

LIST OF TABLES

Table A-1	Data Quality Objectives
Table A-2	Decision Criteria used for Initial Disposal Classification of Sediments under RCRA and TSCA Disposal Rules
Table B-1	Example Sample ID and Horizontal Coordinates
Table B-2	River Section 1 Program Summary
Table B-3	River Section 2 Program Summary
Table B-4	River Section 3 Program Summary
Table B-5	Sample Container and Preservation Requirements
Table B-6a – B-6j	Reference Limit and Evaluation Tables for Analytical Methods
Table B-7a – B-7n	Measurement Performance Criteria Tables for Analytical Methods
Table B-8	Data Collected During Sediment Core Collection
Table B-9	Data Collected During Sample Processing in the Field Lab
Table B-10	Valid Values for PCBs
Table C-1	Summary of Analyses for Initial PE Acceptance Criteria Development
Table C-2	Summary of Analyses for Inter-Laboratory Comparison Study
Table D-1	Format of an Environmental Standards Quality Assurance Review

APPENDICES

Appendix 1	SOP for Sediment Core Collection
Appendix 2	SOP for Bathymetric Survey
Appendix 3	SOP for Sub-Bottom Acoustic and Electromagnetic Surveying Equipment
Appendix 4	SOP for Sediment Probing
Appendix 5	SOP for the Analysis of PCBs by SW-846 Method 8082 (GEHR8082)
Appendix 6	SOP for the Extraction and Cleanup of Sediment/Solid Samples for PCB Analysis Using the Pressurized Fluid Extraction by SW-846 Method 3545 (GEHR3545)
Appendix 7	SOP for the Extraction and Cleanup of Sediment/Soil Samples for PCB Analysis Using the Soxhlet Extraction by SW-846 Method 3540C (GEHR3540C)
Appendix 8	SOP for Analysis of PCB Homologs by EPA Method 680 (GEHR680)
Appendix 9	SOP for Data Package Deliverable (DPSOP)
Appendix 10	SOP for Grain Size
Appendix 11	SOP for Atterberg Limit
Appendix 12	SOP for Specific Gravity
Appendix 13	SOP for Bulk Density

TABLES

Table A-1. Summary of Data Quality Objectives and Associated Measurement Performance Criteria

Data Quality Objective	Measurement Performance Criteria
Identify sediments where MPA meets or exceeds the specified thresholds	<ul style="list-style-type: none"> - Establish sampling domain measuring sediment type that accurately distinguishes cohesive, non-cohesive, and sediments in between - Define sampling density sufficient to maintain spatial correlation between MPA of neighboring samples and/or yield log mean MPA with upper 95% confidence limit no greater than 1.5 times the log mean - Core entire column of soft sediments in sampling domain - Coordinates of core locations must have less than 1-ft error - Measure PCB concentration, bulk density and moisture content in core samples to support calculation of PCB MPA - Total PCBs must be measured, but relationship to Tri+ PCBs must be established based on both homolog and Aroclor PCBs
Identify potential of River Section 3 sediments with MPA meeting or exceeding 10 g/m ² Tri+ PCBs to be a significant source of PCBs to the water column and fish because of erodability	<ul style="list-style-type: none"> - Measure ¹³⁷Cs in 0-2 inch sediment layer using methods with detection limits no greater than 50 pCi/kg - Section one third of cores from River Section 3 Target Areas in 6 inch increments to observe erosional patterns and the depth of the buried PCB concentration peak - River Section 3 Screening Areas meeting or exceeding 10 g/m², second round of sampling at half of the unsampled 80 ft grid nodes - Section second round cores in 6 inch segments

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Data Quality Objective	Measurement Performance Criteria
Identify navigational channel areas that must be deepened for remedy implementation	<ul style="list-style-type: none"> - Measure water depths with sufficient spatial resolution to define boundaries of navigational channel and bathymetry within the channel (2-ft interval along cross-channel transects) - Measure the horizontal location of the soundings with accuracy of 1-2 inches
Identify the depth of sediments containing detectable Tri+PCBs in all sediment deposits targeted for removal	<ul style="list-style-type: none"> - Measure the depth of sediment below which Tri+ PCBs are not detected to accuracy of about 6 inches
Identify bathymetric contours	<ul style="list-style-type: none"> - Define sampling density sufficient to maintain spatial correlation between water depths of neighboring samples (a few feet across channel and several hundred feet along channel) - Measurement of water depth must have an error no greater than a few inches - Horizontal coordinates of measurement must have an error no greater than a few inches
Establish depth of soft sediment and whether PCBs are present in soft sediments abutting hard bottom	<ul style="list-style-type: none"> - Measurement must distinguish between dredgable sediments and hard bottom - Distance between depth in sediment bed below which PCBs are not detected and the soft sediment thickness will be determined at each sampling location
Identify locations where boulders and debris are present in sediments targeted for removal	<ul style="list-style-type: none"> - Sediment core sampling and manual probing must include recording of locations and depths of encounter with obstructions - Determine locations of large objects on side scan sonar

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Data Quality Objective	Measurement Performance Criteria
Determine variability of geotechnical properties to support determination of the need for a more comprehensive field investigation	<ul style="list-style-type: none"> - Measure geotechnical properties on 5% of sediment sampling cores collected for PCB analysis - Samples must be collected over the range of sediment types - Correlation between geotechnical data and property measurements on sediment cores collected to establish need for more detailed field investigation
Screen makeup and integrity of geologic strata to support decision regarding necessity of a detailed investigation	<ul style="list-style-type: none"> - Manual probing of sediments will include collection of depth of soft sediment and type of overlying sediment to assess the make-up and integrity of geologic strata - Spatial variability of sub-bottom geology and ability of probing to delineate sub-bottom geology are to be used to assess need and scope of detailed investigation to be conducted as part of remedial design
Collect chemical characterization data for preliminary assessment of dredge material disposal options	<ul style="list-style-type: none"> - Measure suite of chemicals and sediment properties needed to evaluate RCRA hazardous waste characteristics and dioxins/furans - Samples should be from sediments targeted for removal - Entire sediment column should be composited and analyzed
Collect sufficient data to identify the suite other pollutants present in sediments underlying PCB-containing sediments and range of concentrations present	<ul style="list-style-type: none"> - Measure concentrations in core segment just below the depth of PCB contamination specified by the 1 ppm threshold - Measure chemicals expected based on past practices in the watershed (RCRA metals; dioxins/furans) - Select samples at random from areas targeted for sediment removal to achieve unbiased sampling of range of conditions

TABLE A-2. Decision Criteria Used for Initial Disposal Classification of Sediments Under RCRA and TSCA Disposal Rules.

Measurement	Regulatory Criteria	Test Method	Regulatory Reference
Total PCBs	50 ppm	USEPA Method 8082	40 CFR § 761.61
RCRA Metals			
arsenic	5.0 mg/L	USEPA Method 1311	40 CFR § 261.24
barium	100.0 mg/L		
cadmium	1.0 mg/L		
chromium	5.0 mg/L		
lead	5.0 mg/L		
mercury	0.2 mg/L		
selenium	1.0 mg/L		
silver	5.0 mg/L		
RCRA Organics			
benzene	0.5 mg/L	USEPA Method 1311	40 CFR § 261.24
carbon tetrachloride	0.5 mg/L		
chlordane	0.03 mg/L		
chlorobenzene	100 mg/L		
chloroform	6.0 mg/L		
cresols (o-, m-, p-, total)	200.0 mg/L		
2,4-D	10.0 mg/L		
1,4-dichlorobenzene	7.5 mg/L		
1,2-dichloroethane	0.5 mg/L		
1,1-dichloroethylene	0.7 mg/L		
2,4-dinitrotoluene	0.13 mg/L		
Endrin	0.02 mg/L		
Heptachlor (+ it's epoxide)	0.008 mg/L		
hexachlorobenzene	0.13 mg/L		
hexachlorobutadiene	0.5 mg/L		
hexachloroethane	3.0 mg/L		
lindane	0.4 mg/L		
Methoxychlor	10.0 mg/L		
methyl ethyl ketone	200.0 mg/L		
nitrobenzene	2.0 mg/L		
pentachlorophenol	100.0 mg/L		
pyridine	5.0 mg/L		
tetrachloroethylene	0.7 mg/L		
Toxaphene	0.5 mg/L		
trichloroethylene	0.5 mg/L		
2,4,5-trichlorophenol	400.0 mg/L		
2,4,6-trichlorophenol	2.0 mg/L		
2,4,5-TP (Silvex)	1.0 mg/L		
vinyl chloride	0.2 mg/L		
Dioxins/Furans	> DL	EPA Method 1613B	40 CFR § 268.31
Ignitability	characteristic	none - regulatory definition	40 CFR § 261.23