLE LISTING

SECTION 1
1. Introduction
The introduction section will briefly state: the number of samples analyzed, the laboratory that analyzed them, the parameters that were analyzed for, and the methods used for analysis.

2. Laboratory Compliance
This section will specify any correctable and/or noncorrectable deficiencies and will make informative comments about issues that were identified relative to the organic, inorganic, and general chemistry requirements specified in the analytical SOPs. Appropriate EPA citations or project citations will be provided for each item listed. This section will also specify discrepancies between the reported data and the raw data.

3. Data Qualifiers
This section will present qualifiers that should be considered for the data to best be utilized. A detailed assessment of the degree to which data have been compromised by any deviation from protocol (i.e., lack of analytical control and QC failure) will be included. For every statement made in this section, there will be a subsequent finding that justifies the qualifying statement. These qualifiers/findings will be presented as bulleted items, in order of importance, relative to their impact on the data set. The data qualifiers will be presented in two subsections; organic data and inorganic and general chemistry data. The qualifiers will be presented in the order of greatest impact to least impact within each subsection.

SECTION 2
This section will include the qualified sample result summaries and a glossary defining the qualifier codes. These qualified spreadsheets will be presented in the following order: volatiles, semivolatiles, pesticides, PCBs, herbicides, metals, and general chemistry parameters.

SECTION 3
The organic quality assurance review is fully supported by a documentation appendix. For every qualifier made in the report, there is a photocopied page of laboratory data that is used in support of the reviewer's comments. All QC summary forms as well as the reviewer's worksheets are presented in the support documentation.

SECTION 4
The inorganic and general chemistry quality assurance review is also fully supported by a documentation appendix in the same format as the organic data. All QC summary forms as well as the reviewer's worksheets are presented in the support documentation.

SECTION 5
This section of the quality assurance review will contain the laboratory case narratives and the field and laboratory Chain-of-Custody Records.

SECTION 6
This section of the quality assurance review will contain any applicable project correspondence.

Figure 12-1. Format of an ESI quality assurance review.