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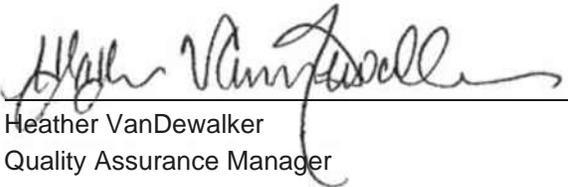
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REPORT, GLLA SEDIMENT
CLEANUP IN HOWARDS BAY,
SUPERIOR, WISCONSIN

Contract No. W911XK-16-C-0019

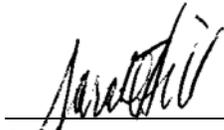
January 24, 2020



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**100% DESIGN
DOCUMENT REPORT,
GLLA SEDIMENT
CLEANUP IN
HOWARDS BAY,
SUPERIOR,
WISCONSIN**

Prepared for:

U. S. Army Corps of Engineers
Detroit District

Contract No. W911XK-16-C-0019

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CERTIFICATION

I, Mark O. Graveling, P.E., hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Mark O. Graveling, P.E. (WI# 44865)

VERSION CONTROL

Revision No	Date Issued	Description	Reviewed by
0	03/20/2017	95% Draft submitted for ITR review	M. Gravelding, D. Cowin, S. Hill
1	04/07/2017	95% Draft submitted for Partner review	M. Gravelding, D. Cowin, S. Hill, ITR
2	05/12/2017	Responses to Partner comments in preparation for May 17, 2017 design review conference	M. Gravelding, S. Hill
3	08/18/2017	100% document submitted for Partner review	M. Gravelding, H. VanDewalker, S. Hill, ITR
4	11/26/2018	100% document submitted for Partner approval	M. Gravelding, H. VanDewalker, S. Hill, ITR
5	01/24/2020	Finalize document incorporating Partner comments	

Note: H. VanDewalker replaced D. Cowin as the Quality Assurance Manager in May 2017.

CONTENTS

Certification.....	ii
Acronyms and Abbreviations.....	iv
1 Introduction	1
1.1 Purpose.....	1
1.2 Report Organization.....	2
1.3 Project Description and Existing Conditions.....	2
1.3.1 Site Description	2
1.3.2 Summary of Sediment Investigations and Areas of Contamination.....	4
1.3.3 Benthic Community and Toxicity Tests	4
1.3.4 Remedial Action Objectives and Description of Remedial Action.....	5
2 Basis of Design and Key Design Elements	7
2.1 Summary of Pertinent Data	7
2.2 Modeling Summary.....	8
2.2.1 EVS Model Procedures	8
2.2.2 Placement Criteria Evaluation and Procedures	9
2.2.3 EVS Model Output Summary	10
2.2.4 Placement Evaluation Results.....	11
2.3 Dredge Prism Development.....	12
2.4 Access and Permits	14
2.5 Mobilization and Site Preparation	15
2.5.1 Mobilization.....	15
2.5.2 Survey	15
2.5.3 Utility Clearance	16
2.5.4 Staging Areas.....	16
2.5.5 Community Air Monitoring	16
2.5.5.1 Monitoring Requirements	17
2.5.5.2 Action Levels	17
2.5.6 Turbidity Monitoring.....	18
2.6 Dredging	19

100% DESIGN DOCUMENT REPORT

2.6.1 General Approach 19

2.6.2 Debris Removal 20

2.6.3 DMU Sequencing 20

2.6.4 Engineering Controls 20

2.6.5 Confirmation Sampling 21

2.7 Residuals Cover 21

2.7.1 General Approach 21

2.7.2 Engineering Controls 22

2.8 Enhanced Natural Recovery 22

2.8.1 General Approach 22

2.8.2 Engineering Controls 22

2.9 Material Handling 22

2.9.1 Debris Handling and Disposal 22

2.9.2 Dredged Material Handling and Placement 22

2.9.3 Water Handling and Treatment 23

2.10 Project Completion 23

2.10.1 Decontamination 24

2.10.2 Upland Restoration 24

2.10.3 Post-Construction Survey and Sampling 24

2.10.4 Demobilization 24

2.11 Safety Considerations 24

3 Quantity and Cost Estimates 25

4 Technical Review Documentation 25

5 References 25

TABLES

1 Preliminary Remedial Goals (in text)

2 Summary of Changes to Dredge Management Units

3 Estimated Top of Sediment and Clay Elevations

4 Remedial Design Units and Estimated Quantities

5a Wisconsin Point Landfill Placement Evaluation

5b List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit

100% DESIGN DOCUMENT REPORT

- 5c Average Concentration for Contaminants of Concern in Each Dredge Management Unit
- 6 Summary of Required Permits (in text)
- 7 Air Quality Action Levels and Response Actions

FIGURES

- 1 Site Location Map
- 2 Site Areas and Main Features
- 3 Summary of Analytical Data – Area 1
- 4 Summary of Analytical Data – Area 2
- 5 Bathymetric Surface
- 6 Example EVS Model Output (in text)
- 7 Proposed Staging Areas
- 8 Proposed Off-Site Placement Locations

APPENDICES

- A Sediment Core Logs
- B Wisconsin Department of Natural Resources Communications
- C Calculations
- D Decision Tree
- E Technical Review Documentation

ACRONYMS AND ABBREVIATIONS

AOC	Area of Concern
Arcadis	Arcadis U.S., Inc.
BOD	Basis of Design
BUIs	Beneficial Use Impairments
CBSQG	Consensus-Based Sediment Quality Guidelines
City	City of Superior
CS	Cummings Slip
COCs	contaminants of concern
cy	cubic yards
DMU	dredge management unit
Draft DDR	Draft 65% Design Document Report
DSR	Sediment Data Summary Report
ENR	enhanced natural recovery
EVS	Earth Volumetric Studio
FC	Federal Channel
FFS	Focused Feasibility Study for Sediment Cleanup in Howards Bay
FOS	factor of safety
FP	Frog Pond
Fraser	Fraser Shipyards, Inc.
FS	Fraser Slip
GLLA	Great Lakes Legacy Act
GLNPO	Great Lakes National Program Office
HB	Howards Bay
HS	Hughitt Slip
IGLD 85	International Great Lakes Datum of 1985
IJC	International Joint Commission

100% DESIGN DOCUMENT REPORT

ITR	Internal Technical Review
LEL	lower explosive limit
LWD	low water datum
MEC	midpoint effect concentration
mg/kg	milligrams per kilogram
mg/kg-TOC%	milligrams of organic constituent per kilogram of dry-weight sediment normalized at 1% total organic carbon
MPCA	Minnesota Pollution Control Agency
NAD83	North American Datum of 1983
NAVD88	North American Vertical Datum of 1988
NTU	nephelometric turbidity units
PAH	polycyclic aromatic hydrocarbon
Partners	Howards Bay Project Partners
PEC	probable effect concentration
PID	photoionization detector
PM ₁₀	particulate matter less than 10 microns in diameter
PRG	Preliminary Remedial Goal
P&S	65% Plans and Specifications
RA	Remedial Action
RAO	Remedial Action Objective
RAP	Remedial Action Plan
site	Howards Bay
SLRAOC	St. Louis River Area of Concern
SND	strategic navigation dredging
SPI	sediment profile imagery
TEC	threshold effect concentration
µg/kg	micrograms per kilogram

100% DESIGN DOCUMENT REPORT

USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
WDNR	Wisconsin Department of Natural Resources

1 INTRODUCTION

Arcadis U.S., Inc. (Arcadis) has prepared this 100% Design Document Report (DDR) for the Great Lakes Legacy Act (GLLA) sediment cleanup project in Howards Bay, located in the City of Superior in Douglas County in northwest Wisconsin (site; Figure 1). This DDR was prepared under contract W911XK-16-C-0019 to the United States Army Corps of Engineers (USACE) Detroit District and in coordination with the Howards Bay Project Partners (Partners), which include the United States Environmental Protection Agency (USEPA) Great Lakes National Program Office (GLNPO), the Wisconsin Department of Natural Resources (WDNR), the City of Superior (City), and Fraser Shipyards, Inc. (Fraser). The USACE is providing technical and engineering support to USEPA for this project.

This document presents the basis for the environmental dredging and cover design for sediment cleanup in Howards Bay. This DDR has been prepared in general accordance with: 1) USACE Engineer Regulation (ER)-1110-2-1150; 2) the Focused Feasibility Study for Sediment Cleanup in Howards Bay (FFS; Arcadis 2015); and 3) applicable USEPA guidance for contaminated sediment remediation (USEPA 2005). The remedial action (RA) activities described in this DDR were designed considering that federal navigation channel maintenance will be completed by the USACE as “Strategic Navigation Dredging” (SND), which is linked to the cleanup of contaminated sediment that is addressed in this DDR. Funding for the SND is provided under the Great Lakes Restoration Initiative, is contingent on the cleanup of the contaminated sediment in Howards Bay, and will be implemented in concert with the environmental dredging.

The elements of the project that are unique to the environmental dredging are described and developed herein and in the drawings and specifications, referenced herein and prepared under separate cover. The USACE will separately prepare the design drawings and specifications for the SND project. It is anticipated that the two designs will be combined by USACE as one set of contract documents and bid as one contract. This document will be provided as reference to the Contractor; however, the environmental dredging technical specifications and design drawings are considered the contract documents and supersede information in this document.

1.1 Purpose

The RA activities are proposed to remediate impacted sediment and restore Howards Bay to ultimately achieve removal of beneficial use impairments (BUIs) identified for the St. Louis River Area of Concern (SLRAOC). Impacted sediments in Howards Bay potentially contribute to the following BUIs listed for the SLRAOC (Stage I Remedial Action Plan [RAP], Minnesota Pollution Control Agency [MPCA] and WDNR 1992):

- BUI 1: Fish Consumption Advisories
- BUI 3: Fish Tumors and Other Deformities
- BUI 4: Degradation of Benthos
- BUI 5: Restrictions on Dredging
- BUI 9: Loss of Fish and Wildlife Habitat

The project designed in this report is a refinement of the alternative that was selected by consensus among the project Partners with the recognition that areas, volumes, and other details would be refined during design (Partners 2015). Refer to Section 1.3.4 for a description of the selected alternative.

1.2 Report Organization

The organization of this DDR is presented as follows.

Section	Description
1 – Introduction	Presents the purpose of the DDR, summarizes the report organization, provides a description of site conditions, presents a description of the site characterization and nature and extent of environmental impacts, and outlines the remedial action objectives (RAOs) and the remedial action.
2 – Basis of Design	Presents the process and tools used to identify design components.
3 – Quantity and Cost Estimates	Provides the remedial areas and volumes, placement volumes, and summarizes the cost estimates to implement the remedial action.
4 – Technical Review Documentation	Presents the technical reviews conducted by staff not associated with the direct design of the project but have qualifications to accomplish the required work.
5 – References	Lists sources used to prepare this report.

Five appendices are included herein to supplement the contents of this DDR. These appendices provide additional information related to the implementation of the RA activities and include the following:

- Sediment Core Logs (Appendix A);
- Wisconsin Department of Natural Resources Communications (Appendix B);
- Calculations (Appendix C);
- Decision Tree (Appendix D);
- Technical Review Documentation (Appendix E).

Additionally, technical specifications and design drawings are generally referenced throughout this DDR. These documents have been prepared under separate cover and will be the basis for the contract documents and supersede information contained in this document.

1.3 Project Description and Existing Conditions

This section provides a summary of the site background and history, as well as the site characterization, nature and extent of environmental impacts, and the RA.

1.3.1 Site Description

Howards Bay is a priority area for remediation within the larger SLRAOC, in the City of Superior, Douglas County, Wisconsin (Figure 1). It has been the home of a series of shipyards, grain terminals, commercial fishing operations, and other industrial operations for over 100 years. It is located on the east side of the

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St. Louis River, and is bisected by the Interstate 535 (I-535) Bridge (Blatnik Bridge) crossing over Howards Bay. The Howards Bay study area includes the bay proper and three ship slips constructed along the south shore – the Fraser Slip (FS), Cummings Avenue Slip (CS), and Hughitt Avenue Slip (HS) – in addition to two dry docks along the south shore. The area at the head of Howards Bay is referenced as the Frog Pond (FP). Until this design, the site was divided into Area 1 and Area 2. For purposes of design and construction, this division is no longer necessary; however, a description of the breakdown can be found in the FFS (Arcadis 2015). The approximate size of the Howards Bay study area, including the three slips, is about 300 acres.

Several shoreline types are present around the bay and the associated slips, including sheet pile, rip-rap, former wooden and concrete wharf structures (some of which are dilapidated), existing and former bridge approaches and abutments, and earthen banks. These features are shown on Figure 2. Water depths in Howards Bay vary from shallow along the north shore to approximately 33 feet below the Lake Superior low water datum (LWD) within the federal channel (FC) that runs nearly the entire length of the bay. The Lake Superior LWD is at an elevation of 601.1 feet using the International Great Lakes Datum of 1985 (IGLD 85).

Commercial maritime needs in the bay are met by the federal navigation channel and access to the ship slips and dock areas. The federal channel ranges from approximately 100 to 275 feet wide with an authorized project depth of 27 feet below LWD (elevation of 574.1 feet) in the project area. Fraser, the City of Superior, and CHS Inc. own the large majority of land bordering Howards Bay. The Hughitt Avenue Slip is used for loading and unloading ships at the CHS Inc. grain elevators, and the Sivertson Fisheries docks and boats are situated at the south end of the slip. The Cummings Avenue Slip has most recently been used by Fraser for long-term layup of ships and by Lake Assault Boats LLC for launching small, aluminum craft. Fraser also has installed a boat ramp in the southern end of the slip. Uses during construction by others are expected to be limited to mooring for work barges and smaller craft in approximately the northern one third of the slip. The Fraser Slip is used by Fraser and local law enforcement for docking smaller boats and this is also the intended use for the future. Additional information on land ownership and use is provided in Section 2.4.

An outfall discharges stormwater drainage from the City of Superior into Cummings Slip and a drainage ditch functions as a tributary at the far east end of Howards Bay. Additional stormwater outfalls exist in Fraser Slip and the Hughitt Slip. Stormwater runoff from the Blatnik Bridge may enter Howards Bay as well (WDNR 2015).

At the time the FFS was undertaken, the former Baxter Avenue Embayment which consists of an area along the south shore of Howards Bay between the Cummings and Fraser Slips was open water; however, the embayment is no longer part of the project area. The area was infilled in 2016 and isolated from the bay with a sheet pile bulkhead through a separate project to create additional ship berthing space along the federal channel. The area along the bulkhead will be utilized for staging and processing as part of the RA activities.

1.3.2 Summary of Sediment Investigations and Areas of Contamination

A summary of the findings of sediment sampling activities conducted at the site in 2007, 2010, 2013, and 2014 is provided in the FFS and the Howards Bay Sediment Data Summary Report (DSR; Arcadis 2014). Additional sampling was conducted in 2015 and these data have been included in the basis of design (BOD) provided herein to refine the RA horizontal and vertical boundaries. The sediment data collected in 2007, 2010, 2013, 2014, and 2015 provide a refined understanding of the nature and extent of contamination at the site. The combined data sets include more than 500 sediment data points from approximately 160 attempted core or grab sample locations in Howards Bay. Additional samples were collected and analyzed in 2016 to characterize the SND material for disposal; however, these data are not germane to the RA and are not included in this DDR.

Based on a 2011 report prepared for USEPA (Weston 2011) to summarize data collected in 2010, polycyclic aromatic hydrocarbons (PAHs), tributyltin, and lead were identified as contaminants of concern (COCs; Partners 2014). USEPA and WDNR requested consideration of mercury as an additional COC as part of the DSR and the FFS. Concentrations of the COCs vary within Howards Bay sediments due to the history of various sources, dredging activity, construction projects and other activities within the bay, including but not limited to ship movements and ice breaking. As described in the DSR, the site sediment sample data were compared to the WDNR recommended sediment quality guidelines (WDNR 2003), including Threshold Effect Concentration (TEC) and Probable Effect Concentration (PEC) screening levels, which are levels at which the potential for toxicity to benthic organisms are predicted to be unlikely and probable, respectively. The Midpoint Effect Concentration (MEC) is the average of the TEC and PEC values. In comparison to the WDNR MEC values, the largest potential exposures to concentrations of the project COCs in surface sediment occur as follows: in the Cummings Avenue Slip, Fraser Slip, and east end of Howards Bay for lead; in the Cummings Avenue Slip and Hughitt Avenue Slip for mercury; at the head of the Cummings Avenue Slip and near the Blatnik Bridge for PAHs; and in the Hughitt Avenue Slip, adjacent to the Hughitt Avenue Slip in the federal channel, and near the head (i.e., west end) of the federal channel for tributyltin. The COC mass and associated volume of sediment represented by each sediment core with concentrations exceeding selected comparison values (that include the WDNR screening levels) provided an indication of relative mass distribution within the site (see Figure 4-8 of the DSR). COC mass inventories are concentrated in the three slips, in the southeastern end of the bay, in the head of the federal channel, and along the immediate margins of the federal channel. In the shallower water, north of the federal channel, there are large areas with comparatively little COC mass inventory.

Data gaps were identified during development of the design. Additional sampling was conducted in June 2017 by USEPA and WDNR. Results of these sampling activities were summarized in a memorandum drafted by WDNR and reviewed by the Partners (Appendix B). The data were used to refine the BOD between the 65% and 95% design phases.

1.3.3 Benthic Community and Toxicity Tests

As described in the FFS, human health and ecological risk assessments have not been completed for Howards Bay. Recreational contact with sediments as a result of wading (for example by fisherman) or other incidental contact with sediment along the north shore for the site is possible. Worker contact with sediments could occur in association with marine construction activities in the bay and shipyard activities,

such as contact with anchors and other equipment or during dry-dock cleanout activities (removal of small amounts of sediment that may come in with bay water when ships are taken into dry-dock).

Ecological exposures may occur through the benthic community and could include higher level receptors that may accumulate bioaccumulative compounds through the food chain. Toxicity tests conducted with the crustacean *Hyalella azteca* and the insect *Chironomus dilutus* were performed to determine whether chemicals were present in the Howards Bay sediment at concentrations that would be harmful to the test organisms. These tests indicated spatially limited adverse effects on the benthic community of Howards Bay in comparison to reference and control samples, with the exception of one sample which resulted in genotoxicity to the bacterium *Vibrio fischeri* (see DSR for additional details on test results). This sample was located within Fraser Slip. A limited number of toxicity tests were conducted within the study area. Because of the variability among sample results, there is high uncertainty with respect to the representativeness of toxicity data for the whole study area.

Results of the benthic sampling described in the DSR showed a macroinvertebrate community that is typical of finer-grained sediments with organisms that often “burrow” in finer sediments, such as oligochaetes (39 percent [%] segmented worms), dipterans (36% fly larva) and nematodes (14% roundworms). The Partners decided that efforts to interpret the benthic community data relative to background, to evaluate the data with respect to need for remediation, or to use these data to develop potential remedial endpoints would not be undertaken for the purposes of this GLLA project. However, it was acknowledged that these data may be useful for post-cleanup comparisons at a future date if adequate data analysis is undertaken to control for sources of variability.

1.3.4 Remedial Action Objectives and Description of Remedial Action

This section summarizes the RAOs provided in the FFS, as well as the RA to be implemented to support achievement of these objectives.

As identified in the FFS, the following RAOs were developed for the COC-impacted sediments in Howards Bay:

1. Reduce potential for human health risks associated with exposure to COCs through direct contact with sediments and incidental sediment ingestion.
2. Reduce potential for risks to benthic organisms.
3. Reduce potential for risks to other organisms (fish, birds, mammals, etc.).
4. Reduce sediment concentrations of COCs to ultimately meet criteria, standards, and guidelines per International Joint Commission (IJC) and AOC RAP documents.
5. Reduce the potential for contaminated sediment within Howards Bay to act as a source of contamination outside of Howards Bay in the St. Louis River Estuary.

MEC values were adopted as preliminary remedial goals (PRGs) for the project COCs. In formulating remedial alternatives, consideration was given to the degree to which PRGs were exceeded in the deeper sediments below the uppermost sample layer, specifically in comparison to whether the PEC value was

also exceeded and the depth intervals within which the exceedances were observed. The following table lists the sediment PRG value for each COC:

Table 1. Preliminary Remedial Goals

COC	Sediment PRG Value
Total PAHs	12.2 mg/kg-TOC%
Tributyltin	0.0017 mg/kg-TOC%
Lead	83 mg/kg
Mercury	0.64 mg/kg

Notes: mg/kg = milligrams per kilogram; mg/kg-TOC% = milligrams of organic constituent per kilogram of dry-weight sediment normalized at 1% total organic carbon

The FFS identified and assessed a total of eight alternatives based on seven evaluation criteria (Arcadis 2015), and the Partners agreed on selection of Alternative A-4 as the preferred alternative due to moderate to high scorings on the criteria evaluated. Alternative A-4 includes sediment removal in refined dredge management units (DMUs), except for enhanced natural recovery (ENR) in Units 15D and 25B and No Action in Units 12B, 13B, 14B, 15B-C, 17B-C, 19A, 20, 22, 25A, 28. The Partners agreed that associated dredge limits and costs of Alternative A-4 would be refined in the remedial design phase. A preliminary revision to Alternative A-4 was completed in September 2015 to account for the 2014 and 2015 sample results, which were not considered in the FFS (Partners 2015). This preliminary revision included adjustments to the DMU boundaries, removal depths, and intended remedial action. Table 2 summarizes the changes to the DMU nomenclature following the FFS, and the current layout of DMUs is provided herein as Figures 3 and 4. Further DMU refinement conducted during the design process is discussed in Section 2.2.

Alternative A-4 considers that USACE is responsible for dredging sediments within the federal channel to achieve the SND authorized project depth of 27 feet below LWD (elevation of 574.1 feet) plus 1-foot of overdepth (elevation of 573.1 feet). The RA activities described herein address contaminated sediments that exist in some areas at elevations below the SND dredging limits as well as the contaminated sediments outside of the federal channel boundaries. The final elevation will be confirmed following completion of the SND dredging, and the environmental dredge design in these areas will be reevaluated as needed. For example, DMUs FC-7 and FC-11 are considered as “no action” areas based on the assumption that the impacted sediment in these units will be removed by the SND dredging. If SND overdepth removal does not proceed to sufficient elevations in these DMUs based on the bottom elevations of known impacts, additional dredging may be required during the environmental phase.

2 BASIS OF DESIGN AND KEY DESIGN ELEMENTS

As discussed in Section 1.3.4, the Partners agreed on refining the dredge limits of Alternative A-4 during the remedial design efforts. This section describes the process used to refine the dredge limits of Alternative A-4 and the general dredging approach for the RA activities, as well as the approach for the ENR areas, material handling, and safety considerations. The following items are discussed in this section, which includes the BOD and key design elements:

- Summary of pertinent data
- COC modeling summary
- Dredge prism development
- Access and permits
- Mobilization and site preparation
- Dredging
- Residuals cover
- ENR
- Material handling
- Project completion
- Safety considerations

2.1 Summary of Pertinent Data

The COC data, 2013, 2014, and 2015 bathymetry survey data, and top of sediment and top of clay elevation data for the core locations collected in 2007, 2010, 2013, 2014 and 2015 were used to refine the dredge limits of Alternative A-4 using the software Earth Volumetric Studio (EVS) from C Tech Development Corporation. Data from cores collected in 2017 were incorporated after the EVS model was complete as part of the dredge prism development (see Section 2.3).

The COC data compared to the MEC from the sediment sampling activities conducted at the site in 2007, 2010, 2013, 2014, and 2015 are shown on Figures 3 and 4. Additional sample locations and data from the 2017 sampling event are included in Appendix B. Harbor-wide bathymetry survey data from 2015 have been used in combination with survey data from 2013 and 2014 where 2015 survey data were not available. The survey data were collected and provided by USACE. The combined bathymetry data as generated using the EVS software are shown on Figure 5. This combined bathymetry surface prioritized the most recent survey information, and then supplemented with the older data as needed.

The project area is underlain by a distinct unit of native clay that is denser than the overlying soft sediment and where COC concentrations are less than RAOs; thus, the clay layer serves as a confining layer. Top of sediment elevation and top of native clay elevation data are provided in Table 3 for samples collected within the proposed work area. The core logs are included as Appendix A. Note that core logs were not recorded for samples collected in 2017; rather, sampling information was documented in a WDNR memorandum (Appendix B).

Not all core samples contained a plug of native red clay at the bottom – some cores met with refusal without recovering native clay (the native clay may have been too stiff or fallen out of the core or the core

tube could have encountered other dense material limiting its advancement). Approximately 30% of the sampling locations encountered the native red clay layer. Top of native clay elevations were estimated using top of sediment elevation and sediment coring field notes and core logs. Core stratigraphy logs indicate the approximate thickness (0 to 14 feet) of the sediment layer in the core tube overlying the plug of native red clay in the bottom of the core when it was present.

In general, the amount of sediment in the core samples is interpreted to be approximately equal to the thickness of soft sediment above native clay, where native clay is present¹. Where native clay was not present, the total thickness of sediment was not inferred from core logs. Based on the top of sediment surface elevations assigned to each core and core stratigraphy logs, the bottom-of-sediment/top-of-native-clay elevation was established for each core with the native clay layer (Table 3). Based on the difference between this bottom-of-sediment/top-of-native-clay and the bathymetry, the estimated sediment thickness at each of these core locations was calculated. These data have high uncertainty in some areas, especially along the sides of the federal channel where bed slopes are greatest and core sampling was limited.

2.2 Modeling Summary

EVS software was used to refine the dredge limits of Alternative A-4 by creating a three-dimensional visualization of the removal areas to confirm removal limit assumptions. Detailed information regarding the software can be found at the manufacturer's website: <http://www.ctech.com/products/earth-volumetric-studio/>.

2.2.1 EVS Model Procedures

The following procedures were used in setting up and running the model to initially define and visualize removal areas. Once the dredging boundary conditions were defined, the design shifted from EVS to Microstation/Terramodel for development of the dredge prism, as discussed in Section 2.3.

Model setup:

- Bathymetric survey data collected by USACE in 2013, 2014, and 2015 were loaded into the model. An order of precedence was set to use the most recent survey data available in a given location.
- The sediment core locations were input with the top of core elevation for each location set as the sediment elevation at the time the core was collected. The elevation of each core strata and corresponding COC data were incorporated based on the top of core elevation at the time of collection and the representative core intervals (not from the bathymetric surface in the model).
- DMU boundaries were added to the model. The horizontal boundaries were taken from the revised Alternative A-4 figures (Partners 2015), with further refinements made along the shoreline to reflect site conditions (see Figures 3 and 4).

¹ While using the measured recovered core sediment thickness provides a reasonable estimate of the actual in-situ sediment thickness for purposes of the design, the measured thickness may not be representative of the full, actual sediment thickness due to sampling limitations such as potential material compression or angled penetration of core tube into the bed.

- The vertical boundaries within the federal channel were set as the SND dredge elevation +1 foot overdepth (573.1 feet IGLD 85).

Model runs:

- The analytical data for the primary COCs (TPAH, TBT, lead, and mercury) were interpolated for the entire site using a Kriging method to generate a three-dimensional representation of the contaminant distribution (3D distribution) in the sediment bed and channel slopes.
- The core data were categorized as either having at least one COC above its MEC or no COCs exceeding an MEC. All COCs were treated as equal in identifying removal limits.
- The 3D Kriged chemical distributions were compared to the analytical core data, highlighting regions where any COC exceeded the MEC.
- The DMU areal boundaries were overlaid on the Kriged 3D distributions to isolate these areas for further evaluation and identify potential boundary modifications.
- The vertical extent of the Kriged 3D distributions were evaluated as follows:
 - Kriging was used to identify the bottom elevation of MEC exceedances (i.e., the elevation of contamination) for all DMUs. This step used both cores inside and outside of the DMU.
 - Top of native clay elevations, as determined from the core logs (Table 3), were added to the model where available. Interpolated clay elevations were applied to the DMU to refine the vertical extent. If the Kriged bottom elevation of MEC exceedances was above the interpolated clay elevation, then the bottom elevation of MEC exceedances was used as the extent of removal; if the Kriged bottom elevation of MEC exceedances was below the interpolated clay elevation, then the interpolated clay elevation was identified as the deepest elevation of contamination.
 - DMUs where MEC exceedances were observed at the bottom of the core and where there was no clay surface to bound the bottom elevation were evaluated on a case-by-case basis to review the Kriged bottom elevation. If the bottom elevation extended below the core but was supported by non-MEC exceedance data from adjacent cores, then this elevation was used as the extent of removal; if the surrounding cores all had MEC exceedances to the bottom of the core, then the bottom elevation was interpolated from the other sediment cores within the DMU.

Results from the modeling procedure provided above were reviewed by the Partners preliminarily to comment on the boundaries and identified elevations. Adjustments were made based on this interim review, and these adjusted removal area and elevations were used to develop the EVS model output as described in Section 2.2.3.

2.2.2 Placement Criteria Evaluation and Procedures

The COC concentrations in the refined DMUs, including the additional data collected in 2017, were compared to the Wisconsin Point Landfill placement criteria (Appendix B) to identify remedial dredging material suitable for disposal at this facility. For the material determined to be suitable for placement at

Wisconsin Point Landfill, an additional comparison was also performed to identify material that could be used as cover instead of subsurface fill. Remedial dredging material not acceptable for placement at Wisconsin Point Landfill will be placed at another offsite facility (i.e., Vonco Landfill in Duluth, Minnesota – see Section 2.9). SND material will be sent to the USACE's Erie Pier facility for disposal. The procedures outlined below were used in performing the placement criteria evaluation. The analysis was conducted using output from the EVS model and Microsoft Excel for the calculations.

- Screening was conducted only for sediment sample intervals that lie within the DMU boundaries.
- The Wisconsin Point Landfill placement criteria are provided in Appendix B. Specifically, the placement criteria are provided in Table 1 of the document “Site-Specific Residual Contamination Levels (RCLs) for Dredged Material from Howards Bay Proposed for Placement at the Closed Wisconsin Point Landfill in Superior, Wisconsin” dated April 19, 2017 (Appendix B), and the criteria of 5 times the values provided in Table 1 were used as screening criteria.
- Arithmetic average concentrations of the samples that lie within each individual DMU boundary (area and top/bottom elevation) were calculated and compared against the Table 1 criteria and 5 times the Table 1 criteria.
- Each DMU and associated volume was classified as follows:
 - Acceptable for surface cover: Arithmetic average of the samples that lie within individual DMU boundary for all COCs did not exceed criteria in Table 1. In addition, and in accordance with Wisconsin Administrative Code Chapter NR 720, the cumulative excess cancer risk did not exceed 1×10^{-5} and the hazard index for non-carcinogens did not exceed 1.
 - Acceptable for subsurface cover: Arithmetic average of the samples that lie within individual DMU boundary for all COCs did not exceed 5 times criteria in Table 1.
 - Not acceptable for placement at Wisconsin Point Landfill placement: Arithmetic average of the samples that lie within individual DMU boundary exceeded 5 times criteria in Table 1 for one or more of the COCs.

2.2.3 EVS Model Output Summary

The three-dimensional model files generated from the EVS software were used to determine the design approach (refer to Table 4) and initial removal extent for each DMU. These files included the footprint (i.e., horizontal limits) and target removal elevation (i.e., target dredge surface based on elevation of contamination) for each DMU. A screenshot of the typical model output is shown below (see Figure 6). The blue lines indicate DMU boundaries in plan view, the blue columns represent sample locations where COCs are below removal criteria, the orange columns represent sample locations where COCs are above removal criteria, the orange/brown octagons indicate the lowest extent of exceedances, and the grey squares indicate the presence of a clay layer.

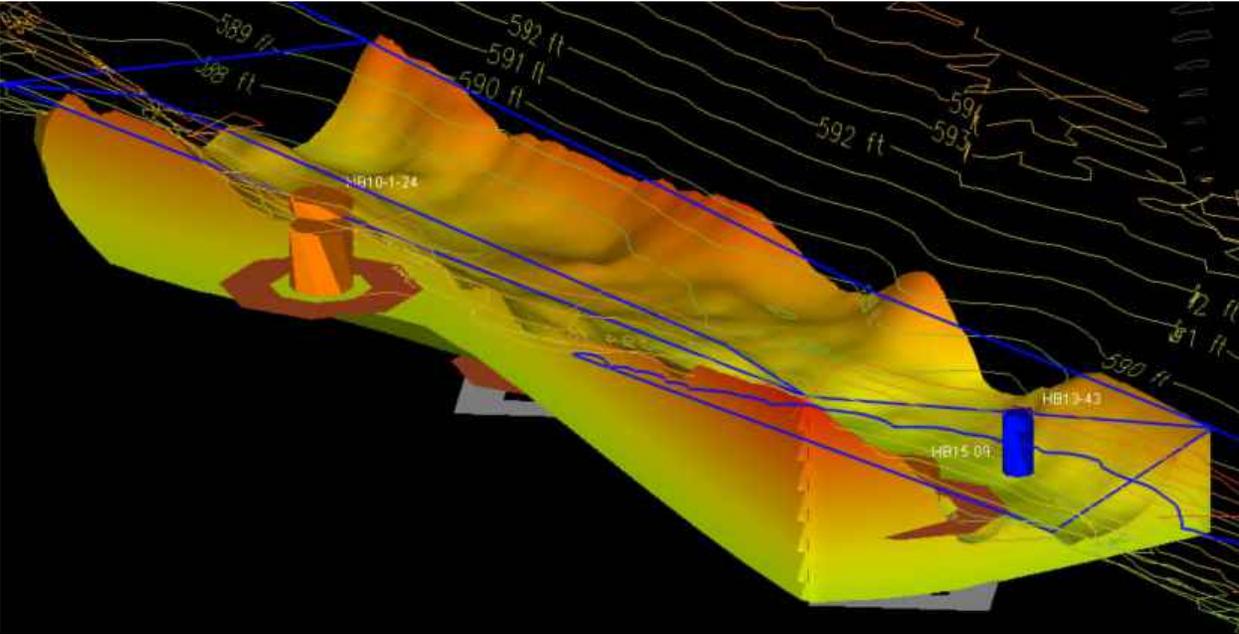


Figure 6. Example EVS Model Output

Table 4 summarizes the approach used for each DMU and the corresponding estimated in-situ removal volume. Final DMU areas and elevations from the EVS model were exported to Terramodel for further engineering evaluations (e.g., considerations of stability, sloping, etc.) and then to Microstation for the creation of the Contract drawings as discussed in Section 2.3.

2.2.4 Placement Evaluation Results

Results of the placement evaluation are provided in Tables 5a through 5c. Table 5a provides a breakdown of those DMUs that meet or exceed the various criteria, with the “All COCs” (orange column) aggregating all the comparisons and summarizing the in-place volumes associated with each comparison. Table 5b summarizes the input data for the evaluation, and Table 5c summarizes the average concentrations by DMU.

The output of the placement analysis indicated that the majority of dredged material to be removed as part of the GLLA project can be sent to the Wisconsin Point Landfill for placement (SND dredged material will go to the Erie Pier facility). A total of 27 DMUs are acceptable for surface cover (approximately 44,400 neat-line cubic yards [cy]), 8 DMUs are acceptable for subsurface cover (approximately 12,000 neat-line cy), and 3 DMUs (approximately 8,300 neat-line cy) will require disposal at another offsite facility. These neat-line quantities do not include overdepth or bulking assumptions.

2.3 Dredge Prism Development

Dredge Prisms

For construction, the Contractor will be provided with a set of removal grades to be achieved as part of the RA, which are also referred to as a dredge prism (see drawings package provided under separate cover). The EVS model and information summarized in Table 4 were used to develop dredge prisms for construction using the following procedures:

- The final EVS removal limits (horizontal and vertical removal surfaces) were imported to Terramodel for use as the starting point for the prism.
- The proposed SND dredge prism based on EVS model, including an assumed 1 foot of overdepth was incorporated.
- Boundaries were adjusted based on the stability evaluation (Appendix C). This included adjusting horizontal boundaries of DMUs where setbacks will be required due to structural considerations (e.g., existing sheet pile, foundations, shoreline conditions, etc.), as well as an evaluation of existing (pre-dredging) slopes adjacent to the navigational channel in proposed dredge areas to determine if dredging is feasible and/or safe. Note that the 1963 dredging information was referenced to assist in this evaluation, and the final side slopes commonly were in the range of 1-1.5:1 (horizontal:vertical).
- Sloping was applied to the perimeter of DMUs based on the stability evaluation. This included determining the required dredge slope through the geotechnical evaluation for slope and shoreline stability. The required slope was then applied starting from the bottom of the DMU (the target dredge elevation) and extending out beyond the defined DMU boundary. In instances where adjacent features prevented sloping outside of the defined DMU boundary (e.g., adjacent obstruction, required offset, etc.), sloping started at the edge of the defined DMU boundary and sloped into the DMU.
- Removal grades were adjusted within the DMU for constructability (i.e., smooth dredge prism contours and transitions).
- Once the above procedures were implemented, select cross-sections were cut through the DMUs. These cross-sections are provided in the drawings package provided under separate cover.

For slope stability, a maximum of 2:1 (horizontal:vertical) side slopes along dredge cuts was determined based on USACE's intended practice for the SND work, site sediment properties, and common environmental dredging design practices. The 1963 dredging information showed steeper slopes were achieved post dredging, suggesting the proposed slope or steeper may be achievable. A maximum 3:1 (horizontal:vertical) slope would be required to provide a stable final grade for residual cover material (sand) based on the angle of repose of this material and additional considerations for fully saturated conditions. Sands have a minimum angle of repose of 27 degrees in their loosest state (Das 1997), and a factor of safety (FOS) of 1.5 or greater should be included in the design. The proposed slope is equivalent to 18.5 degrees. The FOS is calculated as:

$$\text{FOS} = \tan(\text{soil angle of repose}) / \tan(\text{slope angle}) = \tan(27) / \tan(18.5) = 1.52.$$

The Partners discussed that the preferred approach would be to dredge at a 2:1 (horizontal:vertical) slope to maximize COC removal and place residual cover to a final slope of 3:1 (horizontal:vertical) to allow stable conditions for the cover material following construction. The drawings package (provided under separate cover) includes a typical detail to illustrate the dredge slope in combination with the residual cover slope.

Shoreline Stability / Setbacks

Another geotechnical consideration was shoreline stability, particularly for shorelines and existing structures and bulkheads adjacent to the dredge areas. The approach was to apply setbacks that provide a reasonable level of shoreline stability assurance based on documented existing shoreline conditions, sediment material and in-situ density, slope stability modeling in critical areas, and previous sediment and dredging engineering experience. The setbacks also are assumed to be acceptable to the owners of shoreline structures as they avoid creating shoreline instability as a result of dredging activities. This assumption will be verified by USACE as part of the access agreement process with the property owners. An evaluation was performed by USACE in January 2015 (Appendix L to the FFS; Arcadis 2015) that concluded several structures and embankments would not require any additional considerations due to limited dredging depths, while those that would require further considerations likely would require setbacks to the dredging. Shoring or other means of protection were not evaluated during design due to prohibitive costs and/or long-term concerns regarding adjacent property owners. The available data, including shoreline reconnaissance, photographs, hand-drawn cross sections, and narrative descriptions of conditions, were reviewed along with the current DMU boundaries and depths to determine what stability considerations were necessary at each location.

In all DMUs adjacent to the shoreline, a minimum (10-foot) setback with a 2:1 (horizontal:vertical) slope is specified to provide safe dredging conditions. Saturated sediment within the top 4 feet can slough without causing a stability concern for sediment behind it. This is based on the angle of repose of the saturated sediment (Das 1997). Deeper than 4 feet, sediment sloughing sediment could cause undermining or stability concerns for adjacent structures. As such, an assessment was conducted for areas along the shoreline with dredge depths over 4 feet. Areas with dredge depths less than 4 feet were not evaluated as the conditions do not pose a stability concern based on the stability of deeper cuts and common engineering practices. Five critical areas were identified for further evaluation based on shoreline structure stability concerns (i.e., Lake Superior Fishing Co. building, deteriorating wooden revetment walls, and steel sheet pile walls). The five areas consisted of three cross sections identified in the Hughitt Slip, one typical section in Cummings Slip, and an area near the Dry Docks adjacent to the deepest dredge depth. The evaluations included a comparative approach between the FOS of the existing conditions compared to the FOS for 2:1 and 3:1 dredge slopes using the GeoStudio program Slope/W (Geo-Slope International Ltd 2012). The resulting FOS indicate that a 2:1 slope with a 10 feet setback for the Cummings Slip, Dry Docks, and the northern end of Hughitt Slip will maintain stability of the shoreline structures. For the remainder of Hughitt Slip, it was determined a 3:1 slope with a 10 feet setback will be used to maintain stability of the shoreline structures including the Lake Superior Fishing Co. building on the west side of the slip and a deteriorating wooden revetment wall assumed to be surrounding the slip shoreline (Appendix L to the FFS; Arcadis 2015). The calculation package identifying specific sections evaluated and associated FOS can be found in Appendix C.

All scenarios were evaluated by a geotechnical engineer analyzing site conditions, dredging depths, and conditions at each DMU boundary based on professional judgement and experience, shoreline reconnaissance data, and sediment materials geotechnical parameters and typical behaviors under saturated/river conditions. These calculations were performed using the 65% design for these critical areas; however, changes to the design since this point do not warrant updates to this geotechnical evaluation and the results are still applicable. Additional analysis by a geotechnical engineer should be performed prior to additional work for areas where redredging based on confirmation sampling is proposed.

Once the geotechnical evaluation and associated slope modeling were complete, the recommended adjustments were applied to the dredge prism. The grades were reviewed again for constructability to produce the final dredge prism.

2.4 Access and Permits

USACE will coordinate obtaining access for areas intended to be used for support or that will be impacted by RA activities. It is currently assumed that access agreements will be granted for all dredge and support areas as required to perform the work. Access to the work areas will be restricted to construction-related vehicles and personnel unless otherwise negotiated with individual property owners and/or interested parties. Notifications of construction activities will be submitted to property owners prior to construction by USACE.

Note that approximately one-third of the Cummings Avenue Slip is owned by the State of Wisconsin and leased to Fraser under the terms of a submerged land lease (No author 2010). The extent of the land-lease is provided in the drawings package (provided under separate cover). Any specific considerations or requirements for working within this portion of the site will be determined by USACE in coordination with WDNR and Fraser.

USACE and the Partners will also work with the property owner in Hughitt Slip (property currently for sale) regarding moving the docks to accommodate dredging. It is assumed that the docks will be moved such that dredging can occur per the design.

A summary of the permits required for the project is provided in Table 6. It is anticipated that Arcadis will complete the required permit applications with assistance from the Partners. Completed permits and applications for pending permits may be provided to potential Contractors during the bidding process. The selected Contractor will be required to follow the terms of all access agreements and permits.

Table 6. Summary of Required Permits

Entity	Permit
City of Superior	Erosion Control Permit – Fraser Site
City of Superior	Erosion Control Permit – Wisconsin Point Landfill
USACE	Section 10/404

Entity	Permit
WDNR	Public Waters Permit
WDNR	401 Water Quality Permit
WDNR	Notice of Intent (NOI) for Land Disturbing Activity
WDNR	Landfill Plan Modification
WDNR	Air Pollution Controls ²

Additional coordination will also be required with Arcadis/Partners and the City of Superior for the wastewater discharge and Wisconsin Point Landfill Plan modification. The selected Contractor will be required to follow any actions or procedures resulting from these coordination efforts.

2.5 Mobilization and Site Preparation

2.5.1 Mobilization

Once access agreements are secured, pre-construction submittals are submitted and approved, and prior to commencing work, necessary personnel, equipment, and materials will be mobilized to the site. Field office trailers, sanitary facilities, and utilities will be established in accordance with the specifications (provided under separate cover). Video and/or photographic documentation of pre-construction conditions will be collected at all areas used for upland operations and at all shorelines, bulkheads, and/or other structures adjacent to the dredging areas.

All equipment will be decontaminated prior to delivery to the site. This includes decontamination of potential invasive species for in-water equipment in accordance with the WDNR procedures provided at the following website: <http://dnr.wi.gov/topic/Invasives/disinfection.html> .

2.5.2 Survey

Pre-construction survey will be performed in areas that will be impacted by the work, including upland support areas and municipal haul roads. Bathymetric survey will be referenced to North American Datum of 1983 (NAD83) State Plane Minnesota North horizontally and International Great Lakes Datum of 1985 (IGLD85) vertically. Upland survey will be referenced to NAD83 State Plane Minnesota North horizontally and North American Vertical Datum of 1988 (NAVD88) vertically. This includes:

- Bathymetric survey of the in-water work areas (multi-beam where possible and single-beam near shore to tie into the shoreline)
- Survey of the upland staging and support areas
- Survey of the work area at the Wisconsin Point Landfill

² No permit required as the project will be short term with low emissions. Dust will be monitored and controlled as discussed in Section 2.5.5.

Note that a bathymetry survey will be performed following the SND dredging activities to document sediment surface conditions and elevations prior to the start of the RA dredging activities. As needed, adjustments to the DMU surface elevations and associated quantity estimates may be made based on the actual SND overdepth elevations, especially in areas where limited or no RA dredging was assumed in the design.

2.5.3 Utility Clearance

There are no known utilities within the dredge areas or at the Wisconsin Point Landfill based on a review of USACE and NOAA information, and known utilities in the vicinity of the upland staging area are shown on the drawings. The appropriate utility-locating agencies will be contacted by the Contractor prior to initiating intrusive activities, including land-based and water-based utilities.

2.5.4 Staging Areas

The proposed staging areas are shown on Figure 7. Note that areas delineated as wetlands will not be infringed upon during the RA. Prior to construction, surface soils in the area to be used for sediment staging and processing will be sampled to document pre-construction conditions. Samples will be analyzed for site COCs, namely PAHs, tributyltin, mercury, and lead. Final required sampling may change pending the receipt of final property access agreements.

It is anticipated that the staging areas will be constructed with the following layers from the bottom up: 6 inches of sand, 12-ounce non-woven geotextile, 40 mil high-density polyethylene liner, 12-ounce non-woven geotextile, 6 inches crushed stone aggregate, and 4 inches of asphalt. The stone size and gradation will be determined by the Contractor to protect the liner from potential punctures based on the selected means and methods. The area will be surrounded with temporary berms constructed from either stone or general fill, depending on costs and availability. The area will be graded to drain to a collection sump.

Final determination of the size, location, and layout of staging areas will be made by the selected Contractor in accordance with any applicable requirements of access agreements. It is anticipated that the barge transfer, sediment staging and processing, and water treatment operations will be performed at the former Baxter Avenue Embayment area. Material and equipment staging, fill material staging, office trailers and support facilities, and other areas could be established at either the former Baxter Avenue Embayment or Cummings Slip staging area.

Staging areas and other site support areas will be maintained in a manner that controls stormwater runoff and runoff, and limits the potential for erosion or migration of sediment or other materials from the work area. Typical control requirements and products are detailed in the specifications and design drawings (provided under separate cover); however, final means and methods will be selected by the Contractor and approved by USACE prior to implementation. Stormwater that collects in the sediment stabilization and decontamination areas will be collected for treatment.

2.5.5 Community Air Monitoring

The COCs for Howards Bay are not volatile or in high enough concentrations that an air permit would be needed based on a mass balance. Section s. NR 406.04(1)(m)9, Wis. Adm. Code, specifically exempts

procedures for the remediation or disposal of soil or water contaminated with organic compounds where emissions are below permitting thresholds.

Real-time community air monitoring will be implemented at the sediment staging area (Fraser property) for air quality. Such monitoring will be implemented for the protection of potential receptors at the surrounding properties. There will be at least three monitoring stations located near the boundaries of the work areas and located to allow coverage of potential receptors and typical shifts in the wind direction. Upwind and downwind locations will be determined daily through observations at the site or available meteorological data, with a minimum of one upwind and two downwind locations each day. Community air monitoring will include the use of a real-time air quality monitoring system and/or hand-held, direct-reading survey instruments. The meters selected for use during monitoring activities will be capable of calculating 15-minute running average concentrations. The requirements may be reduced or eliminated during construction based on monitoring data.

Community air monitoring is not required at Wisconsin Point Landfill as there are no potential receptors.

2.5.5.1 Monitoring Requirements

At a minimum, a photoionization detector (PID) with an 11.7 eV bulb will be utilized at each area. Fugitive dust migration will be visually assessed during work activities, and reasonable dust suppression techniques will be used during site activities that may generate fugitive dust. Real-time airborne particulate monitoring will be conducted continuously during intrusive site remedial activities, including sediment and blending agent handling activities. Particulate monitoring will be conducted using instrumentation equipped with electronic data-logging capabilities. A PDR1000 (from Thermo Electron Corporation) or equivalent will be used to conduct real-time monitoring for particulate matter less than 10 microns in diameter (PM₁₀). Fifteen-minute average real-time concentration readings will be recorded for comparison against action levels.

2.5.5.2 Action Levels

If visual observation indicates that dust migration from the site is occurring during active construction (e.g., staging area, Wisconsin Point landfill, other support areas), reasonable dust suppression techniques will be applied, such as wetting roadways or covering material stockpiles.

Table 7 presents action levels and response actions for PID and particulate monitoring data. In general, if the conditions are outside of the normal operations range of values for the PID compared to lower explosive limits (LELs), work will be stopped, and the cause of the reading will be determined. Once identified, the proper emission control measures will be implemented. An air monitoring log will be maintained at the site and any measurements required by Table 7 will be recorded.

If the ambient 15-minute average air concentration of PM₁₀ at any one (or more) of the downwind perimeter locations is noted at levels in excess of 100 µg/m³ above the upwind concentration, or if airborne dust is visually observed leaving the work area, then dust suppression techniques will be implemented, and air monitoring will continue. Work may continue following the implementation of dust-suppression techniques provided the PM₁₀ levels do not exceed 150 µg/m³ above upwind.

If, after implementation of dust-suppression techniques, the downwind PM₁₀ levels are greater than 150 µg/m³ above upwind, work will be stopped, and site activities will be re-evaluated. Once additional actions have been implemented, work may resume only if dust-suppression measures and other controls are successful in reducing the 15-minute average PM₁₀ levels to less than 150 µg/m³ above upwind at the downwind perimeter of the site and if no visible dust is observed leaving the site.

2.5.6 Turbidity Monitoring

The turbidity monitoring program outlined herein has been developed to be consistent with WDNR's recommendations in the May 2017 memorandum regarding resuspension performance monitoring for sediment remediation, revised November 2018 (Appendix B). Monitoring will not be required during cover placement activities unless off-specification material is used. Monitoring will be conducted at a minimum of two performance locations – the project site boundary (see extent of project boundary line on Figure 2) and within 150 feet of active dredging or cover placement operations. Monitoring will be conducted with a continuous monitor at the background location and manually at project boundary and active locations with real-time meters, and readings will be collected from three depths within the water column at each the sampling location (1/3-depth below the water surface, mid-depth of the water column, and 2/3-depth below the water surface). Manual turbidity monitoring events will be performed twice daily (at least 2 hours after work has started/resumed). In addition, data will be collected from a background location positioned outside of the study area near the confluence of Howards Bay and the St. Louis River (approximately 500 feet beyond the I-535/Blatnik Bridge along the north shore). The background monitoring will be conducted using a continuous monitor that allows for remote data retrieval. The actual monitoring locations will be determined based on field conditions, active work areas, and health and safety considerations. Background turbidity data also may be supplemented using St. Louis River data collected by others at the Bong (Highway 2) and/or Blatnick bridge crossings.

An average value of spatially-integrated readings obtained from the performance monitoring locations will be compared against the background location reading at that time. The early warning level for turbidity will be a difference of 65 nephelometric turbidity units (NTU) or greater above background. If the early warning level is exceeded, the Contractor will perform the Warning Level actions outlined in Table 1 of WDNR's November 2018 turbidity memorandum (Appendix B). The action level for turbidity will be a difference of 87 NTU or greater above background at the performance monitoring location. If the action level is exceeded, the Contractor will perform the preventative actions outlined in Table 1 of WDNR's November 2018 turbidity memorandum (Appendix B). If turbidity levels exceed 110 NTU above background (the not-to-exceed level), work will cease, and the Contractor will perform the preventative actions outlined in Table 1 of WDNR's November 2018 turbidity memorandum (Appendix B).

Whenever the warning, action, or not-to-exceed levels are exceeded, the contractor will evaluate if the increase was caused by dredging or placement activities. If the increase above the action level is determined to be caused by non-dredging activities, such as storm water runoff or prop wash by non-project related vessel traffic, and project oversight concurs, work can continue. If the turbidity increase is determined to be due to the dredging or cover placement activities, the contractor will re-assess the effectiveness of BMPs and take corrective measures to mitigate the exceedance of resuspension performance standards as identified in Table 1 of WDNR's November 2018 turbidity memorandum (Appendix B). The contractor may resume work when any operational changes have been made and

turbidity levels in the area where the exceedance was measured drop below the NTE level for 30 minutes, DNR and EPA have been notified, and oversight concurs.

WDNR must be notified of the time, location, and level of exceedance in the event the not-to-exceed level is reached at a performance monitoring location. The notification must include the identified cause of the exceedance and any corrective measures taken. The notification must be made to the WDNR project manager with 24 hours of the exceedance and may be done by email.

2.6 Dredging

2.6.1 General Approach

It is assumed that the work will be conducted in the wet via barge-based mechanical dredging; however, the final determination of the dredging approach and specific means and methods will be determined by the selected Contractor. General requirements, including use of an environmental bucket and sealed transport barges, are included in the technical specifications (provided under separate cover). Construction activities and equipment operation will be managed to minimize resuspension during dredging and meet the requirements outlined in Section 2.5.6.

The total estimated neat-line dredge volume is 64,700 cy (Table 4). A 6-inch overdepth allotment will be allowed in the contract specification for the dredging work in all DMUs. For volume and cost estimating purposes, it is assumed that 50% of this overdepth allotment will be dredged and therefore the overdepth quantity is estimated at 6,200 cy. Additionally, the SND dredging will allow for 1 foot of overdepth dredging, and it is anticipated that 50% of this material by depth will be removed as part of the SND dredging. Table 4 includes an assumed 50% of this overdepth volume (approximately 4,000 cy) that would not be removed during the SND dredging and would require dredging as part of the work described in this DDR. These considerations bring the estimated total removal volume to 74,900 cy (Table 4).

Confirmation that dredging is complete in each location once the target elevation has been achieved based on post-dredging survey will be determined as described in the specifications. Confirmatory sampling will be conducted and the results of the samples will be analyzed to determine the need for further action (i.e., no action, residual cover, or additional dredging) in accordance with the Operational Decision Tree for Environmental and SND Dredging included in Appendix D. Additional stability analysis by a geotechnical engineer should be performed prior to additional work for areas where redredging based on confirmation sampling is proposed.

Removed dredged material will be handled as described in Section 2.9. The Contractor will not be allowed to overfill the transport barge and use of sealed barges will be required, which will help limit potential loss of sediment and/or turbid water back to Howards Bay.

In two areas, OC-4 and OC-9, relatively shallow water may restrict barge entry. It is anticipated that sequencing these areas to dredge from the southwest to the northeast will provide the required water depth to continue work. The need for additional removal for access in these two areas, including potential volumes and costs, will be discussed with potential Contractors during the bid evaluation.

2.6.2 Debris Removal

The area of a known debris field exists in the eastern portion of dredge area FP-1 at the southeast end of Howards Bay (Figure 4). The debris field primarily consists of timber piles and reinforced concrete. This material will be removed to the extent practicable prior to or during dredging, as appropriate. If removal is not feasible per conditions outlined in the specifications, dredging will be performed as close to the design grades as possible in the vicinity of the debris. It is assumed that other debris that will be encountered includes woody vegetation, scrap metal, rubbish, and other items typically found in an industrial waterway. The other debris within the dredge area will be removed prior to or during dredging as determined by the Contractor. Debris removal likely will be required only in areas where SND dredging is not performed as it is assumed that debris within the SND area will be removed as part of the SND dredging. Debris outside the dredge area should remain in place; however, limited additional debris removal may be necessary for access to the dredging and to provide stable conditions at the completion of work.

2.6.3 DMU Sequencing

Dredging sequencing must consider the available construction season (May to November), potential for resuspension and deposition in previously dredged areas, and coordination with the SND timing/work locations. It is recommended to complete SND dredging prior to commencing environmental dredging. It is anticipated that the work will proceed in accordance with the following sequencing:

- Hughitt Slip
- Cummings Slip
- Fraser Slip
- Frog Pond area (Units FP-1 and FP-2)
- OC-1 through OC-5 followed by FC-1 and FC-2
- OC-6 through OC-8 followed by FC-3 through FC-4
- OC-9, followed by FC-5 and FC-6
- OC-12, followed by FC-9
- OC-14, followed by FC-12 and FC-13
- OC-16 and OC -17, followed by FC-17, FC-16, FC-15, and FC-14

2.6.4 Engineering Controls

The Contractor will be required to meet the water quality conditions of the permits, access agreements, and the action levels specified in Section 2.5.6. This can be achieved through operational means, engineering controls, or a combination of methods. Engineering controls will not be required during dredging; however, if necessary, based on turbidity monitoring data, turbidity curtains could be installed at or near the required dredge limits, and at the Contractor's discretion. If needed, each turbidity curtain could be depth adjustable, anchored to the shoreline, and include sorbent booms to mitigate sheen that may be generated during dredging. The curtains could be fitted with gates, as necessary, to allow access for construction-related traffic. Design of such a system would be the responsibility of the Contractor.

A potential alternative to a turbidity curtain is an air bubble curtain. The air bubble curtain would consist of an air compressor and a header pipe with air holes, anchored at the base of the river. The advantage of

using an air bubble curtain over silt curtains is that boat traffic can pass through the project area with little disturbance to dredging operations. Air bubble curtains are typically used to: deter fish near pile driving projects (reduces the strength of pressure waves), disperse and contain floating spills on water, add dissolved oxygen to water, and reduce sediment deposition in ocean harbors at docking slips (creates turbulence that keeps sediments in suspension). Such systems are most effective in shallow and relatively low velocity water (e.g., bays, harbors, etc.), which matches the conditions present at this site. Air bubble curtains will be installed, operated, and maintained at the mouths of Fraser Slip, Cummings Slip, and Hughitt Slip. Use of an air bubbler system elsewhere would be at the Contractor's discretion and would require review and approval by the USACE and Project Partners.

Contingency resuspension control measures and sorbent booms will be kept on site for emergency use in the event of resuspension control measures failure, visible sheen or exceedances in turbidity at performance monitoring locations. Dredging operations and cover placement will not resume if resuspension control measures are not in place.

2.6.5 Confirmation Sampling

The decision tree and associated confirmation sampling work are described in Appendix D and the specification/drawings package provided under separate cover. In general, sediment samples will be collected from each removal area once the contract dredge depth is achieved as verified through survey. Constituent concentrations will be compared to cleanup goals to determine what, if any, further activities are needed in the area represented by each confirmation sample (confirmation area). These could include additional dredging, placement of a residuals cover, or no further action.

2.7 Residuals Cover

2.7.1 General Approach

As detailed in the Dredging Decision Tree in Appendix D, a residuals cover will be placed if needed over dredged areas based on confirmation sampling results.

The actual cover thickness will be determined in coordination with the USACE Quality Assurance Representative, but for purposes of the DDR, it is assumed that this cover will include the placement of a minimum 6-inch sand layer over each dredge unit where a cover is required. The material will be placed with a tolerance of +3 / -0 inches over 100% of the area. It is assumed that the residuals cover will be placed mechanically (e.g., excavator bucket, telebelt system, or spreader broadcast system); however, hydraulic equipment may provide increased control of material placement (e.g., slurry broadcast or slurry spreader manifold or similar systems). Residuals cover placement may occur with the same equipment used for dredging following decontamination of the equipment. Construction activities and equipment operation will be managed to minimize loss or migration of suspended material during placement. Placement monitoring will be conducted by collecting a minimum of one core per 3,600 square feet to verify the cover thickness. A bathymetric survey will be performed following completion of the work to document final conditions; however, this survey will not be used to verify cover thickness.

2.7.2 Engineering Controls

It is anticipated that the clean residuals cover materials will be placed without engineering controls or while any engineering controls utilized for dredging are still in place. Turbidity monitoring will be required during material placement, as noted in Section 2.5.6. The Contractor may implement controls to achieve water quality requirements included in permits, access agreements, and the action levels specified in Section 2.5.6. Refer to Section 2.6.4 for additional details on these controls.

2.8 Enhanced Natural Recovery

2.8.1 General Approach

ENR will include the placement of a 6-inch sand cover in units FC-10, OC-10, OC-13, and OC-15. The total estimated material placement volume is 900 cy over approximately 1.1 acres. The material will be placed with a tolerance of +3 / -0 inches over 100% of the area. Water depths in these areas range from approximately 2.6 to 29.4 feet. It is assumed that the sand cover will be placed mechanically; however, hydraulic equipment (e.g., slurry broadcast) or spreaders (e.g., telebelt system) may provide increased control of material placement. Sand cover placement may occur with the same equipment used for dredging following decontamination of the equipment. The final means and methods will be determined by the Contractor. Construction activities and equipment operation will be managed to minimize resuspension during placement. Placement thickness monitoring will be conducted using the same methods described for residual cover placement confirmation.

2.8.2 Engineering Controls

Due to the limited volume of sand to be placed, the shallow water depth, and use of uncontaminated borrow material, it is assumed that engineering controls will not be required during ENR cover placement. Turbidity monitoring will be required during material placement, as noted in Section 2.5.6. The Contractor may implement controls to achieve water quality requirements included in permits and/or access agreements. Refer to Section 2.6.4 for additional details on these controls.

2.9 Material Handling

2.9.1 Debris Handling and Disposal

Debris removed from the dredge areas will be placed on a barge for transport to the staging area shown on Figure 7. Once offloaded from the barge, debris will be segregated by type (e.g., wood, metal, etc.) and shipped to an appropriately-licensed offsite facility, such as Vonco Landfill, for recycling or disposal. Debris cannot be placed at Wisconsin Point Landfill.

2.9.2 Dredged Material Handling and Placement

Dredged material will be placed on a barge for transport to an upland staging area as shown on Figure 7. Sediment that requires trucking over public roads will be required to pass the paint filter test (USEPA Method 9095B) prior to transportation. The sediment will be allowed to gravity dewater in the staging area

for a minimum of 24 hours. Mechanical equipment may be used to turn the sediment to encourage the release of free liquids. A stabilization agent (e.g., Portland cement, cement kiln dust, etc.) will be blended with the sediment using the minimal amount needed to meet transportation, strength, and chemical mobility requirements (anticipated to be up to 10% by weight). Results from a treatability study performed to provide additional information on blending agents and ratios will be included in the specifications (provided under separate cover) for the Contractor; however, the Contractor may still elect to perform an independent treatability study prior to implementation.

Based on the placement analysis, 56,400 cy of dredged material can be sent to the Wisconsin Point Landfill for placement and 8,300 cy will need to be sent to an offsite facility for disposal. Sediment will be transported to the Wisconsin Point Landfill for surface or subsurface placement and grading according to the criteria discussed in Section 2.2.2. The location of the Wisconsin Point Landfill and proposed transport route is provided on Figure 8. Details on material placement at the landfill, including interim and permanent controls and best management practices, are included in the technical specifications and design drawings (provided under separate cover). The selected offsite disposal location is the Vonco Landfill as shown on Figure 8. Note that it is not anticipated that additional processing requirements will be necessary prior to placement of the dredged sediments at Vonco Landfill.

2.9.3 Water Handling and Treatment

The primary sources of water that will require treatment are the sediment handling barges and water (including stormwater) accumulating in the staging and decontamination areas. Prior to removing sediment from the barge, free water will be pumped out for treatment. Collection sumps will be installed at the staging and decontamination areas to allow collection of water for treatment.

The water treatment system will be set up at the Former Baxter Ave. Embayment staging area. The treatment system design will be performance based. The minimum system components are noted in the specifications package provided under separate cover, and include influent tanks, filtration, carbon vessels, and effluent tanks. Final design of the treatment system will be performed by the selected Contractor.

Based on discussions with the City of Superior, water will be discharged without a permit to an existing sewer line near the Cummings Slip (see Figure 2). Discharge of the water to the existing sewer must be coordinated by the Contractor with the City of Superior. The City of Superior's primary treatment criteria that the system must meet are total suspended solids and visual turbidity. Total suspended solids must be less than 500 ppm in water discharged to the City system. The City also requires that one sample be analyzed for pH, PAHs, mercury, lead, cadmium, and copper prior to the initial discharge to confirm levels are below the required limits. If the sample meets the required criteria, no further sampling will be required. If the sample does not meet the criteria, the Contractor will be required to adjust the system as necessary and at no additional cost and resample. Direct discharge to surface water is not permitted. Details of the testing and discharge criteria are included in the specifications.

2.10 Project Completion

The tasks below will be completed once dredging, residuals cover placement, ENR cover placement, and materials handling activities are complete.

2.10.1 Decontamination

All equipment that comes in contact with impacted material will be decontaminated prior to removal from the site. Decontamination activities will occur within specified decontamination areas. Decontamination will be performed to remove visual impacts. Liquid wastes generated during decontamination activities will be treated at the onsite wastewater treatment system or containerized and prepared for off-site disposal. Solid waste generated during decontamination activities will be containerized and prepared for off-site disposal.

2.10.2 Upland Restoration

Following the completion of work activities, including decontamination, the upland areas disturbed during the work will be restored to pre-construction conditions, unless otherwise agreed upon in the access agreements. This includes restoration of disturbed areas at Wisconsin Point Landfill, the staging area at the former Baxter Avenue Embayment, equipment laydown and parking areas, access roads from the staging area to public roads, and public roads that are soiled or damaged as a direct result of the RA work.

2.10.3 Post-Construction Survey and Sampling

A post-construction survey will be performed by USACE following restoration to document the conditions of the site. The survey will be utilized to compare pre- and post-construction conditions to verify that all upland support areas are restored as required in the access agreements. Post-construction samples will be collected from areas used to stage impacted materials to document that the restored areas do not exceed pre-construction conditions for site COCs. Samples will be analyzed for site COCs, namely PAHs, tributyltin, mercury, and lead. Samples will be collected from the same locations as pre-construction samples and at any locations where tears are observed in the liner system. If impacts are documented above the pre-construction sample results, the impacted soils will be removed and disposed at an appropriate landfill and the area restored to pre-construction conditions.

2.10.4 Demobilization

Following the completion of all work activities, remaining staging and support areas will be dismantled, remaining equipment and materials will be cleaned/decontaminated, and all material and equipment will be removed from the site.

2.11 Safety Considerations

The work will be performed in accordance with all federal, state, and local safety regulations, particularly 29 CFR 1910 and 1926. All onsite personnel will have 40-hour HAZWOPER training and up-to-date refresher training. All personnel working on the water will wear personal floatation devices at all times. Community air monitoring requirements are discussed in Section 2.5.5, and the Contractor will be required to prepare a Contractor's Health and Safety Plan that includes personnel monitoring. On-site safety personnel will coordinate with shipyard personnel as needed regarding site activities, ship traffic and logistical issues related to site truck and ship traffic.

The Contractor will prepare a Traffic Control Plan as required in the technical specifications. This plan will discuss traffic control within the Fraser site, at the Wisconsin Point Landfill, and on public roads (particularly access points). The plan will include proposed signage, flaggers, and other measures that will be implemented during construction.

Refer to USACE Safety and Health Requirements Manual EM 385-1-1 for additional safety requirements.

3 QUANTITY AND COST ESTIMATES

Estimated volumes are included in Table 4. The cost estimates were prepared using the MII system. It is currently estimated that the total removal volume will be approximately 74,900 cy, the total ENR cover placement volume will be 900 cy, and the project will cost approximately \$13.8 million. A cost summary table and assumptions used in generating the cost estimates, including assumed production rates, along with the MII output are provided under separate cover.

4 TECHNICAL REVIEW DOCUMENTATION

An Internal Technical Review (ITR) team reviewed this design document. The team consisted of Arcadis personnel with extensive experience in sediment dredging design and construction, cost estimation, and the federal sector design process. Comments were provided individually by the ITR team members, reviewed by the design team, and are reflected in this document prior to submission to the Partners for review. Certification of the ITR review by the ITR team members is included in Appendix E.

5 REFERENCES

- Arcadis. 2014. Howards Bay Sediment Data Summary Report, Superior, WI. Prepared for the Great Lakes Legacy Act (GLLA) Howards Bay Focused Feasibility Study and Remedial Design Project on behalf of the Howards Bay Project Partners. August.
- Arcadis. 2015. Focused Feasibility Study for Sediment Cleanup in Howards Bay, Superior, WI. Prepared for the Great Lakes Legacy Act (GLLA) Howards Bay Focused Feasibility Study and Remedial Design Project on behalf of the Howards Bay Project Partners. June.
- Das, Braja M. 1997. Principles of Geotechnical Engineering. 6th edition.
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- Geo-Slope International Ltd. 2012. Slope/W (2012).
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- WDNR. 2015. Evaluation of Sources, Contaminants in Sediment of Howards Bay, City of Superior, Wisconsin. October.
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TABLES



Table 2: Summary of Changes to Dredge Management Units
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

2015 FFS DMU ID	Revised DMU IDs based on 9/9/15 Project Partner Call	2018 Design DMU ID	Dredge Unit Location	Final Selected Remedial Action	Comments
Within Federal Channel and Slopes					
3A	FC-1	FC-1	Federal Channel	Dredging	
3B	FC-2	FC-2	Federal Channel	Dredging	Boundary revised based on 9/9/2015 Project Partner decision (a portion of 3B became FC-3)
--	FC-3	FC-3	Federal Channel	Dredging	DMU created based on 9/9/2015 Project Partner decision
8	FC-4	FC-4	Federal Channel	Dredging	
9B	FC-5	FC-5	Federal Channel	Dredging	Boundary revised based on 9/9/2015 Project Partner decision
13A	FC-6	FC-6	Federal Channel	Dredging	
14A	FC-7	FC-7	Federal Channel	No Action	DMU changed from dredging to no action in 2017 Design; may be reevaluated based on extent of SND
15A	FC-8	FC-8	Federal Channel	No Action	Boundary revised based on 9/9/2015 Project Partner decision; DMU changed from dredging to no action in the 2017 Design
16A	FC-10	FC-10	Federal Channel	ENR	DMU changed from dredging in FFS to ENR area based on 9/9/2015 Project Partner decision
17A	FC-9	FC-9	Federal Channel	Dredging	Boundary revised based on 9/9/2015 Project Partner decision
17D	--	--	Federal Channel	No Action	A portion of 17D became part of 17B (then renamed to OC-12); 17D was removed from figures based on 9/9/2015 Project Partner decision
18	FC-11	FC-11	Federal Channel	No Action	DMU changed from dredging in FFS to ENR area based on 9/9/2015 Project Partner decision, and to no action in the 2017 Design; may be reevaluated based on extent of SND
22	--	--	Federal Channel	No Action	No action in FFS; removed from figures based on 9/9/2015 Project Partner decision
23	FC-12	FC-12	Federal Channel	Dredging	
24	FC-13	FC-13	Federal Channel	Dredging	
30A	--	--	Federal Channel	No Action	Removed from figures based on 9/9/2015 Project Partner decision
30B	FC-14	FC-14	Federal Channel	Dredging	
--	FC-15	FC-15	Federal Channel	Dredging	DMU created based on 9/9/2015 Project Partner decision
31A	FC-16	FC-16	Federal Channel	Dredging	
31C	FC-17	FC-17	Federal Channel	Dredging	
Outside Federal Channel and Slopes					
1A	FP-2	FP-2	Outside FC	Dredging	Boundary revised based on 9/9/2015 Project Partner decision
1B	FP-1	FP-1	Outside FC	Dredging	
2A	OC-1	OC-1	Outside FC	Dredging	Boundary revised based on 9/9/2015 Project Partner decision
--	OC-3	OC-3	Outside FC	Dredging	DMU created based on 9/9/2015 Project Partner decision
4	OC-2	OC-2	Outside FC	Dredging	
5	OC-5	OC-5	Outside FC	Dredging	Boundary revised based on 9/9/2015 Project Partner decision
6	OC-4	OC-4	Outside FC	Dredging	Boundary revised based on 9/9/2015 Project Partner decision
7	OC-6	OC-6	Outside FC	Dredging	
9A	OC-7	OC-7	Outside FC	Dredging	
9C	OC-8	OC-8	Outside FC	Dredging	
12A	OC-9	OC-9	Outside FC	Dredging	Boundary revised based on 9/9/2015 Project Partner decision
12B	--	--	Outside FC	No Action	No action in FFS; removed from figures based on 9/9/2015 Project Partner decision
13B	--	--	Outside FC	No Action	No action in FFS; removed from figures based on 9/9/2015 Project Partner decision
14B	--	--	Outside FC	No Action	No action in FFS; removed from figures based on 9/9/2015 Project Partner decision
15B/15D	OC-10	OC-10	Outside FC	ENR	Boundary revised; 15B changed from no action to ENR and 15D remained as ENR based on 9/9/2015 Project Partner decision
16B	OC-11	OC-11	Outside FC	Dredging	Boundary revised based on 9/9/2015 Project Partner decision
17B	OC-12	OC-12	Outside FC	Dredging	Boundary revised and changed from no action in FFS to dredging based on 9/9/2015 Project Partner decision
17C	--	--	Outside FC	No Action	No action in FFS; removed from figures based on 9/9/2015 Project Partner decision
20	OC-13	OC-13	Outside FC	ENR	DMU changed from no action in FFS to ENR based on 9/9/2015 Project Partner decision
21	OC-14	OC-14	Outside FC	Dredging	
25A	--	--	Outside FC	No Action	No action in FFS; removed from figures based on 9/9/2015 Project Partner decision
25B	OC-15	OC-15	Outside FC	ENR	ENR (No dredging)
31B	OC-16	OC-16	Outside FC	Dredging	Boundary revised based on 9/9/2015 Project Partner decision

Table 2: Summary of Changes to Dredge Management Units
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

2015 FFS DMU ID	Revised DMU IDs based on 9/9/15 Project Partner Call	2018 Design DMU ID	Dredge Unit Location	Final Selected Remedial Action	Comments
Cummings Avenue Slip					
19A	--	--	Cummings Ave Slip	No Action	No action in FFS; removed from figures based on 9/9/2015 Project Partner decision
19E	CS-5	CS-5	Cummings Ave Slip	Dredging	
19B	CS-4	CS-4	Cummings Ave Slip	Dredging	Boundary revised based on 9/9/2015 Project Partner decision
19F	CS-3	CS-3	Cummings Ave Slip	Dredging	
19C	CS-2	CS-2	Cummings Ave Slip	Dredging	
19D	CS-1	CS-1	Cummings Ave Slip	Dredging	
Hughitt Avenue Slip					
26	HS-1	HS-1	Hughitt Ave Slip	Dredging	
27	HS-2	HS-2	Hughitt Ave Slip	Dredging	
28	--	--	Hughitt Ave Slip	No Action	No action in FFS; removed from figures based on 9/9/2015 Project Partner decision
29	HS-3	HS-3	Hughitt Ave Slip	Dredging	
Fraser Slip					
10	FS-2	FS-2	Fraser Slip	Dredging	
11	FS-1	FS-1	Fraser Slip	Dredging	

Notes:

CS = Cummings Avenue Slip
DMU = dredge management unit
ENR = enhanced natural recovery
FC = within Federal Channel and slopes
FFS = Focused Feasibility Study
FP = Frog Pond Dock
FS = Fraser Slip
HS = Hughitt Avenue Slip
OC = outside Federal Channel and slopes
SND = strategic navigation dredging

References:

Arcadis. 2015. Focused Feasibility Study for Sediment Cleanup in Howards Bay, Superior, WI. Prepared for the Great Lakes Legacy Act (GLLA) Howards Bay Focused Feasibility Study and Remedial Design Project on behalf of the Howards Bay Project Partners. June 2015.

Table 3: Estimated Top of Sediment and Top of Clay Elevations
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	RD Unit ID	Collection Date	Best Estimate of Sediment Surface Elevation (feet) ^{1,2}	Depth to Native Clay ³ (feet)	Native Clay Surface Elevation	Sediment Core Encountered Native Clay
HB13-03	FP-2	9/9/2013	585.5	3.8	581.7	X
HB13-06	OC-2	9/9/2013	581.9	4.0	577.9	X
HB13-09	OC-6	9/11/2013	581.2	0.0	581.2	X
HB13-10	Outside RD Units	9/10/2013	581.3	0.0	581.3	X
HB13-11A	FC-4	9/11/2013	575.6	4.1	571.5	X
HB13-12B	Outside RD Units	9/10/2013	596.2	0.5	595.7	X
HB13-13	Outside RD Units	9/11/2013	572.6	0.1	572.5	X
HB13-16A	Outside RD Units	9/12/2013	575.1	2.2	572.9	X
HB13-18	Outside RD Units	9/12/2013	577.8	0.8	576.9	X
HB13-22	FC-7	9/12/2013	576.7	2.0	574.7	X
HB13-23	Outside RD Units	9/12/2013	573.8	2.3	571.5	X
HB13-30	Outside RD Units	9/10/2013	577.1	5.0	572.1	X
HB13-31	FC-16	9/13/2013	573.8	2.3	571.6	X
HB13-32	FC-14	9/13/2013	573.4	2.2	571.2	X
HB13-34A	Outside RD Units	9/13/2013	567.9	0.0	567.9	X
HB13-35A	Outside RD Units	9/13/2013	569.8	0.3	569.5	X
HB13-36	HS-3	9/10/2013	573.6	0.0	573.6	X
HB13-39	HS-2	9/13/2013	585.4	2.3	583.1	X
HB13-42	CS-3	9/11/2013	586.7	2.8	583.9	X
HB13-44	HS-3	9/13/2013	570.2	0.0	570.2	X
HB13-46	Outside RD Units	9/11/2013	581.4	0.0	581.4	X
HB13-47A	FS-1	9/10/2013	590.8	2.6	588.2	X
HB10-1-11	Outside RD Units	10/16/2010	585.9	1.8	584.2	X
HB10-1-27	Outside RD Units	10/18/2010	574.8	0.0	574.8	X
HB10-1-29	CS-1	10/17/2010	592.7	7.0	585.7	X
HB10-1-31	OC-11	10/18/2010	576.3	3.0	573.3	X
HB10-2-34	FC-7	10/18/2010	573.7	0.5	573.2	X
HB10-2-38	OC-6	10/18/2010	583.3	3.2	580.1	X
HB14-02	FC-15	2014	572.24	14.0	558.2	X
HB14-04	Outside RD Units	2014	573.53	2.5	571.0	X
HB14-06	Outside RD Units	2014	571.53	2.0	569.5	X
HB14-07	Outside RD Units	2014	584.9	4.0	580.9	X
HB14-08	Outside RD Units	2014	583.75	2.0	581.8	X
HB14-12	Outside RD Units	2014	574.1	2.7	571.4	X
HB14-13	Outside RD Units	2014	572.5	0.3	572.3	X
HB15-01 ⁶	HS-1	2015	590.79	4.8	586.0	X
HB15-04 ⁶	HS-1	2015	583.49	4.9	578.6	X
HB15-09 ⁶	CS-3	2015	587.45	1.4	586.1	X
HB15-10	Outside RD Units	2015	599.92	1.0	598.9	X
HB15-16	FP-1	2015	590.33	1.0	589.3	X
HB15-20	OC-3	2015	581.98	2.0	580.0	X
HB15-23	FS-1	2015	590.84	3.9	586.9	X
HB15-24	Outside RD Units	2015	ND	0.0	ND	X
HB15-25 ⁶	OC-1	2015	586.49	6.5	580.0	X
HB15-26 ⁶	FC-2	2015	574	2.7	571.3	X
HB15-30	FC-7	2015	582.54	3.1	579.5	X
HB15-33	Outside RD Units	2015	581.35	1.8	579.5	X
HB15-35 ⁶	FC-16	2015	572.7	5.8	566.9	X
HB15-37	OC-9	2015	583.28	4.0	579.3	X
HB15-38	OC-9	2015	595.88	7.4	588.5	X

Notes:

X = core encountered dense native clay

1. Table only shows sediment cores that encountered native clay.
2. Elevations are provided in International Great Lakes Datum (IGLD) 1985.
3. For 2013 samples, data for staff gage located at the site are used (staff gage reading of 10.10 is equivalent to an elevation of 603.48 feet [IGLD 85]). For 2010 samples, data for NOAA staff gage at Duluth, MN are used.
4. Sediment surface elevation based on best estimate between staff gage readings/water depth in the following descending order of priority:
 - (a) Difference between measured surface water elevation and water depth.
 - (b) Elevations estimated based on bathymetric contours developed by Arcadis based on survey conducted by U.S. Army Corps of Engineers in the year of core collection.
5. Source for 2014-2015 data: 2014 Wisconsin Department of Natural Resources (WDNR) Field Report and 2015 Final Core Logs provided by WDNR.
6. Some clay present; presence of native clay not confirmed.

Table 4: Remedial Design Units and Estimated Quantities
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

RD Unit ID	Dredge Unit Location	95% Plans and Specifications				95% DDR/65% Plans and Specifications				65% DDR Plan						
		Neatline Cleanup Volume (cy)	Dredge Unit Footprint (sf)	Volume Percent Change	Area Percent Change	Neatline Cleanup Volume (cy)	Dredge Unit Footprint (sf)	Volume Percent Change	Area Percent Change	Initial Neatline Cleanup Volume (cy)	Initial Unit Footprint (sf)	Bottom elevation defined by:				
												MVS Model Results			1' Minimum Dredging	Level Cut
Base of Krige MEC Union Plume	Top of Clay	Lowest MEC Exceedance in Cores														
CS-1	Cummings Ave Slip	2,718	12,271	0%	0%	2,718	12,271	66%	-13%	1,641	14,156		X	X		
CS-2	Cummings Ave Slip	4,186	26,288	0%	0%	4,186	26,288	-25%	-8%	5,564	28,672			X		
CS-3	Cummings Ave Slip	1,189	16,068	0%	0%	1,189	16,068	-11%	-6%	1,332	17,025	X		X		
CS-4	Cummings Ave Slip	833	6,771	0%	0%	832	6,771	-5%	31%	873	5,182			X		
CS-5	Cummings Ave Slip	1,139	14,356	-5%	0%	1,197	14,356	-8%	12%	1,241	12,845			X		
FC-1	Federal Channel	1,203	10,479	0%	0%	1,203	10,479	-2%	0%	1,222	10,477					X
FC-2	Federal Channel	5,808	54,926	38%	1%	4,199	54,142	18%	11%	4,911	49,435					X
FC-3	Federal Channel	2,350	28,468	12%	0%	2,091	28,468	14%	18%	2,055	24,125					X
FC-4	Federal Channel	3,380	48,771	33%	1%	2,541	48,527	35%	15%	2,509	42,485					X
FC-5	Federal Channel	326	5,044	3%	0%	317	5,044	70%	-28%	191	7,049	X		X		
FC-6	Federal Channel	706	6,867	23%	0%	572	6,867	56%	95%	453	3,528			X		
FC-7	Federal Channel	No Action as determined during 10/25/16 meeting; may be reevaluated based on extent of SND dredging														
FC-8	Federal Channel	No Action as determined during 10/25/16 meeting														
FC-9	Federal Channel	63	2,529	--	--	No Action as determined during 10/25/16 meeting; partial dredging added based on June 2017 sampling data										
FC-10 (ENR)	Federal Channel	ENR (No dredging)														
FC-11 (ENR)	Federal Channel	No Action as determined during 10/25/16 meeting; may be reevaluated based on extent of SND dredging														
FC-12	Federal Channel	76	1,005	0%	-46%	76	1,861	5%	-91%	73	11,392	X				
FC-13	Federal Channel	367	4,207	0%	-35%	367	6,463	64%	-31%	223	6,096			X		
FC-14	Federal Channel	506	9,791	-2%	-2%	519	10,038	-5%	-37%	534	15,495	X	X		X	
FC-15	Federal Channel	1,266	22,873	0%	0%	1,266	22,877	-4%	0%	1,322	22,867	X	X	X		
FC-16	Federal Channel	1,783	15,532	-3%	-7%	1,836	16,636	11%	-1%	1,602	15,759	X	X	X		
FC-17	Federal Channel	128	3,655	-85%	-30%	864	5,252	22%	-42%	105	6,353	X		X		
FP-1	Outside FC	4,330	49,702	2%	0%	4,258	49,702	-6%	17%	4,604	42,628	X	X	X	X	
FP-2	Outside FC	3,816	56,080	11%	0%	3,438	56,080	-26%	-2%	5,163	57,328	X	X	X	X	
FS-1	Fraser Slip	1,421	12,498	2%	0%	1,396	12,498	-47%	-21%	2,693	15,724	X	X	X		
FS-2	Fraser Slip	2,241	16,413	17%	0%	1,909	16,413	-1%	-7%	2,254	17,592	X		X		
HS-1	Hughitt Ave Slip	8,995	52,065	9%	0%	8,229	52,066	-19%	-10%	11,159	57,589	X	X	X		
HS-2	Hughitt Ave Slip	1,921	29,765	0%	0%	1,919	29,765	-69%	-11%	6,145	33,459	X	X	X	X	
HS-3	Hughitt Ave Slip	1,213	23,761	2%	0%	1,185	23,761	-37%	-1%	1,920	23,962	X	X	X	X	
OC-1	Outside FC	2,960	17,607	26%	0%	2,349	17,607	26%	9%	2,348	16,100	X	X	X	X	
OC-2	Outside FC	2,405	25,477	-6%	0%	2,553	25,482	-32%	-9%	3,547	27,879	X	X	X	X	
OC-3	Outside FC	663	3,534	-21%	0%	837	3,534	-6%	6%	704	3,339	X		X	X	
OC-4	Outside FC	764	4,034	0%	0%	765	4,034	-25%	14%	1,023	3,547	X		X		
OC-5	Outside FC	686	10,296	-27%	5%	944	9,770	181%	-12%	245	11,659	X	X	X		
OC-6	Outside FC	832	13,238	-25%	-3%	1,106	13,692	-50%	-13%	1,659	15,148	X	X	X	X	
OC-7	Outside FC	274	4,666	-76%	-78%	1,145	20,937	-80%	-80%	1,394	23,115			X	X	
OC-8	Outside FC	241	3,831	-16%	-1%	286	3,884	-2%	-25%	246	5,120	X		X		
OC-9	Outside FC	1,582	22,748	-1%	0%	1,590	22,748	8%	12%	1,471	20,292	X		X		
OC-10 (ENR)	Outside FC	ENR (No dredging)														
OC-11	Outside FC	963	10,207	-2%	0%	978	10,207	-51%	-51%	1,983	20,832	X	X	X		
OC-12	Outside FC	314	5,344	-78%	-42%	1,400	9,261	-40%	45%	526	3,688	X		X		
OC-13 (ENR)	Outside FC	ENR (No dredging)														
OC-14	Outside FC	198	4,244	-1%	0%	199	4,244	-34%		298	7,972	X		X		
OC-15 (ENR)	Outside FC	ENR (No dredging)														
OC-16	Outside FC	714	8,481	-16%	-14%	849	9,825	-11%	13%	802	7,508	X		X	X	
OC-17	Outside FC	174	4,861	-5%	-2%	183	4,982	9%	13%	159	4,293			X	X	
SUBTOTAL		64,732	668,752	2%	-3%	63,488	692,899	-15%	-6%	76,193	711,713					
SND Overdepth		3,966	214,146			4,012	216,654			3,983	215,061					
ENV Overdepth		6,192	668,752			6,416	692,899			6,590	711,713					
TOTAL		74,889				73,916				86,765						

Notes:
 CS = Cummings Avenue Slip
 cy = cubic yards
 DUS = Defined Uniform Slope
 ENR = Enhanced Natural Recovery
 EoC = Elevation of Contamination
 FC = within Federal Channel and slopes
 FFS = Focused Feasibility Study
 fow = feet of water
 FP = Frog Pond Dock
 FS = Fraser Slip
 FC = within Federal Channel and slopes
 FFS = Focused Feasibility Study
 fow = feet of water
 FP = Frog Pond Dock
 FS = Fraser Slip
 HS = Hughitt Avenue Slip
 LC = Level Cut
 MEC = midpoint effect concentration
 OC = outside Federal Channel and slopes
 RD = Remedial Design
 sf = square feet
 SND = strategic navigation dredging
 TBD = to be determined
 TBT = tributyltin
 UT = Uniform Thickness

- This table presents the 95% DDR/65% Plans & Specifications estimated quantities as well as the 65% DDR EVS results and estimated quantities for comparison.
- Estimated dredging volumes are based on bathymetry data collected by USACE in 2013, 2014, and 2015. An order of precedence was set to use the most recent survey data available in a given location.
- Cleanup volumes include dredged material volume deeper than 27 fow + 1 ft overdepth (or 573.1 feet IGLD85) within the federal channel and material outside of the federal channel to be dredged as part of the cleanup project.
- SND overdepth volume calculation assumes an average of 0.5 ft of overdepth material would remain in the navigation channel following completion of the SND removal and would therefore be included in the total cleanup volume.
- ENV overdepth volume calculation assumes an average of 0.25 ft of overdepth material would be removed from all DMUs and would therefore be included in the total cleanup volume.
- The estimated EVS model volume is the highest of the following: 1) the bottom of the MEC union plume; 2) the interpolated clay surface; or 3) the interpolated surface of lowest MEC exceedances in cores.

Table 5a: Wisconsin Point Landfill Disposal Evaluation
 Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Benzo(a)anthracene			4.44			Benzo(a)pyrene			0.447			Benzo(b)fluoranthene			4.47			Acenaphthene			3590			Anthracene			17900			Chrysene			115		
<=Criteria (4.44 mg/kg)	>Criteria and <=5xCriteria	>5xCriteria	<=Criteria (0.447 mg/kg)	>Criteria and <=5xCriteria	>5xCriteria	<=Criteria (4.47 mg/kg)	>Criteria and <=5xCriteria	>5xCriteria	<=Criteria (3590 mg/kg)	>Criteria and <=5xCriteria	>5xCriteria	<=Criteria (17900 mg/kg)	>Criteria and <=5xCriteria	>5xCriteria	<=Criteria (115 mg/kg)	>Criteria and <=5xCriteria	>5xCriteria																		
CS-1					CS-1	CS-1			CS-1			CS-1			CS-1			CS-1			CS-1			CS-1			CS-1								
CS-2					CS-2	CS-2			CS-2			CS-2			CS-2			CS-2			CS-2			CS-2			CS-2								
CS-3					CS-3	CS-3			CS-3			CS-3			CS-3			CS-3			CS-3			CS-3			CS-3								
CS-4					CS-4	CS-4			CS-4			CS-4			CS-4			CS-4			CS-4			CS-4			CS-4								
CS-5					CS-5	CS-5			CS-5			CS-5			CS-5			CS-5			CS-5			CS-5			CS-5								
FC-1			FC-1			FC-1			FC-1			FC-1			FC-1			FC-1			FC-1			FC-1			FC-1								
FC-2			FC-2			FC-2			FC-2			FC-2			FC-2			FC-2			FC-2			FC-2			FC-2								
FC-3			FC-3			FC-3			FC-3			FC-3			FC-3			FC-3			FC-3			FC-3			FC-3								
FC-4			FC-4			FC-4			FC-4			FC-4			FC-4			FC-4			FC-4			FC-4			FC-4								
FC-5			FC-5			FC-5			FC-5			FC-5			FC-5			FC-5			FC-5			FC-5			FC-5								
FC-6			FC-6			FC-6			FC-6			FC-6			FC-6			FC-6			FC-6			FC-6			FC-6								
FC-9			FC-9			FC-9			FC-9			FC-9			FC-9			FC-9			FC-9			FC-9			FC-9								
FC-12/FC-13			FC-12/FC-13			FC-12/FC-13			FC-12/FC-13			FC-12/FC-13			FC-12/FC-13			FC-12/FC-13			FC-12/FC-13			FC-12/FC-13			FC-12/FC-13								
FC-14			FC-14			FC-14			FC-14			FC-14			FC-14			FC-14			FC-14			FC-14			FC-14								
FC-15			FC-15			FC-15			FC-15			FC-15			FC-15			FC-15			FC-15			FC-15			FC-15								
FC-16			FC-16			FC-16			FC-16			FC-16			FC-16			FC-16			FC-16			FC-16			FC-16								
FC-17			FC-17			FC-17			FC-17			FC-17			FC-17			FC-17			FC-17			FC-17			FC-17								
FP-1			FP-1			FP-1			FP-1			FP-1			FP-1			FP-1			FP-1			FP-1			FP-1								
FP-2				FP-2		FP-2			FP-2			FP-2			FP-2			FP-2			FP-2			FP-2			FP-2								
FS-1					FS-1	FS-1			FS-1			FS-1			FS-1			FS-1			FS-1			FS-1			FS-1								
FS-2					FS-2	FS-2			FS-2			FS-2			FS-2			FS-2			FS-2			FS-2			FS-2								
HS-1			HS-1			HS-1			HS-1			HS-1			HS-1			HS-1			HS-1			HS-1			HS-1								
HS-2			HS-2			HS-2			HS-2			HS-2			HS-2			HS-2			HS-2			HS-2			HS-2								
HS-3					HS-3	HS-3			HS-3			HS-3			HS-3			HS-3			HS-3			HS-3			HS-3								
OC-1			OC-1			OC-1			OC-1			OC-1			OC-1			OC-1			OC-1			OC-1			OC-1								
OC-2			OC-2			OC-2			OC-2			OC-2			OC-2			OC-2			OC-2			OC-2			OC-2								
OC-3			OC-3			OC-3			OC-3			OC-3			OC-3			OC-3			OC-3			OC-3			OC-3								
OC-4					OC-4	OC-4			OC-4			OC-4			OC-4			OC-4			OC-4			OC-4			OC-4								
OC-5			OC-5			OC-5			OC-5			OC-5			OC-5			OC-5			OC-5			OC-5			OC-5								
OC-6					OC-6	OC-6			OC-6			OC-6			OC-6			OC-6			OC-6			OC-6			OC-6								
OC-7			OC-7			OC-7			OC-7			OC-7			OC-7			OC-7			OC-7			OC-7			OC-7								
OC-8			OC-8			OC-8			OC-8			OC-8			OC-8			OC-8			OC-8			OC-8			OC-8								
OC-9			OC-9			OC-9			OC-9			OC-9			OC-9			OC-9			OC-9			OC-9			OC-9								
OC-11			OC-11			OC-11			OC-11			OC-11			OC-11			OC-11			OC-11			OC-11			OC-11								
OC-12			OC-12			OC-12			OC-12			OC-12			OC-12			OC-12			OC-12			OC-12			OC-12								
OC-14			OC-14			OC-14			OC-14			OC-14			OC-14			OC-14			OC-14			OC-14			OC-14								
OC-16			OC-16			OC-16			OC-16			OC-16			OC-16			OC-16			OC-16			OC-16			OC-16								
OC-17			OC-17			OC-17			OC-17			OC-17			OC-17			OC-17			OC-17			OC-17			OC-17								

- Notes:**
 COCs = contaminants of concern
 CS = Cummings Avenue Slip
 cy = cubic yards
 FC = within Federal Channel and slopes
 FP = Frog Pond Dock
 FS = Fraser Slip
 HS = Hughitt Avenue Slip
 OC = outside Federal Channel and slopes
1. Placement Criteria for Wisconsin Point Landfill from Site-Specific Residual Contamination Levels for Dredge Material Proposed for Placement at the Closed Wisconsin Point Landfill in Superior, Wisconsin. WDNR. April 19, 2017.
 2. Material from DMUs in which the arithmetic average value for each contaminant does not exceed the Placement Criteria values is acceptable for surface cover placement at the Wisconsin Point Landfill.
 3. Material from DMUs in which the average value of each contaminant does not exceed ten times the Placement Criteria values is acceptable for subsurface placement at the Wisconsin Point Landfill.
 4. Material from DMUs in which the average value of any contaminant exceeds ten times the Placement Criteria values is not acceptable for placement at the Wisconsin Point Landfill.
 5. The screening effort to identify volumes exceeding the criteria for placement of dredged material at the Wisconsin Point Landfill was conducted including only sediment sample intervals that lie within the DMU boundaries defined using the MVS model.
 6. PAH samples are forced to be an arbitrary number higher than their criterion (criterion+0.1) in the CS-5, FC-1, FC-14, FC-15, FC-16, FC-3, OC-3, OC-7, OC-12, and OC-16 units. For inorganics and Tributyltin in these units, only missing samples were forced.
 7. If there are field duplicates for one sample, the higher value was used in calculation.
 8. If an analyte is available for both "Semivolatile Organics" and "Alkylated PAHs", the higher value was used for calculation.

Fluoranthene 2390			Fluorene 2390			Naphthalene 5.52			Pyrene 1790			Thallium 3.04			1-Methylnaphthalene 17.6		
<=Criteria (2390 mg/kg)	>Criteria and <=5xCriteria	>5xCriteria	<=Criteria (2390 mg/kg)	>Criteria and <=5xCriteria	>5xCriteria	<=Criteria (5.52 mg/kg)	>Criteria and <=5xCriteria	>5xCriteria	<=Criteria (1790 mg/kg)	>Criteria and <=5xCriteria	>5xCriteria	<=Criteria (3.04 mg/kg)	>Criteria and <=5xCriteria	>5xCriteria	<=Criteria (17.6 mg/kg)	>Criteria and <=5xCriteria	>5xCriteria
CS-1			CS-1			CS-1			CS-1			CS-1			CS-1		
CS-2			CS-2			CS-2			CS-2			CS-2			CS-2		
CS-3			CS-3			CS-3			CS-3			CS-3			CS-3		
CS-4			CS-4			CS-4			CS-4			CS-4			CS-4		
CS-5			CS-5			CS-5			CS-5			CS-5			CS-5		
FC-1			FC-1			FC-1			FC-1			FC-1			FC-1		
FC-2			FC-2			FC-2			FC-2			FC-2			FC-2		
FC-3			FC-3			FC-3			FC-3			FC-3			FC-3		
FC-4			FC-4			FC-4			FC-4			FC-4			FC-4		
FC-5			FC-5			FC-5			FC-5			FC-5			FC-5		
FC-6			FC-6			FC-6			FC-6			FC-6			FC-6		
FC-9			OC-12	FC-9		FC-9			FC-9			FC-9			FC-9		
FC-12/FC-13			FC-12/FC-13			FC-12/FC-13			FC-12/FC-13			FC-12/FC-13			FC-12/FC-13		
FC-14			FC-14			FC-14			FC-14			FC-14			FC-14		
FC-15			FC-15			FC-15			FC-15			FC-15			FC-15		
FC-16			FC-16			FC-16			FC-16			FC-16			FC-16		
FC-17			FC-17			FC-17			FC-17			FC-17			FC-17		
FP-1			FP-1			FP-1			FP-1			FP-1			FP-1		
FP-2			FP-2			FP-2			FP-2			FP-2			FP-2		
FS-1			FS-1			FS-1			FS-1			FS-1			FS-1		
FS-2			FS-2			FS-2			FS-2			FS-2			FS-2		
HS-1			HS-1			HS-1			HS-1			HS-1			HS-1		
HS-2			HS-2			HS-2			HS-2			HS-2			HS-2		
HS-3			HS-3			HS-3			HS-3			HS-3			HS-3		
OC-1			OC-1			OC-1			OC-1			OC-1			OC-1		
OC-2			OC-2			OC-2			OC-2			OC-2			OC-2		
OC-3			OC-3			OC-3			OC-3			OC-3			OC-3		
OC-4			OC-4			OC-4			OC-4			OC-4			OC-4		
OC-5			OC-5			OC-5			OC-5			OC-5			OC-5		
OC-6			OC-6			OC-6			OC-6			OC-6			OC-6		
OC-7			OC-7			OC-7			OC-7			OC-7			OC-7		
OC-8			OC-8			OC-8			OC-8			OC-8			OC-8		
OC-9			OC-9			OC-9			OC-9			OC-9			OC-9		
OC-11			OC-11			OC-11			OC-11			OC-11			OC-11		
OC-12			OC-12			OC-12			OC-12			OC-12			OC-12		
OC-14			OC-14			OC-14			OC-14			OC-14			OC-14		
OC-16			OC-16			OC-16			OC-16			OC-16			OC-16		
OC-17			OC-17			OC-17			OC-17			OC-17			OC-17		

Methylnaphthale 239			Benzo(k)fluoranthene 11.5			Indeno(1,2,3-cd)pyrene 4.47			Lead 400			Mercury 3.13			Tributyltin 73.7		
<=Criteria (239 mg/kg)	>Criteria and <=5xCriteria	>5xCriteria	<=Criteria (11.5 mg/kg)	>Criteria and <=5xCriteria	>5xCriteria	<=Criteria (4.47 mg/kg)	>Criteria and <=5xCriteria	>5xCriteria	<=Criteria (400 mg/kg)	>Criteria and <=5xCriteria	>5xCriteria	<=Criteria (3.13 mg/kg)	>Criteria and <=5xCriteria	>5xCriteria	<=Criteria (73.7 mg/kg)	>Criteria and <=5xCriteria	>5xCriteria
CS-1			CS-1			CS-1			CS-1			CS-1			CS-1		
CS-2			CS-2			CS-2			CS-2			CS-2			CS-2		
CS-3			CS-3			CS-3			CS-3			CS-3			CS-3		
CS-4			CS-4			CS-4			CS-4			CS-4			CS-4		
CS-5			CS-5			CS-5			CS-5			CS-5			CS-5		
FC-1			FC-1			FC-1			FC-1			FC-1			FC-1		
FC-2			FC-2			FC-2			FC-2			FC-2			FC-2		
FC-3			FC-3			FC-3			FC-3			FC-3			FC-3		
FC-4			FC-4			FC-4			FC-4			FC-4			FC-4		
FC-5			FC-5			FC-5			FC-5			FC-5			FC-5		
FC-6			FC-6			FC-6			FC-6			FC-6			FC-6		
FC-9			FC-9			FC-9			FC-9			FC-9			FC-9		
FC-12/FC-13			FC-12/FC-13			FC-12/FC-13			FC-12/FC-13			FC-12/FC-13			FC-12/FC-13		
FC-14			FC-14			FC-14			FC-14			FC-14			FC-14		
FC-15			FC-15			FC-15			FC-15			FC-15			FC-15		
FC-16			FC-16			FC-16			FC-16			FC-16			FC-16		
FC-17			FC-17			FC-17			FC-17			FC-17			FC-17		
FP-1			FP-1			FP-1			FP-1			FP-1			FP-1		
FP-2			FP-2			FP-2			FP-2			FP-2			FP-2		
FS-1			FS-1			FS-1			FS-1			FS-1			FS-1		
FS-2			FS-2			FS-2			FS-2			FS-2			FS-2		
HS-1			HS-1			HS-1			HS-1			HS-1			HS-1		
HS-2			HS-2			HS-2			HS-2			HS-2			HS-2		
HS-3			HS-3			HS-3			HS-3			HS-3			HS-3		
OC-1			OC-1			OC-1			OC-1			OC-1		HS-3	OC-1		
OC-2			OC-2			OC-2			OC-2			OC-2			OC-2		
OC-3			OC-3			OC-3			OC-3			OC-3			OC-3		
OC-4			OC-4			OC-4			OC-4			OC-4			OC-4		
OC-5			OC-5			OC-5			OC-5			OC-5			OC-5		
OC-6			OC-6			OC-6			OC-6			OC-6			OC-6		
OC-7			OC-7			OC-7			OC-7			OC-7			OC-7		
OC-8			OC-8			OC-8			OC-8			OC-8			OC-8		
OC-9			OC-9			OC-9			OC-9			OC-9			OC-9		
OC-11			OC-11			OC-11			OC-11			OC-11			OC-11		
OC-12			OC-12			OC-12			OC-12			OC-12			OC-12		
OC-14			OC-14			OC-14			OC-14			OC-14			OC-14		
OC-16			OC-16			OC-16			OC-16			OC-16			OC-16		
OC-17			OC-17			OC-17			OC-17			OC-17			OC-17		

All COCs			Volume (cy)		
<=Criteria	>Criteria and <=5xCriteria	>5xCriteria	<=Criteria	>Criteria and <=5xCriteria	>5xCriteria
		CS-1			2718
		CS-2			4186
	CS-3			1189	
	CS-4			833	
	CS-5			1139	
FC-1			1203		
FC-2			5808		
FC-3			2350		
FC-4			3380		
FC-5			326		
FC-6			706		
FC-9			63		
FC-12/FC-13			443		
FC-14			506		
FC-15			1266		
FC-16			1783		
FC-17			128		
FP-1			4330		
	FP-2			3816	
	FS-1				1421
	FS-2			2241	
HS-1			8995		
HS-2			1921		
	HS-3			1213	
OC-1			2960		
OC-2			2405		
OC-3			663		
OC-5	OC-4			764	
	OC-6			832	
OC-7			274		
OC-8			241		
OC-9			1582		
OC-11			963		
OC-12			314		
OC-14			198		
OC-16			714		
OC-17			174		
			44,379	12,028	8,325

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB2A_4	0 - 6	5/12/2007	Hughitt Ave Slip	NA	NA	Perylene	HS-1	0	6	48.00432			Yes	Include
HB2A_4	6 - 24	5/12/2007	Hughitt Ave Slip	NA	NA	Perylene	HS-1	6	24	48.00432			Yes	Include
HB2A_4	24 - 48	5/12/2007	Hughitt Ave Slip	NA	NA	Perylene	HS-1	24	48	48.00432			Yes	Include
HB2A_6	0 - 5	5/2/2007	Area 1	0.35	0.35	Perylene		0	5					Exclude
HB2A_7	0 - 5	5/10/2007	Area 1	0.17	0.17	Perylene	SND-1	0	5					Exclude
HB2A_8	0 - 5	5/10/2007	Area 1	0.11	0.11	Perylene	FC-12/FC-13	0	5	4.9944804	79.824	exclude	Yes	Exclude
HB2A_11	0 - 5	5/10/2007	Area 1	0.26 J-	0.26	Perylene		0	5					Exclude
HB2A_13	0 - 5	5/2/2007	Area 1	0.19	0.19	Perylene		0	5					Exclude
HB2A_16	0 - 5	5/2/2007	Area 1	0.11 J-	0.11	Perylene		0	5					Exclude
HB2A_210	0 - 6	5/16/2007	Area 1	NA	NA	Perylene		0	6					Exclude
HB2A_210	6 - 24	5/16/2007	Area 1	NA	NA	Perylene		6	24					Exclude
HB2A_210	24 - 48	5/16/2007	Area 1	NA	NA	Perylene		24	48					Exclude
HB2A_GENES	0 - 5	5/22/2007	Cummings Ave Slip	0.12	0.12	Perylene		0	5					Exclude
HB2B_17	0 - 6	5/12/2007	Fraser Ave Slip	NA	NA	Perylene	FS-2	0	6	24.005676			Yes	Include
HB2B_17	6 - 24	5/12/2007	Fraser Ave Slip	NA	NA	Perylene	FS-2	6	24	24.005676			Yes	Include
HB2B_18	0 - 6	5/7/2007	Area 2	NA	NA	Perylene	FP-1	0	6	47.997552			Yes	Include
HB2B_18	6 - 24	5/7/2007	Area 2	NA	NA	Perylene	FP-1	6	24	47.997552			Yes	Include
HB2B_18	24 - 48	5/7/2007	Area 2	NA	NA	Perylene	FP-1	24	48	47.997552			Yes	Include
HB2B_19	0 - 6	5/2/2007	Area 2	NA	NA	Perylene	OC-1	0	6	6.001728			Yes	Include
HB2B_19	6 - 24	5/2/2007	Area 2	NA	NA	Perylene	OC-1	6	24	6.001728			Yes	Include
HB2B_20	0 - 6	5/2/2007	Area 2	NA	NA	Perylene	OC-9	0	6	23.997336			Yes	Include
HB2B_20	6 - 24	5/2/2007	Area 2	NA	NA	Perylene	OC-9	6	24	23.997336			Yes	Include
HB2B_20	24 - 48	5/2/2007	Area 2	NA	NA	Perylene	OC-9	24	48	23.997336			No	Exclude
HB2B_21	0 - 5	5/2/2007	Area 2	0.081	0.081	Perylene		0	5					Exclude
HB2B_22	0 - 5	5/2/2007	Area 2	0.23	0.23	Perylene	OC-5	0	5	5.0028204			Yes	Include
HB3A_GENES	0 - 5	9/6/2007	Cummings Ave Slip	0.026	0.026	Perylene		0	5					Exclude
HB10-1-01	0 - 6	10/16/2010	Area 1	NA	NA	Perylene		0	6					Exclude
HB10-1-01	0 - 12	10/16/2010	Area 1	NA	NA	Perylene		0	12					Exclude
HB10-1-01	36 - 40	10/16/2010	Area 1	NA	NA	Perylene		36	40					Exclude
HB10-1-02	0 - 6	10/16/2010	Area 1	NA	NA	Perylene		0	6	23.0027508			Yes	Include
HB10-1-02	12 - 23	10/16/2010	Area 1	NA	NA	Perylene		12	23	23.0027508			Yes	Include
HB10-1-03	0 - 6	10/16/2010	Area 1	NA	NA	Perylene	FC-17	0	6	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	0 - 12	10/16/2010	Area 1	NA	NA	Perylene	FC-17	0	12	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	12 - 36	10/16/2010	Area 1	NA	NA	Perylene	FC-17	12	36	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	36 - 60	10/16/2010	Area 1	NA	NA	Perylene	FC-17	36	60	59.99475	49.872	include	Yes	Include
HB10-1-03	60 - 84	10/16/2010	Area 1	NA	NA	Perylene	FC-17	60	84	59.99475	49.872	include	No	Exclude
HB10-1-04	0 - 6	10/17/2010	Area 1	0.07	0.07	Perylene		0	6					Exclude
HB10-1-04	0 - 12	10/17/2010	Area 1	NA	NA	Perylene		0	12					Exclude
HB10-1-04	12 - 36	10/17/2010	Area 1	NA	NA	Perylene		12	36					Exclude
HB10-1-04	36 - 50	10/17/2010	Area 1	NA	NA	Perylene		36	50					Exclude
HB10-1-05	0 - 6	10/16/2010	Area 1	0.12 U	0.12	Perylene	OC-17	0	6	5.9987496			Yes	Include
HB10-1-07	0 - 6	10/17/2010	Area 1	0.48	0.48	Perylene	OC-15	0	6	6.0057			Yes	Include
HB10-1-07	0 - 12	10/17/2010	Area 1	NA	NA	Perylene	OC-15	0	12	6.0057			Yes	Include
HB10-1-07	12 - 36	10/17/2010	Area 1	NA	NA	Perylene	OC-15	12	36	6.0057			No	Exclude
HB10-1-07	60 - 64	10/17/2010	Area 1	NA	NA	Perylene	OC-15	60	64	6.0057			No	Exclude
HB10-1-08	0 - 6	10/17/2010	Area 1	0.11	0.11	Perylene		0	6	36.0057			Yes	Include
HB10-1-08	0 - 12	10/17/2010	Area 1	NA	NA	Perylene		0	12	36.0057			Yes	Include
HB10-1-08	12 - 36	10/17/2010	Area 1	NA	NA	Perylene		12	36	36.0057			Yes	Include
HB10-1-10	0 - 6	10/18/2010	Area 1	0.24	0.24	Perylene	SND-1	0	6					Exclude
HB10-1-11	0 - 6	10/16/2010	Area 1	0.066 J	0.066	Perylene		0	6	20.9987496			Yes	Include
HB10-1-11	12 - 21	10/16/2010	Area 1	NA	NA	Perylene		12	21	20.9987496			Yes	Include
HB10-1-12	0 - 6	10/17/2010	Area 1	0.11	0.11	Perylene		0	6					Exclude
HB10-1-12	0 - 12	10/17/2010	Area 1	NA	NA	Perylene		0	12					Exclude
HB10-1-12	12 - 34	10/17/2010	Area 1	NA	NA	Perylene		12	34					Exclude
HB10-1-13	0 - 6	10/18/2010	Area 1	0.12	0.12	Perylene	FC-12/FC-13	0	6	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	0 - 12	10/18/2010	Area 1	NA	NA	Perylene	FC-12/FC-13	0	12	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	12 - 36	10/18/2010	Area 1	NA	NA	Perylene	FC-12/FC-13	12	36	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	60 - 67	10/18/2010	Area 1	NA	NA	Perylene	FC-12/FC-13	60	67	36.0053004	42.816	include	No	Exclude
HB10-1-14	0 - 6	10/17/2010	Area 1	0.14	0.14	Perylene		0	6	66.0057			Yes	Include
HB10-1-14	0 - 12	10/17/2010	Area 1	NA	NA	Perylene		0	12	66.0057			Yes	Include
HB10-1-14	12 - 36	10/17/2010	Area 1	NA	NA	Perylene		12	36	66.0057			Yes	Include
HB10-1-14	60 - 66	10/17/2010	Area 1	NA	NA	Perylene		60	66	66.0057			Yes	Include
HB10-1-15	0 - 6	10/18/2010	Area 1	0.0056	0.0056	Perylene	OC-13	0	6	16.0056996			Yes	Include
HB10-1-15	12 - 16	10/18/2010	Area 1	NA	NA	Perylene	OC-13	12	16	16.0056996			Yes	Include
HB10-1-16	0 - 6	10/17/2010	Hughitt Ave Slip	0.12	0.12	Perylene	HS-3	0	6	31.0056996			Yes	Include
HB10-1-16	0 - 12	10/17/2010	Hughitt Ave Slip	0.34 U	0.34	Perylene	HS-3	0	12	31.0056996			Yes	Include
HB10-1-16	12 - 31	10/17/2010	Hughitt Ave Slip	0.2	0.2	Perylene	HS-3	12	31	31.0056996			Yes	Include
HB10-1-17	0 - 6	10/17/2010	Area 1	0.086	0.086	Perylene	OC-14	0	6	12			Yes	Include
HB10-1-20	0 - 6	10/17/2010	Hughitt Ave Slip	0.28	0.28	Perylene		0	6	6.0057			Yes	Include
HB10-1-21	0 - 6	10/18/2010	Cummings Ave Slip	0.036 J	0.036	Perylene		0	6	6.0012996			Yes	Include
HB10-1-21	12 - 23	10/18/2010	Cummings Ave Slip	0.10 J	0.1	Perylene		12	23	6.0012996			No	Exclude
HB10-1-23	0 - 6	10/17/2010	Area 1	NA	NA	Perylene		0	6	36.0057			Yes	Include
HB10-1-23	0 - 12	10/17/2010	Area 1	NA	NA	Perylene		0	12	36.0057			Yes	Include
HB10-1-23	12 - 36	10/17/2010	Area 1	NA	NA	Perylene		12	36	36.0057			Yes	Include
HB10-1-24	0 - 6	10/18/2010	Cummings Ave Slip	0.064 J	0.064	Perylene	CS-4	0	6	36.0047496			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB10-1-24	0 - 12	10/18/2010	Cummings Ave Slip	0.13	0.13	Perylene	CS-4	0	12	36.0047496			Yes	Include
HB10-1-24	12 - 36	10/18/2010	Cummings Ave Slip	0.23 U	0.23	Perylene	CS-4	12	36	36.0047496			Yes	Include
HB10-1-25	0 - 6	10/17/2010	Baxter Ave Embayment	NA	NA	Perylene		0	6	6.0057			Yes	Include
HB10-1-27	0 - 6	10/18/2010	Area 1	NA	NA	Perylene		0	6	-0.0027			No	Exclude
HB10-1-28	0 - 6	10/17/2010	Hughitt Ave Slip	NA	NA	Perylene	HS-1	0	6	84.0057			Yes	Include
HB10-1-28	0 - 12	10/17/2010	Hughitt Ave Slip	NA	NA	Perylene	HS-1	0	12	84.0057			Yes	Include
HB10-1-28	12 - 36	10/17/2010	Hughitt Ave Slip	NA	NA	Perylene	HS-1	12	36	84.0057			Yes	Include
HB10-1-28	36 - 60	10/17/2010	Hughitt Ave Slip	NA	NA	Perylene	HS-1	36	60	84.0057			Yes	Include
HB10-1-28	60 - 84	10/17/2010	Hughitt Ave Slip	NA	NA	Perylene	HS-1	60	84	84.0057			Yes	Include
HB10-1-28	60 - 96	10/17/2010	Hughitt Ave Slip	NA	NA	Perylene	HS-1	60	96	84.0057			Yes	Include
HB10-1-29	0 - 6	10/17/2010	Cummings Ave Slip	0.11	0.11	Perylene	CS-1	0	6	83.9937			Yes	Include
HB10-1-29	0 - 12	10/17/2010	Cummings Ave Slip	0.3	0.3	Perylene	CS-1	0	12	83.9937			Yes	Include
HB10-1-29	12 - 36	10/17/2010	Cummings Ave Slip	1.8 U	1.8	Perylene	CS-1	12	36	83.9937			Yes	Include
HB10-1-29	36 - 60	10/17/2010	Cummings Ave Slip	0.55	0.55	Perylene	CS-1	36	60	83.9937			Yes	Include
HB10-1-29	60 - 93	10/17/2010	Cummings Ave Slip	0.66	0.66	Perylene	CS-1	60	93	83.9937			Yes	Include
HB10-1-30	0 - 6	10/18/2010	Baxter Ave Embayment	NA	NA	Perylene		0	6	60.0053004			Yes	Include
HB10-1-30	0 - 12	10/18/2010	Baxter Ave Embayment	NA	NA	Perylene		0	12	60.0053004			Yes	Include
HB10-1-30	12 - 36	10/18/2010	Baxter Ave Embayment	NA	NA	Perylene		12	36	60.0053004			Yes	Include
HB10-1-30	36 - 60	10/18/2010	Baxter Ave Embayment	NA	NA	Perylene		36	60	60.0053004			Yes	Include
HB10-1-30	60 - 77	10/18/2010	Baxter Ave Embayment	NA	NA	Perylene		60	77	60.0053004			Yes	Include
HB10-1-31	0 - 6	10/18/2010	Baxter Ave Embayment	NA	NA	Perylene	OC-11	0	6	35.9973			Yes	Include
HB10-1-31	0 - 12	10/18/2010	Baxter Ave Embayment	NA	NA	Perylene	OC-11	0	12	35.9973			Yes	Include
HB10-1-31	12 - 36	10/18/2010	Baxter Ave Embayment	NA	NA	Perylene	OC-11	12	36	35.9973			Yes	Include
HB10-2-18	0 - 6	10/18/2010	Area 2	NA	NA	Perylene	OC-2	0	6	6.0053004			Yes	Include
HB10-2-26	0 - 6	10/16/2010	Area 2	0.014	0.014	Perylene		0	6					Exclude
HB10-2-26	12 - 17	10/16/2010	Area 2	NA	NA	Perylene		12	17					Exclude
HB10-2-32	0 - 6	10/18/2010	Area 2	NA	NA	Perylene		0	6					Exclude
HB10-2-33	0 - 6	10/18/2010	Area 2	0.028	0.028	Perylene		0	6	6.0012996			Yes	Include
HB10-2-33	12 - 22	10/18/2010	Area 2	NA	NA	Perylene		12	22	6.0012996			No	Exclude
HB10-2-34	0 - 6	10/18/2010	Area 2	NA	NA	Perylene	FC-7	0	6	6.0053004	0.816	include	Yes	Include
HB10-2-35	0 - 6	10/18/2010	Area 2	0.035	0.035	Perylene		0	6	30.0012996			Yes	Include
HB10-2-35	0 - 12	10/18/2010	Area 2	NA	NA	Perylene		0	12	30.0012996			Yes	Include
HB10-2-35	12 - 30	10/18/2010	Area 2	NA	NA	Perylene		12	30	30.0012996			Yes	Include
HB10-2-36	0 - 6	10/18/2010	Area 2	NA	NA	Perylene	FC-5	0	6	6.0053004	-29.184	include	Yes	Include
HB10-2-37	0 - 6	10/18/2010	Area 2	0.21 U	0.21	Perylene		0	6	23.0013			Yes	Include
HB10-2-37	12 - 23	10/18/2010	Area 2	NA	NA	Perylene		12	23	23.0013			Yes	Include
HB10-2-38	0 - 6	10/18/2010	Area 2	NA	NA	Perylene	OC-6	0	6	38.0013			Yes	Include
HB10-2-38	0 - 12	10/18/2010	Area 2	NA	NA	Perylene	OC-6	0	12	38.0013			Yes	Include
HB10-2-38	36 - 38	10/18/2010	Area 2	NA	NA	Perylene	OC-6	36	38	38.0013			Yes	Include
HB10-2-39	0 - 6	10/18/2010	Area 2	0.039 J	0.039	Perylene		0	6	6.0012996			Yes	Include
HB10-2-39	0 - 12	10/18/2010	Area 2	NA	NA	Perylene		0	12	6.0012996			Yes	Include
HB10-2-39	12 - 28	10/18/2010	Area 2	NA	NA	Perylene		12	28	6.0012996			No	Exclude
HB10-2-40	0 - 6	10/18/2010	Area 2	0.15 U	0.15	Perylene	OC-5	0	6	48.0053004			Yes	Include
HB10-2-40	0 - 12	10/18/2010	Area 2	NA	NA	Perylene	OC-5	0	12	48.0053004			Yes	Include
HB10-2-40	12 - 36	10/18/2010	Area 2	NA	NA	Perylene	OC-5	12	36	48.0053004			Yes	Include
HB10-2-40	36 - 48	10/18/2010	Area 2	NA	NA	Perylene	OC-5	36	48	48.0053004			Yes	Include
HB10-2-41	0 - 6	10/18/2010	Area 2	0.39	0.39	Perylene	FP-2	0	6	31.0012992			Yes	Include
HB10-2-41	0 - 12	10/18/2010	Area 2	NA	NA	Perylene	FP-2	0	12	31.0012992			Yes	Include
HB10-2-41	12 - 31	10/18/2010	Area 2	NA	NA	Perylene	FP-2	12	31	31.0012992			Yes	Include
HB10-2-42	0 - 6	10/18/2010	Area 2	0.075	0.075	Perylene	FP-1	0	6	12.0012996			Yes	Include
HB10-2-42	0 - 12	10/18/2010	Area 2	NA	NA	Perylene	FP-1	0	12	12.0012996			Yes	Include
HB10-2-42	12 - 30	10/18/2010	Area 2	NA	NA	Perylene	FP-1	12	30	12.0012996			Yes	Include
HB10-2-43	0 - 6	10/17/2010	Area 2	0.012	0.012	Perylene		0	6	22.0056996			Yes	Include
HB10-2-43	12 - 22	10/17/2010	Area 2	NA	NA	Perylene		12	22	22.0056996			Yes	Include
HB10-2-44	0 - 6	10/18/2010	Area 2	NA	NA	Perylene	FP-2	0	6	16.0012992			Yes	Include
HB10-2-44	12 - 16	10/18/2010	Area 2	NA	NA	Perylene	FP-2	12	16	16.0012992			Yes	Include
HB10-2-45	0 - 6	10/18/2010	Area 2	NA	NA	Perylene	FP-2	0	6	19.0012992			Yes	Include
HB10-2-45	12 - 19	10/18/2010	Area 2	NA	NA	Perylene	FP-2	12	19	19.0012992			Yes	Include
HB13-01	0 - 6 *	9/11/2013	Area 2	NA	NA	Perylene	FP-1	0	6	48			Yes	Include
HB13-01	6 - 12 *	9/11/2013	Area 2	NA	NA	Perylene	FP-1	6	12	48			Yes	Include
HB13-01	12 - 18 *	9/11/2013	Area 2	NA	NA	Perylene	FP-1	12	18	48			Yes	Include
HB13-01	18 - 24 *	9/11/2013	Area 2	NA	NA	Perylene	FP-1	18	24	48			Yes	Include
HB13-01	24 - 30 *	9/11/2013	Area 2	NA	NA	Perylene	FP-1	24	30	48			Yes	Include
HB13-01	30 - 36 *	9/11/2013	Area 2	NA	NA	Perylene	FP-1	30	36	48			Yes	Include
HB13-01	36 - 42 *	9/11/2013	Area 2	NA	NA	Perylene	FP-1	36	42	48			Yes	Include
HB13-01	42 - 48 *	9/11/2013	Area 2	NA	NA	Perylene	FP-1	42	48	48			Yes	Include
HB13-01	48 - 54 *	9/11/2013	Area 2	NA	NA	Perylene	FP-1	48	54	48			No	Exclude
HB13-01	54 - 60 *	9/11/2013	Area 2	NA	NA	Perylene	FP-1	54	60	48			No	Exclude
HB13-01	60 - 66 *	9/11/2013	Area 2	NA	NA	Perylene	FP-1	60	66	48			No	Exclude
HB13-01	66 - 72 *	9/11/2013	Area 2	NA	NA	Perylene	FP-1	66	72	48			No	Exclude
HB13-01	72 - 74 *	9/11/2013	Area 2	NA	NA	Perylene	FP-1	72	74	48			No	Exclude
HB13-02	0 - 6 *	9/9/2013	Area 2	NA	NA	Perylene		0	6	29.9960004			Yes	Include
HB13-02	6 - 12 *	9/9/2013	Area 2	NA	NA	Perylene		6	12	29.9960004			Yes	Include
HB13-02	12 - 18 *	9/9/2013	Area 2	NA	NA	Perylene		12	18	29.9960004			Yes	Include
HB13-02	18 - 24 *	9/9/2013	Area 2	NA	NA	Perylene		18	24	29.9960004			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-02	24 - 30 *	9/9/2013	Area 2	NA	NA	Perylene		24	30	29.9960004			Yes	Include
HB13-02	30 - 36 *	9/9/2013	Area 2	NA	NA	Perylene		30	36	29.9960004			No	Exclude
HB13-02	36 - 42 *	9/9/2013	Area 2	NA	NA	Perylene		36	42	29.9960004			No	Exclude
HB13-02	42 - 48 *	9/9/2013	Area 2	NA	NA	Perylene		42	48	29.9960004			No	Exclude
HB13-03	0 - 6 *	9/9/2013	Area 2	NA	NA	Perylene	FP-2	0	6	46.0040004			Yes	Include
HB13-03	0 - 24	9/9/2013	Area 2	NA	NA	Perylene	FP-2	0	24	46.0040004			Yes	Include
HB13-03	6 - 12 *	9/9/2013	Area 2	NA	NA	Perylene	FP-2	6	12	46.0040004			Yes	Include
HB13-03	12 - 18 *	9/9/2013	Area 2	NA	NA	Perylene	FP-2	12	18	46.0040004			Yes	Include
HB13-03	18 - 24 *	9/9/2013	Area 2	NA	NA	Perylene	FP-2	18	24	46.0040004			Yes	Include
HB13-03	24 - 30 *	9/9/2013	Area 2	NA	NA	Perylene	FP-2	24	30	46.0040004			Yes	Include
HB13-03	24 - 46	9/9/2013	Area 2	NA	NA	Perylene	FP-2	24	46	46.0040004			Yes	Include
HB13-03	30 - 36 *	9/9/2013	Area 2	NA	NA	Perylene	FP-2	30	36	46.0040004			Yes	Include
HB13-03	36 - 42 *	9/9/2013	Area 2	NA	NA	Perylene	FP-2	36	42	46.0040004			Yes	Include
HB13-03	42 - 46 *	9/9/2013	Area 2	NA	NA	Perylene	FP-2	42	46	46.0040004			Yes	Include
HB13-03	46 - 51 *	9/9/2013	Area 2	NA	NA	Perylene	FP-2	46	51	46.0040004			Yes	Include
HB13-04	0 - 6 *	9/9/2013	Area 2	NA	NA	Perylene	OC-1	0	6	41.9960004			Yes	Include
HB13-04	6 - 12 *	9/9/2013	Area 2	NA	NA	Perylene	OC-1	6	12	41.9960004			Yes	Include
HB13-04	12 - 18 *	9/9/2013	Area 2	NA	NA	Perylene	OC-1	12	18	41.9960004			Yes	Include
HB13-04	18 - 24 *	9/9/2013	Area 2	NA	NA	Perylene	OC-1	18	24	41.9960004			Yes	Include
HB13-04	24 - 30 *	9/9/2013	Area 2	NA	NA	Perylene	OC-1	24	30	41.9960004			Yes	Include
HB13-04	30 - 36 *	9/9/2013	Area 2	NA	NA	Perylene	OC-1	30	36	41.9960004			Yes	Include
HB13-04	36 - 42 *	9/9/2013	Area 2	NA	NA	Perylene	OC-1	36	42	41.9960004			Yes	Include
HB13-04	42 - 44 *	9/9/2013	Area 2	NA	NA	Perylene	OC-1	42	44	41.9960004			No	Exclude
HB13-05	0 - 32 *	9/9/2013	Area 2	NA	NA	Perylene	FC-1	0	32	43.8	33.156	exclude	Yes	Exclude
HB13-05	32 - 38 *	9/9/2013	Area 2	NA	NA	Perylene	FC-1	32	38	43.8	33.156	include	Yes	Include
HB13-05	38 - 44 *	9/9/2013	Area 2	NA	NA	Perylene	FC-1	38	44	43.8	33.156	include	Yes	Include
HB13-05	44 - 50 *	9/9/2013	Area 2	NA	NA	Perylene	FC-1	44	50	43.8	33.156	include	No	Exclude
HB13-05	50 - 56 *	9/9/2013	Area 2	NA	NA	Perylene	FC-1	50	56	43.8	33.156	include	No	Exclude
HB13-05	56 - 62	9/9/2013	Area 2	NA	NA	Perylene	FC-1	56	62	43.8	33.156	include	No	Exclude
HB13-05	62 - 66	9/9/2013	Area 2	NA	NA	Perylene	FC-1	62	66	43.8	33.156	include	No	Exclude
HB13-05	68 - 74 *	9/9/2013	Area 2	NA	NA	Perylene	FC-1	68	74	43.8	33.156	include	No	Exclude
HB13-05	74 - 77 *	9/9/2013	Area 2	NA	NA	Perylene	FC-1	74	77	43.8	33.156	include	No	Exclude
HB13-06	0 - 6 *	9/9/2013	Area 2	NA	NA	Perylene	OC-2	0	6	48			Yes	Include
HB13-06	6 - 12 *	9/9/2013	Area 2	NA	NA	Perylene	OC-2	6	12	48			Yes	Include
HB13-06	12 - 18 *	9/9/2013	Area 2	NA	NA	Perylene	OC-2	12	18	48			Yes	Include
HB13-06	18 - 24 *	9/9/2013	Area 2	NA	NA	Perylene	OC-2	18	24	48			Yes	Include
HB13-06	24 - 30 *	9/9/2013	Area 2	NA	NA	Perylene	OC-2	24	30	48			Yes	Include
HB13-06	30 - 36 *	9/9/2013	Area 2	NA	NA	Perylene	OC-2	30	36	48			Yes	Include
HB13-06	36 - 42 *	9/9/2013	Area 2	NA	NA	Perylene	OC-2	36	42	48			Yes	Include
HB13-06	42 - 48 *	9/9/2013	Area 2	NA	NA	Perylene	OC-2	42	48	48			Yes	Include
HB13-07	0 - 6 *	9/10/2013	Area 2	NA	NA	Perylene		0	6					Exclude
HB13-07	6 - 12 *	9/10/2013	Area 2	NA	NA	Perylene		6	12					Exclude
HB13-07	12 - 18 *	9/10/2013	Area 2	NA	NA	Perylene		12	18					Exclude
HB13-07	18 - 24 *	9/10/2013	Area 2	NA	NA	Perylene		18	24					Exclude
HB13-07	24 - 30 *	9/10/2013	Area 2	NA	NA	Perylene		24	30					Exclude
HB13-07	30 - 36 *	9/10/2013	Area 2	NA	NA	Perylene		30	36					Exclude
HB13-07	36 - 42 *	9/10/2013	Area 2	NA	NA	Perylene		36	42					Exclude
HB13-07	42 - 48 *	9/10/2013	Area 2	NA	NA	Perylene		42	48					Exclude
HB13-08	0 - 18	9/11/2013	Area 2	NA	NA	Perylene	FC-2	0	18	38.28	21.756	exclude	Yes	Exclude
HB13-08	18 - 36	9/11/2013	Area 2	NA	NA	Perylene	FC-2	18	36	38.28	21.756	include	Yes	Include
HB13-08	36 - 60	9/11/2013	Area 2	NA	NA	Perylene	FC-2	36	60	38.28	21.756	include	Yes	Include
HB13-08	60 - 92	9/11/2013	Area 2	NA	NA	Perylene	FC-2	60	92	38.28	21.756	include	No	Exclude
HB13-10	0 - 6 *	9/10/2013	Area 2	NA	NA	Perylene		0	6	0.0039996			Yes	Include
HB13-11	0 - 18	9/11/2013	Area 2	NA	NA	Perylene	FC-4	0	18	25.2	23.964	exclude	Yes	Exclude
HB13-11	18 - 24 *	9/11/2013	Area 2	NA	NA	Perylene	FC-4	18	24	25.2	23.964	include	Yes	Include
HB13-11	18 - 42	9/11/2013	Area 2	NA	NA	Perylene	FC-4	18	42	25.2	23.964	include	Yes	Include
HB13-11	24 - 30 *	9/11/2013	Area 2	NA	NA	Perylene	FC-4	24	30	25.2	23.964	include	Yes	Include
HB13-11	30 - 36 *	9/11/2013	Area 2	NA	NA	Perylene	FC-4	30	36	25.2	23.964	include	No	Exclude
HB13-11	36 - 42 *	9/11/2013	Area 2	NA	NA	Perylene	FC-4	36	42	25.2	23.964	include	No	Exclude
HB13-11	42 - 48 *	9/11/2013	Area 2	NA	NA	Perylene	FC-4	42	48	25.2	23.964	include	No	Exclude
HB13-11	42 - 60	9/11/2013	Area 2	NA	NA	Perylene	FC-4	42	60	25.2	23.964	include	No	Exclude
HB13-11	48 - 54 *	9/11/2013	Area 2	NA	NA	Perylene	FC-4	48	54	25.2	23.964	include	No	Exclude
HB13-11	54 - 60 *	9/11/2013	Area 2	NA	NA	Perylene	FC-4	54	60	25.2	23.964	include	No	Exclude
HB13-12	0 - 6 *	9/10/2013	Area 2	NA	NA	Perylene		0	6	5.9960004			Yes	Include
HB13-13	0 - 1 *	9/11/2013	Area 2	NA	NA	Perylene	SND-5	0	1	0.9999996			Yes	Include
HB13-14	0 - 6 *	9/12/2013	Area 2	NA	NA	Perylene	FC-6	0	6	45.9999996	-5.316	include	Yes	Include
HB13-14	0 - 24	9/12/2013	Area 2	NA	NA	Perylene	FC-6	0	24	45.9999996	-5.316	include	Yes	Include
HB13-14	6 - 24 *	9/12/2013	Area 2	NA	NA	Perylene	FC-6	6	24	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 42 *	9/12/2013	Area 2	NA	NA	Perylene	FC-6	24	42	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 46	9/12/2013	Area 2	NA	NA	Perylene	FC-6	24	46	45.9999996	-5.316	include	Yes	Include
HB13-14	42 - 46 *	9/12/2013	Area 2	NA	NA	Perylene	FC-6	42	46	45.9999996	-5.316	include	Yes	Include
HB13-15	0 - 6 *	9/12/2013	Area 2	NA	NA	Perylene	FC-7	0	6	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	6 - 12 *	9/12/2013	Area 2	NA	NA	Perylene	FC-7	6	12	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	12 - 19 *	9/12/2013	Area 2	NA	NA	Perylene	FC-7	12	19	18.9999996	18.516	include	Yes	Include
HB13-16	0 - 6 *	9/12/2013	Area 2	NA	NA	Perylene		0	6	26.0000004			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-16	6 - 12 *	9/12/2013	Area 2	NA	NA	Perylene		6	12	26.0000004			Yes	Include
HB13-16	12 - 18 *	9/12/2013	Area 2	NA	NA	Perylene		12	18	26.0000004			Yes	Include
HB13-16	18 - 24 *	9/12/2013	Area 2	NA	NA	Perylene		18	24	26.0000004			Yes	Include
HB13-16	24 - 27 *	9/12/2013	Area 2	NA	NA	Perylene		24	27	26.0000004			Yes	Include
HB13-17	0 - 12 *	9/12/2013	Area 2	NA	NA	Perylene	FC-7	0	12	24	16.2	exclude	Yes	Exclude
HB13-17	12 - 18 *	9/12/2013	Area 2	NA	NA	Perylene	FC-7	12	18	24	16.2	include	Yes	Include
HB13-17	18 - 24 *	9/12/2013	Area 2	NA	NA	Perylene	FC-7	18	24	24	16.2	include	Yes	Include
HB13-17	24 - 47 *	9/12/2013	Area 2	NA	NA	Perylene	FC-7	24	47	24	16.2	include	No	Exclude
HB13-18	0 - 6	9/12/2013	Area 2	NA	NA	Perylene		0	6	9.9999996			Yes	Include
HB13-18	6 - 10	9/12/2013	Area 2	NA	NA	Perylene		6	10	9.9999996			Yes	Include
HB13-18	10 - 16	9/12/2013	Area 2	NA	NA	Perylene		10	16	9.9999996			No	Exclude
HB13-19	0 - 6 *	9/13/2013	Area 2	NA	NA	Perylene		0	6					Exclude
HB13-19	6 - 24 *	9/13/2013	Area 2	NA	NA	Perylene		6	24					Exclude
HB13-19	18 - 20 *	9/13/2013	Area 2	NA	NA	Perylene		18	20					Exclude
HB13-19	24 - 42 *	9/13/2013	Area 2	NA	NA	Perylene		24	42					Exclude
HB13-19	42 - 61 *	9/13/2013	Area 2	NA	NA	Perylene		42	61					Exclude
HB13-19	61 - 67 *	9/13/2013	Area 2	NA	NA	Perylene		61	67					Exclude
HB13-20	0 - 6 *	9/12/2013	Area 2	NA	NA	Perylene		0	6	24			Yes	Include
HB13-20	0 - 12	9/12/2013	Area 2	NA	NA	Perylene		0	12	24			Yes	Include
HB13-20	6 - 12 *	9/12/2013	Area 2	NA	NA	Perylene		6	12	24			Yes	Include
HB13-20	12 - 18 *	9/12/2013	Area 2	NA	NA	Perylene		12	18	24			Yes	Include
HB13-20	12 - 24	9/12/2013	Area 2	NA	NA	Perylene		12	24	24			Yes	Include
HB13-20	18 - 24 *	9/12/2013	Area 2	NA	NA	Perylene		18	24	24			Yes	Include
HB13-20	24 - 30 *	9/12/2013	Area 2	NA	NA	Perylene		24	30	24			No	Exclude
HB13-20	24 - 36	9/12/2013	Area 2	NA	NA	Perylene		24	36	24			No	Exclude
HB13-20	30 - 36 *	9/12/2013	Area 2	NA	NA	Perylene		30	36	24			No	Exclude
HB13-20	36 - 42 *	9/12/2013	Area 2	NA	NA	Perylene		36	42	24			No	Exclude
HB13-20	36 - 48	9/12/2013	Area 2	NA	NA	Perylene		36	48	24			No	Exclude
HB13-20	42 - 48 *	9/12/2013	Area 2	NA	NA	Perylene		42	48	24			No	Exclude
HB13-21	0 - 6 *	9/13/2013	Area 2	NA	NA	Perylene	OC-10	0	6	24			Yes	Include
HB13-21	6 - 24 *	9/13/2013	Area 2	NA	NA	Perylene	OC-10	6	24	24			Yes	Include
HB13-21	24 - 48 *	9/13/2013	Area 2	NA	NA	Perylene	OC-10	24	48	24			No	Exclude
HB13-21	48 - 72 *	9/13/2013	Area 2	NA	NA	Perylene	OC-10	48	72	24			No	Exclude
HB13-21	72 - 88 *	9/13/2013	Area 2	NA	NA	Perylene	OC-10	72	88	24			No	Exclude
HB13-22	0 - 28 *	9/12/2013	Area 2	NA	NA	Perylene	FC-7	0	28	24	36.72	exclude	Yes	Exclude
HB13-22	28 - 31 *	9/12/2013	Area 2	NA	NA	Perylene	FC-7	28	31	24	36.72	exclude	No	Exclude
HB13-23	0 - 12 *	9/12/2013	Area 2	NA	NA	Perylene	SND-5	0	12	27			Yes	Include
HB13-23	12 - 18 *	9/12/2013	Area 2	NA	NA	Perylene	SND-5	12	18	27			Yes	Include
HB13-23	18 - 24 *	9/12/2013	Area 2	NA	NA	Perylene	SND-5	18	24	27			Yes	Include
HB13-23	24 - 32 *	9/12/2013	Area 2	NA	NA	Perylene	SND-5	24	32	27			Yes	Include
HB13-24	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Perylene	HS-3	0	6	6			Yes	Include
HB13-24	0 - 24 *	9/12/2013	HUGHITT AVE SLIP	NA	NA	Perylene	HS-3	0	24	6			Yes	Include
HB13-24	6 - 24	9/12/2013	Hughitt Ave Slip	NA	NA	Perylene	HS-3	6	24	6			No	Exclude
HB13-25	0 - 6 *	9/12/2013	Area 1	NA	NA	Perylene	OC-11	0	6	57			Yes	Include
HB13-25	0 - 18	9/12/2013	Area 1	NA	NA	Perylene	OC-11	0	18	57			Yes	Include
HB13-25	6 - 18 *	9/12/2013	Area 1	NA	NA	Perylene	OC-11	6	18	57			Yes	Include
HB13-25	18 - 36 *	9/12/2013	Area 1	NA	NA	Perylene	OC-11	18	36	57			Yes	Include
HB13-25	18 - 57	9/12/2013	Area 1	NA	NA	Perylene	OC-11	18	57	57			Yes	Include
HB13-25	36 - 57 *	9/12/2013	Area 1	NA	NA	Perylene	OC-11	36	57	57			Yes	Include
HB13-26	0 - 12	9/13/2013	Area 1	NA	NA	Perylene	FC-10	0	12	33	17.04	exclude	Yes	Exclude
HB13-26	12 - 18	9/13/2013	Area 1	NA	NA	Perylene	FC-10	12	18	33	17.04	include	Yes	Include
HB13-26	18 - 33	9/13/2013	Area 1	NA	NA	Perylene	FC-10	18	33	33	17.04	include	Yes	Include
HB13-27	0 - 6 *	9/13/2013	Area 1	NA	NA	Perylene		0	6					Exclude
HB13-27	0 - 32	9/13/2013	Area 1	NA	NA	Perylene		0	32					Exclude
HB13-28	0 - 8 *	9/13/2013	Area 1	NA	NA	Perylene	FC-11	0	8	14.0000004	13.68	exclude	Yes	Exclude
HB13-28	8 - 14 *	9/13/2013	Area 1	NA	NA	Perylene	FC-11	8	14	14.0000004	13.68	include	Yes	Include
HB13-28	14 - 26 *	9/13/2013	Area 1	NA	NA	Perylene	FC-11	14	26	14.0000004	13.68	include	Yes	Include
HB13-28	26 - 40 *	9/13/2013	Area 1	NA	NA	Perylene	FC-11	26	40	14.0000004	13.68	include	No	Exclude
HB13-29	0 - 6	9/13/2013	Area 1	NA	NA	Perylene	FC-12/FC-13	0	6	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 12 *	9/13/2013	Area 1	NA	NA	Perylene	FC-12/FC-13	0	12	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 18 *	9/13/2013	Area 1	NA	NA	Perylene	FC-12/FC-13	0	18	44.0000004	1.044	include	Yes	Include
HB13-29	6 - 12	9/13/2013	Area 1	NA	NA	Perylene	FC-12/FC-13	6	12	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 24	9/13/2013	Area 1	NA	NA	Perylene	FC-12/FC-13	12	24	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 44 *	9/13/2013	Area 1	NA	NA	Perylene	FC-12/FC-13	12	44	44.0000004	1.044	include	Yes	Include
HB13-29	24 - 44	9/13/2013	Area 1	NA	NA	Perylene	FC-12/FC-13	24	44	44.0000004	1.044	include	Yes	Include
HB13-30	0 - 6	9/10/2013	Area 1	NA	NA	Perylene	SND-1	0	6	60			Yes	Include
HB13-30	6 - 24	9/10/2013	Area 1	NA	NA	Perylene	SND-1	6	24	60			Yes	Include
HB13-30	24 - 42	9/10/2013	Area 1	NA	NA	Perylene	SND-1	24	42	60			Yes	Include
HB13-30	42 - 60	9/10/2013	Area 1	NA	NA	Perylene	SND-1	42	60	60			Yes	Include
HB13-30	60 - 78	9/10/2013	Area 1	NA	NA	Perylene	SND-1	60	78	60			No	Exclude
HB13-31	0 - 6	9/13/2013	Area 1	NA	NA	Perylene	FC-16	0	6	27	2.76	include	Yes	Include
HB13-31	6 - 18	9/13/2013	Area 1	NA	NA	Perylene	FC-16	6	18	27	2.76	include	Yes	Include
HB13-31	18 - 27	9/13/2013	Area 1	NA	NA	Perylene	FC-16	18	27	27	2.76	include	Yes	Include
HB13-31	27 - 33	9/13/2013	Area 1	NA	NA	Perylene	FC-16	27	33	27	2.76	include	No	Exclude
HB13-32	0 - 6	9/13/2013	Area 1	NA	NA	Perylene	FC-14	0	6	26.0000004	-2.52	include	Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-32	6 - 18	9/13/2013	Area 1	NA	NA	Perylene	FC-14	6	18	26.0000004	-2.52	include	Yes	Include
HB13-32	18 - 26	9/13/2013	Area 1	NA	NA	Perylene	FC-14	18	26	26.0000004	-2.52	include	Yes	Include
HB13-32	26 - 32	9/13/2013	Area 1	NA	NA	Perylene	FC-14	26	32	26.0000004	-2.52	include	Yes	Include
HB13-33	0 - 6	9/13/2013	Area 1	NA	NA	Perylene		0	6	12			Yes	Include
HB13-33	6 - 12	9/13/2013	Area 1	NA	NA	Perylene		6	12	12			Yes	Include
HB13-34	0 - 6	9/13/2013	Area 1	NA	NA	Perylene		0	6	0.5000004			Yes	Include
HB13-35	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Perylene		0	6	3.9999996			Yes	Include
HB13-35	6 - 12	9/13/2013	Hughitt Ave Slip	NA	NA	Perylene		6	12	3.9999996			No	Exclude
HB13-37	2 - 6	9/10/2013	Hughitt Ave Slip	NA	NA	Perylene	HS-3	2	6	6			Yes	Include
HB13-38	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Perylene	HS-3	0	6	6			Yes	Include
HB13-39	4 - 10	9/13/2013	Hughitt Ave Slip	NA	NA	Perylene	HS-2	4	10	27.9999996			Yes	Include
HB13-39	10 - 28	9/13/2013	Hughitt Ave Slip	NA	NA	Perylene	HS-2	10	28	27.9999996			Yes	Include
HB13-39	28 - 34	9/13/2013	Hughitt Ave Slip	NA	NA	Perylene	HS-2	28	34	27.9999996			No	Exclude
HB13-40	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Perylene	HS-2	0	6	86.0000004			Yes	Include
HB13-40	0 - 24 *	9/13/2013	Hughitt Ave Slip	NA	NA	Perylene	HS-2	0	24	86.0000004			Yes	Include
HB13-40	6 - 24	9/13/2013	Hughitt Ave Slip	NA	NA	Perylene	HS-2	6	24	86.0000004			Yes	Include
HB13-40	24 - 48	9/13/2013	Hughitt Ave Slip	NA	NA	Perylene	HS-2	24	48	86.0000004			Yes	Include
HB13-40	48 - 72	9/13/2013	Hughitt Ave Slip	NA	NA	Perylene	HS-2	48	72	86.0000004			Yes	Include
HB13-40	72 - 86	9/13/2013	Hughitt Ave Slip	NA	NA	Perylene	HS-2	72	86	86.0000004			Yes	Include
HB13-41	0 - 6	9/10/2013	Hughitt Ave Slip	NA	NA	Perylene	HS-2	0	6	29.0000004			Yes	Include
HB13-41	0 - 24 *	9/10/2013	Hughitt Ave Slip	NA	NA	Perylene	HS-2	0	24	29.0000004			Yes	Include
HB13-41	6 - 24	9/10/2013	Hughitt Ave Slip	NA	NA	Perylene	HS-2	6	24	29.0000004			Yes	Include
HB13-41	24 - 29	9/10/2013	Hughitt Ave Slip	NA	NA	Perylene	HS-2	24	29	29.0000004			Yes	Include
HB13-42	0 - 6	9/11/2013	Cummings Ave Slip	0.48	0.48	Perylene	CS-3	0	6	33			Yes	Include
HB13-42	6 - 24	9/11/2013	Cummings Ave Slip	0.21	0.21	Perylene	CS-3	6	24	33			Yes	Include
HB13-42	24 - 33	9/11/2013	Cummings Ave Slip	0.13	0.13	Perylene	CS-3	24	33	33			Yes	Include
HB13-42	33 - 36	9/11/2013	Cummings Ave Slip	NA	NA	Perylene	CS-3	33	36	33			No	Exclude
HB13-43	0 - 6	9/11/2013	Cummings Ave Slip	2.9	2.9	Perylene	CS-2	0	6	24			Yes	Include
HB13-43	0 - 24 *	9/11/2013	Cummings Ave Slip	NA	NA	Perylene	CS-2	0	24	24			Yes	Include
HB13-43	6 - 24	9/11/2013	Cummings Ave Slip	0.16	0.16	Perylene	CS-2	6	24	24			Yes	Include
HB13-45	0 - 6	9/11/2013	Cummings Ave Slip	0.38	0.38	Perylene	CS-2	0	6	21			Yes	Include
HB13-45	6 - 21	9/11/2013	Cummings Ave Slip	0.93	0.93	Perylene	CS-2	6	21	21			Yes	Include
HB13-47	0 - 6	9/10/2013	Fraser Ave Slip	NA	NA	Perylene	FS-1	0	6	30.996			Yes	Include
HB13-47	6 - 24	9/10/2013	Fraser Ave Slip	NA	NA	Perylene	FS-1	6	24	30.996			Yes	Include
HB13-47	24 - 31	9/10/2013	Fraser Ave Slip	NA	NA	Perylene	FS-1	24	31	30.996			Yes	Include
HB13-47	31 - 37 *	9/10/2013	Fraser Ave Slip	NA	NA	Perylene	FS-1	31	37	30.996			No	Exclude
HB13-48	0 - 6 *	9/10/2013	Fraser Ave Slip	NA	NA	Perylene	FS-2	0	6	45.9999996			Yes	Include
HB13-48	0 - 24	9/10/2013	FRASER AVE SLIP	NA	NA	Perylene	FS-2	0	24	45.9999996			Yes	Include
HB13-48	6 - 24 *	9/10/2013	Fraser Ave Slip	NA	NA	Perylene	FS-2	6	24	45.9999996			Yes	Include
HB13-48	24 - 42 *	9/10/2013	Fraser Ave Slip	NA	NA	Perylene	FS-2	24	42	45.9999996			Yes	Include
HB13-48	24 - 46 *	9/10/2013	FRASER AVE SLIP	NA	NA	Perylene	FS-2	24	46	45.9999996			Yes	Include
HB13-48	42 - 46 *	9/10/2013	Fraser Ave Slip	NA	NA	Perylene	FS-2	42	46	45.9999996			Yes	Include
HB13-49	0 - 6	9/11/2013	Fraser Ave Slip	NA	NA	Perylene	FS-2	0	6	30			Yes	Include
HB13-49	6 - 24	9/11/2013	Fraser Ave Slip	NA	NA	Perylene	FS-2	6	24	30			Yes	Include
HB13-49	24 - 30	9/11/2013	Fraser Ave Slip	NA	NA	Perylene	FS-2	24	30	30			Yes	Include
HB13-50	0 - 12 *	9/13/2013	Area 1	NA	NA	Perylene	OC-12	0	12	47.0000004			Yes	Include
HB13-50	12 - 24 *	9/13/2013	Area 1	NA	NA	Perylene	OC-12	12	24	47.0000004			Yes	Include
HB13-50	24 - 36 *	9/13/2013	Area 1	NA	NA	Perylene	OC-12	24	36	47.0000004			Yes	Include
HB13-50	36 - 47 *	9/13/2013	Area 1	NA	NA	Perylene	OC-12	36	47	47.0000004			Yes	Include
HB13-51	0 - 6 *	9/11/2013	Area 2	NA	NA	Perylene		0	6					Exclude
HB13-51	6 - 15 *	9/11/2013	Area 2	NA	NA	Perylene		6	15					Exclude
HB13-52	0 - 6 *	9/11/2013	Area 2	NA	NA	Perylene	OC-10	0	6	12			Yes	Include
HB13-52	6 - 12 *	9/11/2013	Area 2	NA	NA	Perylene	OC-10	6	12	12			Yes	Include
HB13-52	12 - 17 *	9/11/2013	Area 2	NA	NA	Perylene	OC-10	12	17	12			No	Exclude
HB14-01	0 - 6	8/18/2014	Area 1	NA	NA	Perylene	SND-1	0	6					Exclude
HB14-01	6 - 18	8/18/2014	Area 1	NA	NA	Perylene	SND-1	6	18					Exclude
HB14-02	0 - 6	8/18/2014	Area 1	NA	NA	Perylene	FC-15	0	6	17.004	-12.996	include	Yes	Include
HB14-02	6 - 14	8/18/2014	Area 1	NA	NA	Perylene	FC-15	6	14	17.004	-12.996	include	Yes	Include
HB14-03	0 - 6	8/18/2014	Area 1	NA	NA	Perylene	FC-15	0	6	29.997288	-2.472	include	Yes	Include
HB14-03	6 - 18	8/18/2014	Area 1	NA	NA	Perylene	FC-15	6	18	29.997288	-2.472	include	Yes	Include
HB14-03	18 - 30	8/18/2014	Area 1	NA	NA	Perylene	FC-15	18	30	29.997288	-2.472	include	Yes	Include
HB14-03	30 - 42	8/18/2014	Area 1	NA	NA	Perylene	FC-15	30	42	29.997288	-2.472	include	No	Exclude
HB14-03	42 - 54	8/18/2014	Area 1	NA	NA	Perylene	FC-15	42	54	29.997288	-2.472	include	No	Exclude
HB14-04	0 - 6	8/18/2014	Area 1	NA	NA	Perylene		0	6	29.904			Yes	Include
HB14-04	6 - 18	8/18/2014	Area 1	NA	NA	Perylene		6	18	29.904			Yes	Include
HB14-04	18 - 30	8/18/2014	Area 1	NA	NA	Perylene		18	30	29.904			Yes	Include
HB14-05 G		8/18/2014	Area 1	NA	NA	Perylene			#VALUE!					Exclude
HB14-06	0 - 6	8/18/2014	Area 1	NA	NA	Perylene		0	6	30.588			Yes	Include
HB14-06	6 - 24	8/18/2014	Area 1	NA	NA	Perylene		6	24	30.588			Yes	Include
HB14-07	0 - 6	8/18/2014	Area 1	NA	NA	Perylene		0	6	78.012			Yes	Include
HB14-07	6 - 24	8/18/2014	Area 1	NA	NA	Perylene		6	24	78.012			Yes	Include
HB14-07	24 - 42	8/18/2014	Area 1	NA	NA	Perylene		24	42	78.012			Yes	Include
HB14-08	0 - 6	8/19/2014	Area 1	NA	NA	Perylene		0	6	34.416			Yes	Include
HB14-08	6 - 19	8/19/2014	Area 1	NA	NA	Perylene		6	19	34.416			Yes	Include
HB14-09	0 - 12	8/19/2014	Area 1	NA	NA	Perylene	OC-16	0	12	12.003804			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB14-09	12 - 24	8/19/2014	Area 1	NA	NA	Perylene	OC-16	12	24	12.003804			Yes	Include
HB14-09	24 - 36	8/19/2014	Area 1	NA	NA	Perylene	OC-16	24	36	12.003804			No	Exclude
HB14-09	36 - 48	8/19/2014	Area 1	NA	NA	Perylene	OC-16	36	48	12.003804			No	Exclude
HB14-09	48 - 60	8/19/2014	Area 1	NA	NA	Perylene	OC-16	48	60	12.003804			No	Exclude
HB14-09	60 - 72	8/19/2014	Area 1	NA	NA	Perylene	OC-16	60	72	12.003804			No	Exclude
HB14-10	0 - 6	8/20/2014	Area 1	NA	NA	Perylene		0	6	54.005544			Yes	Include
HB14-10	6 - 18	8/20/2014	Area 1	NA	NA	Perylene		6	18	54.005544			Yes	Include
HB14-10	18 - 30	8/20/2014	Area 1	NA	NA	Perylene		18	30	54.005544			Yes	Include
HB14-10	30 - 42	8/20/2014	Area 1	NA	NA	Perylene		30	42	54.005544			Yes	Include
HB14-10	42 - 54	8/20/2014	Area 1	NA	NA	Perylene		42	54	54.005544			Yes	Include
HB14-10	54 - 66	8/20/2014	Area 1	NA	NA	Perylene		54	66	54.005544			Yes	Include
HB14-11	0 - 6	8/19/2014	Area 1	NA	NA	Perylene	SND-2	0	6					Exclude
HB14-11	6 - 18	8/19/2014	Area 1	NA	NA	Perylene	SND-2	6	18					Exclude
HB14-11	18 - 20	8/19/2014	Area 1	NA	NA	Perylene	SND-2	18	20					Exclude
HB14-12	0 - 6	8/19/2014	Area 1	NA	NA	Perylene	SND-4	0	6	26.34			Yes	Include
HB14-12	6 - 18	8/19/2014	Area 1	NA	NA	Perylene	SND-4	6	18	26.34			Yes	Include
HB14-12	18 - 32	8/19/2014	Area 1	NA	NA	Perylene	SND-4	18	32	26.34			Yes	Include
HB14-13	0 - 6	8/19/2014	Area 2	NA	NA	Perylene	SND-5	0	6	-0.648			No	Exclude
HB14-13	6 - 11	8/19/2014	Area 2	NA	NA	Perylene	SND-5	6	11	-0.648			No	Exclude
HB14-14	0 - 6	8/20/2014	Area 2	NA	NA	Perylene	OC-4	0	6	101.997672			Yes	Include
HB14-14	4 - 6	8/20/2014	Area 2	NA	NA	Perylene	OC-4	4	6	101.997672			Yes	Include
HB14-14	6 - 18	8/20/2014	Area 2	NA	NA	Perylene	OC-4	6	18	101.997672			Yes	Include
HB14-14	6 - 30	8/20/2014	Area 2	NA	NA	Perylene	OC-4	6	30	101.997672			Yes	Include
HB14-14	18 - 30	8/20/2014	Area 2	NA	NA	Perylene	OC-4	18	30	101.997672			Yes	Include
HB14-14	30 - 42	8/20/2014	Area 2	NA	NA	Perylene	OC-4	30	42	101.997672			Yes	Include
HB14-14	30 - 54	8/20/2014	Area 2	NA	NA	Perylene	OC-4	30	54	101.997672			Yes	Include
HB14-14	42 - 54	8/20/2014	Area 2	NA	NA	Perylene	OC-4	42	54	101.997672			Yes	Include
HB14-14	54 - 66	8/20/2014	Area 2	NA	NA	Perylene	OC-4	54	66	101.997672			Yes	Include
HB14-14	54 - 78	8/20/2014	Area 2	NA	NA	Perylene	OC-4	54	78	101.997672			Yes	Include
HB14-14	66 - 78	8/20/2014	Area 2	NA	NA	Perylene	OC-4	66	78	101.997672			Yes	Include
HB14-14	78 - 90	8/20/2014	Area 2	NA	NA	Perylene	OC-4	78	90	101.997672			Yes	Include
HB14-14	78 - 102	8/20/2014	Area 2	NA	NA	Perylene	OC-4	78	102	101.997672			Yes	Include
HB14-14	90 - 102	8/20/2014	Area 2	NA	NA	Perylene	OC-4	90	102	101.997672			Yes	Include
HB14-14	102 - 111	8/20/2014	Area 2	NA	NA	Perylene	OC-4	102	111	101.997672			No	Exclude
HB15-01	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	0	12	51.096			Yes	Include
HB15-01	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	12	24	51.096			Yes	Include
HB15-01	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	24	36	51.096			Yes	Include
HB15-01	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	36	48	51.096			Yes	Include
HB15-01	48 - 57	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	48	57	51.096			Yes	Include
HB15-02	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	0	12	48.000696			Yes	Include
HB15-02	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	12	24	48.000696			Yes	Include
HB15-02	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	24	36	48.000696			Yes	Include
HB15-02	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	36	48	48.000696			Yes	Include
HB15-03	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	0	12	67.9950564			Yes	Include
HB15-03	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	12	24	67.9950564			Yes	Include
HB15-03	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	24	36	67.9950564			Yes	Include
HB15-03	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	36	48	67.9950564			Yes	Include
HB15-03	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	48	60	67.9950564			Yes	Include
HB15-03	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	60	68	67.9950564			Yes	Include
HB15-03R	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	0	12	67.9950564			Yes	Include
HB15-03R	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	12	24	67.9950564			Yes	Include
HB15-03R	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	24	36	67.9950564			Yes	Include
HB15-03R	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	36	48	67.9950564			Yes	Include
HB15-03R	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	48	60	67.9950564			Yes	Include
HB15-03R	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	60	68	67.9950564			Yes	Include
HB15-04	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	0	12	63.84			Yes	Include
HB15-04	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	12	24	63.84			Yes	Include
HB15-04	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	24	36	63.84			Yes	Include
HB15-04	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	36	48	63.84			Yes	Include
HB15-04	48 - 59	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	48	59	63.84			Yes	Include
HB15-05	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	0	12	71.994852			Yes	Include
HB15-05	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	12	24	71.994852			Yes	Include
HB15-05	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	24	36	71.994852			Yes	Include
HB15-05	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	36	48	71.994852			Yes	Include
HB15-05	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	48	60	71.994852			Yes	Include
HB15-05	60 - 72	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	60	72	71.994852			Yes	Include
HB15-05	72 - 80	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-1	72	80	71.994852			No	Exclude
HB15-06	0 - 9	6/23/2015	Hughitt Ave Slip	NA	NA	Perylene	HS-2	0	9	9.000636			Yes	Include
HB15-07	0 - 12	6/23/2015	Cummings Ave Slip	NA	NA	Perylene	CS-1	0	12	90.9955116			Yes	Include
HB15-07	12 - 24	6/23/2015	Cummings Ave Slip	NA	NA	Perylene	CS-1	12	24	90.9955116			Yes	Include
HB15-07	24 - 36	6/23/2015	Cummings Ave Slip	NA	NA	Perylene	CS-1	24	36	90.9955116			Yes	Include
HB15-07	36 - 48	6/23/2015	Cummings Ave Slip	NA	NA	Perylene	CS-1	36	48	90.9955116			Yes	Include
HB15-07	48 - 60	6/23/2015	Cummings Ave Slip	NA	NA	Perylene	CS-1	48	60	90.9955116			Yes	Include
HB15-07	60 - 72	6/23/2015	Cummings Ave Slip	NA	NA	Perylene	CS-1	60	72	90.9955116			Yes	Include
HB15-07	72 - 84	6/23/2015	Cummings Ave Slip	NA	NA	Perylene	CS-1	72	84	90.9955116			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB15-07	84 - 91	6/23/2015	Cummings Ave Slip	NA	NA	Perylene	CS-1	84	91	90.9955116			Yes	Include
HB15-08	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Perylene	CS-2	0	12	65.997804			Yes	Include
HB15-08	12 - 24	6/24/2015	Cummings Ave Slip	NA	NA	Perylene	CS-2	12	24	65.997804			Yes	Include
HB15-08	24 - 36	6/24/2015	Cummings Ave Slip	NA	NA	Perylene	CS-2	24	36	65.997804			Yes	Include
HB15-08	36 - 48	6/24/2015	Cummings Ave Slip	NA	NA	Perylene	CS-2	36	48	65.997804			Yes	Include
HB15-08	48 - 60	6/24/2015	Cummings Ave Slip	NA	NA	Perylene	CS-2	48	60	65.997804			Yes	Include
HB15-08	60 - 66	6/24/2015	Cummings Ave Slip	NA	NA	Perylene	CS-2	60	66	65.997804			Yes	Include
HB15-09	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Perylene	CS-3	0	12	45.396			Yes	Include
HB15-09	12 - 17	6/24/2015	Cummings Ave Slip	NA	NA	Perylene	CS-3	12	17	45.396			Yes	Include
HB15-10	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Perylene		0	12	-0.936			No	Exclude
HB15-11	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Perylene	CS-5	0	12	27.9944796			Yes	Include
HB15-11	12 - 24	6/24/2015	Cummings Ave Slip	NA	NA	Perylene	CS-5	12	24	27.9944796			Yes	Include
HB15-11	24 - 28	6/24/2015	Cummings Ave Slip	NA	NA	Perylene	CS-5	24	28	27.9944796			Yes	Include
HB15-12	0 - 12	6/24/2015	Area 2	NA	NA	Perylene	FP-1	0	12	29.994876			Yes	Include
HB15-12	12 - 24	6/24/2015	Area 2	NA	NA	Perylene	FP-1	12	24	29.994876			Yes	Include
HB15-12	24 - 30	6/24/2015	Area 2	NA	NA	Perylene	FP-1	24	30	29.994876			Yes	Include
HB15-13	0 - 12	6/24/2015	Area 2	NA	NA	Perylene	FP-1	0	12	64.0033716			Yes	Include
HB15-13	12 - 24	6/24/2015	Area 2	NA	NA	Perylene	FP-1	12	24	64.0033716			Yes	Include
HB15-13	24 - 36	6/24/2015	Area 2	NA	NA	Perylene	FP-1	24	36	64.0033716			Yes	Include
HB15-13	36 - 48	6/24/2015	Area 2	NA	NA	Perylene	FP-1	36	48	64.0033716			Yes	Include
HB15-13	48 - 60	6/24/2015	Area 2	NA	NA	Perylene	FP-1	48	60	64.0033716			Yes	Include
HB15-13	60 - 64	6/24/2015	Area 2	NA	NA	Perylene	FP-1	60	64	64.0033716			Yes	Include
HB15-14	0 - 12	6/24/2015	Area 2	NA	NA	Perylene	FP-1	0	12	23.996196			Yes	Include
HB15-14	12 - 24	6/24/2015	Area 2	NA	NA	Perylene	FP-1	12	24	23.996196			Yes	Include
HB15-14	24 - 28	6/24/2015	Area 2	NA	NA	Perylene	FP-1	24	28	23.996196			No	Exclude
HB15-14	28 - 35	6/24/2015	Area 2	NA	NA	Perylene	FP-1	28	35	23.996196			No	Exclude
HB15-15	0 - 12	6/24/2015	Area 2	NA	NA	Perylene	FP-2	0	12	19.0051356			Yes	Include
HB15-15	12 - 19	6/24/2015	Area 2	NA	NA	Perylene	FP-2	12	19	19.0051356			Yes	Include
HB15-15R	0 - 12	6/24/2015	Area 2	NA	NA	Perylene	FP-2	0	12	18.9999996			Yes	Include
HB15-15R	12 - 19	6/24/2015	Area 2	NA	NA	Perylene	FP-2	12	19	18.9999996			Yes	Include
HB15-16	0 - 12	6/24/2015	Area 2	NA	NA	Perylene	FP-1	0	12	8.304			Yes	Include
HB15-16	12 - 19	6/24/2015	Area 2	NA	NA	Perylene	FP-1	12	19	8.304			No	Exclude
HB15-17	0 - 12	6/24/2015	Area 2	NA	NA	Perylene	FP-2	0	12	36.004608			Yes	Include
HB15-17	12 - 24	6/24/2015	Area 2	NA	NA	Perylene	FP-2	12	24	36.004608			Yes	Include
HB15-17	24 - 36	6/24/2015	Area 2	NA	NA	Perylene	FP-2	24	36	36.004608			Yes	Include
HB15-17	36 - 48	6/24/2015	Area 2	NA	NA	Perylene	FP-2	36	48	36.004608			Yes	Include
HB15-17	48 - 54	6/24/2015	Area 2	NA	NA	Perylene	FP-2	48	54	36.004608			No	Exclude
HB15-18	0 - 12	6/24/2015	Area 2	NA	NA	Perylene	FP-2	0	12	23.999508			Yes	Include
HB15-18	12 - 24	6/24/2015	Area 2	NA	NA	Perylene	FP-2	12	24	23.999508			Yes	Include
HB15-19	0 - 12	6/24/2015	Area 2	NA	NA	Perylene		0	12					Exclude
HB15-19	12 - 24	6/24/2015	Area 2	NA	NA	Perylene		12	24					Exclude
HB15-19	24 - 32	6/24/2015	Area 2	NA	NA	Perylene		24	32					Exclude
HB15-20	0 - 12	6/25/2015	Area 2	NA	NA	Perylene	OC-3	0	12	33.864			Yes	Include
HB15-20	12 - 24	6/25/2015	Area 2	NA	NA	Perylene	OC-3	12	24	33.864			Yes	Include
HB15-20	24 - 28	6/25/2015	Area 2	NA	NA	Perylene	OC-3	24	28	33.864			Yes	Include
HB15-20B	0 - 6	6/25/2015	Area 2	NA	NA	Perylene	OC-13	0	6	11.996892			Yes	Include
HB15-20B	6 - 12	6/25/2015	Area 2	NA	NA	Perylene	OC-13	6	12	11.996892			Yes	Include
HB15-21G	15 - 21	6/29/2015	Fraser Ave Slip	NA	NA	Perylene		15	21					Exclude
HB15-22G	0 - 6	6/29/2015	Fraser Ave Slip	NA	NA	Perylene	OC-8	0	6	6			Yes	Include
HB15-23	0 - 12	6/25/2015	Fraser Ave Slip	NA	NA	Perylene	FS-1	0	12	55.02			Yes	Include
HB15-23	12 - 24	6/25/2015	Fraser Ave Slip	NA	NA	Perylene	FS-1	12	24	55.02			Yes	Include
HB15-23	24 - 36	6/25/2015	Fraser Ave Slip	NA	NA	Perylene	FS-1	24	36	55.02			Yes	Include
HB15-23	36 - 48	6/25/2015	Fraser Ave Slip	NA	NA	Perylene	FS-1	36	48	55.02			Yes	Include
HB15-23	48 - 56	6/25/2015	Fraser Ave Slip	NA	NA	Perylene	FS-1	48	56	55.02			Yes	Include
HB15-25	0 - 12	6/25/2015	Area 2	NA	NA	Perylene	OC-1	0	12	77.4			Yes	Include
HB15-25	12 - 24	6/25/2015	Area 2	NA	NA	Perylene	OC-1	12	24	77.4			Yes	Include
HB15-25	24 - 36	6/25/2015	Area 2	NA	NA	Perylene	OC-1	24	36	77.4			Yes	Include
HB15-25	36 - 48	6/25/2015	Area 2	NA	NA	Perylene	OC-1	36	48	77.4			Yes	Include
HB15-25	48 - 60	6/25/2015	Area 2	NA	NA	Perylene	OC-1	48	60	77.4			Yes	Include
HB15-25	60 - 72	6/25/2015	Area 2	NA	NA	Perylene	OC-1	60	72	77.4			Yes	Include
HB15-25	72 - 88	6/25/2015	Area 2	NA	NA	Perylene	OC-1	72	88	77.4			Yes	Include
HB15-26	0 - 12	6/25/2015	Area 2	NA	NA	Perylene	FC-2	0	12	38.28	6.36	include	Yes	Include
HB15-26	12 - 24	6/25/2015	Area 2	NA	NA	Perylene	FC-2	12	24	38.28	6.36	include	Yes	Include
HB15-26	24 - 36	6/25/2015	Area 2	NA	NA	Perylene	FC-2	24	36	38.28	6.36	include	Yes	Include
HB15-26	36 - 46	6/25/2015	Area 2	NA	NA	Perylene	FC-2	36	46	38.28	6.36	include	Yes	Include
HB15-27	0 - 12	6/25/2015	Area 2	NA	NA	Perylene	FC-3	0	12	33.6	14.64	exclude	Yes	Exclude
HB15-27	12 - 24	6/25/2015	Area 2	NA	NA	Perylene	FC-3	12	24	33.6	14.64	include	Yes	Include
HB15-27	24 - 36	6/25/2015	Area 2	NA	NA	Perylene	FC-3	24	36	33.6	14.64	include	Yes	Include
HB15-27	36 - 48	6/25/2015	Area 2	NA	NA	Perylene	FC-3	36	48	33.6	14.64	include	No	Exclude
HB15-27	48 - 60	6/25/2015	Area 2	NA	NA	Perylene	FC-3	48	60	33.6	14.64	include	No	Exclude
HB15-27	60 - 71	6/25/2015	Area 2	NA	NA	Perylene	FC-3	60	71	33.6	14.64	include	No	Exclude
HB15-28	0 - 12	6/25/2015	Area 2	NA	NA	Perylene	OC-7	0	12	11.994072			Yes	Include
HB15-28	12 - 24	6/25/2015	Area 2	NA	NA	Perylene	OC-7	12	24	11.994072			No	Exclude
HB15-28	24 - 30	6/25/2015	Area 2	NA	NA	Perylene	OC-7	24	30	11.994072			No	Exclude
HB15-30	0 - 12	6/25/2015	Area 2	NA	NA	Perylene		0	12	43.776			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?	
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft				
HB15-30	12 - 24	6/25/2015	Area 2	NA	NA	Perylene		12	24	43.776			Yes	Include	
HB15-30	24 - 36	6/25/2015	Area 2	NA	NA	Perylene		24	36	43.776			Yes	Include	
HB15-30	36 - 50	6/25/2015	Area 2	NA	NA	Perylene		36	50	43.776			Yes	Include	
HB15-31	0 - 12	6/25/2015	Area 2	NA	NA	Perylene		0	12					Exclude	
HB15-31	12 - 20	6/25/2015	Area 2	NA	NA	Perylene		12	20					Exclude	
HB15-32	0 - 12	6/25/2015	Area 1	NA	NA	Perylene	SND-4	0	12	11.995236			Yes	Include	
HB15-32	12 - 26	6/25/2015	Area 1	NA	NA	Perylene	SND-4	12	26	11.995236			No	Exclude	
HB15-33	0 - 12	6/25/2015	Area 1	NA	NA	Perylene		0	12	26.292			Yes	Include	
HB15-33	12 - 24	6/25/2015	Area 1	NA	NA	Perylene		12	24	26.292			Yes	Include	
HB15-33	24 - 39	6/25/2015	Area 1	NA	NA	Perylene		24	39	26.292			Yes	Include	
HB15-34	0 - 12	6/25/2015	Area 1	NA	NA	Perylene	FC-11	0	12		35.52	exclude		Exclude	
HB15-34	12 - 24	6/25/2015	Area 1	NA	NA	Perylene	FC-11	12	24		35.52	exclude		Exclude	
HB15-34	24 - 32	6/25/2015	Area 1	NA	NA	Perylene	FC-11	24	32		35.52	exclude		Exclude	
HB15-35	0 - 12	6/25/2015	Area 1	NA	NA	Perylene	FC-16	0	12	74.28			include	Yes	Include
HB15-35	12 - 24	6/25/2015	Area 1	NA	NA	Perylene	FC-16	12	24	74.28			include	Yes	Include
HB15-35	24 - 36	6/25/2015	Area 1	NA	NA	Perylene	FC-16	24	36	74.28			include	Yes	Include
HB15-35	36 - 48	6/25/2015	Area 1	NA	NA	Perylene	FC-16	36	48	74.28			include	Yes	Include
HB15-35	48 - 60	6/25/2015	Area 1	NA	NA	Perylene	FC-16	48	60	74.28			include	Yes	Include
HB15-35	60 - 72	6/25/2015	Area 1	NA	NA	Perylene	FC-16	60	72	74.28			include	Yes	Include
HB15-36G	15 - 36	6/29/2015	Area 2	NA	NA	Perylene		15	36					Exclude	
HB15-37	0 - 12	6/25/2015	Area 2	NA	NA	Perylene	OC-9	0	12	51.048			Yes	Include	
HB15-37	12 - 24	6/25/2015	Area 2	NA	NA	Perylene	OC-9	12	24	51.048			Yes	Include	
HB15-37	24 - 36	6/25/2015	Area 2	NA	NA	Perylene	OC-9	24	36	51.048			Yes	Include	
HB15-37	36 - 48	6/25/2015	Area 2	NA	NA	Perylene	OC-9	36	48	51.048			Yes	Include	
HB15-37	48 - 60	6/25/2015	Area 2	NA	NA	Perylene	OC-9	48	60	51.048			Yes	Include	
HB15-37	60 - 74	6/25/2015	Area 2	NA	NA	Perylene	OC-9	60	74	51.048			No	Exclude	
HB15-38	0 - 12	6/25/2015	Area 2	NA	NA	Perylene	OC-9	0	12	83.184			Yes	Include	
HB15-38	12 - 24	6/25/2015	Area 2	NA	NA	Perylene	OC-9	12	24	83.184			Yes	Include	
HB15-38	24 - 36	6/25/2015	Area 2	NA	NA	Perylene	OC-9	24	36	83.184			Yes	Include	
HB15-38	36 - 48	6/25/2015	Area 2	NA	NA	Perylene	OC-9	36	48	83.184			Yes	Include	
HB15-38	48 - 60	6/25/2015	Area 2	NA	NA	Perylene	OC-9	48	60	83.184			Yes	Include	
HB15-38	60 - 72	6/25/2015	Area 2	NA	NA	Perylene	OC-9	60	72	83.184			Yes	Include	
HB15-38	72 - 84	6/25/2015	Area 2	NA	NA	Perylene	OC-9	72	84	83.184			Yes	Include	
HB15-38	84 - 96	6/25/2015	Area 2	NA	NA	Perylene	OC-9	84	96	83.184			No	Exclude	
HB15-G28	0 - 6	6/25/2015	Hughitt Ave Slip	NA	NA	Perylene		0	6					Exclude	
HB15-HC20A	0 - 6	6/25/2015	Area 1	NA	NA	Perylene	OC-13	0	6	6.003036			Yes	Include	
HB2A_4	0 - 6	5/12/2007	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	0	6	48.00432			Yes	Include	
HB2A_4	6 - 24	5/12/2007	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	6	24	48.00432			Yes	Include	
HB2A_4	24 - 48	5/12/2007	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	24	48	48.00432			Yes	Include	
HB2A_6	0 - 5	5/2/2007	Area 1	NA	NA	1-Methylnaphthalene		0	5					Exclude	
HB2A_7	0 - 5	5/10/2007	Area 1	NA	NA	1-Methylnaphthalene	SND-1	0	5					Exclude	
HB2A_8	0 - 5	5/10/2007	Area 1	NA	NA	1-Methylnaphthalene	FC-12/FC-13	0	5	4.9944804	79.824	exclude	Yes	Exclude	
HB2A_11	0 - 5	5/10/2007	Area 1	NA	NA	1-Methylnaphthalene		0	5					Exclude	
HB2A_13	0 - 5	5/2/2007	Area 1	NA	NA	1-Methylnaphthalene		0	5					Exclude	
HB2A_16	0 - 5	5/2/2007	Area 1	NA	NA	1-Methylnaphthalene		0	5					Exclude	
HB2A_210	0 - 6	5/16/2007	Area 1	NA	NA	1-Methylnaphthalene		0	6					Exclude	
HB2A_210	6 - 24	5/16/2007	Area 1	NA	NA	1-Methylnaphthalene		6	24					Exclude	
HB2A_210	24 - 48	5/16/2007	Area 1	NA	NA	1-Methylnaphthalene		24	48					Exclude	
HB2A_GENES	0 - 5	5/22/2007	Cummings Ave Slip	NA	NA	1-Methylnaphthalene		0	5					Exclude	
HB2B_17	0 - 6	5/12/2007	Fraser Ave Slip	NA	NA	1-Methylnaphthalene	FS-2	0	6	24.005676			Yes	Include	
HB2B_17	6 - 24	5/12/2007	Fraser Ave Slip	NA	NA	1-Methylnaphthalene	FS-2	6	24	24.005676			Yes	Include	
HB2B_18	0 - 6	5/7/2007	Area 2	NA	NA	1-Methylnaphthalene	FP-1	0	6	47.997552			Yes	Include	
HB2B_18	6 - 24	5/7/2007	Area 2	NA	NA	1-Methylnaphthalene	FP-1	6	24	47.997552			Yes	Include	
HB2B_18	24 - 48	5/7/2007	Area 2	NA	NA	1-Methylnaphthalene	FP-1	24	48	47.997552			Yes	Include	
HB2B_19	0 - 6	5/2/2007	Area 2	NA	NA	1-Methylnaphthalene	OC-1	0	6	6.001728			Yes	Include	
HB2B_19	6 - 24	5/2/2007	Area 2	NA	NA	1-Methylnaphthalene	OC-1	6	24	6.001728			Yes	Include	
HB2B_20	0 - 6	5/2/2007	Area 2	NA	NA	1-Methylnaphthalene	OC-9	0	6	23.997336			Yes	Include	
HB2B_20	6 - 24	5/2/2007	Area 2	NA	NA	1-Methylnaphthalene	OC-9	6	24	23.997336			Yes	Include	
HB2B_20	24 - 48	5/2/2007	Area 2	NA	NA	1-Methylnaphthalene	OC-9	24	48	23.997336			No	Exclude	
HB2B_21	0 - 5	5/2/2007	Area 2	NA	NA	1-Methylnaphthalene		0	5					Exclude	
HB2B_22	0 - 5	5/2/2007	Area 2	NA	NA	1-Methylnaphthalene	OC-5	0	5	5.0028204			Yes	Include	
HB3A_GENES	0 - 5	9/6/2007	Cummings Ave Slip	NA	NA	1-Methylnaphthalene		0	5					Exclude	
HB10-1-01	0 - 6	10/16/2010	Area 1	NA	NA	1-Methylnaphthalene		0	6					Exclude	
HB10-1-01	0 - 12	10/16/2010	Area 1	NA	NA	1-Methylnaphthalene		0	12					Exclude	
HB10-1-01	36 - 40	10/16/2010	Area 1	NA	NA	1-Methylnaphthalene		36	40					Exclude	
HB10-1-02	0 - 6	10/16/2010	Area 1	NA	NA	1-Methylnaphthalene		0	6	23.0027508			Yes	Include	
HB10-1-02	12 - 23	10/16/2010	Area 1	NA	NA	1-Methylnaphthalene		12	23	23.0027508			Yes	Include	
HB10-1-03	0 - 6	10/16/2010	Area 1	NA	NA	1-Methylnaphthalene	FC-17	0	6	59.99475	49.872	exclude	Yes	Exclude	
HB10-1-03	0 - 12	10/16/2010	Area 1	NA	NA	1-Methylnaphthalene	FC-17	0	12	59.99475	49.872	exclude	Yes	Exclude	
HB10-1-03	12 - 36	10/16/2010	Area 1	NA	NA	1-Methylnaphthalene	FC-17	12	36	59.99475	49.872	exclude	Yes	Exclude	
HB10-1-03	36 - 60	10/16/2010	Area 1	NA	NA	1-Methylnaphthalene	FC-17	36	60	59.99475	49.872	include	Yes	Include	
HB10-1-03	60 - 84	10/16/2010	Area 1	NA	NA	1-Methylnaphthalene	FC-17	60	84	59.99475	49.872	include	No	Exclude	
HB10-1-04	0 - 6	10/17/2010	Area 1	0.0062	0.0062	1-Methylnaphthalene		0	6					Exclude	
HB10-1-04	0 - 12	10/17/2010	Area 1	NA	NA	1-Methylnaphthalene		0	12					Exclude	
HB10-1-04	12 - 36	10/17/2010	Area 1	NA	NA	1-Methylnaphthalene		12	36					Exclude	

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB10-1-04	36 - 50	10/17/2010	Area 1	NA	NA	1-Methylnaphthalene		36	50					Exclude
HB10-1-05	0 - 6	10/16/2010	Area 1	0.0093	0.0093	1-Methylnaphthalene	OC-17	0	6	5.9987496			Yes	Include
HB10-1-07	0 - 6	10/17/2010	Area 1	0.35	0.35	1-Methylnaphthalene	OC-15	0	6	6.0057			Yes	Include
HB10-1-07	0 - 12	10/17/2010	Area 1	NA	NA	1-Methylnaphthalene	OC-15	0	12	6.0057			Yes	Include
HB10-1-07	12 - 36	10/17/2010	Area 1	NA	NA	1-Methylnaphthalene	OC-15	12	36	6.0057			No	Exclude
HB10-1-07	60 - 64	10/17/2010	Area 1	NA	NA	1-Methylnaphthalene	OC-15	60	64	6.0057			No	Exclude
HB10-1-08	0 - 6	10/17/2010	Area 1	0.02	0.02	1-Methylnaphthalene		0	6	36.0057			Yes	Include
HB10-1-08	0 - 12	10/17/2010	Area 1	NA	NA	1-Methylnaphthalene		0	12	36.0057			Yes	Include
HB10-1-08	12 - 36	10/17/2010	Area 1	NA	NA	1-Methylnaphthalene		12	36	36.0057			Yes	Include
HB10-1-10	0 - 6	10/18/2010	Area 1	0.063 U	0.063	1-Methylnaphthalene	SND-1	0	6					Exclude
HB10-1-11	0 - 6	10/16/2010	Area 1	0.013	0.013	1-Methylnaphthalene		0	6	20.9987496			Yes	Include
HB10-1-11	12 - 21	10/16/2010	Area 1	NA	NA	1-Methylnaphthalene		12	21	20.9987496			Yes	Include
HB10-1-12	0 - 6	10/17/2010	Area 1	0.017	0.017	1-Methylnaphthalene		0	6					Exclude
HB10-1-12	0 - 12	10/17/2010	Area 1	NA	NA	1-Methylnaphthalene		0	12					Exclude
HB10-1-12	12 - 34	10/17/2010	Area 1	NA	NA	1-Methylnaphthalene		12	34					Exclude
HB10-1-13	0 - 6	10/18/2010	Area 1	0.032	0.032	1-Methylnaphthalene	FC-12/FC-13	0	6	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	0 - 12	10/18/2010	Area 1	NA	NA	1-Methylnaphthalene	FC-12/FC-13	0	12	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	12 - 36	10/18/2010	Area 1	NA	NA	1-Methylnaphthalene	FC-12/FC-13	12	36	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	60 - 67	10/18/2010	Area 1	NA	NA	1-Methylnaphthalene	FC-12/FC-13	60	67	36.0053004	42.816	include	No	Exclude
HB10-1-14	0 - 6	10/17/2010	Area 1	0.015	0.015	1-Methylnaphthalene		0	6	66.0057			Yes	Include
HB10-1-14	0 - 12	10/17/2010	Area 1	NA	NA	1-Methylnaphthalene		0	12	66.0057			Yes	Include
HB10-1-14	12 - 36	10/17/2010	Area 1	NA	NA	1-Methylnaphthalene		12	36	66.0057			Yes	Include
HB10-1-14	60 - 66	10/17/2010	Area 1	NA	NA	1-Methylnaphthalene		60	66	66.0057			Yes	Include
HB10-1-15	0 - 6	10/18/2010	Area 1	0.0043 U	0.0043	1-Methylnaphthalene	OC-13	0	6	16.0056996			Yes	Include
HB10-1-15	12 - 16	10/18/2010	Area 1	NA	NA	1-Methylnaphthalene	OC-13	12	16	16.0056996			Yes	Include
HB10-1-16	0 - 6	10/17/2010	Hughitt Ave Slip	0.0082	0.0082	1-Methylnaphthalene	HS-3	0	6	31.0056996			Yes	Include
HB10-1-16	0 - 12	10/17/2010	Hughitt Ave Slip	0.34 U	0.34	1-Methylnaphthalene	HS-3	0	12	31.0056996			Yes	Include
HB10-1-16	12 - 31	10/17/2010	Hughitt Ave Slip	0.036	0.036	1-Methylnaphthalene	HS-3	12	31	31.0056996			Yes	Include
HB10-1-17	0 - 6	10/17/2010	Area 1	0.021	0.021	1-Methylnaphthalene	OC-14	0	6	12			Yes	Include
HB10-1-20	0 - 6	10/17/2010	Hughitt Ave Slip	0.047 U	0.047	1-Methylnaphthalene		0	6	6.0057			Yes	Include
HB10-1-21	0 - 6	10/18/2010	Cummings Ave Slip	0.0044 J	0.0044	1-Methylnaphthalene		0	6	6.0012996			Yes	Include
HB10-1-21	12 - 23	10/18/2010	Cummings Ave Slip	R	R	1-Methylnaphthalene		12	23	6.0012996			No	Exclude
HB10-1-23	0 - 6	10/17/2010	Area 1	NA	NA	1-Methylnaphthalene		0	6	36.0057			Yes	Include
HB10-1-23	0 - 12	10/17/2010	Area 1	NA	NA	1-Methylnaphthalene		0	12	36.0057			Yes	Include
HB10-1-23	12 - 36	10/17/2010	Area 1	NA	NA	1-Methylnaphthalene		12	36	36.0057			Yes	Include
HB10-1-24	0 - 6	10/18/2010	Cummings Ave Slip	0.016	0.016	1-Methylnaphthalene	CS-4	0	6	36.0047496			Yes	Include
HB10-1-24	0 - 12	10/18/2010	Cummings Ave Slip	0.051	0.051	1-Methylnaphthalene	CS-4	0	12	36.0047496			Yes	Include
HB10-1-24	12 - 36	10/18/2010	Cummings Ave Slip	0.053	0.053	1-Methylnaphthalene	CS-4	12	36	36.0047496			Yes	Include
HB10-1-25	0 - 6	10/17/2010	Baxter Ave Embayment	NA	NA	1-Methylnaphthalene		0	6	6.0057			Yes	Include
HB10-1-27	0 - 6	10/18/2010	Area 1	NA	NA	1-Methylnaphthalene		0	6	-0.0027			No	Exclude
HB10-1-28	0 - 6	10/17/2010	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	0	6	84.0057			Yes	Include
HB10-1-28	0 - 12	10/17/2010	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	0	12	84.0057			Yes	Include
HB10-1-28	12 - 36	10/17/2010	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	12	36	84.0057			Yes	Include
HB10-1-28	36 - 60	10/17/2010	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	36	60	84.0057			Yes	Include
HB10-1-28	60 - 84	10/17/2010	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	60	84	84.0057			Yes	Include
HB10-1-28	60 - 96	10/17/2010	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	60	96	84.0057			Yes	Include
HB10-1-29	0 - 6	10/17/2010	Cummings Ave Slip	0.072 U	0.072	1-Methylnaphthalene	CS-1	0	6	83.9937			Yes	Include
HB10-1-29	0 - 12	10/17/2010	Cummings Ave Slip	0.072 U	0.072	1-Methylnaphthalene	CS-1	0	12	83.9937			Yes	Include
HB10-1-29	12 - 36	10/17/2010	Cummings Ave Slip	0.42	0.42	1-Methylnaphthalene	CS-1	12	36	83.9937			Yes	Include
HB10-1-29	36 - 60	10/17/2010	Cummings Ave Slip	0.16	0.16	1-Methylnaphthalene	CS-1	36	60	83.9937			Yes	Include
HB10-1-29	60 - 93	10/17/2010	Cummings Ave Slip	0.24	0.24	1-Methylnaphthalene	CS-1	60	93	83.9937			Yes	Include
HB10-1-30	0 - 6	10/18/2010	Baxter Ave Embayment	NA	NA	1-Methylnaphthalene		0	6	60.0053004			Yes	Include
HB10-1-30	0 - 12	10/18/2010	Baxter Ave Embayment	NA	NA	1-Methylnaphthalene		0	12	60.0053004			Yes	Include
HB10-1-30	12 - 36	10/18/2010	Baxter Ave Embayment	NA	NA	1-Methylnaphthalene		12	36	60.0053004			Yes	Include
HB10-1-30	36 - 60	10/18/2010	Baxter Ave Embayment	NA	NA	1-Methylnaphthalene		36	60	60.0053004			Yes	Include
HB10-1-30	60 - 77	10/18/2010	Baxter Ave Embayment	NA	NA	1-Methylnaphthalene		60	77	60.0053004			Yes	Include
HB10-1-31	0 - 6	10/18/2010	Baxter Ave Embayment	NA	NA	1-Methylnaphthalene	OC-11	0	6	35.9973			Yes	Include
HB10-1-31	0 - 12	10/18/2010	Baxter Ave Embayment	NA	NA	1-Methylnaphthalene	OC-11	0	12	35.9973			Yes	Include
HB10-1-31	12 - 36	10/18/2010	Baxter Ave Embayment	NA	NA	1-Methylnaphthalene	OC-11	12	36	35.9973			Yes	Include
HB10-2-18	0 - 6	10/18/2010	Area 2	NA	NA	1-Methylnaphthalene	OC-2	0	6	6.0053004			Yes	Include
HB10-2-26	0 - 6	10/16/2010	Area 2	0.007	0.007	1-Methylnaphthalene		0	6					Exclude
HB10-2-26	12 - 17	10/16/2010	Area 2	NA	NA	1-Methylnaphthalene		12	17					Exclude
HB10-2-32	0 - 6	10/18/2010	Area 2	NA	NA	1-Methylnaphthalene		0	6					Exclude
HB10-2-33	0 - 6	10/18/2010	Area 2	0.007	0.007	1-Methylnaphthalene		0	6	6.0012996			Yes	Include
HB10-2-33	12 - 22	10/18/2010	Area 2	NA	NA	1-Methylnaphthalene		12	22	6.0012996			No	Exclude
HB10-2-34	0 - 6	10/18/2010	Area 2	NA	NA	1-Methylnaphthalene	FC-7	0	6	6.0053004	0.816	include	Yes	Include
HB10-2-35	0 - 6	10/18/2010	Area 2	0.0058	0.0058	1-Methylnaphthalene		0	6	30.0012996			Yes	Include
HB10-2-35	0 - 12	10/18/2010	Area 2	NA	NA	1-Methylnaphthalene		0	12	30.0012996			Yes	Include
HB10-2-35	12 - 30	10/18/2010	Area 2	NA	NA	1-Methylnaphthalene		12	30	30.0012996			Yes	Include
HB10-2-36	0 - 6	10/18/2010	Area 2	NA	NA	1-Methylnaphthalene	FC-5	0	6	6.0053004	-29.184	include	Yes	Include
HB10-2-37	0 - 6	10/18/2010	Area 2	0.019	0.019	1-Methylnaphthalene		0	6	23.0013			Yes	Include
HB10-2-37	12 - 23	10/18/2010	Area 2	NA	NA	1-Methylnaphthalene		12	23	23.0013			Yes	Include
HB10-2-38	0 - 6	10/18/2010	Area 2	NA	NA	1-Methylnaphthalene	OC-6	0	6	38.0013			Yes	Include
HB10-2-38	0 - 12	10/18/2010	Area 2	NA	NA	1-Methylnaphthalene	OC-6	0	12	38.0013			Yes	Include
HB10-2-38	36 - 38	10/18/2010	Area 2	NA	NA	1-Methylnaphthalene	OC-6	36	38	38.0013			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB10-2-39	0 - 6	10/18/2010	Area 2	0.0062 J	0.0062	1-Methylnaphthalene		0	6	6.0012996			Yes	Include
HB10-2-39	0 - 12	10/18/2010	Area 2	NA	NA	1-Methylnaphthalene		0	12	6.0012996			Yes	Include
HB10-2-39	12 - 28	10/18/2010	Area 2	NA	NA	1-Methylnaphthalene		12	28	6.0012996			No	Exclude
HB10-2-40	0 - 6	10/18/2010	Area 2	0.024	0.024	1-Methylnaphthalene	OC-5	0	6	48.0053004			Yes	Include
HB10-2-40	0 - 12	10/18/2010	Area 2	NA	NA	1-Methylnaphthalene	OC-5	0	12	48.0053004			Yes	Include
HB10-2-40	12 - 36	10/18/2010	Area 2	NA	NA	1-Methylnaphthalene	OC-5	12	36	48.0053004			Yes	Include
HB10-2-40	36 - 48	10/18/2010	Area 2	NA	NA	1-Methylnaphthalene	OC-5	36	48	48.0053004			Yes	Include
HB10-2-41	0 - 6	10/18/2010	Area 2	0.17	0.17	1-Methylnaphthalene	FP-2	0	6	31.0012992			Yes	Include
HB10-2-41	0 - 12	10/18/2010	Area 2	NA	NA	1-Methylnaphthalene	FP-2	0	12	31.0012992			Yes	Include
HB10-2-41	12 - 31	10/18/2010	Area 2	NA	NA	1-Methylnaphthalene	FP-2	12	31	31.0012992			Yes	Include
HB10-2-42	0 - 6	10/18/2010	Area 2	0.027	0.027	1-Methylnaphthalene	FP-1	0	6	12.0012996			Yes	Include
HB10-2-42	0 - 12	10/18/2010	Area 2	NA	NA	1-Methylnaphthalene	FP-1	0	12	12.0012996			Yes	Include
HB10-2-42	12 - 30	10/18/2010	Area 2	NA	NA	1-Methylnaphthalene	FP-1	12	30	12.0012996			Yes	Include
HB10-2-43	0 - 6	10/17/2010	Area 2	0.0063	0.0063	1-Methylnaphthalene		0	6	22.0056996			Yes	Include
HB10-2-43	12 - 22	10/17/2010	Area 2	NA	NA	1-Methylnaphthalene		12	22	22.0056996			Yes	Include
HB10-2-44	0 - 6	10/18/2010	Area 2	NA	NA	1-Methylnaphthalene	FP-2	0	6	16.0012992			Yes	Include
HB10-2-44	12 - 16	10/18/2010	Area 2	NA	NA	1-Methylnaphthalene	FP-2	12	16	16.0012992			Yes	Include
HB10-2-45	0 - 6	10/18/2010	Area 2	NA	NA	1-Methylnaphthalene	FP-2	0	6	19.0012992			Yes	Include
HB10-2-45	12 - 19	10/18/2010	Area 2	NA	NA	1-Methylnaphthalene	FP-2	12	19	19.0012992			Yes	Include
HB13-01	0 - 6 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FP-1	0	6	48			Yes	Include
HB13-01	6 - 12 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FP-1	6	12	48			Yes	Include
HB13-01	12 - 18 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FP-1	12	18	48			Yes	Include
HB13-01	18 - 24 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FP-1	18	24	48			Yes	Include
HB13-01	24 - 30 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FP-1	24	30	48			Yes	Include
HB13-01	30 - 36 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FP-1	30	36	48			Yes	Include
HB13-01	36 - 42 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FP-1	36	42	48			Yes	Include
HB13-01	42 - 48 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FP-1	42	48	48			Yes	Include
HB13-01	48 - 54 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FP-1	48	54	48			No	Exclude
HB13-01	54 - 60 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FP-1	54	60	48			No	Exclude
HB13-01	60 - 66 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FP-1	60	66	48			No	Exclude
HB13-01	66 - 72 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FP-1	66	72	48			No	Exclude
HB13-01	72 - 74 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FP-1	72	74	48			No	Exclude
HB13-02	0 - 6 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene		0	6	29.9960004			Yes	Include
HB13-02	6 - 12 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene		6	12	29.9960004			Yes	Include
HB13-02	12 - 18 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene		12	18	29.9960004			Yes	Include
HB13-02	18 - 24 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene		18	24	29.9960004			Yes	Include
HB13-02	24 - 30 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene		24	30	29.9960004			Yes	Include
HB13-02	30 - 36 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene		30	36	29.9960004			No	Exclude
HB13-02	36 - 42 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene		36	42	29.9960004			No	Exclude
HB13-02	42 - 48 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene		42	48	29.9960004			No	Exclude
HB13-03	0 - 6 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	FP-2	0	6	46.0040004			Yes	Include
HB13-03	0 - 24	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	FP-2	0	24	46.0040004			Yes	Include
HB13-03	6 - 12 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	FP-2	6	12	46.0040004			Yes	Include
HB13-03	12 - 18 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	FP-2	12	18	46.0040004			Yes	Include
HB13-03	18 - 24 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	FP-2	18	24	46.0040004			Yes	Include
HB13-03	24 - 30 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	FP-2	24	30	46.0040004			Yes	Include
HB13-03	24 - 46	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	FP-2	24	46	46.0040004			Yes	Include
HB13-03	30 - 36 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	FP-2	30	36	46.0040004			Yes	Include
HB13-03	36 - 42 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	FP-2	36	42	46.0040004			Yes	Include
HB13-03	42 - 46 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	FP-2	42	46	46.0040004			Yes	Include
HB13-03	46 - 51 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	FP-2	46	51	46.0040004			Yes	Include
HB13-04	0 - 6 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	OC-1	0	6	41.9960004			Yes	Include
HB13-04	6 - 12 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	OC-1	6	12	41.9960004			Yes	Include
HB13-04	12 - 18 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	OC-1	12	18	41.9960004			Yes	Include
HB13-04	18 - 24 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	OC-1	18	24	41.9960004			Yes	Include
HB13-04	24 - 30 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	OC-1	24	30	41.9960004			Yes	Include
HB13-04	30 - 36 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	OC-1	30	36	41.9960004			Yes	Include
HB13-04	36 - 42 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	OC-1	36	42	41.9960004			Yes	Include
HB13-04	42 - 44 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	OC-1	42	44	41.9960004			No	Exclude
HB13-05	0 - 32 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-1	0	32	43.8	33.156	exclude	Yes	Exclude
HB13-05	32 - 38 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-1	32	38	43.8	33.156	include	Yes	Include
HB13-05	38 - 44 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-1	38	44	43.8	33.156	include	Yes	Include
HB13-05	44 - 50 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-1	44	50	43.8	33.156	include	No	Exclude
HB13-05	50 - 56 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-1	50	56	43.8	33.156	include	No	Exclude
HB13-05	56 - 62	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-1	56	62	43.8	33.156	include	No	Exclude
HB13-05	62 - 66	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-1	62	66	43.8	33.156	include	No	Exclude
HB13-05	68 - 74 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-1	68	74	43.8	33.156	include	No	Exclude
HB13-05	74 - 77 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-1	74	77	43.8	33.156	include	No	Exclude
HB13-06	0 - 6 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	OC-2	0	6	48			Yes	Include
HB13-06	6 - 12 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	OC-2	6	12	48			Yes	Include
HB13-06	12 - 18 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	OC-2	12	18	48			Yes	Include
HB13-06	18 - 24 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	OC-2	18	24	48			Yes	Include
HB13-06	24 - 30 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	OC-2	24	30	48			Yes	Include
HB13-06	30 - 36 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	OC-2	30	36	48			Yes	Include
HB13-06	36 - 42 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	OC-2	36	42	48			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
 Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-06	42 - 48 *	9/9/2013	Area 2	NA	NA	1-Methylnaphthalene	OC-2	42	48	48			Yes	Include
HB13-07	0 - 6 *	9/10/2013	Area 2	NA	NA	1-Methylnaphthalene		0	6					Exclude
HB13-07	6 - 12 *	9/10/2013	Area 2	NA	NA	1-Methylnaphthalene		6	12					Exclude
HB13-07	12 - 18 *	9/10/2013	Area 2	NA	NA	1-Methylnaphthalene		12	18					Exclude
HB13-07	18 - 24 *	9/10/2013	Area 2	NA	NA	1-Methylnaphthalene		18	24					Exclude
HB13-07	24 - 30 *	9/10/2013	Area 2	NA	NA	1-Methylnaphthalene		24	30					Exclude
HB13-07	30 - 36 *	9/10/2013	Area 2	NA	NA	1-Methylnaphthalene		30	36					Exclude
HB13-07	36 - 42 *	9/10/2013	Area 2	NA	NA	1-Methylnaphthalene		36	42					Exclude
HB13-07	42 - 48 *	9/10/2013	Area 2	NA	NA	1-Methylnaphthalene		42	48					Exclude
HB13-08	0 - 18	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-2	0	18	38.28	21.756	exclude	Yes	Exclude
HB13-08	18 - 36	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-2	18	36	38.28	21.756	include	Yes	Include
HB13-08	36 - 60	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-2	36	60	38.28	21.756	include	Yes	Include
HB13-08	60 - 92	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-2	60	92	38.28	21.756	include	No	Exclude
HB13-10	0 - 6 *	9/10/2013	Area 2	NA	NA	1-Methylnaphthalene		0	6	0.0039996			Yes	Include
HB13-11	0 - 18	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-4	0	18	25.2	23.964	exclude	Yes	Exclude
HB13-11	18 - 24 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-4	18	24	25.2	23.964	include	Yes	Include
HB13-11	18 - 42	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-4	18	42	25.2	23.964	include	Yes	Include
HB13-11	24 - 30 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-4	24	30	25.2	23.964	include	Yes	Include
HB13-11	30 - 36 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-4	30	36	25.2	23.964	include	No	Exclude
HB13-11	36 - 42 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-4	36	42	25.2	23.964	include	No	Exclude
HB13-11	42 - 48 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-4	42	48	25.2	23.964	include	No	Exclude
HB13-11	42 - 60	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-4	42	60	25.2	23.964	include	No	Exclude
HB13-11	48 - 54 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-4	48	54	25.2	23.964	include	No	Exclude
HB13-11	54 - 60 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-4	54	60	25.2	23.964	include	No	Exclude
HB13-12	0 - 6 *	9/10/2013	Area 2	NA	NA	1-Methylnaphthalene		0	6	5.9960004			Yes	Include
HB13-13	0 - 1 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	SND-5	0	1	0.9999996			Yes	Include
HB13-14	0 - 6 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-6	0	6	45.9999996	-5.316	include	Yes	Include
HB13-14	0 - 24	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-6	0	24	45.9999996	-5.316	include	Yes	Include
HB13-14	6 - 24 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-6	6	24	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 42 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-6	24	42	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 46	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-6	24	46	45.9999996	-5.316	include	Yes	Include
HB13-14	42 - 46 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-6	42	46	45.9999996	-5.316	include	Yes	Include
HB13-15	0 - 6 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-7	0	6	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	6 - 12 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-7	6	12	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	12 - 19 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-7	12	19	18.9999996	18.516	include	Yes	Include
HB13-16	0 - 6 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene		0	6	26.0000004			Yes	Include
HB13-16	6 - 12 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene		6	12	26.0000004			Yes	Include
HB13-16	12 - 18 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene		12	18	26.0000004			Yes	Include
HB13-16	18 - 24 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene		18	24	26.0000004			Yes	Include
HB13-16	24 - 27 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene		24	27	26.0000004			Yes	Include
HB13-17	0 - 12 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-7	0	12	24	16.2	exclude	Yes	Exclude
HB13-17	12 - 18 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-7	12	18	24	16.2	include	Yes	Include
HB13-17	18 - 24 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-7	18	24	24	16.2	include	Yes	Include
HB13-17	24 - 47 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-7	24	47	24	16.2	include	No	Exclude
HB13-18	0 - 6	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene		0	6	9.9999996			Yes	Include
HB13-18	6 - 10	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene		6	10	9.9999996			Yes	Include
HB13-18	10 - 16	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene		10	16	9.9999996			No	Exclude
HB13-19	0 - 6 *	9/13/2013	Area 2	NA	NA	1-Methylnaphthalene		0	6					Exclude
HB13-19	6 - 24 *	9/13/2013	Area 2	NA	NA	1-Methylnaphthalene		6	24					Exclude
HB13-19	18 - 20 *	9/13/2013	Area 2	NA	NA	1-Methylnaphthalene		18	20					Exclude
HB13-19	24 - 42 *	9/13/2013	Area 2	NA	NA	1-Methylnaphthalene		24	42					Exclude
HB13-19	42 - 61 *	9/13/2013	Area 2	NA	NA	1-Methylnaphthalene		42	61					Exclude
HB13-19	61 - 67 *	9/13/2013	Area 2	NA	NA	1-Methylnaphthalene		61	67					Exclude
HB13-20	0 - 6 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene		0	6	24			Yes	Include
HB13-20	0 - 12	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene		0	12	24			Yes	Include
HB13-20	6 - 12 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene		6	12	24			Yes	Include
HB13-20	12 - 18 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene		12	18	24			Yes	Include
HB13-20	12 - 24	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene		12	24	24			Yes	Include
HB13-20	18 - 24 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene		18	24	24			Yes	Include
HB13-20	24 - 30 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene		24	30	24			No	Exclude
HB13-20	24 - 36	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene		24	36	24			No	Exclude
HB13-20	30 - 36 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene		30	36	24			No	Exclude
HB13-20	36 - 42 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene		36	42	24			No	Exclude
HB13-20	36 - 48	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene		36	48	24			No	Exclude
HB13-20	42 - 48 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene		42	48	24			No	Exclude
HB13-21	0 - 6 *	9/13/2013	Area 2	NA	NA	1-Methylnaphthalene	OC-10	0	6	24			Yes	Include
HB13-21	6 - 24 *	9/13/2013	Area 2	NA	NA	1-Methylnaphthalene	OC-10	6	24	24			Yes	Include
HB13-21	24 - 48 *	9/13/2013	Area 2	NA	NA	1-Methylnaphthalene	OC-10	24	48	24			No	Exclude
HB13-21	48 - 72 *	9/13/2013	Area 2	NA	NA	1-Methylnaphthalene	OC-10	48	72	24			No	Exclude
HB13-21	72 - 88 *	9/13/2013	Area 2	NA	NA	1-Methylnaphthalene	OC-10	72	88	24			No	Exclude
HB13-22	0 - 28 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-7	0	28	24	36.72	exclude	Yes	Exclude
HB13-22	28 - 31 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene	FC-7	28	31	24	36.72	exclude	No	Exclude
HB13-23	0 - 12 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene	SND-5	0	12	27			Yes	Include
HB13-23	12 - 18 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene	SND-5	12	18	27			Yes	Include
HB13-23	18 - 24 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene	SND-5	18	24	27			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
 Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-23	24 - 32 *	9/12/2013	Area 2	NA	NA	1-Methylnaphthalene	SND-5	24	32	27			Yes	Include
HB13-24	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-3	0	6	6			Yes	Include
HB13-24	0 - 24 *	9/12/2013	HUGHITT AVE SLIP	NA	NA	1-Methylnaphthalene	HS-3	0	24	6			Yes	Include
HB13-24	6 - 24	9/12/2013	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-3	6	24	6			No	Exclude
HB13-25	0 - 6 *	9/12/2013	Area 1	NA	NA	1-Methylnaphthalene	OC-11	0	6	57			Yes	Include
HB13-25	0 - 18	9/12/2013	Area 1	NA	NA	1-Methylnaphthalene	OC-11	0	18	57			Yes	Include
HB13-25	6 - 18 *	9/12/2013	Area 1	NA	NA	1-Methylnaphthalene	OC-11	6	18	57			Yes	Include
HB13-25	18 - 36 *	9/12/2013	Area 1	NA	NA	1-Methylnaphthalene	OC-11	18	36	57			Yes	Include
HB13-25	18 - 57	9/12/2013	Area 1	NA	NA	1-Methylnaphthalene	OC-11	18	57	57			Yes	Include
HB13-25	36 - 57 *	9/12/2013	Area 1	NA	NA	1-Methylnaphthalene	OC-11	36	57	57			Yes	Include
HB13-26	0 - 12	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	FC-10	0	12	33	17.04	exclude	Yes	Exclude
HB13-26	12 - 18	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	FC-10	12	18	33	17.04	include	Yes	Include
HB13-26	18 - 33	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	FC-10	18	33	33	17.04	include	Yes	Include
HB13-27	0 - 6 *	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene		0	6					Exclude
HB13-27	0 - 32	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene		0	32					Exclude
HB13-28	0 - 8 *	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	FC-11	0	8	14.0000004	13.68	exclude	Yes	Exclude
HB13-28	8 - 14 *	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	FC-11	8	14	14.0000004	13.68	include	Yes	Include
HB13-28	14 - 26 *	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	FC-11	14	26	14.0000004	13.68	include	Yes	Include
HB13-28	26 - 40 *	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	FC-11	26	40	14.0000004	13.68	include	No	Exclude
HB13-29	0 - 6	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	FC-12/FC-13	0	6	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 12 *	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	FC-12/FC-13	0	12	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 18 *	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	FC-12/FC-13	0	18	44.0000004	1.044	include	Yes	Include
HB13-29	6 - 12	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	FC-12/FC-13	6	12	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 24	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	FC-12/FC-13	12	24	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 44 *	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	FC-12/FC-13	12	44	44.0000004	1.044	include	Yes	Include
HB13-29	24 - 44	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	FC-12/FC-13	24	44	44.0000004	1.044	include	Yes	Include
HB13-30	0 - 6	9/10/2013	Area 1	NA	NA	1-Methylnaphthalene	SND-1	0	6	60			Yes	Include
HB13-30	6 - 24	9/10/2013	Area 1	NA	NA	1-Methylnaphthalene	SND-1	6	24	60			Yes	Include
HB13-30	24 - 42	9/10/2013	Area 1	NA	NA	1-Methylnaphthalene	SND-1	24	42	60			Yes	Include
HB13-30	42 - 60	9/10/2013	Area 1	NA	NA	1-Methylnaphthalene	SND-1	42	60	60			Yes	Include
HB13-30	60 - 78	9/10/2013	Area 1	NA	NA	1-Methylnaphthalene	SND-1	60	78	60			No	Exclude
HB13-31	0 - 6	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	FC-16	0	6	27	2.76	include	Yes	Include
HB13-31	6 - 18	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	FC-16	6	18	27	2.76	include	Yes	Include
HB13-31	18 - 27	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	FC-16	18	27	27	2.76	include	Yes	Include
HB13-31	27 - 33	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	FC-16	27	33	27	2.76	include	No	Exclude
HB13-32	0 - 6	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	FC-14	0	6	26.0000004	-2.52	include	Yes	Include
HB13-32	6 - 18	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	FC-14	6	18	26.0000004	-2.52	include	Yes	Include
HB13-32	18 - 26	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	FC-14	18	26	26.0000004	-2.52	include	Yes	Include
HB13-32	26 - 32	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	FC-14	26	32	26.0000004	-2.52	include	Yes	Include
HB13-33	0 - 6	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene		0	6	12			Yes	Include
HB13-33	6 - 12	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene		6	12	12			Yes	Include
HB13-34	0 - 6	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene		0	6	0.5000004			Yes	Include
HB13-35	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene		0	6	3.9999996			Yes	Include
HB13-35	6 - 12	9/13/2013	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene		6	12	3.9999996			No	Exclude
HB13-37	2 - 6	9/10/2013	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-3	2	6	6			Yes	Include
HB13-38	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-3	0	6	6			Yes	Include
HB13-39	4 - 10	9/13/2013	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-2	4	10	27.9999996			Yes	Include
HB13-39	10 - 28	9/13/2013	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-2	10	28	27.9999996			Yes	Include
HB13-39	28 - 34	9/13/2013	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-2	28	34	27.9999996			No	Exclude
HB13-40	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-2	0	6	86.0000004			Yes	Include
HB13-40	0 - 24 *	9/13/2013	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-2	0	24	86.0000004			Yes	Include
HB13-40	6 - 24	9/13/2013	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-2	6	24	86.0000004			Yes	Include
HB13-40	24 - 48	9/13/2013	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-2	24	48	86.0000004			Yes	Include
HB13-40	48 - 72	9/13/2013	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-2	48	72	86.0000004			Yes	Include
HB13-40	72 - 86	9/13/2013	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-2	72	86	86.0000004			Yes	Include
HB13-41	0 - 6	9/10/2013	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-2	0	6	29.0000004			Yes	Include
HB13-41	0 - 24 *	9/10/2013	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-2	0	24	29.0000004			Yes	Include
HB13-41	6 - 24	9/10/2013	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-2	6	24	29.0000004			Yes	Include
HB13-41	24 - 29	9/10/2013	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-2	24	29	29.0000004			Yes	Include
HB13-42	0 - 6	9/11/2013	Cummings Ave Slip	0.2	0.2	1-Methylnaphthalene	CS-3	0	6	33			Yes	Include
HB13-42	6 - 24	9/11/2013	Cummings Ave Slip	0.047	0.047	1-Methylnaphthalene	CS-3	6	24	33			Yes	Include
HB13-42	24 - 33	9/11/2013	Cummings Ave Slip	0.027	0.027	1-Methylnaphthalene	CS-3	24	33	33			Yes	Include
HB13-42	33 - 36	9/11/2013	Cummings Ave Slip	NA	NA	1-Methylnaphthalene	CS-3	33	36	33			No	Exclude
HB13-43	0 - 6	9/11/2013	Cummings Ave Slip	0.23	0.23	1-Methylnaphthalene	CS-2	0	6	24			Yes	Include
HB13-43	0 - 24 *	9/11/2013	Cummings Ave Slip	NA	NA	1-Methylnaphthalene	CS-2	0	24	24			Yes	Include
HB13-43	6 - 24	9/11/2013	Cummings Ave Slip	0.092	0.092	1-Methylnaphthalene	CS-2	6	24	24			Yes	Include
HB13-45	0 - 6	9/11/2013	Cummings Ave Slip	0.22	0.22	1-Methylnaphthalene	CS-2	0	6	21			Yes	Include
HB13-45	6 - 21	9/11/2013	Cummings Ave Slip	0.25	0.25	1-Methylnaphthalene	CS-2	6	21	21			Yes	Include
HB13-47	0 - 6	9/10/2013	Fraser Ave Slip	NA	NA	1-Methylnaphthalene	FS-1	0	6	30.996			Yes	Include
HB13-47	6 - 24	9/10/2013	Fraser Ave Slip	NA	NA	1-Methylnaphthalene	FS-1	6	24	30.996			Yes	Include
HB13-47	24 - 31	9/10/2013	Fraser Ave Slip	NA	NA	1-Methylnaphthalene	FS-1	24	31	30.996			Yes	Include
HB13-47	31 - 37 *	9/10/2013	Fraser Ave Slip	NA	NA	1-Methylnaphthalene	FS-1	31	37	30.996			No	Exclude
HB13-48	0 - 6 *	9/10/2013	Fraser Ave Slip	NA	NA	1-Methylnaphthalene	FS-2	0	6	45.9999996			Yes	Include
HB13-48	0 - 24	9/10/2013	FRASER AVE SLIP	NA	NA	1-Methylnaphthalene	FS-2	0	24	45.9999996			Yes	Include
HB13-48	6 - 24 *	9/10/2013	Fraser Ave Slip	NA	NA	1-Methylnaphthalene	FS-2	6	24	45.9999996			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-48	24 - 42 *	9/10/2013	Fraser Ave Slip	NA	NA	1-Methylnaphthalene	FS-2	24	42	45.9999996			Yes	Include
HB13-48	24 - 46 *	9/10/2013	FRASER AVE SLIP	NA	NA	1-Methylnaphthalene	FS-2	24	46	45.9999996			Yes	Include
HB13-48	42 - 46 *	9/10/2013	Fraser Ave Slip	NA	NA	1-Methylnaphthalene	FS-2	42	46	45.9999996			Yes	Include
HB13-49	0 - 6	9/11/2013	Fraser Ave Slip	NA	NA	1-Methylnaphthalene	FS-2	0	6	30			Yes	Include
HB13-49	6 - 24	9/11/2013	Fraser Ave Slip	NA	NA	1-Methylnaphthalene	FS-2	6	24	30			Yes	Include
HB13-49	24 - 30	9/11/2013	Fraser Ave Slip	NA	NA	1-Methylnaphthalene	FS-2	24	30	30			Yes	Include
HB13-50	0 - 12 *	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	OC-12	0	12	47.0000004			Yes	Include
HB13-50	12 - 24 *	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	OC-12	12	24	47.0000004			Yes	Include
HB13-50	24 - 36 *	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	OC-12	24	36	47.0000004			Yes	Include
HB13-50	36 - 47 *	9/13/2013	Area 1	NA	NA	1-Methylnaphthalene	OC-12	36	47	47.0000004			Yes	Include
HB13-51	0 - 6 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene		0	6					Exclude
HB13-51	6 - 15 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene		6	15					Exclude
HB13-52	0 - 6 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	OC-10	0	6	12			Yes	Include
HB13-52	6 - 12 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	OC-10	6	12	12			Yes	Include
HB13-52	12 - 17 *	9/11/2013	Area 2	NA	NA	1-Methylnaphthalene	OC-10	12	17	12			No	Exclude
HB14-01	0 - 6	8/18/2014	Area 1	NA	NA	1-Methylnaphthalene	SND-1	0	6					Exclude
HB14-01	6 - 18	8/18/2014	Area 1	NA	NA	1-Methylnaphthalene	SND-1	6	18					Exclude
HB14-02	0 - 6	8/18/2014	Area 1	NA	NA	1-Methylnaphthalene	FC-15	0	6	17.004	-12.996	include	Yes	Include
HB14-02	6 - 14	8/18/2014	Area 1	NA	NA	1-Methylnaphthalene	FC-15	6	14	17.004	-12.996	include	Yes	Include
HB14-03	0 - 6	8/18/2014	Area 1	NA	NA	1-Methylnaphthalene	FC-15	0	6	29.997288	-2.472	include	Yes	Include
HB14-03	6 - 18	8/18/2014	Area 1	NA	NA	1-Methylnaphthalene	FC-15	6	18	29.997288	-2.472	include	Yes	Include
HB14-03	18 - 30	8/18/2014	Area 1	NA	NA	1-Methylnaphthalene	FC-15	18	30	29.997288	-2.472	include	Yes	Include
HB14-03	30 - 42	8/18/2014	Area 1	NA	NA	1-Methylnaphthalene	FC-15	30	42	29.997288	-2.472	include	No	Exclude
HB14-03	42 - 54	8/18/2014	Area 1	NA	NA	1-Methylnaphthalene	FC-15	42	54	29.997288	-2.472	include	No	Exclude
HB14-04	0 - 6	8/18/2014	Area 1	NA	NA	1-Methylnaphthalene		0	6	29.904			Yes	Include
HB14-04	6 - 18	8/18/2014	Area 1	NA	NA	1-Methylnaphthalene		6	18	29.904			Yes	Include
HB14-04	18 - 30	8/18/2014	Area 1	NA	NA	1-Methylnaphthalene		18	30	29.904			Yes	Include
HB14-05 G		8/18/2014	Area 1	NA	NA	1-Methylnaphthalene			#VALUE!					Exclude
HB14-06	0 - 6	8/18/2014	Area 1	NA	NA	1-Methylnaphthalene		0	6	30.588			Yes	Include
HB14-06	6 - 24	8/18/2014	Area 1	NA	NA	1-Methylnaphthalene		6	24	30.588			Yes	Include
HB14-07	0 - 6	8/18/2014	Area 1	NA	NA	1-Methylnaphthalene		0	6	78.012			Yes	Include
HB14-07	6 - 24	8/18/2014	Area 1	NA	NA	1-Methylnaphthalene		6	24	78.012			Yes	Include
HB14-07	24 - 42	8/18/2014	Area 1	NA	NA	1-Methylnaphthalene		24	42	78.012			Yes	Include
HB14-08	0 - 6	8/19/2014	Area 1	NA	NA	1-Methylnaphthalene		0	6	34.416			Yes	Include
HB14-08	6 - 19	8/19/2014	Area 1	NA	NA	1-Methylnaphthalene		6	19	34.416			Yes	Include
HB14-09	0 - 12	8/19/2014	Area 1	NA	NA	1-Methylnaphthalene	OC-16	0	12	12.003804			Yes	Include
HB14-09	12 - 24	8/19/2014	Area 1	NA	NA	1-Methylnaphthalene	OC-16	12	24	12.003804			Yes	Include
HB14-09	24 - 36	8/19/2014	Area 1	NA	NA	1-Methylnaphthalene	OC-16	24	36	12.003804			No	Exclude
HB14-09	36 - 48	8/19/2014	Area 1	NA	NA	1-Methylnaphthalene	OC-16	36	48	12.003804			No	Exclude
HB14-09	48 - 60	8/19/2014	Area 1	NA	NA	1-Methylnaphthalene	OC-16	48	60	12.003804			No	Exclude
HB14-09	60 - 72	8/19/2014	Area 1	NA	NA	1-Methylnaphthalene	OC-16	60	72	12.003804			No	Exclude
HB14-10	0 - 6	8/20/2014	Area 1	NA	NA	1-Methylnaphthalene		0	6	54.005544			Yes	Include
HB14-10	6 - 18	8/20/2014	Area 1	NA	NA	1-Methylnaphthalene		6	18	54.005544			Yes	Include
HB14-10	18 - 30	8/20/2014	Area 1	NA	NA	1-Methylnaphthalene		18	30	54.005544			Yes	Include
HB14-10	30 - 42	8/20/2014	Area 1	NA	NA	1-Methylnaphthalene		30	42	54.005544			Yes	Include
HB14-10	42 - 54	8/20/2014	Area 1	NA	NA	1-Methylnaphthalene		42	54	54.005544			Yes	Include
HB14-10	54 - 66	8/20/2014	Area 1	NA	NA	1-Methylnaphthalene		54	66	54.005544			Yes	Include
HB14-11	0 - 6	8/19/2014	Area 1	NA	NA	1-Methylnaphthalene	SND-2	0	6					Exclude
HB14-11	6 - 18	8/19/2014	Area 1	NA	NA	1-Methylnaphthalene	SND-2	6	18					Exclude
HB14-11	18 - 20	8/19/2014	Area 1	NA	NA	1-Methylnaphthalene	SND-2	18	20					Exclude
HB14-12	0 - 6	8/19/2014	Area 1	NA	NA	1-Methylnaphthalene	SND-4	0	6	26.34			Yes	Include
HB14-12	6 - 18	8/19/2014	Area 1	NA	NA	1-Methylnaphthalene	SND-4	6	18	26.34			Yes	Include
HB14-12	18 - 32	8/19/2014	Area 1	NA	NA	1-Methylnaphthalene	SND-4	18	32	26.34			Yes	Include
HB14-13	0 - 6	8/19/2014	Area 2	NA	NA	1-Methylnaphthalene	SND-5	0	6	-0.648			No	Exclude
HB14-13	6 - 11	8/19/2014	Area 2	NA	NA	1-Methylnaphthalene	SND-5	6	11	-0.648			No	Exclude
HB14-14	0 - 6	8/20/2014	Area 2	NA	NA	1-Methylnaphthalene	OC-4	0	6	101.997672			Yes	Include
HB14-14	4 - 6	8/20/2014	Area 2	NA	NA	1-Methylnaphthalene	OC-4	4	6	101.997672			Yes	Include
HB14-14	6 - 18	8/20/2014	Area 2	NA	NA	1-Methylnaphthalene	OC-4	6	18	101.997672			Yes	Include
HB14-14	6 - 30	8/20/2014	Area 2	NA	NA	1-Methylnaphthalene	OC-4	6	30	101.997672			Yes	Include
HB14-14	18 - 30	8/20/2014	Area 2	NA	NA	1-Methylnaphthalene	OC-4	18	30	101.997672			Yes	Include
HB14-14	30 - 42	8/20/2014	Area 2	NA	NA	1-Methylnaphthalene	OC-4	30	42	101.997672			Yes	Include
HB14-14	30 - 54	8/20/2014	Area 2	NA	NA	1-Methylnaphthalene	OC-4	30	54	101.997672			Yes	Include
HB14-14	42 - 54	8/20/2014	Area 2	NA	NA	1-Methylnaphthalene	OC-4	42	54	101.997672			Yes	Include
HB14-14	54 - 66	8/20/2014	Area 2	NA	NA	1-Methylnaphthalene	OC-4	54	66	101.997672			Yes	Include
HB14-14	54 - 78	8/20/2014	Area 2	NA	NA	1-Methylnaphthalene	OC-4	54	78	101.997672			Yes	Include
HB14-14	66 - 78	8/20/2014	Area 2	NA	NA	1-Methylnaphthalene	OC-4	66	78	101.997672			Yes	Include
HB14-14	78 - 90	8/20/2014	Area 2	NA	NA	1-Methylnaphthalene	OC-4	78	90	101.997672			Yes	Include
HB14-14	78 - 102	8/20/2014	Area 2	NA	NA	1-Methylnaphthalene	OC-4	78	102	101.997672			Yes	Include
HB14-14	90 - 102	8/20/2014	Area 2	NA	NA	1-Methylnaphthalene	OC-4	90	102	101.997672			Yes	Include
HB14-14	102 - 111	8/20/2014	Area 2	NA	NA	1-Methylnaphthalene	OC-4	102	111	101.997672			No	Exclude
HB15-01	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	0	12	51.096			Yes	Include
HB15-01	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	12	24	51.096			Yes	Include
HB15-01	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	24	36	51.096			Yes	Include
HB15-01	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	36	48	51.096			Yes	Include
HB15-01	48 - 57	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	48	57	51.096			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB15-02	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	0	12	48.000696			Yes	Include
HB15-02	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	12	24	48.000696			Yes	Include
HB15-02	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	24	36	48.000696			Yes	Include
HB15-02	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	36	48	48.000696			Yes	Include
HB15-03	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	0	12	67.9950564			Yes	Include
HB15-03	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	12	24	67.9950564			Yes	Include
HB15-03	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	24	36	67.9950564			Yes	Include
HB15-03	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	36	48	67.9950564			Yes	Include
HB15-03	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	48	60	67.9950564			Yes	Include
HB15-03	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	60	68	67.9950564			Yes	Include
HB15-03R	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	0	12	67.9950564			Yes	Include
HB15-03R	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	12	24	67.9950564			Yes	Include
HB15-03R	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	24	36	67.9950564			Yes	Include
HB15-03R	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	36	48	67.9950564			Yes	Include
HB15-03R	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	48	60	67.9950564			Yes	Include
HB15-03R	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	60	68	67.9950564			Yes	Include
HB15-04	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	0	12	63.84			Yes	Include
HB15-04	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	12	24	63.84			Yes	Include
HB15-04	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	24	36	63.84			Yes	Include
HB15-04	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	36	48	63.84			Yes	Include
HB15-04	48 - 59	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	48	59	63.84			Yes	Include
HB15-05	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	0	12	71.994852			Yes	Include
HB15-05	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	12	24	71.994852			Yes	Include
HB15-05	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	24	36	71.994852			Yes	Include
HB15-05	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	36	48	71.994852			Yes	Include
HB15-05	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	48	60	71.994852			Yes	Include
HB15-05	60 - 72	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	60	72	71.994852			Yes	Include
HB15-05	72 - 80	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-1	72	80	71.994852			No	Exclude
HB15-06	0 - 9	6/23/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene	HS-2	0	9	9.000636			Yes	Include
HB15-07	0 - 12	6/23/2015	Cummings Ave Slip	NA	NA	1-Methylnaphthalene	CS-1	0	12	90.9955116			Yes	Include
HB15-07	12 - 24	6/23/2015	Cummings Ave Slip	NA	NA	1-Methylnaphthalene	CS-1	12	24	90.9955116			Yes	Include
HB15-07	24 - 36	6/23/2015	Cummings Ave Slip	NA	NA	1-Methylnaphthalene	CS-1	24	36	90.9955116			Yes	Include
HB15-07	36 - 48	6/23/2015	Cummings Ave Slip	NA	NA	1-Methylnaphthalene	CS-1	36	48	90.9955116			Yes	Include
HB15-07	48 - 60	6/23/2015	Cummings Ave Slip	NA	NA	1-Methylnaphthalene	CS-1	48	60	90.9955116			Yes	Include
HB15-07	60 - 72	6/23/2015	Cummings Ave Slip	NA	NA	1-Methylnaphthalene	CS-1	60	72	90.9955116			Yes	Include
HB15-07	72 - 84	6/23/2015	Cummings Ave Slip	NA	NA	1-Methylnaphthalene	CS-1	72	84	90.9955116			Yes	Include
HB15-07	84 - 91	6/23/2015	Cummings Ave Slip	NA	NA	1-Methylnaphthalene	CS-1	84	91	90.9955116			Yes	Include
HB15-08	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	1-Methylnaphthalene	CS-2	0	12	65.997804			Yes	Include
HB15-08	12 - 24	6/24/2015	Cummings Ave Slip	NA	NA	1-Methylnaphthalene	CS-2	12	24	65.997804			Yes	Include
HB15-08	24 - 36	6/24/2015	Cummings Ave Slip	NA	NA	1-Methylnaphthalene	CS-2	24	36	65.997804			Yes	Include
HB15-08	36 - 48	6/24/2015	Cummings Ave Slip	NA	NA	1-Methylnaphthalene	CS-2	36	48	65.997804			Yes	Include
HB15-08	48 - 60	6/24/2015	Cummings Ave Slip	NA	NA	1-Methylnaphthalene	CS-2	48	60	65.997804			Yes	Include
HB15-08	60 - 66	6/24/2015	Cummings Ave Slip	NA	NA	1-Methylnaphthalene	CS-2	60	66	65.997804			Yes	Include
HB15-09	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	1-Methylnaphthalene	CS-3	0	12	45.396			Yes	Include
HB15-09	12 - 17	6/24/2015	Cummings Ave Slip	NA	NA	1-Methylnaphthalene	CS-3	12	17	45.396			Yes	Include
HB15-10	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	1-Methylnaphthalene		0	12	-0.936			No	Exclude
HB15-11	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	1-Methylnaphthalene	CS-5	0	12	27.9944796			Yes	Include
HB15-11	12 - 24	6/24/2015	Cummings Ave Slip	NA	NA	1-Methylnaphthalene	CS-5	12	24	27.9944796			Yes	Include
HB15-11	24 - 28	6/24/2015	Cummings Ave Slip	NA	NA	1-Methylnaphthalene	CS-5	24	28	27.9944796			Yes	Include
HB15-12	0 - 12	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-1	0	12	29.994876			Yes	Include
HB15-12	12 - 24	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-1	12	24	29.994876			Yes	Include
HB15-12	24 - 30	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-1	24	30	29.994876			Yes	Include
HB15-13	0 - 12	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-1	0	12	64.0033716			Yes	Include
HB15-13	12 - 24	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-1	12	24	64.0033716			Yes	Include
HB15-13	24 - 36	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-1	24	36	64.0033716			Yes	Include
HB15-13	36 - 48	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-1	36	48	64.0033716			Yes	Include
HB15-13	48 - 60	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-1	48	60	64.0033716			Yes	Include
HB15-13	60 - 64	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-1	60	64	64.0033716			Yes	Include
HB15-14	0 - 12	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-1	0	12	23.996196			Yes	Include
HB15-14	12 - 24	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-1	12	24	23.996196			Yes	Include
HB15-14	24 - 28	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-1	24	28	23.996196			No	Exclude
HB15-14	28 - 35	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-1	28	35	23.996196			No	Exclude
HB15-15	0 - 12	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-2	0	12	19.0051356			Yes	Include
HB15-15	12 - 19	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-2	12	19	19.0051356			Yes	Include
HB15-15R	0 - 12	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-2	0	12	18.9999996			Yes	Include
HB15-15R	12 - 19	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-2	12	19	18.9999996			Yes	Include
HB15-16	0 - 12	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-1	0	12	8.304			Yes	Include
HB15-16	12 - 19	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-1	12	19	8.304			No	Exclude
HB15-17	0 - 12	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-2	0	12	36.004608			Yes	Include
HB15-17	12 - 24	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-2	12	24	36.004608			Yes	Include
HB15-17	24 - 36	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-2	24	36	36.004608			Yes	Include
HB15-17	36 - 48	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-2	36	48	36.004608			Yes	Include
HB15-17	48 - 54	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-2	48	54	36.004608			No	Exclude
HB15-18	0 - 12	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-2	0	12	23.999508			Yes	Include
HB15-18	12 - 24	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene	FP-2	12	24	23.999508			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
 Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB15-19	0 - 12	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene		0	12					Exclude
HB15-19	12 - 24	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene		12	24					Exclude
HB15-19	24 - 32	6/24/2015	Area 2	NA	NA	1-Methylnaphthalene		24	32					Exclude
HB15-20	0 - 12	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-3	0	12	33.864			Yes	Include
HB15-20	12 - 24	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-3	12	24	33.864			Yes	Include
HB15-20	24 - 28	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-3	24	28	33.864			Yes	Include
HB15-20B	0 - 6	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-13	0	6	11.996892			Yes	Include
HB15-20B	6 - 12	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-13	6	12	11.996892			Yes	Include
HB15-21G	15 - 21	6/29/2015	Fraser Ave Slip	NA	NA	1-Methylnaphthalene		15	21					Exclude
HB15-22G	0 - 6	6/29/2015	Fraser Ave Slip	NA	NA	1-Methylnaphthalene	OC-8	0	6	6			Yes	Include
HB15-23	0 - 12	6/25/2015	Fraser Ave Slip	NA	NA	1-Methylnaphthalene	FS-1	0	12	55.02			Yes	Include
HB15-23	12 - 24	6/25/2015	Fraser Ave Slip	NA	NA	1-Methylnaphthalene	FS-1	12	24	55.02			Yes	Include
HB15-23	24 - 36	6/25/2015	Fraser Ave Slip	NA	NA	1-Methylnaphthalene	FS-1	24	36	55.02			Yes	Include
HB15-23	36 - 48	6/25/2015	Fraser Ave Slip	NA	NA	1-Methylnaphthalene	FS-1	36	48	55.02			Yes	Include
HB15-23	48 - 56	6/25/2015	Fraser Ave Slip	NA	NA	1-Methylnaphthalene	FS-1	48	56	55.02			Yes	Include
HB15-25	0 - 12	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-1	0	12	77.4			Yes	Include
HB15-25	12 - 24	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-1	12	24	77.4			Yes	Include
HB15-25	24 - 36	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-1	24	36	77.4			Yes	Include
HB15-25	36 - 48	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-1	36	48	77.4			Yes	Include
HB15-25	48 - 60	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-1	48	60	77.4			Yes	Include
HB15-25	60 - 72	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-1	60	72	77.4			Yes	Include
HB15-25	72 - 88	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-1	72	88	77.4			Yes	Include
HB15-26	0 - 12	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	FC-2	0	12	38.28	6.36	include	Yes	Include
HB15-26	12 - 24	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	FC-2	12	24	38.28	6.36	include	Yes	Include
HB15-26	24 - 36	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	FC-2	24	36	38.28	6.36	include	Yes	Include
HB15-26	36 - 46	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	FC-2	36	46	38.28	6.36	include	Yes	Include
HB15-27	0 - 12	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	FC-3	0	12	33.6	14.64	exclude	Yes	Exclude
HB15-27	12 - 24	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	FC-3	12	24	33.6	14.64	include	Yes	Include
HB15-27	24 - 36	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	FC-3	24	36	33.6	14.64	include	Yes	Include
HB15-27	36 - 48	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	FC-3	36	48	33.6	14.64	include	No	Exclude
HB15-27	48 - 60	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	FC-3	48	60	33.6	14.64	include	No	Exclude
HB15-27	60 - 71	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	FC-3	60	71	33.6	14.64	include	No	Exclude
HB15-28	0 - 12	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-7	0	12	11.994072			Yes	Include
HB15-28	12 - 24	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-7	12	24	11.994072			No	Exclude
HB15-28	24 - 30	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-7	24	30	11.994072			No	Exclude
HB15-30	0 - 12	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene		0	12	43.776			Yes	Include
HB15-30	12 - 24	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene		12	24	43.776			Yes	Include
HB15-30	24 - 36	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene		24	36	43.776			Yes	Include
HB15-30	36 - 50	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene		36	50	43.776			Yes	Include
HB15-31	0 - 12	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene		0	12					Exclude
HB15-31	12 - 20	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene		12	20					Exclude
HB15-32	0 - 12	6/25/2015	Area 1	NA	NA	1-Methylnaphthalene	SND-4	0	12	11.995236			Yes	Include
HB15-32	12 - 26	6/25/2015	Area 1	NA	NA	1-Methylnaphthalene	SND-4	12	26	11.995236			No	Exclude
HB15-33	0 - 12	6/25/2015	Area 1	NA	NA	1-Methylnaphthalene		0	12	26.292			Yes	Include
HB15-33	12 - 24	6/25/2015	Area 1	NA	NA	1-Methylnaphthalene		12	24	26.292			Yes	Include
HB15-33	24 - 39	6/25/2015	Area 1	NA	NA	1-Methylnaphthalene		24	39	26.292			Yes	Include
HB15-34	0 - 12	6/25/2015	Area 1	NA	NA	1-Methylnaphthalene	FC-11	0	12		35.52	exclude		Exclude
HB15-34	12 - 24	6/25/2015	Area 1	NA	NA	1-Methylnaphthalene	FC-11	12	24		35.52	exclude		Exclude
HB15-34	24 - 32	6/25/2015	Area 1	NA	NA	1-Methylnaphthalene	FC-11	24	32		35.52	exclude		Exclude
HB15-35	0 - 12	6/25/2015	Area 1	NA	NA	1-Methylnaphthalene	FC-16	0	12	74.28	-6.48	include	Yes	Include
HB15-35	12 - 24	6/25/2015	Area 1	NA	NA	1-Methylnaphthalene	FC-16	12	24	74.28	-6.48	include	Yes	Include
HB15-35	24 - 36	6/25/2015	Area 1	NA	NA	1-Methylnaphthalene	FC-16	24	36	74.28	-6.48	include	Yes	Include
HB15-35	36 - 48	6/25/2015	Area 1	NA	NA	1-Methylnaphthalene	FC-16	36	48	74.28	-6.48	include	Yes	Include
HB15-35	48 - 60	6/25/2015	Area 1	NA	NA	1-Methylnaphthalene	FC-16	48	60	74.28	-6.48	include	Yes	Include
HB15-35	60 - 72	6/25/2015	Area 1	NA	NA	1-Methylnaphthalene	FC-16	60	72	74.28	-6.48	include	Yes	Include
HB15-36G	15 - 36	6/29/2015	Area 2	NA	NA	1-Methylnaphthalene		15	36					Exclude
HB15-37	0 - 12	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-9	0	12	51.048			Yes	Include
HB15-37	12 - 24	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-9	12	24	51.048			Yes	Include
HB15-37	24 - 36	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-9	24	36	51.048			Yes	Include
HB15-37	36 - 48	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-9	36	48	51.048			Yes	Include
HB15-37	48 - 60	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-9	48	60	51.048			Yes	Include
HB15-37	60 - 74	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-9	60	74	51.048			No	Exclude
HB15-38	0 - 12	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-9	0	12	83.184			Yes	Include
HB15-38	12 - 24	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-9	12	24	83.184			Yes	Include
HB15-38	24 - 36	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-9	24	36	83.184			Yes	Include
HB15-38	36 - 48	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-9	36	48	83.184			Yes	Include
HB15-38	48 - 60	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-9	48	60	83.184			Yes	Include
HB15-38	60 - 72	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-9	60	72	83.184			Yes	Include
HB15-38	72 - 84	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-9	72	84	83.184			Yes	Include
HB15-38	84 - 96	6/25/2015	Area 2	NA	NA	1-Methylnaphthalene	OC-9	84	96	83.184			No	Exclude
HB15-G28	0 - 6	6/25/2015	Hughitt Ave Slip	NA	NA	1-Methylnaphthalene		0	6					Exclude
HB15-HC20A	0 - 6	6/25/2015	Area 1	NA	NA	1-Methylnaphthalene	OC-13	0	6	6.003036			Yes	Include
HB2A_4	0 - 6	5/12/2007	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	0	6	48.00432			Yes	Include
HB2A_4	6 - 24	5/12/2007	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	6	24	48.00432			Yes	Include
HB2A_4	24 - 48	5/12/2007	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	24	48	48.00432			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB2A_6	0 - 5	5/2/2007	Area 1	NA	NA	2-Methylnaphthalene		0	5					Exclude
HB2A_7	0 - 5	5/10/2007	Area 1	NA	NA	2-Methylnaphthalene	SND-1	0	5					Exclude
HB2A_8	0 - 5	5/10/2007	Area 1	NA	NA	2-Methylnaphthalene	FC-12/FC-13	0	5	4.9944804	79.824	exclude	Yes	Exclude
HB2A_11	0 - 5	5/10/2007	Area 1	NA	NA	2-Methylnaphthalene		0	5					Exclude
HB2A_13	0 - 5	5/2/2007	Area 1	NA	NA	2-Methylnaphthalene		0	5					Exclude
HB2A_16	0 - 5	5/2/2007	Area 1	NA	NA	2-Methylnaphthalene		0	5					Exclude
HB2A_210	0 - 6	5/16/2007	Area 1	NA	NA	2-Methylnaphthalene		0	6					Exclude
HB2A_210	6 - 24	5/16/2007	Area 1	NA	NA	2-Methylnaphthalene		6	24					Exclude
HB2A_210	24 - 48	5/16/2007	Area 1	NA	NA	2-Methylnaphthalene		24	48					Exclude
HB2A_GENES	0 - 5	5/22/2007	Cummings Ave Slip	NA	NA	2-Methylnaphthalene		0	5					Exclude
HB2B_17	0 - 6	5/12/2007	Fraser Ave Slip	NA	NA	2-Methylnaphthalene	FS-2	0	6	24.005676			Yes	Include
HB2B_17	6 - 24	5/12/2007	Fraser Ave Slip	NA	NA	2-Methylnaphthalene	FS-2	6	24	24.005676			Yes	Include
HB2B_18	0 - 6	5/7/2007	Area 2	NA	NA	2-Methylnaphthalene	FP-1	0	6	47.997552			Yes	Include
HB2B_18	6 - 24	5/7/2007	Area 2	NA	NA	2-Methylnaphthalene	FP-1	6	24	47.997552			Yes	Include
HB2B_18	24 - 48	5/7/2007	Area 2	NA	NA	2-Methylnaphthalene	FP-1	24	48	47.997552			Yes	Include
HB2B_19	0 - 6	5/2/2007	Area 2	NA	NA	2-Methylnaphthalene	OC-1	0	6	6.001728			Yes	Include
HB2B_19	6 - 24	5/2/2007	Area 2	NA	NA	2-Methylnaphthalene	OC-1	6	24	6.001728			Yes	Include
HB2B_20	0 - 6	5/2/2007	Area 2	NA	NA	2-Methylnaphthalene	OC-9	0	6	23.997336			Yes	Include
HB2B_20	6 - 24	5/2/2007	Area 2	NA	NA	2-Methylnaphthalene	OC-9	6	24	23.997336			Yes	Include
HB2B_20	24 - 48	5/2/2007	Area 2	NA	NA	2-Methylnaphthalene	OC-9	24	48	23.997336			No	Exclude
HB2B_21	0 - 5	5/2/2007	Area 2	NA	NA	2-Methylnaphthalene		0	5					Exclude
HB2B_22	0 - 5	5/2/2007	Area 2	NA	NA	2-Methylnaphthalene	OC-5	0	5	5.0028204			Yes	Include
HB3A_GENES	0 - 5	9/6/2007	Cummings Ave Slip	NA	NA	2-Methylnaphthalene		0	5					Exclude
HB10-1-01	0 - 6	10/16/2010	Area 1	0.028	0.028	2-Methylnaphthalene		0	6					Exclude
HB10-1-01	0 - 12	10/16/2010	Area 1	0.0071 U	0.0071	2-Methylnaphthalene		0	12					Exclude
HB10-1-01	36 - 40	10/16/2010	Area 1	0.0051 U	0.0051	2-Methylnaphthalene		36	40					Exclude
HB10-1-02	0 - 6	10/16/2010	Area 1	0.014 J	0.014	2-Methylnaphthalene		0	6	23.0027508			Yes	Include
HB10-1-02	12 - 23	10/16/2010	Area 1	0.010 J	0.01	2-Methylnaphthalene		12	23	23.0027508			Yes	Include
HB10-1-03	0 - 6	10/16/2010	Area 1	0.028	0.028	2-Methylnaphthalene	FC-17	0	6	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	0 - 12	10/16/2010	Area 1	0.012	0.012	2-Methylnaphthalene	FC-17	0	12	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	12 - 36	10/16/2010	Area 1	0.012	0.012	2-Methylnaphthalene	FC-17	12	36	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	36 - 60	10/16/2010	Area 1	0.038	0.038	2-Methylnaphthalene	FC-17	36	60	59.99475	49.872	include	Yes	Include
HB10-1-03	60 - 84	10/16/2010	Area 1	0.038	0.038	2-Methylnaphthalene	FC-17	60	84	59.99475	49.872	include	No	Exclude
HB10-1-04	0 - 6	10/17/2010	Area 1	0.0082	0.0082	2-Methylnaphthalene		0	6					Exclude
HB10-1-04	0 - 12	10/17/2010	Area 1	0.034	0.034	2-Methylnaphthalene		0	12					Exclude
HB10-1-04	12 - 36	10/17/2010	Area 1	0.027	0.027	2-Methylnaphthalene		12	36					Exclude
HB10-1-04	36 - 50	10/17/2010	Area 1	0.024	0.024	2-Methylnaphthalene		36	50					Exclude
HB10-1-05	0 - 6	10/16/2010	Area 1	0.013	0.013	2-Methylnaphthalene	OC-17	0	6	5.9987496			Yes	Include
HB10-1-07	0 - 6	10/17/2010	Area 1	0.44	0.44	2-Methylnaphthalene	OC-15	0	6	6.0057			Yes	Include
HB10-1-07	0 - 12	10/17/2010	Area 1	0.045	0.045	2-Methylnaphthalene	OC-15	0	12	6.0057			Yes	Include
HB10-1-07	12 - 36	10/17/2010	Area 1	0.023	0.023	2-Methylnaphthalene	OC-15	12	36	6.0057			No	Exclude
HB10-1-07	60 - 64	10/17/2010	Area 1	0.0040 U	0.004	2-Methylnaphthalene	OC-15	60	64	6.0057			No	Exclude
HB10-1-08	0 - 6	10/17/2010	Area 1	0.027	0.027	2-Methylnaphthalene		0	6	36.0057			Yes	Include
HB10-1-08	0 - 12	10/17/2010	Area 1	0.026	0.026	2-Methylnaphthalene		0	12	36.0057			Yes	Include
HB10-1-08	12 - 36	10/17/2010	Area 1	0.084	0.084	2-Methylnaphthalene		12	36	36.0057			Yes	Include
HB10-1-10	0 - 6	10/18/2010	Area 1	0.063 U	0.063	2-Methylnaphthalene	SND-1	0	6					Exclude
HB10-1-11	0 - 6	10/16/2010	Area 1	0.018	0.018	2-Methylnaphthalene		0	6	20.9987496			Yes	Include
HB10-1-11	12 - 21	10/16/2010	Area 1	0.030 J	0.03	2-Methylnaphthalene		12	21	20.9987496			Yes	Include
HB10-1-12	0 - 6	10/17/2010	Area 1	0.024	0.024	2-Methylnaphthalene		0	6					Exclude
HB10-1-12	0 - 12	10/17/2010	Area 1	0.065	0.065	2-Methylnaphthalene		0	12					Exclude
HB10-1-12	12 - 34	10/17/2010	Area 1	0.016	0.016	2-Methylnaphthalene		12	34					Exclude
HB10-1-13	0 - 6	10/18/2010	Area 1	0.05	0.05	2-Methylnaphthalene	FC-12/FC-13	0	6	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	0 - 12	10/18/2010	Area 1	0.048	0.048	2-Methylnaphthalene	FC-12/FC-13	0	12	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	12 - 36	10/18/2010	Area 1	0.024	0.024	2-Methylnaphthalene	FC-12/FC-13	12	36	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	60 - 67	10/18/2010	Area 1	0.048	0.048	2-Methylnaphthalene	FC-12/FC-13	60	67	36.0053004	42.816	include	No	Exclude
HB10-1-14	0 - 6	10/17/2010	Area 1	0.019	0.019	2-Methylnaphthalene		0	6	66.0057			Yes	Include
HB10-1-14	0 - 12	10/17/2010	Area 1	0.027	0.027	2-Methylnaphthalene		0	12	66.0057			Yes	Include
HB10-1-14	12 - 36	10/17/2010	Area 1	0.043	0.043	2-Methylnaphthalene		12	36	66.0057			Yes	Include
HB10-1-14	60 - 66	10/17/2010	Area 1	0.054	0.054	2-Methylnaphthalene		60	66	66.0057			Yes	Include
HB10-1-15	0 - 6	10/18/2010	Area 1	0.0043 U	0.0043	2-Methylnaphthalene	OC-13	0	6	16.0056996			Yes	Include
HB10-1-15	12 - 16	10/18/2010	Area 1	0.033	0.033	2-Methylnaphthalene	OC-13	12	16	16.0056996			Yes	Include
HB10-1-16	0 - 6	10/17/2010	Hughitt Ave Slip	0.012	0.012	2-Methylnaphthalene	HS-3	0	6	31.0056996			Yes	Include
HB10-1-16	0 - 12	10/17/2010	Hughitt Ave Slip	0.34 U	0.34	2-Methylnaphthalene	HS-3	0	12	31.0056996			Yes	Include
HB10-1-16	12 - 31	10/17/2010	Hughitt Ave Slip	0.049	0.049	2-Methylnaphthalene	HS-3	12	31	31.0056996			Yes	Include
HB10-1-17	0 - 6	10/17/2010	Area 1	0.028	0.028	2-Methylnaphthalene	OC-14	0	6	12			Yes	Include
HB10-1-20	0 - 6	10/17/2010	Hughitt Ave Slip	0.049	0.049	2-Methylnaphthalene		0	6	6.0057			Yes	Include
HB10-1-21	0 - 6	10/18/2010	Cummings Ave Slip	0.0063 J	0.0063	2-Methylnaphthalene		0	6	6.0012996			Yes	Include
HB10-1-21	12 - 23	10/18/2010	Cummings Ave Slip	0.023 J	0.023	2-Methylnaphthalene		12	23	6.0012996			No	Exclude
HB10-1-23	0 - 6	10/17/2010	Area 1	0.019	0.019	2-Methylnaphthalene		0	6	36.0057			Yes	Include
HB10-1-23	0 - 12	10/17/2010	Area 1	0.049	0.049	2-Methylnaphthalene		0	12	36.0057			Yes	Include
HB10-1-23	12 - 36	10/17/2010	Area 1	0.092	0.092	2-Methylnaphthalene		12	36	36.0057			Yes	Include
HB10-1-24	0 - 6	10/18/2010	Cummings Ave Slip	0.022	0.022	2-Methylnaphthalene	CS-4	0	6	36.0047496			Yes	Include
HB10-1-24	0 - 12	10/18/2010	Cummings Ave Slip	0.086	0.086	2-Methylnaphthalene	CS-4	0	12	36.0047496			Yes	Include
HB10-1-24	12 - 36	10/18/2010	Cummings Ave Slip	0.088	0.088	2-Methylnaphthalene	CS-4	12	36	36.0047496			Yes	Include
HB10-1-25	0 - 6	10/17/2010	Baxter Ave Embayment	0.023	0.023	2-Methylnaphthalene		0	6	6.0057			Yes	Include

**Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI**

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB10-1-27	0 - 6	10/18/2010	Area 1	0.0089 U	0.0089	2-Methylnaphthalene		0	6	-0.0027			No	Exclude
HB10-1-28	0 - 6	10/17/2010	Hughitt Ave Slip	0.039	0.039	2-Methylnaphthalene	HS-1	0	6	84.0057			Yes	Include
HB10-1-28	0 - 12	10/17/2010	Hughitt Ave Slip	0.04	0.04	2-Methylnaphthalene	HS-1	0	12	84.0057			Yes	Include
HB10-1-28	12 - 36	10/17/2010	Hughitt Ave Slip	0.042	0.042	2-Methylnaphthalene	HS-1	12	36	84.0057			Yes	Include
HB10-1-28	36 - 60	10/17/2010	Hughitt Ave Slip	0.057	0.057	2-Methylnaphthalene	HS-1	36	60	84.0057			Yes	Include
HB10-1-28	60 - 84	10/17/2010	Hughitt Ave Slip	0.097	0.097	2-Methylnaphthalene	HS-1	60	84	84.0057			Yes	Include
HB10-1-28	60 - 96	10/17/2010	Hughitt Ave Slip	0.018	0.018	2-Methylnaphthalene	HS-1	60	96	84.0057			Yes	Include
HB10-1-29	0 - 6	10/17/2010	Cummings Ave Slip	0.072 U	0.072	2-Methylnaphthalene	CS-1	0	6	83.9937			Yes	Include
HB10-1-29	0 - 12	10/17/2010	Cummings Ave Slip	0.075	0.075	2-Methylnaphthalene	CS-1	0	12	83.9937			Yes	Include
HB10-1-29	12 - 36	10/17/2010	Cummings Ave Slip	0.5	0.5	2-Methylnaphthalene	CS-1	12	36	83.9937			Yes	Include
HB10-1-29	36 - 60	10/17/2010	Cummings Ave Slip	0.17	0.17	2-Methylnaphthalene	CS-1	36	60	83.9937			Yes	Include
HB10-1-29	60 - 93	10/17/2010	Cummings Ave Slip	0.26	0.26	2-Methylnaphthalene	CS-1	60	93	83.9937			Yes	Include
HB10-1-30	0 - 6	10/18/2010	Baxter Ave Embayment	0.054	0.054	2-Methylnaphthalene		0	6	60.0053004			Yes	Include
HB10-1-30	0 - 12	10/18/2010	Baxter Ave Embayment	0.11	0.11	2-Methylnaphthalene		0	12	60.0053004			Yes	Include
HB10-1-30	12 - 36	10/18/2010	Baxter Ave Embayment	0.065	0.065	2-Methylnaphthalene		12	36	60.0053004			Yes	Include
HB10-1-30	36 - 60	10/18/2010	Baxter Ave Embayment	0.028	0.028	2-Methylnaphthalene		36	60	60.0053004			Yes	Include
HB10-1-30	60 - 77	10/18/2010	Baxter Ave Embayment	0.053	0.053	2-Methylnaphthalene		60	77	60.0053004			Yes	Include
HB10-1-31	0 - 6	10/18/2010	Baxter Ave Embayment	0.057	0.057	2-Methylnaphthalene	OC-11	0	6	35.9973			Yes	Include
HB10-1-31	0 - 12	10/18/2010	Baxter Ave Embayment	0.082	0.082	2-Methylnaphthalene	OC-11	0	12	35.9973			Yes	Include
HB10-1-31	12 - 36	10/18/2010	Baxter Ave Embayment	0.035	0.035	2-Methylnaphthalene	OC-11	12	36	35.9973			Yes	Include
HB10-2-18	0 - 6	10/18/2010	Area 2	0.051	0.051	2-Methylnaphthalene	OC-2	0	6	6.0053004			Yes	Include
HB10-2-26	0 - 6	10/16/2010	Area 2	0.0095	0.0095	2-Methylnaphthalene		0	6					Exclude
HB10-2-26	12 - 17	10/16/2010	Area 2	0.024 J	0.024	2-Methylnaphthalene		12	17					Exclude
HB10-2-32	0 - 6	10/18/2010	Area 2	0.0079 UJ	0.0079	2-Methylnaphthalene		0	6					Exclude
HB10-2-33	0 - 6	10/18/2010	Area 2	0.01	0.01	2-Methylnaphthalene		0	6	6.0012996			Yes	Include
HB10-2-33	12 - 22	10/18/2010	Area 2	0.031	0.031	2-Methylnaphthalene		12	22	6.0012996			No	Exclude
HB10-2-34	0 - 6	10/18/2010	Area 2	0.043	0.043	2-Methylnaphthalene	FC-7	0	6	6.0053004	0.816	include	Yes	Include
HB10-2-35	0 - 6	10/18/2010	Area 2	0.0092	0.0092	2-Methylnaphthalene		0	6	30.0012996			Yes	Include
HB10-2-35	0 - 12	10/18/2010	Area 2	0.021	0.021	2-Methylnaphthalene		0	12	30.0012996			Yes	Include
HB10-2-35	12 - 30	10/18/2010	Area 2	0.053	0.053	2-Methylnaphthalene		12	30	30.0012996			Yes	Include
HB10-2-36	0 - 6	10/18/2010	Area 2	0.056	0.056	2-Methylnaphthalene	FC-5	0	6	6.0053004	-29.184	include	Yes	Include
HB10-2-37	0 - 6	10/18/2010	Area 2	0.021	0.021	2-Methylnaphthalene		0	6	23.0013			Yes	Include
HB10-2-37	12 - 23	10/18/2010	Area 2	0.0093	0.0093	2-Methylnaphthalene		12	23	23.0013			Yes	Include
HB10-2-38	0 - 6	10/18/2010	Area 2	0.0076 U	0.0076	2-Methylnaphthalene	OC-6	0	6	38.0013			Yes	Include
HB10-2-38	0 - 12	10/18/2010	Area 2	0.034	0.034	2-Methylnaphthalene	OC-6	0	12	38.0013			Yes	Include
HB10-2-38	36 - 38	10/18/2010	Area 2	0.16	0.16	2-Methylnaphthalene	OC-6	36	38	38.0013			Yes	Include
HB10-2-39	0 - 6	10/18/2010	Area 2	0.0073 J	0.0073	2-Methylnaphthalene		0	6	6.0012996			Yes	Include
HB10-2-39	0 - 12	10/18/2010	Area 2	0.011	0.011	2-Methylnaphthalene		0	12	6.0012996			Yes	Include
HB10-2-39	12 - 28	10/18/2010	Area 2	0.0088 U	0.0088	2-Methylnaphthalene		12	28	6.0012996			No	Exclude
HB10-2-40	0 - 6	10/18/2010	Area 2	0.033	0.033	2-Methylnaphthalene	OC-5	0	6	48.0053004			Yes	Include
HB10-2-40	0 - 12	10/18/2010	Area 2	0.015	0.015	2-Methylnaphthalene	OC-5	0	12	48.0053004			Yes	Include
HB10-2-40	12 - 36	10/18/2010	Area 2	0.0044 U	0.0044	2-Methylnaphthalene	OC-5	12	36	48.0053004			Yes	Include
HB10-2-40	36 - 48	10/18/2010	Area 2	0.0043 U	0.0043	2-Methylnaphthalene	OC-5	36	48	48.0053004			Yes	Include
HB10-2-41	0 - 6	10/18/2010	Area 2	0.19	0.19	2-Methylnaphthalene	FP-2	0	6	31.0012992			Yes	Include
HB10-2-41	0 - 12	10/18/2010	Area 2	0.01	0.01	2-Methylnaphthalene	FP-2	0	12	31.0012992			Yes	Include
HB10-2-41	12 - 31	10/18/2010	Area 2	0.0080 U	0.008	2-Methylnaphthalene	FP-2	12	31	31.0012992			Yes	Include
HB10-2-42	0 - 6	10/18/2010	Area 2	0.035	0.035	2-Methylnaphthalene	FP-1	0	6	12.0012996			Yes	Include
HB10-2-42	0 - 12	10/18/2010	Area 2	NA	NA	2-Methylnaphthalene	FP-1	0	12	12.0012996			Yes	Include
HB10-2-42	12 - 30	10/18/2010	Area 2	0.071	0.071	2-Methylnaphthalene	FP-1	12	30	12.0012996			Yes	Include
HB10-2-43	0 - 6	10/17/2010	Area 2	0.008	0.008	2-Methylnaphthalene		0	6	22.0056996			Yes	Include
HB10-2-43	12 - 22	10/17/2010	Area 2	0.11	0.11	2-Methylnaphthalene		12	22	22.0056996			Yes	Include
HB10-2-44	0 - 6	10/18/2010	Area 2	0.074	0.074	2-Methylnaphthalene	FP-2	0	6	16.0012992			Yes	Include
HB10-2-44	12 - 16	10/18/2010	Area 2	0.089	0.089	2-Methylnaphthalene	FP-2	12	16	16.0012992			Yes	Include
HB10-2-45	0 - 6	10/18/2010	Area 2	0.029	0.029	2-Methylnaphthalene	FP-2	0	6	19.0012992			Yes	Include
HB10-2-45	12 - 19	10/18/2010	Area 2	0.1	0.1	2-Methylnaphthalene	FP-2	12	19	19.0012992			Yes	Include
HB13-01	0 - 6 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene	FP-1	0	6	48			Yes	Include
HB13-01	6 - 12 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene	FP-1	6	12	48			Yes	Include
HB13-01	12 - 18 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene	FP-1	12	18	48			Yes	Include
HB13-01	18 - 24 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene	FP-1	18	24	48			Yes	Include
HB13-01	24 - 30 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene	FP-1	24	30	48			Yes	Include
HB13-01	30 - 36 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene	FP-1	30	36	48			Yes	Include
HB13-01	36 - 42 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene	FP-1	36	42	48			Yes	Include
HB13-01	42 - 48 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene	FP-1	42	48	48			Yes	Include
HB13-01	48 - 54 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene	FP-1	48	54	48			No	Exclude
HB13-01	54 - 60 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene	FP-1	54	60	48			No	Exclude
HB13-01	60 - 66 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene	FP-1	60	66	48			No	Exclude
HB13-01	66 - 72 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene	FP-1	66	72	48			No	Exclude
HB13-01	72 - 74 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene	FP-1	72	74	48			No	Exclude
HB13-02	0 - 6 *	9/9/2013	Area 2	0.016 U	0.016	2-Methylnaphthalene		0	6	29.9960004			Yes	Include
HB13-02	6 - 12 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene		6	12	29.9960004			Yes	Include
HB13-02	12 - 18 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene		12	18	29.9960004			Yes	Include
HB13-02	18 - 24 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene		18	24	29.9960004			Yes	Include
HB13-02	24 - 30 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene		24	30	29.9960004			Yes	Include
HB13-02	30 - 36 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene		30	36	29.9960004			No	Exclude
HB13-02	36 - 42 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene		36	42	29.9960004			No	Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-02	42 - 48 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene		42	48	29.9960004			No	Exclude
HB13-03	0 - 6 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	FP-2	0	6	46.0040004			Yes	Include
HB13-03	0 - 24	9/9/2013	Area 2	0.61	0.61	2-Methylnaphthalene	FP-2	0	24	46.0040004			Yes	Include
HB13-03	6 - 12 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	FP-2	6	12	46.0040004			Yes	Include
HB13-03	12 - 18 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	FP-2	12	18	46.0040004			Yes	Include
HB13-03	18 - 24 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	FP-2	18	24	46.0040004			Yes	Include
HB13-03	24 - 30 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	FP-2	24	30	46.0040004			Yes	Include
HB13-03	24 - 46	9/9/2013	Area 2	0.29	0.29	2-Methylnaphthalene	FP-2	24	46	46.0040004			Yes	Include
HB13-03	30 - 36 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	FP-2	30	36	46.0040004			Yes	Include
HB13-03	36 - 42 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	FP-2	36	42	46.0040004			Yes	Include
HB13-03	42 - 46 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	FP-2	42	46	46.0040004			Yes	Include
HB13-03	46 - 51 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	FP-2	46	51	46.0040004			Yes	Include
HB13-04	0 - 6 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	OC-1	0	6	41.9960004			Yes	Include
HB13-04	6 - 12 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	OC-1	6	12	41.9960004			Yes	Include
HB13-04	12 - 18 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	OC-1	12	18	41.9960004			Yes	Include
HB13-04	18 - 24 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	OC-1	18	24	41.9960004			Yes	Include
HB13-04	24 - 30 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	OC-1	24	30	41.9960004			Yes	Include
HB13-04	30 - 36 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	OC-1	30	36	41.9960004			Yes	Include
HB13-04	36 - 42 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	OC-1	36	42	41.9960004			Yes	Include
HB13-04	42 - 44 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	OC-1	42	44	41.9960004			No	Exclude
HB13-05	0 - 32 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-1	0	32	43.8	33.156	exclude	Yes	Exclude
HB13-05	32 - 38 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-1	32	38	43.8	33.156	include	Yes	Include
HB13-05	38 - 44 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-1	38	44	43.8	33.156	include	Yes	Include
HB13-05	44 - 50 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-1	44	50	43.8	33.156	include	No	Exclude
HB13-05	50 - 56 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-1	50	56	43.8	33.156	include	No	Exclude
HB13-05	56 - 62	9/9/2013	Area 2	0.96	0.96	2-Methylnaphthalene	FC-1	56	62	43.8	33.156	include	No	Exclude
HB13-05	62 - 66	9/9/2013	Area 2	0.12	0.12	2-Methylnaphthalene	FC-1	62	66	43.8	33.156	include	No	Exclude
HB13-05	68 - 74 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-1	68	74	43.8	33.156	include	No	Exclude
HB13-05	74 - 77 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-1	74	77	43.8	33.156	include	No	Exclude
HB13-06	0 - 6 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	OC-2	0	6	48			Yes	Include
HB13-06	6 - 12 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	OC-2	6	12	48			Yes	Include
HB13-06	12 - 18 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	OC-2	12	18	48			Yes	Include
HB13-06	18 - 24 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	OC-2	18	24	48			Yes	Include
HB13-06	24 - 30 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	OC-2	24	30	48			Yes	Include
HB13-06	30 - 36 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	OC-2	30	36	48			Yes	Include
HB13-06	36 - 42 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	OC-2	36	42	48			Yes	Include
HB13-06	42 - 48 *	9/9/2013	Area 2	NA	NA	2-Methylnaphthalene	OC-2	42	48	48			Yes	Include
HB13-07	0 - 6 *	9/10/2013	Area 2	NA	NA	2-Methylnaphthalene		0	6					Exclude
HB13-07	6 - 12 *	9/10/2013	Area 2	NA	NA	2-Methylnaphthalene		6	12					Exclude
HB13-07	12 - 18 *	9/10/2013	Area 2	NA	NA	2-Methylnaphthalene		12	18					Exclude
HB13-07	18 - 24 *	9/10/2013	Area 2	NA	NA	2-Methylnaphthalene		18	24					Exclude
HB13-07	24 - 30 *	9/10/2013	Area 2	NA	NA	2-Methylnaphthalene		24	30					Exclude
HB13-07	30 - 36 *	9/10/2013	Area 2	NA	NA	2-Methylnaphthalene		30	36					Exclude
HB13-07	36 - 42 *	9/10/2013	Area 2	NA	NA	2-Methylnaphthalene		36	42					Exclude
HB13-07	42 - 48 *	9/10/2013	Area 2	NA	NA	2-Methylnaphthalene		42	48					Exclude
HB13-08	0 - 18	9/11/2013	Area 2	0.15	0.15	2-Methylnaphthalene	FC-2	0	18	38.28	21.756	exclude	Yes	Exclude
HB13-08	18 - 36	9/11/2013	Area 2	0.3	0.3	2-Methylnaphthalene	FC-2	18	36	38.28	21.756	include	Yes	Include
HB13-08	36 - 60	9/11/2013	Area 2	0.38	0.38	2-Methylnaphthalene	FC-2	36	60	38.28	21.756	include	Yes	Include
HB13-08	60 - 92	9/11/2013	Area 2	0.21	0.21	2-Methylnaphthalene	FC-2	60	92	38.28	21.756	include	No	Exclude
HB13-10	0 - 6 *	9/10/2013	Area 2	NA	NA	2-Methylnaphthalene		0	6	0.0039996			Yes	Include
HB13-11	0 - 18	9/11/2013	Area 2	0.17	0.17	2-Methylnaphthalene	FC-4	0	18	25.2	23.964	exclude	Yes	Exclude
HB13-11	18 - 24 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-4	18	24	25.2	23.964	include	Yes	Include
HB13-11	18 - 42	9/11/2013	Area 2	0.23	0.23	2-Methylnaphthalene	FC-4	18	42	25.2	23.964	include	Yes	Include
HB13-11	24 - 30 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-4	24	30	25.2	23.964	include	Yes	Include
HB13-11	30 - 36 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-4	30	36	25.2	23.964	include	No	Exclude
HB13-11	36 - 42 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-4	36	42	25.2	23.964	include	No	Exclude
HB13-11	42 - 48 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-4	42	48	25.2	23.964	include	No	Exclude
HB13-11	42 - 60	9/11/2013	Area 2	0.1	0.1	2-Methylnaphthalene	FC-4	42	60	25.2	23.964	include	No	Exclude
HB13-11	48 - 54 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-4	48	54	25.2	23.964	include	No	Exclude
HB13-11	54 - 60 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-4	54	60	25.2	23.964	include	No	Exclude
HB13-12	0 - 6 *	9/10/2013	Area 2	NA	NA	2-Methylnaphthalene		0	6	5.9960004			Yes	Include
HB13-13	0 - 1 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene	SND-5	0	1	0.9999996			Yes	Include
HB13-14	0 - 6 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-6	0	6	45.9999996	-5.316	include	Yes	Include
HB13-14	0 - 24	9/12/2013	Area 2	0.023	0.023	2-Methylnaphthalene	FC-6	0	24	45.9999996	-5.316	include	Yes	Include
HB13-14	6 - 24 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-6	6	24	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 42 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-6	24	42	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 46	9/12/2013	Area 2	0.033	0.033	2-Methylnaphthalene	FC-6	24	46	45.9999996	-5.316	include	Yes	Include
HB13-14	42 - 46 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-6	42	46	45.9999996	-5.316	include	Yes	Include
HB13-15	0 - 6 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-7	0	6	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	6 - 12 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-7	6	12	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	12 - 19 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-7	12	19	18.9999996	18.516	include	Yes	Include
HB13-16	0 - 6 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene		0	6	26.0000004			Yes	Include
HB13-16	6 - 12 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene		6	12	26.0000004			Yes	Include
HB13-16	12 - 18 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene		12	18	26.0000004			Yes	Include
HB13-16	18 - 24 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene		18	24	26.0000004			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-16	24 - 27 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene		24	27	26.0000004			Yes	Include
HB13-17	0 - 12 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-7	0	12	24	16.2	exclude	Yes	Exclude
HB13-17	12 - 18 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-7	12	18	24	16.2	include	Yes	Include
HB13-17	18 - 24 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-7	18	24	24	16.2	include	Yes	Include
HB13-17	24 - 47 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-7	24	47	24	16.2	include	No	Exclude
HB13-18	0 - 6	9/12/2013	Area 2	0.18	0.18	2-Methylnaphthalene		0	6	9.9999996			Yes	Include
HB13-18	6 - 10	9/12/2013	Area 2	0.039	0.039	2-Methylnaphthalene		6	10	9.9999996			Yes	Include
HB13-18	10 - 16	9/12/2013	Area 2	0.0097 U	0.0097	2-Methylnaphthalene		10	16	9.9999996			No	Exclude
HB13-19	0 - 6 *	9/13/2013	Area 2	NA	NA	2-Methylnaphthalene		0	6					Exclude
HB13-19	6 - 24 *	9/13/2013	Area 2	NA	NA	2-Methylnaphthalene		6	24					Exclude
HB13-19	18 - 20 *	9/13/2013	Area 2	NA	NA	2-Methylnaphthalene		18	20					Exclude
HB13-19	24 - 42 *	9/13/2013	Area 2	NA	NA	2-Methylnaphthalene		24	42					Exclude
HB13-19	42 - 61 *	9/13/2013	Area 2	NA	NA	2-Methylnaphthalene		42	61					Exclude
HB13-19	61 - 67 *	9/13/2013	Area 2	NA	NA	2-Methylnaphthalene		61	67					Exclude
HB13-20	0 - 6 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene		0	6	24			Yes	Include
HB13-20	0 - 12	9/12/2013	Area 2	0.021	0.021	2-Methylnaphthalene		0	12	24			Yes	Include
HB13-20	6 - 12 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene		6	12	24			Yes	Include
HB13-20	12 - 18 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene		12	18	24			Yes	Include
HB13-20	12 - 24	9/12/2013	Area 2	0.036	0.036	2-Methylnaphthalene		12	24	24			Yes	Include
HB13-20	18 - 24 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene		18	24	24			Yes	Include
HB13-20	24 - 30 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene		24	30	24			No	Exclude
HB13-20	24 - 36	9/12/2013	Area 2	0.031	0.031	2-Methylnaphthalene		24	36	24			No	Exclude
HB13-20	30 - 36 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene		30	36	24			No	Exclude
HB13-20	36 - 42 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene		36	42	24			No	Exclude
HB13-20	36 - 48	9/12/2013	Area 2	0.013	0.013	2-Methylnaphthalene		36	48	24			No	Exclude
HB13-20	42 - 48 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene		42	48	24			No	Exclude
HB13-21	0 - 6 *	9/13/2013	Area 2	NA	NA	2-Methylnaphthalene	OC-10	0	6	24			Yes	Include
HB13-21	6 - 24 *	9/13/2013	Area 2	NA	NA	2-Methylnaphthalene	OC-10	6	24	24			Yes	Include
HB13-21	24 - 48 *	9/13/2013	Area 2	NA	NA	2-Methylnaphthalene	OC-10	24	48	24			No	Exclude
HB13-21	48 - 72 *	9/13/2013	Area 2	NA	NA	2-Methylnaphthalene	OC-10	48	72	24			No	Exclude
HB13-21	72 - 88 *	9/13/2013	Area 2	NA	NA	2-Methylnaphthalene	OC-10	72	88	24			No	Exclude
HB13-22	0 - 28 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-7	0	28	24	36.72	exclude	Yes	Exclude
HB13-22	28 - 31 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene	FC-7	28	31	24	36.72	exclude	No	Exclude
HB13-23	0 - 12 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene	SND-5	0	12	27			Yes	Include
HB13-23	12 - 18 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene	SND-5	12	18	27			Yes	Include
HB13-23	18 - 24 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene	SND-5	18	24	27			Yes	Include
HB13-23	24 - 32 *	9/12/2013	Area 2	NA	NA	2-Methylnaphthalene	SND-5	24	32	27			Yes	Include
HB13-24	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-3	0	6	6			Yes	Include
HB13-24	0 - 24 *	9/12/2013	HUGHITT AVE SLIP	0.22	0.22	2-Methylnaphthalene	HS-3	0	24	6			Yes	Include
HB13-24	6 - 24	9/12/2013	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-3	6	24	6			No	Exclude
HB13-25	0 - 6 *	9/12/2013	Area 1	NA	NA	2-Methylnaphthalene	OC-11	0	6	57			Yes	Include
HB13-25	0 - 18	9/12/2013	Area 1	0.044	0.044	2-Methylnaphthalene	OC-11	0	18	57			Yes	Include
HB13-25	6 - 18 *	9/12/2013	Area 1	NA	NA	2-Methylnaphthalene	OC-11	6	18	57			Yes	Include
HB13-25	18 - 36 *	9/12/2013	Area 1	NA	NA	2-Methylnaphthalene	OC-11	18	36	57			Yes	Include
HB13-25	18 - 57	9/12/2013	Area 1	0.017	0.017	2-Methylnaphthalene	OC-11	18	57	57			Yes	Include
HB13-25	36 - 57 *	9/12/2013	Area 1	NA	NA	2-Methylnaphthalene	OC-11	36	57	57			Yes	Include
HB13-26	0 - 12	9/13/2013	Area 1	0.013 U	0.013	2-Methylnaphthalene	FC-10	0	12	33	17.04	exclude	Yes	Exclude
HB13-26	12 - 18	9/13/2013	Area 1	0.045	0.045	2-Methylnaphthalene	FC-10	12	18	33	17.04	include	Yes	Include
HB13-26	18 - 33	9/13/2013	Area 1	0.053	0.053	2-Methylnaphthalene	FC-10	18	33	33	17.04	include	Yes	Include
HB13-27	0 - 6 *	9/13/2013	Area 1	NA	NA	2-Methylnaphthalene		0	6					Exclude
HB13-27	0 - 32	9/13/2013	Area 1	0.0097 U	0.0097	2-Methylnaphthalene		0	32					Exclude
HB13-28	0 - 8 *	9/13/2013	Area 1	NA	NA	2-Methylnaphthalene	FC-11	0	8	14.0000004	13.68	exclude	Yes	Exclude
HB13-28	8 - 14 *	9/13/2013	Area 1	NA	NA	2-Methylnaphthalene	FC-11	8	14	14.0000004	13.68	include	Yes	Include
HB13-28	14 - 26 *	9/13/2013	Area 1	NA	NA	2-Methylnaphthalene	FC-11	14	26	14.0000004	13.68	include	Yes	Include
HB13-28	26 - 40 *	9/13/2013	Area 1	NA	NA	2-Methylnaphthalene	FC-11	26	40	14.0000004	13.68	include	No	Exclude
HB13-29	0 - 6	9/13/2013	Area 1	NA	NA	2-Methylnaphthalene	FC-12/FC-13	0	6	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 12 *	9/13/2013	Area 1	0.027	0.027	2-Methylnaphthalene	FC-12/FC-13	0	12	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 18 *	9/13/2013	Area 1	NA	NA	2-Methylnaphthalene	FC-12/FC-13	0	18	44.0000004	1.044	include	Yes	Include
HB13-29	6 - 12	9/13/2013	Area 1	NA	NA	2-Methylnaphthalene	FC-12/FC-13	6	12	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 24	9/13/2013	Area 1	NA	NA	2-Methylnaphthalene	FC-12/FC-13	12	24	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 44 *	9/13/2013	Area 1	0.027	0.027	2-Methylnaphthalene	FC-12/FC-13	12	44	44.0000004	1.044	include	Yes	Include
HB13-29	24 - 44	9/13/2013	Area 1	NA	NA	2-Methylnaphthalene	FC-12/FC-13	24	44	44.0000004	1.044	include	Yes	Include
HB13-30	0 - 6	9/10/2013	Area 1	NA	NA	2-Methylnaphthalene	SND-1	0	6	60			Yes	Include
HB13-30	6 - 24	9/10/2013	Area 1	NA	NA	2-Methylnaphthalene	SND-1	6	24	60			Yes	Include
HB13-30	24 - 42	9/10/2013	Area 1	NA	NA	2-Methylnaphthalene	SND-1	24	42	60			Yes	Include
HB13-30	42 - 60	9/10/2013	Area 1	NA	NA	2-Methylnaphthalene	SND-1	42	60	60			Yes	Include
HB13-30	60 - 78	9/10/2013	Area 1	NA	NA	2-Methylnaphthalene	SND-1	60	78	60			No	Exclude
HB13-31	0 - 6	9/13/2013	Area 1	NA	NA	2-Methylnaphthalene	FC-16	0	6	27	2.76	include	Yes	Include
HB13-31	6 - 18	9/13/2013	Area 1	NA	NA	2-Methylnaphthalene	FC-16	6	18	27	2.76	include	Yes	Include
HB13-31	18 - 27	9/13/2013	Area 1	NA	NA	2-Methylnaphthalene	FC-16	18	27	27	2.76	include	Yes	Include
HB13-31	27 - 33	9/13/2013	Area 1	NA	NA	2-Methylnaphthalene	FC-16	27	33	27	2.76	include	No	Exclude
HB13-32	0 - 6	9/13/2013	Area 1	NA	NA	2-Methylnaphthalene	FC-14	0	6	26.0000004	-2.52	include	Yes	Include
HB13-32	6 - 18	9/13/2013	Area 1	NA	NA	2-Methylnaphthalene	FC-14	6	18	26.0000004	-2.52	include	Yes	Include
HB13-32	18 - 26	9/13/2013	Area 1	NA	NA	2-Methylnaphthalene	FC-14	18	26	26.0000004	-2.52	include	Yes	Include
HB13-32	26 - 32	9/13/2013	Area 1	NA	NA	2-Methylnaphthalene	FC-14	26	32	26.0000004	-2.52	include	Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB13-33	0 - 6	9/13/2013	Area 1	NA	NA	2-Methylnaphthalene		0	6	12			Yes	Include
HB13-33	6 - 12	9/13/2013	Area 1	NA	NA	2-Methylnaphthalene		6	12	12			Yes	Include
HB13-34	0 - 6	9/13/2013	Area 1	NA	NA	2-Methylnaphthalene		0	6	0.5000004			Yes	Include
HB13-35	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene		0	6	3.9999996			Yes	Include
HB13-35	6 - 12	9/13/2013	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene		6	12	3.9999996			No	Exclude
HB13-37	2 - 6	9/10/2013	Hughitt Ave Slip	0.51	0.51	2-Methylnaphthalene	HS-3	2	6	6			Yes	Include
HB13-38	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-3	0	6	6			Yes	Include
HB13-39	4 - 10	9/13/2013	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-2	4	10	27.9999996			Yes	Include
HB13-39	10 - 28	9/13/2013	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-2	10	28	27.9999996			Yes	Include
HB13-39	28 - 34	9/13/2013	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-2	28	34	27.9999996			No	Exclude
HB13-40	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-2	0	6	86.0000004			Yes	Include
HB13-40	0 - 24 *	9/13/2013	Hughitt Ave Slip	0.033	0.033	2-Methylnaphthalene	HS-2	0	24	86.0000004			Yes	Include
HB13-40	6 - 24	9/13/2013	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-2	6	24	86.0000004			Yes	Include
HB13-40	24 - 48	9/13/2013	Hughitt Ave Slip	0.26	0.26	2-Methylnaphthalene	HS-2	24	48	86.0000004			Yes	Include
HB13-40	48 - 72	9/13/2013	Hughitt Ave Slip	0.031	0.031	2-Methylnaphthalene	HS-2	48	72	86.0000004			Yes	Include
HB13-40	72 - 86	9/13/2013	Hughitt Ave Slip	0.013 U	0.013	2-Methylnaphthalene	HS-2	72	86	86.0000004			Yes	Include
HB13-41	0 - 6	9/10/2013	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-2	0	6	29.0000004			Yes	Include
HB13-41	0 - 24 *	9/10/2013	Hughitt Ave Slip	0.25	0.25	2-Methylnaphthalene	HS-2	0	24	29.0000004			Yes	Include
HB13-41	6 - 24	9/10/2013	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-2	6	24	29.0000004			Yes	Include
HB13-41	24 - 29	9/10/2013	Hughitt Ave Slip	0.19	0.19	2-Methylnaphthalene	HS-2	24	29	29.0000004			Yes	Include
HB13-42	0 - 6	9/11/2013	Cummings Ave Slip	0.59	0.59	2-Methylnaphthalene	CS-3	0	6	33			Yes	Include
HB13-42	6 - 24	9/11/2013	Cummings Ave Slip	0.087	0.087	2-Methylnaphthalene	CS-3	6	24	33			Yes	Include
HB13-42	24 - 33	9/11/2013	Cummings Ave Slip	0.076	0.076	2-Methylnaphthalene	CS-3	24	33	33			Yes	Include
HB13-42	33 - 36	9/11/2013	Cummings Ave Slip	0.010 U	0.01	2-Methylnaphthalene	CS-3	33	36	33			No	Exclude
HB13-43	0 - 6	9/11/2013	Cummings Ave Slip	0.32	0.32	2-Methylnaphthalene	CS-2	0	6	24			Yes	Include
HB13-43	0 - 24 *	9/11/2013	Cummings Ave Slip	NA	NA	2-Methylnaphthalene	CS-2	0	24	24			Yes	Include
HB13-43	6 - 24	9/11/2013	Cummings Ave Slip	0.19	0.19	2-Methylnaphthalene	CS-2	6	24	24			Yes	Include
HB13-45	0 - 6	9/11/2013	Cummings Ave Slip	0.53	0.53	2-Methylnaphthalene	CS-2	0	6	21			Yes	Include
HB13-45	6 - 21	9/11/2013	Cummings Ave Slip	0.69	0.69	2-Methylnaphthalene	CS-2	6	21	21			Yes	Include
HB13-47	0 - 6	9/10/2013	Fraser Ave Slip	0.51	0.51	2-Methylnaphthalene	FS-1	0	6	30.996			Yes	Include
HB13-47	6 - 24	9/10/2013	Fraser Ave Slip	0.6	0.6	2-Methylnaphthalene	FS-1	6	24	30.996			Yes	Include
HB13-47	24 - 31	9/10/2013	Fraser Ave Slip	0.99	0.99	2-Methylnaphthalene	FS-1	24	31	30.996			Yes	Include
HB13-47	31 - 37 *	9/10/2013	Fraser Ave Slip	NA	NA	2-Methylnaphthalene	FS-1	31	37	30.996			No	Exclude
HB13-48	0 - 6 *	9/10/2013	Fraser Ave Slip	NA	NA	2-Methylnaphthalene	FS-2	0	6	45.9999996			Yes	Include
HB13-48	0 - 24	9/10/2013	FRASER AVE SLIP	0.89	0.89	2-Methylnaphthalene	FS-2	0	24	45.9999996			Yes	Include
HB13-48	6 - 24 *	9/10/2013	Fraser Ave Slip	NA	NA	2-Methylnaphthalene	FS-2	6	24	45.9999996			Yes	Include
HB13-48	24 - 42 *	9/10/2013	Fraser Ave Slip	NA	NA	2-Methylnaphthalene	FS-2	24	42	45.9999996			Yes	Include
HB13-48	24 - 46 *	9/10/2013	FRASER AVE SLIP	0.51	0.51	2-Methylnaphthalene	FS-2	24	46	45.9999996			Yes	Include
HB13-48	42 - 46 *	9/10/2013	Fraser Ave Slip	NA	NA	2-Methylnaphthalene	FS-2	42	46	45.9999996			Yes	Include
HB13-49	0 - 6	9/11/2013	Fraser Ave Slip	0.43	0.43	2-Methylnaphthalene	FS-2	0	6	30			Yes	Include
HB13-49	6 - 24	9/11/2013	Fraser Ave Slip	0.34	0.34	2-Methylnaphthalene	FS-2	6	24	30			Yes	Include
HB13-49	24 - 30	9/11/2013	Fraser Ave Slip	0.73	0.73	2-Methylnaphthalene	FS-2	24	30	30			Yes	Include
HB13-50	0 - 12 *	9/13/2013	Area 1	NA	NA	2-Methylnaphthalene	OC-12	0	12	47.0000004			Yes	Include
HB13-50	12 - 24 *	9/13/2013	Area 1	NA	NA	2-Methylnaphthalene	OC-12	12	24	47.0000004			Yes	Include
HB13-50	24 - 36 *	9/13/2013	Area 1	NA	NA	2-Methylnaphthalene	OC-12	24	36	47.0000004			Yes	Include
HB13-50	36 - 47 *	9/13/2013	Area 1	NA	NA	2-Methylnaphthalene	OC-12	36	47	47.0000004			Yes	Include
HB13-51	0 - 6 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene		0	6					Exclude
HB13-51	6 - 15 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene		6	15					Exclude
HB13-52	0 - 6 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene	OC-10	0	6	12			Yes	Include
HB13-52	6 - 12 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene	OC-10	6	12	12			Yes	Include
HB13-52	12 - 17 *	9/11/2013	Area 2	NA	NA	2-Methylnaphthalene	OC-10	12	17	12			No	Exclude
HB14-01	0 - 6	8/18/2014	Area 1	NA	NA	2-Methylnaphthalene	SND-1	0	6					Exclude
HB14-01	6 - 18	8/18/2014	Area 1	NA	NA	2-Methylnaphthalene	SND-1	6	18					Exclude
HB14-02	0 - 6	8/18/2014	Area 1	NA	NA	2-Methylnaphthalene	FC-15	0	6	17.004	-12.996	include	Yes	Include
HB14-02	6 - 14	8/18/2014	Area 1	NA	NA	2-Methylnaphthalene	FC-15	6	14	17.004	-12.996	include	Yes	Include
HB14-03	0 - 6	8/18/2014	Area 1	NA	NA	2-Methylnaphthalene	FC-15	0	6	29.997288	-2.472	include	Yes	Include
HB14-03	6 - 18	8/18/2014	Area 1	NA	NA	2-Methylnaphthalene	FC-15	6	18	29.997288	-2.472	include	Yes	Include
HB14-03	18 - 30	8/18/2014	Area 1	NA	NA	2-Methylnaphthalene	FC-15	18	30	29.997288	-2.472	include	Yes	Include
HB14-03	30 - 42	8/18/2014	Area 1	NA	NA	2-Methylnaphthalene	FC-15	30	42	29.997288	-2.472	include	No	Exclude
HB14-03	42 - 54	8/18/2014	Area 1	NA	NA	2-Methylnaphthalene	FC-15	42	54	29.997288	-2.472	include	No	Exclude
HB14-04	0 - 6	8/18/2014	Area 1	NA	NA	2-Methylnaphthalene		0	6	29.904			Yes	Include
HB14-04	6 - 18	8/18/2014	Area 1	NA	NA	2-Methylnaphthalene		6	18	29.904			Yes	Include
HB14-04	18 - 30	8/18/2014	Area 1	NA	NA	2-Methylnaphthalene		18	30	29.904			Yes	Include
HB14-05 G		8/18/2014	Area 1	NA	NA	2-Methylnaphthalene			#VALUE!					Exclude
HB14-06	0 - 6	8/18/2014	Area 1	NA	NA	2-Methylnaphthalene		0	6	30.588			Yes	Include
HB14-06	6 - 24	8/18/2014	Area 1	NA	NA	2-Methylnaphthalene		6	24	30.588			Yes	Include
HB14-07	0 - 6	8/18/2014	Area 1	NA	NA	2-Methylnaphthalene		0	6	78.012			Yes	Include
HB14-07	6 - 24	8/18/2014	Area 1	NA	NA	2-Methylnaphthalene		6	24	78.012			Yes	Include
HB14-07	24 - 42	8/18/2014	Area 1	NA	NA	2-Methylnaphthalene		24	42	78.012			Yes	Include
HB14-08	0 - 6	8/19/2014	Area 1	NA	NA	2-Methylnaphthalene		0	6	34.416			Yes	Include
HB14-08	6 - 19	8/19/2014	Area 1	NA	NA	2-Methylnaphthalene		6	19	34.416			Yes	Include
HB14-09	0 - 12	8/19/2014	Area 1	NA	NA	2-Methylnaphthalene	OC-16	0	12	12.003804			Yes	Include
HB14-09	12 - 24	8/19/2014	Area 1	NA	NA	2-Methylnaphthalene	OC-16	12	24	12.003804			Yes	Include
HB14-09	24 - 36	8/19/2014	Area 1	NA	NA	2-Methylnaphthalene	OC-16	24	36	12.003804			No	Exclude
HB14-09	36 - 48	8/19/2014	Area 1	NA	NA	2-Methylnaphthalene	OC-16	36	48	12.003804			No	Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB14-09	48 - 60	8/19/2014	Area 1	NA	NA	2-Methylnaphthalene	OC-16	48	60	12.003804			No	Exclude
HB14-09	60 - 72	8/19/2014	Area 1	NA	NA	2-Methylnaphthalene	OC-16	60	72	12.003804			No	Exclude
HB14-10	0 - 6	8/20/2014	Area 1	0.077	0.077	2-Methylnaphthalene		0	6	54.005544			Yes	Include
HB14-10	6 - 18	8/20/2014	Area 1	0.13	0.13	2-Methylnaphthalene		6	18	54.005544			Yes	Include
HB14-10	18 - 30	8/20/2014	Area 1	0.28	0.28	2-Methylnaphthalene		18	30	54.005544			Yes	Include
HB14-10	30 - 42	8/20/2014	Area 1	0.74	0.74	2-Methylnaphthalene		30	42	54.005544			Yes	Include
HB14-10	42 - 54	8/20/2014	Area 1	0.33	0.33	2-Methylnaphthalene		42	54	54.005544			Yes	Include
HB14-10	54 - 66	8/20/2014	Area 1	NA	NA	2-Methylnaphthalene		54	66	54.005544			Yes	Include
HB14-11	0 - 6	8/19/2014	Area 1	NA	NA	2-Methylnaphthalene	SND-2	0	6					Exclude
HB14-11	6 - 18	8/19/2014	Area 1	NA	NA	2-Methylnaphthalene	SND-2	6	18					Exclude
HB14-11	18 - 20	8/19/2014	Area 1	NA	NA	2-Methylnaphthalene	SND-2	18	20					Exclude
HB14-12	0 - 6	8/19/2014	Area 1	NA	NA	2-Methylnaphthalene	SND-4	0	6	26.34			Yes	Include
HB14-12	6 - 18	8/19/2014	Area 1	NA	NA	2-Methylnaphthalene	SND-4	6	18	26.34			Yes	Include
HB14-12	18 - 32	8/19/2014	Area 1	NA	NA	2-Methylnaphthalene	SND-4	18	32	26.34			Yes	Include
HB14-13	0 - 6	8/19/2014	Area 2	NA	NA	2-Methylnaphthalene	SND-5	0	6	-0.648			No	Exclude
HB14-13	6 - 11	8/19/2014	Area 2	NA	NA	2-Methylnaphthalene	SND-5	6	11	-0.648			No	Exclude
HB14-14	0 - 6	8/20/2014	Area 2	0.17	0.17	2-Methylnaphthalene	OC-4	0	6	101.997672			Yes	Include
HB14-14	4 - 6	8/20/2014	Area 2	0.55	0.55	2-Methylnaphthalene	OC-4	4	6	101.997672			Yes	Include
HB14-14	6 - 18	8/20/2014	Area 2	NA	NA	2-Methylnaphthalene	OC-4	6	18	101.997672			Yes	Include
HB14-14	6 - 30	8/20/2014	Area 2	0.74	0.74	2-Methylnaphthalene	OC-4	6	30	101.997672			Yes	Include
HB14-14	18 - 30	8/20/2014	Area 2	NA	NA	2-Methylnaphthalene	OC-4	18	30	101.997672			Yes	Include
HB14-14	30 - 42	8/20/2014	Area 2	NA	NA	2-Methylnaphthalene	OC-4	30	42	101.997672			Yes	Include
HB14-14	30 - 54	8/20/2014	Area 2	0.7	0.7	2-Methylnaphthalene	OC-4	30	54	101.997672			Yes	Include
HB14-14	42 - 54	8/20/2014	Area 2	NA	NA	2-Methylnaphthalene	OC-4	42	54	101.997672			Yes	Include
HB14-14	54 - 66	8/20/2014	Area 2	NA	NA	2-Methylnaphthalene	OC-4	54	66	101.997672			Yes	Include
HB14-14	54 - 78	8/20/2014	Area 2	0.27	0.27	2-Methylnaphthalene	OC-4	54	78	101.997672			Yes	Include
HB14-14	66 - 78	8/20/2014	Area 2	NA	NA	2-Methylnaphthalene	OC-4	66	78	101.997672			Yes	Include
HB14-14	78 - 90	8/20/2014	Area 2	NA	NA	2-Methylnaphthalene	OC-4	78	90	101.997672			Yes	Include
HB14-14	78 - 102	8/20/2014	Area 2	0.38	0.38	2-Methylnaphthalene	OC-4	78	102	101.997672			Yes	Include
HB14-14	90 - 102	8/20/2014	Area 2	NA	NA	2-Methylnaphthalene	OC-4	90	102	101.997672			Yes	Include
HB14-14	102 - 111	8/20/2014	Area 2	NA	NA	2-Methylnaphthalene	OC-4	102	111	101.997672			No	Exclude
HB15-01	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	0	12	51.096			Yes	Include
HB15-01	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	12	24	51.096			Yes	Include
HB15-01	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	24	36	51.096			Yes	Include
HB15-01	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	36	48	51.096			Yes	Include
HB15-01	48 - 57	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	48	57	51.096			Yes	Include
HB15-02	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	0	12	48.000696			Yes	Include
HB15-02	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	12	24	48.000696			Yes	Include
HB15-02	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	24	36	48.000696			Yes	Include
HB15-02	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	36	48	48.000696			Yes	Include
HB15-03	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	0	12	67.9950564			Yes	Include
HB15-03	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	12	24	67.9950564			Yes	Include
HB15-03	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	24	36	67.9950564			Yes	Include
HB15-03	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	36	48	67.9950564			Yes	Include
HB15-03	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	48	60	67.9950564			Yes	Include
HB15-03	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	60	68	67.9950564			Yes	Include
HB15-03R	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	0	12	67.9950564			Yes	Include
HB15-03R	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	12	24	67.9950564			Yes	Include
HB15-03R	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	24	36	67.9950564			Yes	Include
HB15-03R	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	36	48	67.9950564			Yes	Include
HB15-03R	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	48	60	67.9950564			Yes	Include
HB15-03R	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	60	68	67.9950564			Yes	Include
HB15-04	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	0	12	63.84			Yes	Include
HB15-04	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	12	24	63.84			Yes	Include
HB15-04	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	24	36	63.84			Yes	Include
HB15-04	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	36	48	63.84			Yes	Include
HB15-04	48 - 59	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	48	59	63.84			Yes	Include
HB15-05	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	0	12	71.994852			Yes	Include
HB15-05	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	12	24	71.994852			Yes	Include
HB15-05	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	24	36	71.994852			Yes	Include
HB15-05	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	36	48	71.994852			Yes	Include
HB15-05	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	48	60	71.994852			Yes	Include
HB15-05	60 - 72	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	60	72	71.994852			Yes	Include
HB15-05	72 - 80	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-1	72	80	71.994852			No	Exclude
HB15-06	0 - 9	6/23/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene	HS-2	0	9	9.000636			Yes	Include
HB15-07	0 - 12	6/23/2015	Cummings Ave Slip	NA	NA	2-Methylnaphthalene	CS-1	0	12	90.9955116			Yes	Include
HB15-07	12 - 24	6/23/2015	Cummings Ave Slip	NA	NA	2-Methylnaphthalene	CS-1	12	24	90.9955116			Yes	Include
HB15-07	24 - 36	6/23/2015	Cummings Ave Slip	NA	NA	2-Methylnaphthalene	CS-1	24	36	90.9955116			Yes	Include
HB15-07	36 - 48	6/23/2015	Cummings Ave Slip	1	1	2-Methylnaphthalene	CS-1	36	48	90.9955116			Yes	Include
HB15-07	48 - 60	6/23/2015	Cummings Ave Slip	0.93	0.93	2-Methylnaphthalene	CS-1	48	60	90.9955116			Yes	Include
HB15-07	60 - 72	6/23/2015	Cummings Ave Slip	1	1	2-Methylnaphthalene	CS-1	60	72	90.9955116			Yes	Include
HB15-07	72 - 84	6/23/2015	Cummings Ave Slip	1.2	1.2	2-Methylnaphthalene	CS-1	72	84	90.9955116			Yes	Include
HB15-07	84 - 91	6/23/2015	Cummings Ave Slip	0.91	0.91	2-Methylnaphthalene	CS-1	84	91	90.9955116			Yes	Include
HB15-08	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	2-Methylnaphthalene	CS-2	0	12	65.997804			Yes	Include
HB15-08	12 - 24	6/24/2015	Cummings Ave Slip	1	1	2-Methylnaphthalene	CS-2	12	24	65.997804			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB15-08	24 - 36	6/24/2015	Cummings Ave Slip	0.95	0.95	2-Methylnaphthalene	CS-2	24	36	65.997804			Yes	Include
HB15-08	36 - 48	6/24/2015	Cummings Ave Slip	NA	NA	2-Methylnaphthalene	CS-2	36	48	65.997804			Yes	Include
HB15-08	48 - 60	6/24/2015	Cummings Ave Slip	NA	NA	2-Methylnaphthalene	CS-2	48	60	65.997804			Yes	Include
HB15-08	60 - 66	6/24/2015	Cummings Ave Slip	NA	NA	2-Methylnaphthalene	CS-2	60	66	65.997804			Yes	Include
HB15-09	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	2-Methylnaphthalene	CS-3	0	12	45.396			Yes	Include
HB15-09	12 - 17	6/24/2015	Cummings Ave Slip	NA	NA	2-Methylnaphthalene	CS-3	12	17	45.396			Yes	Include
HB15-10	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	2-Methylnaphthalene		0	12	-0.936			No	Exclude
HB15-11	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	2-Methylnaphthalene	CS-5	0	12	27.9944796			Yes	Include
HB15-11	12 - 24	6/24/2015	Cummings Ave Slip	NA	NA	2-Methylnaphthalene	CS-5	12	24	27.9944796			Yes	Include
HB15-11	24 - 28	6/24/2015	Cummings Ave Slip	NA	NA	2-Methylnaphthalene	CS-5	24	28	27.9944796			Yes	Include
HB15-12	0 - 12	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-1	0	12	29.994876			Yes	Include
HB15-12	12 - 24	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-1	12	24	29.994876			Yes	Include
HB15-12	24 - 30	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-1	24	30	29.994876			Yes	Include
HB15-13	0 - 12	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-1	0	12	64.0033716			Yes	Include
HB15-13	12 - 24	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-1	12	24	64.0033716			Yes	Include
HB15-13	24 - 36	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-1	24	36	64.0033716			Yes	Include
HB15-13	36 - 48	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-1	36	48	64.0033716			Yes	Include
HB15-13	48 - 60	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-1	48	60	64.0033716			Yes	Include
HB15-13	60 - 64	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-1	60	64	64.0033716			Yes	Include
HB15-14	0 - 12	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-1	0	12	23.996196			Yes	Include
HB15-14	12 - 24	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-1	12	24	23.996196			Yes	Include
HB15-14	24 - 28	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-1	24	28	23.996196			No	Exclude
HB15-14	28 - 35	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-1	28	35	23.996196			No	Exclude
HB15-15	0 - 12	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-2	0	12	19.0051356			Yes	Include
HB15-15	12 - 19	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-2	12	19	19.0051356			Yes	Include
HB15-15R	0 - 12	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-2	0	12	18.9999996			Yes	Include
HB15-15R	12 - 19	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-2	12	19	18.9999996			Yes	Include
HB15-16	0 - 12	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-1	0	12	8.304			Yes	Include
HB15-16	12 - 19	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-1	12	19	8.304			No	Exclude
HB15-17	0 - 12	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-2	0	12	36.004608			Yes	Include
HB15-17	12 - 24	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-2	12	24	36.004608			Yes	Include
HB15-17	24 - 36	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-2	24	36	36.004608			Yes	Include
HB15-17	36 - 48	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-2	36	48	36.004608			Yes	Include
HB15-17	48 - 54	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-2	48	54	36.004608			No	Exclude
HB15-18	0 - 12	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-2	0	12	23.999508			Yes	Include
HB15-18	12 - 24	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene	FP-2	12	24	23.999508			Yes	Include
HB15-19	0 - 12	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene		0	12					Exclude
HB15-19	12 - 24	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene		12	24					Exclude
HB15-19	24 - 32	6/24/2015	Area 2	NA	NA	2-Methylnaphthalene		24	32					Exclude
HB15-20	0 - 12	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-3	0	12	33.864			Yes	Include
HB15-20	12 - 24	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-3	12	24	33.864			Yes	Include
HB15-20	24 - 28	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-3	24	28	33.864			Yes	Include
HB15-20B	0 - 6	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-13	0	6	11.996892			Yes	Include
HB15-20B	6 - 12	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-13	6	12	11.996892			Yes	Include
HB15-21G	15 - 21	6/29/2015	Fraser Ave Slip	NA	NA	2-Methylnaphthalene		15	21					Exclude
HB15-22G	0 - 6	6/29/2015	Fraser Ave Slip	0.2	0.2	2-Methylnaphthalene	OC-8	0	6	6			Yes	Include
HB15-23	0 - 12	6/25/2015	Fraser Ave Slip	NA	NA	2-Methylnaphthalene	FS-1	0	12	55.02			Yes	Include
HB15-23	12 - 24	6/25/2015	Fraser Ave Slip	NA	NA	2-Methylnaphthalene	FS-1	12	24	55.02			Yes	Include
HB15-23	24 - 36	6/25/2015	Fraser Ave Slip	NA	NA	2-Methylnaphthalene	FS-1	24	36	55.02			Yes	Include
HB15-23	36 - 48	6/25/2015	Fraser Ave Slip	NA	NA	2-Methylnaphthalene	FS-1	36	48	55.02			Yes	Include
HB15-23	48 - 56	6/25/2015	Fraser Ave Slip	NA	NA	2-Methylnaphthalene	FS-1	48	56	55.02			Yes	Include
HB15-25	0 - 12	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-1	0	12	77.4			Yes	Include
HB15-25	12 - 24	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-1	12	24	77.4			Yes	Include
HB15-25	24 - 36	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-1	24	36	77.4			Yes	Include
HB15-25	36 - 48	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-1	36	48	77.4			Yes	Include
HB15-25	48 - 60	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-1	48	60	77.4			Yes	Include
HB15-25	60 - 72	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-1	60	72	77.4			Yes	Include
HB15-25	72 - 88	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-1	72	88	77.4			Yes	Include
HB15-26	0 - 12	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	FC-2	0	12	38.28	6.36	include	Yes	Include
HB15-26	12 - 24	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	FC-2	12	24	38.28	6.36	include	Yes	Include
HB15-26	24 - 36	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	FC-2	24	36	38.28	6.36	include	Yes	Include
HB15-26	36 - 46	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	FC-2	36	46	38.28	6.36	include	Yes	Include
HB15-27	0 - 12	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	FC-3	0	12	33.6	14.64	exclude	Yes	Exclude
HB15-27	12 - 24	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	FC-3	12	24	33.6	14.64	include	Yes	Include
HB15-27	24 - 36	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	FC-3	24	36	33.6	14.64	include	Yes	Include
HB15-27	36 - 48	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	FC-3	36	48	33.6	14.64	include	No	Exclude
HB15-27	48 - 60	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	FC-3	48	60	33.6	14.64	include	No	Exclude
HB15-27	60 - 71	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	FC-3	60	71	33.6	14.64	include	No	Exclude
HB15-28	0 - 12	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-7	0	12	11.994072			Yes	Include
HB15-28	12 - 24	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-7	12	24	11.994072			No	Exclude
HB15-28	24 - 30	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-7	24	30	11.994072			No	Exclude
HB15-30	0 - 12	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene		0	12	43.776			Yes	Include
HB15-30	12 - 24	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene		12	24	43.776			Yes	Include
HB15-30	24 - 36	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene		24	36	43.776			Yes	Include
HB15-30	36 - 50	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene		36	50	43.776			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
 Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?	
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft				
HB15-31	0 - 12	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene		0	12					Exclude	
HB15-31	12 - 20	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene		12	20					Exclude	
HB15-32	0 - 12	6/25/2015	Area 1	NA	NA	2-Methylnaphthalene	SND-4	0	12	11.995236			Yes	Include	
HB15-32	12 - 26	6/25/2015	Area 1	NA	NA	2-Methylnaphthalene	SND-4	12	26	11.995236			No	Exclude	
HB15-33	0 - 12	6/25/2015	Area 1	NA	NA	2-Methylnaphthalene		0	12	26.292			Yes	Include	
HB15-33	12 - 24	6/25/2015	Area 1	NA	NA	2-Methylnaphthalene		12	24	26.292			Yes	Include	
HB15-33	24 - 39	6/25/2015	Area 1	NA	NA	2-Methylnaphthalene		24	39	26.292			Yes	Include	
HB15-34	0 - 12	6/25/2015	Area 1	NA	NA	2-Methylnaphthalene	FC-11	0	12		35.52	exclude		Exclude	
HB15-34	12 - 24	6/25/2015	Area 1	NA	NA	2-Methylnaphthalene	FC-11	12	24		35.52	exclude		Exclude	
HB15-34	24 - 32	6/25/2015	Area 1	NA	NA	2-Methylnaphthalene	FC-11	24	32		35.52	exclude		Exclude	
HB15-35	0 - 12	6/25/2015	Area 1	NA	NA	2-Methylnaphthalene	FC-16	0	12	74.28			include	Yes	Include
HB15-35	12 - 24	6/25/2015	Area 1	NA	NA	2-Methylnaphthalene	FC-16	12	24	74.28			include	Yes	Include
HB15-35	24 - 36	6/25/2015	Area 1	NA	NA	2-Methylnaphthalene	FC-16	24	36	74.28			include	Yes	Include
HB15-35	36 - 48	6/25/2015	Area 1	NA	NA	2-Methylnaphthalene	FC-16	36	48	74.28			include	Yes	Include
HB15-35	48 - 60	6/25/2015	Area 1	NA	NA	2-Methylnaphthalene	FC-16	48	60	74.28			include	Yes	Include
HB15-35	60 - 72	6/25/2015	Area 1	NA	NA	2-Methylnaphthalene	FC-16	60	72	74.28			include	Yes	Include
HB15-36G	15 - 36	6/29/2015	Area 2	NA	NA	2-Methylnaphthalene		15	36					Exclude	
HB15-37	0 - 12	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-9	0	12	51.048			Yes	Include	
HB15-37	12 - 24	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-9	12	24	51.048			Yes	Include	
HB15-37	24 - 36	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-9	24	36	51.048			Yes	Include	
HB15-37	36 - 48	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-9	36	48	51.048			Yes	Include	
HB15-37	48 - 60	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-9	48	60	51.048			Yes	Include	
HB15-37	60 - 74	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-9	60	74	51.048			No	Exclude	
HB15-38	0 - 12	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-9	0	12	83.184			Yes	Include	
HB15-38	12 - 24	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-9	12	24	83.184			Yes	Include	
HB15-38	24 - 36	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-9	24	36	83.184			Yes	Include	
HB15-38	36 - 48	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-9	36	48	83.184			Yes	Include	
HB15-38	48 - 60	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-9	48	60	83.184			Yes	Include	
HB15-38	60 - 72	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-9	60	72	83.184			Yes	Include	
HB15-38	72 - 84	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-9	72	84	83.184			Yes	Include	
HB15-38	84 - 96	6/25/2015	Area 2	NA	NA	2-Methylnaphthalene	OC-9	84	96	83.184			No	Exclude	
HB15-G28	0 - 6	6/25/2015	Hughitt Ave Slip	NA	NA	2-Methylnaphthalene		0	6					Exclude	
HB15-HC20A	0 - 6	6/25/2015	Area 1	NA	NA	2-Methylnaphthalene	OC-13	0	6	6.003036			Yes	Include	
HB2A_4	0 - 6	5/12/2007	Hughitt Ave Slip	0.024	0.024	Acenaphthene	HS-1	0	6	48.00432			Yes	Include	
HB2A_4	6 - 24	5/12/2007	Hughitt Ave Slip	0.11 J-	0.11	Acenaphthene	HS-1	6	24	48.00432			Yes	Include	
HB2A_4	24 - 48	5/12/2007	Hughitt Ave Slip	0.02	0.02	Acenaphthene	HS-1	24	48	48.00432			Yes	Include	
HB2A_6	0 - 5	5/2/2007	Area 1	0.04	0.04	Acenaphthene		0	5					Exclude	
HB2A_7	0 - 5	5/10/2007	Area 1	0.038	0.038	Acenaphthene	SND-1	0	5					Exclude	
HB2A_8	0 - 5	5/10/2007	Area 1	0.024	0.024	Acenaphthene	FC-12/FC-13	0	5	4.9944804	79.824	exclude	Yes	Exclude	
HB2A_11	0 - 5	5/10/2007	Area 1	0.041 J-	0.041	Acenaphthene		0	5					Exclude	
HB2A_13	0 - 5	5/2/2007	Area 1	0.03	0.03	Acenaphthene		0	5					Exclude	
HB2A_16	0 - 5	5/2/2007	Area 1	0.010 J-	0.01	Acenaphthene		0	5					Exclude	
HB2A_210	0 - 6	5/16/2007	Area 1	0.0080 U	0.008	Acenaphthene		0	6					Exclude	
HB2A_210	6 - 24	5/16/2007	Area 1	0.0083 U	0.0083	Acenaphthene		6	24					Exclude	
HB2A_210	24 - 48	5/16/2007	Area 1	0.0061 UJS-	0.0061	Acenaphthene		24	48					Exclude	
HB2A_GENES	0 - 5	5/22/2007	Cummings Ave Slip	0.079	0.079	Acenaphthene		0	5					Exclude	
HB2B_17	0 - 6	5/12/2007	Fraser Ave Slip	0.039	0.039	Acenaphthene	FS-2	0	6	24.005676			Yes	Include	
HB2B_17	6 - 24	5/12/2007	Fraser Ave Slip	0.016	0.016	Acenaphthene	FS-2	6	24	24.005676			Yes	Include	
HB2B_18	0 - 6	5/7/2007	Area 2	0.027	0.027	Acenaphthene	FP-1	0	6	47.997552			Yes	Include	
HB2B_18	6 - 24	5/7/2007	Area 2	0.021	0.021	Acenaphthene	FP-1	6	24	47.997552			Yes	Include	
HB2B_18	24 - 48	5/7/2007	Area 2	0.044	0.044	Acenaphthene	FP-1	24	48	47.997552			Yes	Include	
HB2B_19	0 - 6	5/2/2007	Area 2	0.014	0.014	Acenaphthene	OC-1	0	6	6.001728			Yes	Include	
HB2B_19	6 - 24	5/2/2007	Area 2	0.0052 U	0.0052	Acenaphthene	OC-1	6	24	6.001728			Yes	Include	
HB2B_20	0 - 6	5/2/2007	Area 2	0.023	0.023	Acenaphthene	OC-9	0	6	23.997336			Yes	Include	
HB2B_20	6 - 24	5/2/2007	Area 2	0.019	0.019	Acenaphthene	OC-9	6	24	23.997336			Yes	Include	
HB2B_20	24 - 48	5/2/2007	Area 2	0.009	0.009	Acenaphthene	OC-9	24	48	23.997336			No	Exclude	
HB2B_21	0 - 5	5/2/2007	Area 2	0.013	0.013	Acenaphthene		0	5					Exclude	
HB2B_22	0 - 5	5/2/2007	Area 2	0.024	0.024	Acenaphthene	OC-5	0	5	5.0028204			Yes	Include	
HB3A_GENES	0 - 5	9/6/2007	Cummings Ave Slip	0.0065 BL	0.0065	Acenaphthene		0	5					Exclude	
HB10-1-01	0 - 6	10/16/2010	Area 1	0.017	0.017	Acenaphthene		0	6					Exclude	
HB10-1-01	0 - 12	10/16/2010	Area 1	0.0071 U	0.0071	Acenaphthene		0	12					Exclude	
HB10-1-01	36 - 40	10/16/2010	Area 1	0.0051 U	0.0051	Acenaphthene		36	40					Exclude	
HB10-1-02	0 - 6	10/16/2010	Area 1	0.0070 U	0.007	Acenaphthene		0	6	23.0027508			Yes	Include	
HB10-1-02	12 - 23	10/16/2010	Area 1	0.006	0.006	Acenaphthene		12	23	23.0027508			Yes	Include	
HB10-1-03	0 - 6	10/16/2010	Area 1	0.012	0.012	Acenaphthene	FC-17	0	6	59.99475	49.872	exclude	Yes	Exclude	
HB10-1-03	0 - 12	10/16/2010	Area 1	0.007	0.007	Acenaphthene	FC-17	0	12	59.99475	49.872	exclude	Yes	Exclude	
HB10-1-03	12 - 36	10/16/2010	Area 1	0.007	0.007	Acenaphthene	FC-17	12	36	59.99475	49.872	exclude	Yes	Exclude	
HB10-1-03	36 - 60	10/16/2010	Area 1	0.024	0.024	Acenaphthene	FC-17	36	60	59.99475	49.872	include	Yes	Include	
HB10-1-03	60 - 84	10/16/2010	Area 1	0.015	0.015	Acenaphthene	FC-17	60	84	59.99475	49.872	include	No	Exclude	
HB10-1-04	0 - 6	10/17/2010	Area 1	0.011	0.011	Acenaphthene		0	6					Exclude	
HB10-1-04	0 - 12	10/17/2010	Area 1	0.029	0.029	Acenaphthene		0	12					Exclude	
HB10-1-04	12 - 36	10/17/2010	Area 1	0.034	0.034	Acenaphthene		12	36					Exclude	
HB10-1-04	36 - 50	10/17/2010	Area 1	0.011	0.011	Acenaphthene		36	50					Exclude	
HB10-1-05	0 - 6	10/16/2010	Area 1	0.024	0.024	Acenaphthene	OC-17	0	6	5.9987496			Yes	Include	
HB10-1-07	0 - 6	10/17/2010	Area 1	0.81	0.81	Acenaphthene	OC-15	0	6	6.0057			Yes	Include	

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than	Sample down	Include Sample?
	Inches			mg/kg	mg/kg			inches	inches	inches	ft	573.6 ft (FC units)?		
HB10-1-07	0 - 12	10/17/2010	Area 1	0.018	0.018	Acenaphthene	OC-15	0	12	6.0057			Yes	Include
HB10-1-07	12 - 36	10/17/2010	Area 1	0.011	0.011	Acenaphthene	OC-15	12	36	6.0057			No	Exclude
HB10-1-07	60 - 64	10/17/2010	Area 1	0.0040 U	0.004	Acenaphthene	OC-15	60	64	6.0057			No	Exclude
HB10-1-08	0 - 6	10/17/2010	Area 1	0.020 J	0.02	Acenaphthene		0	6	36.0057			Yes	Include
HB10-1-08	0 - 12	10/17/2010	Area 1	0.014	0.014	Acenaphthene		0	12	36.0057			Yes	Include
HB10-1-08	12 - 36	10/17/2010	Area 1	0.029	0.029	Acenaphthene		12	36	36.0057			Yes	Include
HB10-1-10	0 - 6	10/18/2010	Area 1	0.22	0.22	Acenaphthene	SND-1	0	6					Exclude
HB10-1-11	0 - 6	10/16/2010	Area 1	0.0098	0.0098	Acenaphthene		0	6	20.9987496			Yes	Include
HB10-1-11	12 - 21	10/16/2010	Area 1	0.013 J	0.013	Acenaphthene		12	21	20.9987496			Yes	Include
HB10-1-12	0 - 6	10/17/2010	Area 1	0.014	0.014	Acenaphthene		0	6					Exclude
HB10-1-12	0 - 12	10/17/2010	Area 1	0.018	0.018	Acenaphthene		0	12					Exclude
HB10-1-12	12 - 34	10/17/2010	Area 1	0.0090 U	0.009	Acenaphthene		12	34					Exclude
HB10-1-13	0 - 6	10/18/2010	Area 1	0.046	0.046	Acenaphthene	FC-12/FC-13	0	6	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	0 - 12	10/18/2010	Area 1	0.032	0.032	Acenaphthene	FC-12/FC-13	0	12	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	12 - 36	10/18/2010	Area 1	0.038	0.038	Acenaphthene	FC-12/FC-13	12	36	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	60 - 67	10/18/2010	Area 1	0.05	0.05	Acenaphthene	FC-12/FC-13	60	67	36.0053004	42.816	include	No	Exclude
HB10-1-14	0 - 6	10/17/2010	Area 1	0.021	0.021	Acenaphthene		0	6	66.0057			Yes	Include
HB10-1-14	0 - 12	10/17/2010	Area 1	0.012 J	0.012	Acenaphthene		0	12	66.0057			Yes	Include
HB10-1-14	12 - 36	10/17/2010	Area 1	0.02	0.02	Acenaphthene		12	36	66.0057			Yes	Include
HB10-1-14	60 - 66	10/17/2010	Area 1	0.025	0.025	Acenaphthene		60	66	66.0057			Yes	Include
HB10-1-15	0 - 6	10/18/2010	Area 1	0.0043 U	0.0043	Acenaphthene	OC-13	0	6	16.0056996			Yes	Include
HB10-1-15	12 - 16	10/18/2010	Area 1	0.028	0.028	Acenaphthene	OC-13	12	16	16.0056996			Yes	Include
HB10-1-16	0 - 6	10/17/2010	Hughitt Ave Slip	0.03	0.03	Acenaphthene	HS-3	0	6	31.0056996			Yes	Include
HB10-1-16	0 - 12	10/17/2010	Hughitt Ave Slip	0.34 U	0.34	Acenaphthene	HS-3	0	12	31.0056996			Yes	Include
HB10-1-16	12 - 31	10/17/2010	Hughitt Ave Slip	0.056	0.056	Acenaphthene	HS-3	12	31	31.0056996			Yes	Include
HB10-1-17	0 - 6	10/17/2010	Area 1	0.016 J	0.016	Acenaphthene	OC-14	0	6	12			Yes	Include
HB10-1-20	0 - 6	10/17/2010	Hughitt Ave Slip	0.14	0.14	Acenaphthene		0	6	6.0057			Yes	Include
HB10-1-21	0 - 6	10/18/2010	Cummings Ave Slip	0.0078 J	0.0078	Acenaphthene		0	6	6.0012996			Yes	Include
HB10-1-21	12 - 23	10/18/2010	Cummings Ave Slip	0.027 J	0.027	Acenaphthene		12	23	6.0012996			No	Exclude
HB10-1-23	0 - 6	10/17/2010	Area 1	0.008	0.008	Acenaphthene		0	6	36.0057			Yes	Include
HB10-1-23	0 - 12	10/17/2010	Area 1	0.019	0.019	Acenaphthene		0	12	36.0057			Yes	Include
HB10-1-23	12 - 36	10/17/2010	Area 1	0.026	0.026	Acenaphthene		12	36	36.0057			Yes	Include
HB10-1-24	0 - 6	10/18/2010	Cummings Ave Slip	0.037 J	0.037	Acenaphthene	CS-4	0	6	36.0047496			Yes	Include
HB10-1-24	0 - 12	10/18/2010	Cummings Ave Slip	0.04	0.04	Acenaphthene	CS-4	0	12	36.0047496			Yes	Include
HB10-1-24	12 - 36	10/18/2010	Cummings Ave Slip	0.067	0.067	Acenaphthene	CS-4	12	36	36.0047496			Yes	Include
HB10-1-25	0 - 6	10/17/2010	Baxter Ave Embayment	0.011	0.011	Acenaphthene		0	6	6.0057			Yes	Include
HB10-1-27	0 - 6	10/18/2010	Area 1	0.0089 U	0.0089	Acenaphthene		0	6	-0.0027			No	Exclude
HB10-1-28	0 - 6	10/17/2010	Hughitt Ave Slip	0.043	0.043	Acenaphthene	HS-1	0	6	84.0057			Yes	Include
HB10-1-28	0 - 12	10/17/2010	Hughitt Ave Slip	0.044	0.044	Acenaphthene	HS-1	0	12	84.0057			Yes	Include
HB10-1-28	12 - 36	10/17/2010	Hughitt Ave Slip	0.068	0.068	Acenaphthene	HS-1	12	36	84.0057			Yes	Include
HB10-1-28	36 - 60	10/17/2010	Hughitt Ave Slip	0.029	0.029	Acenaphthene	HS-1	36	60	84.0057			Yes	Include
HB10-1-28	60 - 84	10/17/2010	Hughitt Ave Slip	0.091	0.091	Acenaphthene	HS-1	60	84	84.0057			Yes	Include
HB10-1-28	60 - 96	10/17/2010	Hughitt Ave Slip	0.015	0.015	Acenaphthene	HS-1	60	96	84.0057			Yes	Include
HB10-1-29	0 - 6	10/17/2010	Cummings Ave Slip	0.081	0.081	Acenaphthene	CS-1	0	6	83.9937			Yes	Include
HB10-1-29	0 - 12	10/17/2010	Cummings Ave Slip	0.19	0.19	Acenaphthene	CS-1	0	12	83.9937			Yes	Include
HB10-1-29	12 - 36	10/17/2010	Cummings Ave Slip	0.85	0.85	Acenaphthene	CS-1	12	36	83.9937			Yes	Include
HB10-1-29	36 - 60	10/17/2010	Cummings Ave Slip	0.36	0.36	Acenaphthene	CS-1	36	60	83.9937			Yes	Include
HB10-1-29	60 - 93	10/17/2010	Cummings Ave Slip	0.57	0.57	Acenaphthene	CS-1	60	93	83.9937			Yes	Include
HB10-1-30	0 - 6	10/18/2010	Baxter Ave Embayment	0.023	0.023	Acenaphthene		0	6	60.0053004			Yes	Include
HB10-1-30	0 - 12	10/18/2010	Baxter Ave Embayment	0.13	0.13	Acenaphthene		0	12	60.0053004			Yes	Include
HB10-1-30	12 - 36	10/18/2010	Baxter Ave Embayment	0.093	0.093	Acenaphthene		12	36	60.0053004			Yes	Include
HB10-1-30	36 - 60	10/18/2010	Baxter Ave Embayment	0.024	0.024	Acenaphthene		36	60	60.0053004			Yes	Include
HB10-1-30	60 - 77	10/18/2010	Baxter Ave Embayment	0.019	0.019	Acenaphthene		60	77	60.0053004			Yes	Include
HB10-1-31	0 - 6	10/18/2010	Baxter Ave Embayment	0.024	0.024	Acenaphthene	OC-11	0	6	35.9973			Yes	Include
HB10-1-31	0 - 12	10/18/2010	Baxter Ave Embayment	0.028	0.028	Acenaphthene	OC-11	0	12	35.9973			Yes	Include
HB10-1-31	12 - 36	10/18/2010	Baxter Ave Embayment	0.018 J	0.018	Acenaphthene	OC-11	12	36	35.9973			Yes	Include
HB10-2-18	0 - 6	10/18/2010	Area 2	0.014	0.014	Acenaphthene	OC-2	0	6	6.0053004			Yes	Include
HB10-2-26	0 - 6	10/16/2010	Area 2	0.0069	0.0069	Acenaphthene		0	6					Exclude
HB10-2-26	12 - 17	10/16/2010	Area 2	0.018	0.018	Acenaphthene		12	17					Exclude
HB10-2-32	0 - 6	10/18/2010	Area 2	0.33	0.33	Acenaphthene		0	6					Exclude
HB10-2-33	0 - 6	10/18/2010	Area 2	0.0048	0.0048	Acenaphthene		0	6	6.0012996			Yes	Include
HB10-2-33	12 - 22	10/18/2010	Area 2	0.012	0.012	Acenaphthene		12	22	6.0012996			No	Exclude
HB10-2-34	0 - 6	10/18/2010	Area 2	0.02	0.02	Acenaphthene	FC-7	0	6	6.0053004	0.816	include	Yes	Include
HB10-2-35	0 - 6	10/18/2010	Area 2	0.0056	0.0056	Acenaphthene		0	6	30.0012996			Yes	Include
HB10-2-35	0 - 12	10/18/2010	Area 2	0.0091	0.0091	Acenaphthene		0	12	30.0012996			Yes	Include
HB10-2-35	12 - 30	10/18/2010	Area 2	0.051	0.051	Acenaphthene		12	30	30.0012996			Yes	Include
HB10-2-36	0 - 6	10/18/2010	Area 2	0.023 J	0.023	Acenaphthene	FC-5	0	6	6.0053004			Yes	Include
HB10-2-37	0 - 6	10/18/2010	Area 2	0.21 U	0.21	Acenaphthene		0	6	23.0013			Yes	Include
HB10-2-37	12 - 23	10/18/2010	Area 2	0.0051	0.0051	Acenaphthene		12	23	23.0013			Yes	Include
HB10-2-38	0 - 6	10/18/2010	Area 2	0.0076 U	0.0076	Acenaphthene	OC-6	0	6	38.0013			Yes	Include
HB10-2-38	0 - 12	10/18/2010	Area 2	0.023 J	0.023	Acenaphthene	OC-6	0	12	38.0013			Yes	Include
HB10-2-38	36 - 38	10/18/2010	Area 2	0.15	0.15	Acenaphthene	OC-6	36	38	38.0013			Yes	Include
HB10-2-39	0 - 6	10/18/2010	Area 2	0.0057 J	0.0057	Acenaphthene		0	6	6.0012996			Yes	Include
HB10-2-39	0 - 12	10/18/2010	Area 2	0.0067	0.0067	Acenaphthene		0	12	6.0012996			Yes	Include
HB10-2-39	12 - 28	10/18/2010	Area 2	0.0088 U	0.0088	Acenaphthene		12	28	6.0012996			No	Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
 Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB10-2-40	0 - 6	10/18/2010	Area 2	0.025	0.025	Acenaphthene	OC-5	0	6	48.0053004			Yes	Include
HB10-2-40	0 - 12	10/18/2010	Area 2	0.0052 U	0.0052	Acenaphthene	OC-5	0	12	48.0053004			Yes	Include
HB10-2-40	12 - 36	10/18/2010	Area 2	0.0044 U	0.0044	Acenaphthene	OC-5	12	36	48.0053004			Yes	Include
HB10-2-40	36 - 48	10/18/2010	Area 2	0.0043 U	0.0043	Acenaphthene	OC-5	36	48	48.0053004			Yes	Include
HB10-2-41	0 - 6	10/18/2010	Area 2	0.48	0.48	Acenaphthene	FP-2	0	6	31.0012992			Yes	Include
HB10-2-41	0 - 12	10/18/2010	Area 2	0.004	0.004	Acenaphthene	FP-2	0	12	31.0012992			Yes	Include
HB10-2-41	12 - 31	10/18/2010	Area 2	0.0080 U	0.008	Acenaphthene	FP-2	12	31	31.0012992			Yes	Include
HB10-2-42	0 - 6	10/18/2010	Area 2	0.029	0.029	Acenaphthene	FP-1	0	6	12.0012996			Yes	Include
HB10-2-42	0 - 12	10/18/2010	Area 2	NA	NA	Acenaphthene	FP-1	0	12	12.0012996			Yes	Include
HB10-2-42	12 - 30	10/18/2010	Area 2	0.037	0.037	Acenaphthene	FP-1	12	30	12.0012996			Yes	Include
HB10-2-43	0 - 6	10/17/2010	Area 2	0.0065	0.0065	Acenaphthene		0	6	22.0056996			Yes	Include
HB10-2-43	12 - 22	10/17/2010	Area 2	0.095	0.095	Acenaphthene		12	22	22.0056996			Yes	Include
HB10-2-44	0 - 6	10/18/2010	Area 2	0.025	0.025	Acenaphthene	FP-2	0	6	16.0012992			Yes	Include
HB10-2-44	12 - 16	10/18/2010	Area 2	0.051	0.051	Acenaphthene	FP-2	12	16	16.0012992			Yes	Include
HB10-2-45	0 - 6	10/18/2010	Area 2	0.014	0.014	Acenaphthene	FP-2	0	6	19.0012992			Yes	Include
HB10-2-45	12 - 19	10/18/2010	Area 2	0.045	0.045	Acenaphthene	FP-2	12	19	19.0012992			Yes	Include
HB13-01	0 - 6 *	9/11/2013	Area 2	NA	NA	Acenaphthene	FP-1	0	6	48			Yes	Include
HB13-01	6 - 12 *	9/11/2013	Area 2	NA	NA	Acenaphthene	FP-1	6	12	48			Yes	Include
HB13-01	12 - 18 *	9/11/2013	Area 2	NA	NA	Acenaphthene	FP-1	12	18	48			Yes	Include
HB13-01	18 - 24 *	9/11/2013	Area 2	NA	NA	Acenaphthene	FP-1	18	24	48			Yes	Include
HB13-01	24 - 30 *	9/11/2013	Area 2	NA	NA	Acenaphthene	FP-1	24	30	48			Yes	Include
HB13-01	30 - 36 *	9/11/2013	Area 2	NA	NA	Acenaphthene	FP-1	30	36	48			Yes	Include
HB13-01	36 - 42 *	9/11/2013	Area 2	NA	NA	Acenaphthene	FP-1	36	42	48			Yes	Include
HB13-01	42 - 48 *	9/11/2013	Area 2	NA	NA	Acenaphthene	FP-1	42	48	48			Yes	Include
HB13-01	48 - 54 *	9/11/2013	Area 2	NA	NA	Acenaphthene	FP-1	48	54	48			No	Exclude
HB13-01	54 - 60 *	9/11/2013	Area 2	NA	NA	Acenaphthene	FP-1	54	60	48			No	Exclude
HB13-01	60 - 66 *	9/11/2013	Area 2	NA	NA	Acenaphthene	FP-1	60	66	48			No	Exclude
HB13-01	66 - 72 *	9/11/2013	Area 2	NA	NA	Acenaphthene	FP-1	66	72	48			No	Exclude
HB13-01	72 - 74 *	9/11/2013	Area 2	NA	NA	Acenaphthene	FP-1	72	74	48			No	Exclude
HB13-02	0 - 6 *	9/9/2013	Area 2	0.016 U	0.016	Acenaphthene		0	6	29.9960004			Yes	Include
HB13-02	6 - 12 *	9/9/2013	Area 2	NA	NA	Acenaphthene		6	12	29.9960004			Yes	Include
HB13-02	12 - 18 *	9/9/2013	Area 2	NA	NA	Acenaphthene		12	18	29.9960004			Yes	Include
HB13-02	18 - 24 *	9/9/2013	Area 2	NA	NA	Acenaphthene		18	24	29.9960004			Yes	Include
HB13-02	24 - 30 *	9/9/2013	Area 2	NA	NA	Acenaphthene		24	30	29.9960004			Yes	Include
HB13-02	30 - 36 *	9/9/2013	Area 2	NA	NA	Acenaphthene		30	36	29.9960004			No	Exclude
HB13-02	36 - 42 *	9/9/2013	Area 2	NA	NA	Acenaphthene		36	42	29.9960004			No	Exclude
HB13-02	42 - 48 *	9/9/2013	Area 2	NA	NA	Acenaphthene		42	48	29.9960004			No	Exclude
HB13-03	0 - 6 *	9/9/2013	Area 2	NA	NA	Acenaphthene	FP-2	0	6	46.0040004			Yes	Include
HB13-03	0 - 24	9/9/2013	Area 2	0.16	0.16	Acenaphthene	FP-2	0	24	46.0040004			Yes	Include
HB13-03	6 - 12 *	9/9/2013	Area 2	NA	NA	Acenaphthene	FP-2	6	12	46.0040004			Yes	Include
HB13-03	12 - 18 *	9/9/2013	Area 2	NA	NA	Acenaphthene	FP-2	12	18	46.0040004			Yes	Include
HB13-03	18 - 24 *	9/9/2013	Area 2	NA	NA	Acenaphthene	FP-2	18	24	46.0040004			Yes	Include
HB13-03	24 - 30 *	9/9/2013	Area 2	NA	NA	Acenaphthene	FP-2	24	30	46.0040004			Yes	Include
HB13-03	24 - 46	9/9/2013	Area 2	0.057	0.057	Acenaphthene	FP-2	24	46	46.0040004			Yes	Include
HB13-03	30 - 36 *	9/9/2013	Area 2	NA	NA	Acenaphthene	FP-2	30	36	46.0040004			Yes	Include
HB13-03	36 - 42 *	9/9/2013	Area 2	NA	NA	Acenaphthene	FP-2	36	42	46.0040004			Yes	Include
HB13-03	42 - 46 *	9/9/2013	Area 2	NA	NA	Acenaphthene	FP-2	42	46	46.0040004			Yes	Include
HB13-03	46 - 51 *	9/9/2013	Area 2	NA	NA	Acenaphthene	FP-2	46	51	46.0040004			Yes	Include
HB13-04	0 - 6 *	9/9/2013	Area 2	NA	NA	Acenaphthene	OC-1	0	6	41.9960004			Yes	Include
HB13-04	6 - 12 *	9/9/2013	Area 2	NA	NA	Acenaphthene	OC-1	6	12	41.9960004			Yes	Include
HB13-04	12 - 18 *	9/9/2013	Area 2	NA	NA	Acenaphthene	OC-1	12	18	41.9960004			Yes	Include
HB13-04	18 - 24 *	9/9/2013	Area 2	NA	NA	Acenaphthene	OC-1	18	24	41.9960004			Yes	Include
HB13-04	24 - 30 *	9/9/2013	Area 2	NA	NA	Acenaphthene	OC-1	24	30	41.9960004			Yes	Include
HB13-04	30 - 36 *	9/9/2013	Area 2	NA	NA	Acenaphthene	OC-1	30	36	41.9960004			Yes	Include
HB13-04	36 - 42 *	9/9/2013	Area 2	NA	NA	Acenaphthene	OC-1	36	42	41.9960004			Yes	Include
HB13-04	42 - 44 *	9/9/2013	Area 2	NA	NA	Acenaphthene	OC-1	42	44	41.9960004			No	Exclude
HB13-05	0 - 32 *	9/9/2013	Area 2	NA	NA	Acenaphthene	FC-1	0	32	43.8	33.156	exclude	Yes	Exclude
HB13-05	32 - 38 *	9/9/2013	Area 2	NA	NA	Acenaphthene	FC-1	32	38	43.8	33.156	include	Yes	Include
HB13-05	38 - 44 *	9/9/2013	Area 2	NA	NA	Acenaphthene	FC-1	38	44	43.8	33.156	include	Yes	Include
HB13-05	44 - 50 *	9/9/2013	Area 2	NA	NA	Acenaphthene	FC-1	44	50	43.8	33.156	include	No	Exclude
HB13-05	50 - 56 *	9/9/2013	Area 2	NA	NA	Acenaphthene	FC-1	50	56	43.8	33.156	include	No	Exclude
HB13-05	56 - 62	9/9/2013	Area 2	0.42	0.42	Acenaphthene	FC-1	56	62	43.8	33.156	include	No	Exclude
HB13-05	62 - 66	9/9/2013	Area 2	0.022	0.022	Acenaphthene	FC-1	62	66	43.8	33.156	include	No	Exclude
HB13-05	68 - 74 *	9/9/2013	Area 2	NA	NA	Acenaphthene	FC-1	68	74	43.8	33.156	include	No	Exclude
HB13-05	74 - 77 *	9/9/2013	Area 2	NA	NA	Acenaphthene	FC-1	74	77	43.8	33.156	include	No	Exclude
HB13-06	0 - 6 *	9/9/2013	Area 2	NA	NA	Acenaphthene	OC-2	0	6	48			Yes	Include
HB13-06	6 - 12 *	9/9/2013	Area 2	NA	NA	Acenaphthene	OC-2	6	12	48			Yes	Include
HB13-06	12 - 18 *	9/9/2013	Area 2	NA	NA	Acenaphthene	OC-2	12	18	48			Yes	Include
HB13-06	18 - 24 *	9/9/2013	Area 2	NA	NA	Acenaphthene	OC-2	18	24	48			Yes	Include
HB13-06	24 - 30 *	9/9/2013	Area 2	NA	NA	Acenaphthene	OC-2	24	30	48			Yes	Include
HB13-06	30 - 36 *	9/9/2013	Area 2	NA	NA	Acenaphthene	OC-2	30	36	48			Yes	Include
HB13-06	36 - 42 *	9/9/2013	Area 2	NA	NA	Acenaphthene	OC-2	36	42	48			Yes	Include
HB13-06	42 - 48 *	9/9/2013	Area 2	NA	NA	Acenaphthene	OC-2	42	48	48			Yes	Include
HB13-07	0 - 6 *	9/10/2013	Area 2	NA	NA	Acenaphthene		0	6					Exclude
HB13-07	6 - 12 *	9/10/2013	Area 2	NA	NA	Acenaphthene		6	12					Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-07	12 - 18 *	9/10/2013	Area 2	NA	NA	Acenaphthene		12	18					Exclude
HB13-07	18 - 24 *	9/10/2013	Area 2	NA	NA	Acenaphthene		18	24					Exclude
HB13-07	24 - 30 *	9/10/2013	Area 2	NA	NA	Acenaphthene		24	30					Exclude
HB13-07	30 - 36 *	9/10/2013	Area 2	NA	NA	Acenaphthene		30	36					Exclude
HB13-07	36 - 42 *	9/10/2013	Area 2	NA	NA	Acenaphthene		36	42					Exclude
HB13-07	42 - 48 *	9/10/2013	Area 2	NA	NA	Acenaphthene		42	48					Exclude
HB13-08	0 - 18	9/11/2013	Area 2	0.095	0.095	Acenaphthene	FC-2	0	18	38.28	21.756	exclude	Yes	Exclude
HB13-08	18 - 36	9/11/2013	Area 2	0.1	0.1	Acenaphthene	FC-2	18	36	38.28	21.756	include	Yes	Include
HB13-08	36 - 60	9/11/2013	Area 2	0.14	0.14	Acenaphthene	FC-2	36	60	38.28	21.756	include	Yes	Include
HB13-08	60 - 92	9/11/2013	Area 2	0.047	0.047	Acenaphthene	FC-2	60	92	38.28	21.756	include	No	Exclude
HB13-10	0 - 6 *	9/10/2013	Area 2	NA	NA	Acenaphthene		0	6	0.0039996			Yes	Include
HB13-11	0 - 18	9/11/2013	Area 2	0.06	0.06	Acenaphthene	FC-4	0	18	25.2	23.964	exclude	Yes	Exclude
HB13-11	18 - 24 *	9/11/2013	Area 2	NA	NA	Acenaphthene	FC-4	18	24	25.2	23.964	include	Yes	Include
HB13-11	18 - 42	9/11/2013	Area 2	0.073	0.073	Acenaphthene	FC-4	18	42	25.2	23.964	include	Yes	Include
HB13-11	24 - 30 *	9/11/2013	Area 2	NA	NA	Acenaphthene	FC-4	24	30	25.2	23.964	include	Yes	Include
HB13-11	30 - 36 *	9/11/2013	Area 2	NA	NA	Acenaphthene	FC-4	30	36	25.2	23.964	include	No	Exclude
HB13-11	36 - 42 *	9/11/2013	Area 2	NA	NA	Acenaphthene	FC-4	36	42	25.2	23.964	include	No	Exclude
HB13-11	42 - 48 *	9/11/2013	Area 2	NA	NA	Acenaphthene	FC-4	42	48	25.2	23.964	include	No	Exclude
HB13-11	42 - 60	9/11/2013	Area 2	0.023	0.023	Acenaphthene	FC-4	42	60	25.2	23.964	include	No	Exclude
HB13-11	48 - 54 *	9/11/2013	Area 2	NA	NA	Acenaphthene	FC-4	48	54	25.2	23.964	include	No	Exclude
HB13-11	54 - 60 *	9/11/2013	Area 2	NA	NA	Acenaphthene	FC-4	54	60	25.2	23.964	include	No	Exclude
HB13-12	0 - 6 *	9/10/2013	Area 2	NA	NA	Acenaphthene		0	6	5.9960004			Yes	Include
HB13-13	0 - 1 *	9/11/2013	Area 2	NA	NA	Acenaphthene	SND-5	0	1	0.9999996			Yes	Include
HB13-14	0 - 6 *	9/12/2013	Area 2	NA	NA	Acenaphthene	FC-6	0	6	45.9999996	-5.316	include	Yes	Include
HB13-14	0 - 24	9/12/2013	Area 2	0.0094 U	0.0094	Acenaphthene	FC-6	0	24	45.9999996	-5.316	include	Yes	Include
HB13-14	6 - 24 *	9/12/2013	Area 2	NA	NA	Acenaphthene	FC-6	6	24	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 42 *	9/12/2013	Area 2	NA	NA	Acenaphthene	FC-6	24	42	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 46	9/12/2013	Area 2	0.0091 U	0.0091	Acenaphthene	FC-6	24	46	45.9999996	-5.316	include	Yes	Include
HB13-14	42 - 46 *	9/12/2013	Area 2	NA	NA	Acenaphthene	FC-6	42	46	45.9999996	-5.316	include	Yes	Include
HB13-15	0 - 6 *	9/12/2013	Area 2	NA	NA	Acenaphthene	FC-7	0	6	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	6 - 12 *	9/12/2013	Area 2	NA	NA	Acenaphthene	FC-7	6	12	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	12 - 19 *	9/12/2013	Area 2	NA	NA	Acenaphthene	FC-7	12	19	18.9999996	18.516	include	Yes	Include
HB13-16	0 - 6 *	9/12/2013	Area 2	NA	NA	Acenaphthene		0	6	26.0000004			Yes	Include
HB13-16	6 - 12 *	9/12/2013	Area 2	NA	NA	Acenaphthene		6	12	26.0000004			Yes	Include
HB13-16	12 - 18 *	9/12/2013	Area 2	NA	NA	Acenaphthene		12	18	26.0000004			Yes	Include
HB13-16	18 - 24 *	9/12/2013	Area 2	NA	NA	Acenaphthene		18	24	26.0000004			Yes	Include
HB13-16	24 - 27 *	9/12/2013	Area 2	NA	NA	Acenaphthene		24	27	26.0000004			Yes	Include
HB13-17	0 - 12 *	9/12/2013	Area 2	NA	NA	Acenaphthene	FC-7	0	12	24	16.2	exclude	Yes	Exclude
HB13-17	12 - 18 *	9/12/2013	Area 2	NA	NA	Acenaphthene	FC-7	12	18	24	16.2	include	Yes	Include
HB13-17	18 - 24 *	9/12/2013	Area 2	NA	NA	Acenaphthene	FC-7	18	24	24	16.2	include	Yes	Include
HB13-17	24 - 47 *	9/12/2013	Area 2	NA	NA	Acenaphthene	FC-7	24	47	24	16.2	include	No	Exclude
HB13-18	0 - 6	9/12/2013	Area 2	0.052 U	0.052	Acenaphthene		0	6	9.9999996			Yes	Include
HB13-18	6 - 10	9/12/2013	Area 2	0.013 U	0.013	Acenaphthene		6	10	9.9999996			Yes	Include
HB13-18	10 - 16	9/12/2013	Area 2	0.0097 U	0.0097	Acenaphthene		10	16	9.9999996			No	Exclude
HB13-19	0 - 6 *	9/13/2013	Area 2	NA	NA	Acenaphthene		0	6					Exclude
HB13-19	6 - 24 *	9/13/2013	Area 2	NA	NA	Acenaphthene		6	24					Exclude
HB13-19	18 - 20 *	9/13/2013	Area 2	NA	NA	Acenaphthene		18	20					Exclude
HB13-19	24 - 42 *	9/13/2013	Area 2	NA	NA	Acenaphthene		24	42					Exclude
HB13-19	42 - 61 *	9/13/2013	Area 2	NA	NA	Acenaphthene		42	61					Exclude
HB13-19	61 - 67 *	9/13/2013	Area 2	NA	NA	Acenaphthene		61	67					Exclude
HB13-20	0 - 6 *	9/12/2013	Area 2	NA	NA	Acenaphthene		0	6	24			Yes	Include
HB13-20	0 - 12	9/12/2013	Area 2	0.016 U	0.016	Acenaphthene		0	12	24			Yes	Include
HB13-20	6 - 12 *	9/12/2013	Area 2	NA	NA	Acenaphthene		6	12	24			Yes	Include
HB13-20	12 - 18 *	9/12/2013	Area 2	NA	NA	Acenaphthene		12	18	24			Yes	Include
HB13-20	12 - 24	9/12/2013	Area 2	0.013 U	0.013	Acenaphthene		12	24	24			Yes	Include
HB13-20	18 - 24 *	9/12/2013	Area 2	NA	NA	Acenaphthene		18	24	24			Yes	Include
HB13-20	24 - 30 *	9/12/2013	Area 2	NA	NA	Acenaphthene		24	30	24			No	Exclude
HB13-20	24 - 36	9/12/2013	Area 2	0.012 U	0.012	Acenaphthene		24	36	24			No	Exclude
HB13-20	30 - 36 *	9/12/2013	Area 2	NA	NA	Acenaphthene		30	36	24			No	Exclude
HB13-20	36 - 42 *	9/12/2013	Area 2	NA	NA	Acenaphthene		36	42	24			No	Exclude
HB13-20	36 - 48	9/12/2013	Area 2	0.011 U	0.011	Acenaphthene		36	48	24			No	Exclude
HB13-20	42 - 48 *	9/12/2013	Area 2	NA	NA	Acenaphthene		42	48	24			No	Exclude
HB13-21	0 - 6 *	9/13/2013	Area 2	NA	NA	Acenaphthene	OC-10	0	6	24			Yes	Include
HB13-21	6 - 24 *	9/13/2013	Area 2	NA	NA	Acenaphthene	OC-10	6	24	24			Yes	Include
HB13-21	24 - 48 *	9/13/2013	Area 2	NA	NA	Acenaphthene	OC-10	24	48	24			No	Exclude
HB13-21	48 - 72 *	9/13/2013	Area 2	NA	NA	Acenaphthene	OC-10	48	72	24			No	Exclude
HB13-21	72 - 88 *	9/13/2013	Area 2	NA	NA	Acenaphthene	OC-10	72	88	24			No	Exclude
HB13-22	0 - 28 *	9/12/2013	Area 2	NA	NA	Acenaphthene	FC-7	0	28	24	36.72	exclude	Yes	Exclude
HB13-22	28 - 31 *	9/12/2013	Area 2	NA	NA	Acenaphthene	FC-7	28	31	24	36.72	exclude	No	Exclude
HB13-23	0 - 12 *	9/12/2013	Area 2	NA	NA	Acenaphthene	SND-5	0	12	27			Yes	Include
HB13-23	12 - 18 *	9/12/2013	Area 2	NA	NA	Acenaphthene	SND-5	12	18	27			Yes	Include
HB13-23	18 - 24 *	9/12/2013	Area 2	NA	NA	Acenaphthene	SND-5	18	24	27			Yes	Include
HB13-23	24 - 32 *	9/12/2013	Area 2	NA	NA	Acenaphthene	SND-5	24	32	27			Yes	Include
HB13-24	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-3	0	6	6			Yes	Include
HB13-24	0 - 24 *	9/12/2013	HUGHITT AVE SLIP	0.28	0.28	Acenaphthene	HS-3	0	24	6			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-24	6 - 24	9/12/2013	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-3	6	24	6			No	Exclude
HB13-25	0 - 6 *	9/12/2013	Area 1	NA	NA	Acenaphthene	OC-11	0	6	57			Yes	Include
HB13-25	0 - 18	9/12/2013	Area 1	0.015	0.015	Acenaphthene	OC-11	0	18	57			Yes	Include
HB13-25	6 - 18 *	9/12/2013	Area 1	NA	NA	Acenaphthene	OC-11	6	18	57			Yes	Include
HB13-25	18 - 36 *	9/12/2013	Area 1	NA	NA	Acenaphthene	OC-11	18	36	57			Yes	Include
HB13-25	18 - 57	9/12/2013	Area 1	0.014 U	0.014	Acenaphthene	OC-11	18	57	57			Yes	Include
HB13-25	36 - 57 *	9/12/2013	Area 1	NA	NA	Acenaphthene	OC-11	36	57	57			Yes	Include
HB13-26	0 - 12	9/13/2013	Area 1	0.013 U	0.013	Acenaphthene	FC-10	0	12	33	17.04	exclude	Yes	Exclude
HB13-26	12 - 18	9/13/2013	Area 1	0.013 U	0.013	Acenaphthene	FC-10	12	18	33	17.04	include	Yes	Include
HB13-26	18 - 33	9/13/2013	Area 1	0.012 U	0.012	Acenaphthene	FC-10	18	33	33	17.04	include	Yes	Include
HB13-27	0 - 6 *	9/13/2013	Area 1	NA	NA	Acenaphthene		0	6					Exclude
HB13-27	0 - 32	9/13/2013	Area 1	0.0097 U	0.0097	Acenaphthene		0	32					Exclude
HB13-28	0 - 8 *	9/13/2013	Area 1	NA	NA	Acenaphthene	FC-11	0	8	14.0000004	13.68	exclude	Yes	Exclude
HB13-28	8 - 14 *	9/13/2013	Area 1	NA	NA	Acenaphthene	FC-11	8	14	14.0000004	13.68	include	Yes	Include
HB13-28	14 - 26 *	9/13/2013	Area 1	NA	NA	Acenaphthene	FC-11	14	26	14.0000004	13.68	include	Yes	Include
HB13-28	26 - 40 *	9/13/2013	Area 1	NA	NA	Acenaphthene	FC-11	26	40	14.0000004	13.68	include	No	Exclude
HB13-29	0 - 6	9/13/2013	Area 1	NA	NA	Acenaphthene	FC-12/FC-13	0	6	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 12 *	9/13/2013	Area 1	0.022	0.022	Acenaphthene	FC-12/FC-13	0	12	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 18 *	9/13/2013	Area 1	NA	NA	Acenaphthene	FC-12/FC-13	0	18	44.0000004	1.044	include	Yes	Include
HB13-29	6 - 12	9/13/2013	Area 1	NA	NA	Acenaphthene	FC-12/FC-13	6	12	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 24	9/13/2013	Area 1	NA	NA	Acenaphthene	FC-12/FC-13	12	24	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 44 *	9/13/2013	Area 1	0.02	0.02	Acenaphthene	FC-12/FC-13	12	44	44.0000004	1.044	include	Yes	Include
HB13-29	24 - 44	9/13/2013	Area 1	NA	NA	Acenaphthene	FC-12/FC-13	24	44	44.0000004	1.044	include	Yes	Include
HB13-30	0 - 6	9/10/2013	Area 1	NA	NA	Acenaphthene	SND-1	0	6	60			Yes	Include
HB13-30	6 - 24	9/10/2013	Area 1	NA	NA	Acenaphthene	SND-1	6	24	60			Yes	Include
HB13-30	24 - 42	9/10/2013	Area 1	NA	NA	Acenaphthene	SND-1	24	42	60			Yes	Include
HB13-30	42 - 60	9/10/2013	Area 1	NA	NA	Acenaphthene	SND-1	42	60	60			Yes	Include
HB13-30	60 - 78	9/10/2013	Area 1	NA	NA	Acenaphthene	SND-1	60	78	60			No	Exclude
HB13-31	0 - 6	9/13/2013	Area 1	NA	NA	Acenaphthene	FC-16	0	6	27	2.76	include	Yes	Include
HB13-31	6 - 18	9/13/2013	Area 1	NA	NA	Acenaphthene	FC-16	6	18	27	2.76	include	Yes	Include
HB13-31	18 - 27	9/13/2013	Area 1	NA	NA	Acenaphthene	FC-16	18	27	27	2.76	include	Yes	Include
HB13-31	27 - 33	9/13/2013	Area 1	NA	NA	Acenaphthene	FC-16	27	33	27	2.76	include	No	Exclude
HB13-32	0 - 6	9/13/2013	Area 1	NA	NA	Acenaphthene	FC-14	0	6	26.0000004	-2.52	include	Yes	Include
HB13-32	6 - 18	9/13/2013	Area 1	NA	NA	Acenaphthene	FC-14	6	18	26.0000004	-2.52	include	Yes	Include
HB13-32	18 - 26	9/13/2013	Area 1	NA	NA	Acenaphthene	FC-14	18	26	26.0000004	-2.52	include	Yes	Include
HB13-32	26 - 32	9/13/2013	Area 1	NA	NA	Acenaphthene	FC-14	26	32	26.0000004	-2.52	include	Yes	Include
HB13-33	0 - 6	9/13/2013	Area 1	NA	NA	Acenaphthene		0	6	12			Yes	Include
HB13-33	6 - 12	9/13/2013	Area 1	NA	NA	Acenaphthene		6	12	12			Yes	Include
HB13-34	0 - 6	9/13/2013	Area 1	NA	NA	Acenaphthene		0	6	0.5000004			Yes	Include
HB13-35	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Acenaphthene		0	6	3.9999996			Yes	Include
HB13-35	6 - 12	9/13/2013	Hughitt Ave Slip	NA	NA	Acenaphthene		6	12	3.9999996			No	Exclude
HB13-37	2 - 6	9/10/2013	Hughitt Ave Slip	0.36	0.36	Acenaphthene	HS-3	2	6	6			Yes	Include
HB13-38	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-3	0	6	6			Yes	Include
HB13-39	4 - 10	9/13/2013	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-2	4	10	27.9999996			Yes	Include
HB13-39	10 - 28	9/13/2013	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-2	10	28	27.9999996			Yes	Include
HB13-39	28 - 34	9/13/2013	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-2	28	34	27.9999996			No	Exclude
HB13-40	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-2	0	6	86.0000004			Yes	Include
HB13-40	0 - 24 *	9/13/2013	Hughitt Ave Slip	0.033	0.033	Acenaphthene	HS-2	0	24	86.0000004			Yes	Include
HB13-40	6 - 24	9/13/2013	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-2	6	24	86.0000004			Yes	Include
HB13-40	24 - 48	9/13/2013	Hughitt Ave Slip	0.21	0.21	Acenaphthene	HS-2	24	48	86.0000004			Yes	Include
HB13-40	48 - 72	9/13/2013	Hughitt Ave Slip	0.046	0.046	Acenaphthene	HS-2	48	72	86.0000004			Yes	Include
HB13-40	72 - 86	9/13/2013	Hughitt Ave Slip	0.013 U	0.013	Acenaphthene	HS-2	72	86	86.0000004			Yes	Include
HB13-41	0 - 6	9/10/2013	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-2	0	6	29.0000004			Yes	Include
HB13-41	0 - 24 *	9/10/2013	Hughitt Ave Slip	0.18	0.18	Acenaphthene	HS-2	0	24	29.0000004			Yes	Include
HB13-41	6 - 24	9/10/2013	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-2	6	24	29.0000004			Yes	Include
HB13-41	24 - 29	9/10/2013	Hughitt Ave Slip	0.072	0.072	Acenaphthene	HS-2	24	29	29.0000004			Yes	Include
HB13-42	0 - 6	9/11/2013	Cummings Ave Slip	0.28	0.28	Acenaphthene	CS-3	0	6	33			Yes	Include
HB13-42	6 - 24	9/11/2013	Cummings Ave Slip	0.088	0.088	Acenaphthene	CS-3	6	24	33			Yes	Include
HB13-42	24 - 33	9/11/2013	Cummings Ave Slip	0.13	0.13	Acenaphthene	CS-3	24	33	33			Yes	Include
HB13-42	33 - 36	9/11/2013	Cummings Ave Slip	0.010 U	0.01	Acenaphthene	CS-3	33	36	33			No	Exclude
HB13-43	0 - 6	9/11/2013	Cummings Ave Slip	1.7	1.7	Acenaphthene	CS-2	0	6	24			Yes	Include
HB13-43	0 - 24 *	9/11/2013	Cummings Ave Slip	NA	NA	Acenaphthene	CS-2	0	24	24			Yes	Include
HB13-43	6 - 24	9/11/2013	Cummings Ave Slip	0.049	0.049	Acenaphthene	CS-2	6	24	24			Yes	Include
HB13-45	0 - 6	9/11/2013	Cummings Ave Slip	0.24	0.24	Acenaphthene	CS-2	0	6	21			Yes	Include
HB13-45	6 - 21	9/11/2013	Cummings Ave Slip	0.47	0.47	Acenaphthene	CS-2	6	21	21			Yes	Include
HB13-47	0 - 6	9/10/2013	Fraser Ave Slip	0.5	0.5	Acenaphthene	FS-1	0	6	30.996			Yes	Include
HB13-47	6 - 24	9/10/2013	Fraser Ave Slip	0.4	0.4	Acenaphthene	FS-1	6	24	30.996			Yes	Include
HB13-47	24 - 31	9/10/2013	Fraser Ave Slip	0.88	0.88	Acenaphthene	FS-1	24	31	30.996			Yes	Include
HB13-47	31 - 37 *	9/10/2013	Fraser Ave Slip	NA	NA	Acenaphthene	FS-1	31	37	30.996			No	Exclude
HB13-48	0 - 6 *	9/10/2013	Fraser Ave Slip	NA	NA	Acenaphthene	FS-2	0	6	45.9999996			Yes	Include
HB13-48	0 - 24	9/10/2013	FRASER AVE SLIP	0.41	0.41	Acenaphthene	FS-2	0	24	45.9999996			Yes	Include
HB13-48	6 - 24 *	9/10/2013	Fraser Ave Slip	NA	NA	Acenaphthene	FS-2	6	24	45.9999996			Yes	Include
HB13-48	24 - 42 *	9/10/2013	Fraser Ave Slip	NA	NA	Acenaphthene	FS-2	24	42	45.9999996			Yes	Include
HB13-48	24 - 46 *	9/10/2013	FRASER AVE SLIP	0.36	0.36	Acenaphthene	FS-2	24	46	45.9999996			Yes	Include
HB13-48	42 - 46 *	9/10/2013	Fraser Ave Slip	NA	NA	Acenaphthene	FS-2	42	46	45.9999996			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-49	0 - 6	9/11/2013	Fraser Ave Slip	0.11	0.11	Acenaphthene	FS-2	0	6	30			Yes	Include
HB13-49	6 - 24	9/11/2013	Fraser Ave Slip	0.3	0.3	Acenaphthene	FS-2	6	24	30			Yes	Include
HB13-49	24 - 30	9/11/2013	Fraser Ave Slip	0.23	0.23	Acenaphthene	FS-2	24	30	30			Yes	Include
HB13-50	0 - 12 *	9/13/2013	Area 1	NA	NA	Acenaphthene	OC-12	0	12	47.0000004			Yes	Include
HB13-50	12 - 24 *	9/13/2013	Area 1	NA	NA	Acenaphthene	OC-12	12	24	47.0000004			Yes	Include
HB13-50	24 - 36 *	9/13/2013	Area 1	NA	NA	Acenaphthene	OC-12	24	36	47.0000004			Yes	Include
HB13-50	36 - 47 *	9/13/2013	Area 1	NA	NA	Acenaphthene	OC-12	36	47	47.0000004			Yes	Include
HB13-51	0 - 6 *	9/11/2013	Area 2	NA	NA	Acenaphthene		0	6					Exclude
HB13-51	6 - 15 *	9/11/2013	Area 2	NA	NA	Acenaphthene		6	15					Exclude
HB13-52	0 - 6 *	9/11/2013	Area 2	NA	NA	Acenaphthene	OC-10	0	6	12			Yes	Include
HB13-52	6 - 12 *	9/11/2013	Area 2	NA	NA	Acenaphthene	OC-10	6	12	12			Yes	Include
HB13-52	12 - 17 *	9/11/2013	Area 2	NA	NA	Acenaphthene	OC-10	12	17	12			No	Exclude
HB14-01	0 - 6	8/18/2014	Area 1	NA	NA	Acenaphthene	SND-1	0	6					Exclude
HB14-01	6 - 18	8/18/2014	Area 1	NA	NA	Acenaphthene	SND-1	6	18					Exclude
HB14-02	0 - 6	8/18/2014	Area 1	NA	NA	Acenaphthene	FC-15	0	6	17.004	-12.996	include	Yes	Include
HB14-02	6 - 14	8/18/2014	Area 1	NA	NA	Acenaphthene	FC-15	6	14	17.004	-12.996	include	Yes	Include
HB14-03	0 - 6	8/18/2014	Area 1	NA	NA	Acenaphthene	FC-15	0	6	29.997288	-2.472	include	Yes	Include
HB14-03	6 - 18	8/18/2014	Area 1	NA	NA	Acenaphthene	FC-15	6	18	29.997288	-2.472	include	Yes	Include
HB14-03	18 - 30	8/18/2014	Area 1	NA	NA	Acenaphthene	FC-15	18	30	29.997288	-2.472	include	Yes	Include
HB14-03	30 - 42	8/18/2014	Area 1	NA	NA	Acenaphthene	FC-15	30	42	29.997288	-2.472	include	No	Exclude
HB14-03	42 - 54	8/18/2014	Area 1	NA	NA	Acenaphthene	FC-15	42	54	29.997288	-2.472	include	No	Exclude
HB14-04	0 - 6	8/18/2014	Area 1	NA	NA	Acenaphthene		0	6	29.904			Yes	Include
HB14-04	6 - 18	8/18/2014	Area 1	NA	NA	Acenaphthene		6	18	29.904			Yes	Include
HB14-04	18 - 30	8/18/2014	Area 1	NA	NA	Acenaphthene		18	30	29.904			Yes	Include
HB14-05 G		8/18/2014	Area 1	NA	NA	Acenaphthene			#VALUE!					Exclude
HB14-06	0 - 6	8/18/2014	Area 1	NA	NA	Acenaphthene		0	6	30.588			Yes	Include
HB14-06	6 - 24	8/18/2014	Area 1	NA	NA	Acenaphthene		6	24	30.588			Yes	Include
HB14-07	0 - 6	8/18/2014	Area 1	NA	NA	Acenaphthene		0	6	78.012			Yes	Include
HB14-07	6 - 24	8/18/2014	Area 1	NA	NA	Acenaphthene		6	24	78.012			Yes	Include
HB14-07	24 - 42	8/18/2014	Area 1	NA	NA	Acenaphthene		24	42	78.012			Yes	Include
HB14-08	0 - 6	8/19/2014	Area 1	NA	NA	Acenaphthene		0	6	34.416			Yes	Include
HB14-08	6 - 19	8/19/2014	Area 1	NA	NA	Acenaphthene		6	19	34.416			Yes	Include
HB14-09	0 - 12	8/19/2014	Area 1	NA	NA	Acenaphthene	OC-16	0	12	12.003804			Yes	Include
HB14-09	12 - 24	8/19/2014	Area 1	NA	NA	Acenaphthene	OC-16	12	24	12.003804			Yes	Include
HB14-09	24 - 36	8/19/2014	Area 1	NA	NA	Acenaphthene	OC-16	24	36	12.003804			No	Exclude
HB14-09	36 - 48	8/19/2014	Area 1	NA	NA	Acenaphthene	OC-16	36	48	12.003804			No	Exclude
HB14-09	48 - 60	8/19/2014	Area 1	NA	NA	Acenaphthene	OC-16	48	60	12.003804			No	Exclude
HB14-09	60 - 72	8/19/2014	Area 1	NA	NA	Acenaphthene	OC-16	60	72	12.003804			No	Exclude
HB14-10	0 - 6	8/20/2014	Area 1	0.023	0.023	Acenaphthene		0	6	54.005544			Yes	Include
HB14-10	6 - 18	8/20/2014	Area 1	0.033	0.033	Acenaphthene		6	18	54.005544			Yes	Include
HB14-10	18 - 30	8/20/2014	Area 1	0.0560 J	0.056	Acenaphthene		18	30	54.005544			Yes	Include
HB14-10	30 - 42	8/20/2014	Area 1	0.16	0.16	Acenaphthene		30	42	54.005544			Yes	Include
HB14-10	42 - 54	8/20/2014	Area 1	0.1	0.1	Acenaphthene		42	54	54.005544			Yes	Include
HB14-10	54 - 66	8/20/2014	Area 1	NA	NA	Acenaphthene		54	66	54.005544			Yes	Include
HB14-11	0 - 6	8/19/2014	Area 1	NA	NA	Acenaphthene	SND-2	0	6					Exclude
HB14-11	6 - 18	8/19/2014	Area 1	NA	NA	Acenaphthene	SND-2	6	18					Exclude
HB14-11	18 - 20	8/19/2014	Area 1	NA	NA	Acenaphthene	SND-2	18	20					Exclude
HB14-12	0 - 6	8/19/2014	Area 1	NA	NA	Acenaphthene	SND-4	0	6	26.34			Yes	Include
HB14-12	6 - 18	8/19/2014	Area 1	NA	NA	Acenaphthene	SND-4	6	18	26.34			Yes	Include
HB14-12	18 - 32	8/19/2014	Area 1	NA	NA	Acenaphthene	SND-4	18	32	26.34			Yes	Include
HB14-13	0 - 6	8/19/2014	Area 2	NA	NA	Acenaphthene	SND-5	0	6	-0.648			No	Exclude
HB14-13	6 - 11	8/19/2014	Area 2	NA	NA	Acenaphthene	SND-5	6	11	-0.648			No	Exclude
HB14-14	0 - 6	8/20/2014	Area 2	0.065	0.065	Acenaphthene	OC-4	0	6	101.997672			Yes	Include
HB14-14	4 - 6	8/20/2014	Area 2	1.1	1.1	Acenaphthene	OC-4	4	6	101.997672			Yes	Include
HB14-14	6 - 18	8/20/2014	Area 2	NA	NA	Acenaphthene	OC-4	6	18	101.997672			Yes	Include
HB14-14	6 - 30	8/20/2014	Area 2	0.13	0.13	Acenaphthene	OC-4	6	30	101.997672			Yes	Include
HB14-14	18 - 30	8/20/2014	Area 2	NA	NA	Acenaphthene	OC-4	18	30	101.997672			Yes	Include
HB14-14	30 - 42	8/20/2014	Area 2	NA	NA	Acenaphthene	OC-4	30	42	101.997672			Yes	Include
HB14-14	30 - 54	8/20/2014	Area 2	0.081	0.081	Acenaphthene	OC-4	30	54	101.997672			Yes	Include
HB14-14	42 - 54	8/20/2014	Area 2	NA	NA	Acenaphthene	OC-4	42	54	101.997672			Yes	Include
HB14-14	54 - 66	8/20/2014	Area 2	NA	NA	Acenaphthene	OC-4	54	66	101.997672			Yes	Include
HB14-14	54 - 78	8/20/2014	Area 2	0.0195 U	0.0195	Acenaphthene	OC-4	54	78	101.997672			Yes	Include
HB14-14	66 - 78	8/20/2014	Area 2	NA	NA	Acenaphthene	OC-4	66	78	101.997672			Yes	Include
HB14-14	78 - 90	8/20/2014	Area 2	NA	NA	Acenaphthene	OC-4	78	90	101.997672			Yes	Include
HB14-14	78 - 102	8/20/2014	Area 2	0.072	0.072	Acenaphthene	OC-4	78	102	101.997672			Yes	Include
HB14-14	90 - 102	8/20/2014	Area 2	NA	NA	Acenaphthene	OC-4	90	102	101.997672			Yes	Include
HB14-14	102 - 111	8/20/2014	Area 2	NA	NA	Acenaphthene	OC-4	102	111	101.997672			No	Exclude
HB15-01	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	0	12	51.096			Yes	Include
HB15-01	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	12	24	51.096			Yes	Include
HB15-01	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	24	36	51.096			Yes	Include
HB15-01	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	36	48	51.096			Yes	Include
HB15-01	48 - 57	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	48	57	51.096			Yes	Include
HB15-02	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	0	12	48.000696			Yes	Include
HB15-02	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	12	24	48.000696			Yes	Include
HB15-02	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	24	36	48.000696			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB15-02	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	36	48	48.000696			Yes	Include
HB15-03	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	0	12	67.9950564			Yes	Include
HB15-03	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	12	24	67.9950564			Yes	Include
HB15-03	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	24	36	67.9950564			Yes	Include
HB15-03	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	36	48	67.9950564			Yes	Include
HB15-03	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	48	60	67.9950564			Yes	Include
HB15-03	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	60	68	67.9950564			Yes	Include
HB15-03R	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	0	12	67.9950564			Yes	Include
HB15-03R	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	12	24	67.9950564			Yes	Include
HB15-03R	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	24	36	67.9950564			Yes	Include
HB15-03R	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	36	48	67.9950564			Yes	Include
HB15-03R	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	48	60	67.9950564			Yes	Include
HB15-03R	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	60	68	67.9950564			Yes	Include
HB15-04	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	0	12	63.84			Yes	Include
HB15-04	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	12	24	63.84			Yes	Include
HB15-04	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	24	36	63.84			Yes	Include
HB15-04	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	36	48	63.84			Yes	Include
HB15-04	48 - 59	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	48	59	63.84			Yes	Include
HB15-05	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	0	12	71.994852			Yes	Include
HB15-05	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	12	24	71.994852			Yes	Include
HB15-05	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	24	36	71.994852			Yes	Include
HB15-05	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	36	48	71.994852			Yes	Include
HB15-05	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	48	60	71.994852			Yes	Include
HB15-05	60 - 72	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	60	72	71.994852			Yes	Include
HB15-05	72 - 80	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-1	72	80	71.994852			No	Exclude
HB15-06	0 - 9	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthene	HS-2	0	9	9.000636			Yes	Include
HB15-07	0 - 12	6/23/2015	Cummings Ave Slip	NA	NA	Acenaphthene	CS-1	0	12	90.9955116			Yes	Include
HB15-07	12 - 24	6/23/2015	Cummings Ave Slip	NA	NA	Acenaphthene	CS-1	12	24	90.9955116			Yes	Include
HB15-07	24 - 36	6/23/2015	Cummings Ave Slip	NA	NA	Acenaphthene	CS-1	24	36	90.9955116			Yes	Include
HB15-07	36 - 48	6/23/2015	Cummings Ave Slip	0.65	0.65	Acenaphthene	CS-1	36	48	90.9955116			Yes	Include
HB15-07	48 - 60	6/23/2015	Cummings Ave Slip	1.9	1.9	Acenaphthene	CS-1	48	60	90.9955116			Yes	Include
HB15-07	60 - 72	6/23/2015	Cummings Ave Slip	0.77	0.77	Acenaphthene	CS-1	60	72	90.9955116			Yes	Include
HB15-07	72 - 84	6/23/2015	Cummings Ave Slip	0.85	0.85	Acenaphthene	CS-1	72	84	90.9955116			Yes	Include
HB15-07	84 - 91	6/23/2015	Cummings Ave Slip	1.3	1.3	Acenaphthene	CS-1	84	91	90.9955116			Yes	Include
HB15-08	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Acenaphthene	CS-2	0	12	65.997804			Yes	Include
HB15-08	12 - 24	6/24/2015	Cummings Ave Slip	0.84	0.84	Acenaphthene	CS-2	12	24	65.997804			Yes	Include
HB15-08	24 - 36	6/24/2015	Cummings Ave Slip	0.6	0.6	Acenaphthene	CS-2	24	36	65.997804			Yes	Include
HB15-08	36 - 48	6/24/2015	Cummings Ave Slip	NA	NA	Acenaphthene	CS-2	36	48	65.997804			Yes	Include
HB15-08	48 - 60	6/24/2015	Cummings Ave Slip	NA	NA	Acenaphthene	CS-2	48	60	65.997804			Yes	Include
HB15-08	60 - 66	6/24/2015	Cummings Ave Slip	NA	NA	Acenaphthene	CS-2	60	66	65.997804			Yes	Include
HB15-09	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Acenaphthene	CS-3	0	12	45.396			Yes	Include
HB15-09	12 - 17	6/24/2015	Cummings Ave Slip	NA	NA	Acenaphthene	CS-3	12	17	45.396			Yes	Include
HB15-10	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Acenaphthene		0	12	-0.936			No	Exclude
HB15-11	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Acenaphthene	CS-5	0	12	27.9944796			Yes	Include
HB15-11	12 - 24	6/24/2015	Cummings Ave Slip	NA	NA	Acenaphthene	CS-5	12	24	27.9944796			Yes	Include
HB15-11	24 - 28	6/24/2015	Cummings Ave Slip	NA	NA	Acenaphthene	CS-5	24	28	27.9944796			Yes	Include
HB15-12	0 - 12	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-1	0	12	29.994876			Yes	Include
HB15-12	12 - 24	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-1	12	24	29.994876			Yes	Include
HB15-12	24 - 30	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-1	24	30	29.994876			Yes	Include
HB15-13	0 - 12	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-1	0	12	64.0033716			Yes	Include
HB15-13	12 - 24	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-1	12	24	64.0033716			Yes	Include
HB15-13	24 - 36	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-1	24	36	64.0033716			Yes	Include
HB15-13	36 - 48	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-1	36	48	64.0033716			Yes	Include
HB15-13	48 - 60	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-1	48	60	64.0033716			Yes	Include
HB15-13	60 - 64	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-1	60	64	64.0033716			Yes	Include
HB15-14	0 - 12	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-1	0	12	23.996196			Yes	Include
HB15-14	12 - 24	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-1	12	24	23.996196			Yes	Include
HB15-14	24 - 28	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-1	24	28	23.996196			No	Exclude
HB15-14	28 - 35	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-1	28	35	23.996196			No	Exclude
HB15-15	0 - 12	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-2	0	12	19.0051356			Yes	Include
HB15-15	12 - 19	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-2	12	19	19.0051356			Yes	Include
HB15-15R	0 - 12	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-2	0	12	18.9999996			Yes	Include
HB15-15R	12 - 19	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-2	12	19	18.9999996			Yes	Include
HB15-16	0 - 12	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-1	0	12	8.304			Yes	Include
HB15-16	12 - 19	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-1	12	19	8.304			No	Exclude
HB15-17	0 - 12	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-2	0	12	36.004608			Yes	Include
HB15-17	12 - 24	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-2	12	24	36.004608			Yes	Include
HB15-17	24 - 36	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-2	24	36	36.004608			Yes	Include
HB15-17	36 - 48	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-2	36	48	36.004608			Yes	Include
HB15-17	48 - 54	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-2	48	54	36.004608			No	Exclude
HB15-18	0 - 12	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-2	0	12	23.999508			Yes	Include
HB15-18	12 - 24	6/24/2015	Area 2	NA	NA	Acenaphthene	FP-2	12	24	23.999508			Yes	Include
HB15-19	0 - 12	6/24/2015	Area 2	NA	NA	Acenaphthene		0	12					Exclude
HB15-19	12 - 24	6/24/2015	Area 2	NA	NA	Acenaphthene		12	24					Exclude
HB15-19	24 - 32	6/24/2015	Area 2	NA	NA	Acenaphthene		24	32					Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB15-20	0 - 12	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-3	0	12	33.864			Yes	Include
HB15-20	12 - 24	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-3	12	24	33.864			Yes	Include
HB15-20	24 - 28	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-3	24	28	33.864			Yes	Include
HB15-20B	0 - 6	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-13	0	6	11.996892			Yes	Include
HB15-20B	6 - 12	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-13	6	12	11.996892			Yes	Include
HB15-21G	15 - 21	6/29/2015	Fraser Ave Slip	NA	NA	Acenaphthene		15	21					Exclude
HB15-22G	0 - 6	6/29/2015	Fraser Ave Slip	0.067	0.067	Acenaphthene	OC-8	0	6	6			Yes	Include
HB15-23	0 - 12	6/25/2015	Fraser Ave Slip	NA	NA	Acenaphthene	FS-1	0	12	55.02			Yes	Include
HB15-23	12 - 24	6/25/2015	Fraser Ave Slip	NA	NA	Acenaphthene	FS-1	12	24	55.02			Yes	Include
HB15-23	24 - 36	6/25/2015	Fraser Ave Slip	NA	NA	Acenaphthene	FS-1	24	36	55.02			Yes	Include
HB15-23	36 - 48	6/25/2015	Fraser Ave Slip	NA	NA	Acenaphthene	FS-1	36	48	55.02			Yes	Include
HB15-23	48 - 56	6/25/2015	Fraser Ave Slip	NA	NA	Acenaphthene	FS-1	48	56	55.02			Yes	Include
HB15-25	0 - 12	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-1	0	12	77.4			Yes	Include
HB15-25	12 - 24	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-1	12	24	77.4			Yes	Include
HB15-25	24 - 36	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-1	24	36	77.4			Yes	Include
HB15-25	36 - 48	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-1	36	48	77.4			Yes	Include
HB15-25	48 - 60	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-1	48	60	77.4			Yes	Include
HB15-25	60 - 72	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-1	60	72	77.4			Yes	Include
HB15-25	72 - 88	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-1	72	88	77.4			Yes	Include
HB15-26	0 - 12	6/25/2015	Area 2	NA	NA	Acenaphthene	FC-2	0	12	38.28	6.36	include	Yes	Include
HB15-26	12 - 24	6/25/2015	Area 2	NA	NA	Acenaphthene	FC-2	12	24	38.28	6.36	include	Yes	Include
HB15-26	24 - 36	6/25/2015	Area 2	NA	NA	Acenaphthene	FC-2	24	36	38.28	6.36	include	Yes	Include
HB15-26	36 - 46	6/25/2015	Area 2	NA	NA	Acenaphthene	FC-2	36	46	38.28	6.36	include	Yes	Include
HB15-27	0 - 12	6/25/2015	Area 2	NA	NA	Acenaphthene	FC-3	0	12	33.6	14.64	exclude	Yes	Exclude
HB15-27	12 - 24	6/25/2015	Area 2	NA	NA	Acenaphthene	FC-3	12	24	33.6	14.64	include	Yes	Include
HB15-27	24 - 36	6/25/2015	Area 2	NA	NA	Acenaphthene	FC-3	24	36	33.6	14.64	include	Yes	Include
HB15-27	36 - 48	6/25/2015	Area 2	NA	NA	Acenaphthene	FC-3	36	48	33.6	14.64	include	No	Exclude
HB15-27	48 - 60	6/25/2015	Area 2	NA	NA	Acenaphthene	FC-3	48	60	33.6	14.64	include	No	Exclude
HB15-27	60 - 71	6/25/2015	Area 2	NA	NA	Acenaphthene	FC-3	60	71	33.6	14.64	include	No	Exclude
HB15-28	0 - 12	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-7	0	12	11.994072			Yes	Include
HB15-28	12 - 24	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-7	12	24	11.994072			No	Exclude
HB15-28	24 - 30	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-7	24	30	11.994072			No	Exclude
HB15-30	0 - 12	6/25/2015	Area 2	NA	NA	Acenaphthene		0	12	43.776			Yes	Include
HB15-30	12 - 24	6/25/2015	Area 2	NA	NA	Acenaphthene		12	24	43.776			Yes	Include
HB15-30	24 - 36	6/25/2015	Area 2	NA	NA	Acenaphthene		24	36	43.776			Yes	Include
HB15-30	36 - 50	6/25/2015	Area 2	NA	NA	Acenaphthene		36	50	43.776			Yes	Include
HB15-31	0 - 12	6/25/2015	Area 2	NA	NA	Acenaphthene		0	12					Exclude
HB15-31	12 - 20	6/25/2015	Area 2	NA	NA	Acenaphthene		12	20					Exclude
HB15-32	0 - 12	6/25/2015	Area 1	NA	NA	Acenaphthene	SND-4	0	12	11.995236			Yes	Include
HB15-32	12 - 26	6/25/2015	Area 1	NA	NA	Acenaphthene	SND-4	12	26	11.995236			No	Exclude
HB15-33	0 - 12	6/25/2015	Area 1	NA	NA	Acenaphthene		0	12	26.292			Yes	Include
HB15-33	12 - 24	6/25/2015	Area 1	NA	NA	Acenaphthene		12	24	26.292			Yes	Include
HB15-33	24 - 39	6/25/2015	Area 1	NA	NA	Acenaphthene		24	39	26.292			Yes	Include
HB15-34	0 - 12	6/25/2015	Area 1	NA	NA	Acenaphthene	FC-11	0	12		35.52	exclude		Exclude
HB15-34	12 - 24	6/25/2015	Area 1	NA	NA	Acenaphthene	FC-11	12	24		35.52	exclude		Exclude
HB15-34	24 - 32	6/25/2015	Area 1	NA	NA	Acenaphthene	FC-11	24	32		35.52	exclude		Exclude
HB15-35	0 - 12	6/25/2015	Area 1	NA	NA	Acenaphthene	FC-16	0	12	74.28	-6.48	include	Yes	Include
HB15-35	12 - 24	6/25/2015	Area 1	NA	NA	Acenaphthene	FC-16	12	24	74.28	-6.48	include	Yes	Include
HB15-35	24 - 36	6/25/2015	Area 1	NA	NA	Acenaphthene	FC-16	24	36	74.28	-6.48	include	Yes	Include
HB15-35	36 - 48	6/25/2015	Area 1	NA	NA	Acenaphthene	FC-16	36	48	74.28	-6.48	include	Yes	Include
HB15-35	48 - 60	6/25/2015	Area 1	NA	NA	Acenaphthene	FC-16	48	60	74.28	-6.48	include	Yes	Include
HB15-35	60 - 72	6/25/2015	Area 1	NA	NA	Acenaphthene	FC-16	60	72	74.28	-6.48	include	Yes	Include
HB15-36G	15 - 36	6/29/2015	Area 2	NA	NA	Acenaphthene		15	36					Exclude
HB15-37	0 - 12	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-9	0	12	51.048			Yes	Include
HB15-37	12 - 24	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-9	12	24	51.048			Yes	Include
HB15-37	24 - 36	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-9	24	36	51.048			Yes	Include
HB15-37	36 - 48	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-9	36	48	51.048			Yes	Include
HB15-37	48 - 60	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-9	48	60	51.048			Yes	Include
HB15-37	60 - 74	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-9	60	74	51.048			No	Exclude
HB15-38	0 - 12	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-9	0	12	83.184			Yes	Include
HB15-38	12 - 24	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-9	12	24	83.184			Yes	Include
HB15-38	24 - 36	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-9	24	36	83.184			Yes	Include
HB15-38	36 - 48	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-9	36	48	83.184			Yes	Include
HB15-38	48 - 60	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-9	48	60	83.184			Yes	Include
HB15-38	60 - 72	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-9	60	72	83.184			Yes	Include
HB15-38	72 - 84	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-9	72	84	83.184			Yes	Include
HB15-38	84 - 96	6/25/2015	Area 2	NA	NA	Acenaphthene	OC-9	84	96	83.184			No	Exclude
HB15-G28	0 - 6	6/25/2015	Hughitt Ave Slip	NA	NA	Acenaphthene		0	6					Exclude
HB15-HC20A	0 - 6	6/25/2015	Area 1	NA	NA	Acenaphthene	OC-13	0	6	6.003036			Yes	Include
HB2A_4	0 - 6	5/12/2007	Hughitt Ave Slip	0.015 U	0.015	Acenaphthylene	HS-1	0	6	48.00432			Yes	Include
HB2A_4	6 - 24	5/12/2007	Hughitt Ave Slip	0.027 UJ	0.027	Acenaphthylene	HS-1	6	24	48.00432			Yes	Include
HB2A_4	24 - 48	5/12/2007	Hughitt Ave Slip	0.0088	0.0088	Acenaphthylene	HS-1	24	48	48.00432			Yes	Include
HB2A_6	0 - 5	5/2/2007	Area 1	0.26		Acenaphthylene		0	5					Exclude
HB2A_7	0 - 5	5/10/2007	Area 1	0.03	0.03	Acenaphthylene	SND-1	0	5					Exclude
HB2A_8	0 - 5	5/10/2007	Area 1	0.023	0.023	Acenaphthylene	FC-12/FC-13	0	5	4.9944804	79.824	exclude	Yes	Exclude

**Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI**

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB2A_11	0 - 5	5/10/2007	Area 1	0.042 J-	0.042	Acenaphthylene		0	5					Exclude
HB2A_13	0 - 5	5/2/2007	Area 1	0.027	0.027	Acenaphthylene		0	5					Exclude
HB2A_16	0 - 5	5/2/2007	Area 1	0.011 J-	0.011	Acenaphthylene		0	5					Exclude
HB2A_210	0 - 6	5/16/2007	Area 1	0.0080 U	0.008	Acenaphthylene		0	6					Exclude
HB2A_210	6 - 24	5/16/2007	Area 1	0.0083 U	0.0083	Acenaphthylene		6	24					Exclude
HB2A_210	24 - 48	5/16/2007	Area 1	0.0061 UJS-	0.0061	Acenaphthylene		24	48					Exclude
HB2A_GENES	0 - 5	5/22/2007	Cummings Ave Slip	0.045	0.045	Acenaphthylene		0	5					Exclude
HB2B_17	0 - 6	5/12/2007	Fraser Ave Slip	0.013	0.013	Acenaphthylene	FS-2	0	6	24.005676			Yes	Include
HB2B_17	6 - 24	5/12/2007	Fraser Ave Slip	0.0086	0.0086	Acenaphthylene	FS-2	6	24	24.005676			Yes	Include
HB2B_18	0 - 6	5/7/2007	Area 2	0.018	0.018	Acenaphthylene	FP-1	0	6	47.997552			Yes	Include
HB2B_18	6 - 24	5/7/2007	Area 2	0.011	0.011	Acenaphthylene	FP-1	6	24	47.997552			Yes	Include
HB2B_18	24 - 48	5/7/2007	Area 2	0.01	0.01	Acenaphthylene	FP-1	24	48	47.997552			Yes	Include
HB2B_19	0 - 6	5/2/2007	Area 2	0.0075	0.0075	Acenaphthylene	OC-1	0	6	6.001728			Yes	Include
HB2B_19	6 - 24	5/2/2007	Area 2	0.0022 J	0.0022	Acenaphthylene	OC-1	6	24	6.001728			Yes	Include
HB2B_20	0 - 6	5/2/2007	Area 2	0.016	0.016	Acenaphthylene	OC-9	0	6	23.997336			Yes	Include
HB2B_20	6 - 24	5/2/2007	Area 2	0.013	0.013	Acenaphthylene	OC-9	6	24	23.997336			Yes	Include
HB2B_20	24 - 48	5/2/2007	Area 2	0.0036 J	0.0036	Acenaphthylene	OC-9	24	48	23.997336			No	Exclude
HB2B_21	0 - 5	5/2/2007	Area 2	0.018	0.018	Acenaphthylene		0	5					Exclude
HB2B_22	0 - 5	5/2/2007	Area 2	0.029	0.029	Acenaphthylene	OC-5	0	5	5.0028204			Yes	Include
HB3A_GENES	0 - 5	9/6/2007	Cummings Ave Slip	0.0045	0.0045	Acenaphthylene		0	5					Exclude
HB10-1-01	0 - 6	10/16/2010	Area 1	0.009	0.009	Acenaphthylene		0	6					Exclude
HB10-1-01	0 - 12	10/16/2010	Area 1	0.0071 U	0.0071	Acenaphthylene		0	12					Exclude
HB10-1-01	36 - 40	10/16/2010	Area 1	0.0051 U	0.0051	Acenaphthylene		36	40					Exclude
HB10-1-02	0 - 6	10/16/2010	Area 1	0.011	0.011	Acenaphthylene		0	6	23.0027508			Yes	Include
HB10-1-02	12 - 23	10/16/2010	Area 1	0.007	0.007	Acenaphthylene		12	23	23.0027508			Yes	Include
HB10-1-03	0 - 6	10/16/2010	Area 1	0.019	0.019	Acenaphthylene	FC-17	0	6	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	0 - 12	10/16/2010	Area 1	0.008	0.008	Acenaphthylene	FC-17	0	12	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	12 - 36	10/16/2010	Area 1	0.008	0.008	Acenaphthylene	FC-17	12	36	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	36 - 60	10/16/2010	Area 1	0.017	0.017	Acenaphthylene	FC-17	36	60	59.99475	49.872	include	Yes	Include
HB10-1-03	60 - 84	10/16/2010	Area 1	0.019	0.019	Acenaphthylene	FC-17	60	84	59.99475	49.872	include	No	Exclude
HB10-1-04	0 - 6	10/17/2010	Area 1	0.0058	0.0058	Acenaphthylene		0	6					Exclude
HB10-1-04	0 - 12	10/17/2010	Area 1	0.0091	0.0091	Acenaphthylene		0	12					Exclude
HB10-1-04	12 - 36	10/17/2010	Area 1	0.012	0.012	Acenaphthylene		12	36					Exclude
HB10-1-04	36 - 50	10/17/2010	Area 1	0.011	0.011	Acenaphthylene		36	50					Exclude
HB10-1-05	0 - 6	10/16/2010	Area 1	0.013	0.013	Acenaphthylene	OC-17	0	6	5.9987496			Yes	Include
HB10-1-07	0 - 6	10/17/2010	Area 1	0.11 U	0.11	Acenaphthylene	OC-15	0	6	6.0057			Yes	Include
HB10-1-07	0 - 12	10/17/2010	Area 1	0.024	0.024	Acenaphthylene	OC-15	0	12	6.0057			Yes	Include
HB10-1-07	12 - 36	10/17/2010	Area 1	0.016	0.016	Acenaphthylene	OC-15	12	36	6.0057			No	Exclude
HB10-1-07	60 - 64	10/17/2010	Area 1	0.0040 U	0.004	Acenaphthylene	OC-15	60	64	6.0057			No	Exclude
HB10-1-08	0 - 6	10/17/2010	Area 1	0.020 J	0.02	Acenaphthylene		0	6	36.0057			Yes	Include
HB10-1-08	0 - 12	10/17/2010	Area 1	0.012	0.012	Acenaphthylene		0	12	36.0057			Yes	Include
HB10-1-08	12 - 36	10/17/2010	Area 1	0.025	0.025	Acenaphthylene		12	36	36.0057			Yes	Include
HB10-1-10	0 - 6	10/18/2010	Area 1	0.063 U	0.063	Acenaphthylene	SND-1	0	6					Exclude
HB10-1-11	0 - 6	10/16/2010	Area 1	0.0087	0.0087	Acenaphthylene		0	6	20.9987496			Yes	Include
HB10-1-11	12 - 21	10/16/2010	Area 1	0.015 J	0.015	Acenaphthylene		12	21	20.9987496			Yes	Include
HB10-1-12	0 - 6	10/17/2010	Area 1	0.015	0.015	Acenaphthylene		0	6					Exclude
HB10-1-12	0 - 12	10/17/2010	Area 1	0.024	0.024	Acenaphthylene		0	12					Exclude
HB10-1-12	12 - 34	10/17/2010	Area 1	0.01	0.01	Acenaphthylene		12	34					Exclude
HB10-1-13	0 - 6	10/18/2010	Area 1	0.029	0.029	Acenaphthylene	FC-12/FC-13	0	6	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	0 - 12	10/18/2010	Area 1	0.025	0.025	Acenaphthylene	FC-12/FC-13	0	12	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	12 - 36	10/18/2010	Area 1	0.016	0.016	Acenaphthylene	FC-12/FC-13	12	36	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	60 - 67	10/18/2010	Area 1	0.024	0.024	Acenaphthylene	FC-12/FC-13	60	67	36.0053004	42.816	include	No	Exclude
HB10-1-14	0 - 6	10/17/2010	Area 1	0.013	0.013	Acenaphthylene		0	6	66.0057			Yes	Include
HB10-1-14	0 - 12	10/17/2010	Area 1	0.0098	0.0098	Acenaphthylene		0	12	66.0057			Yes	Include
HB10-1-14	12 - 36	10/17/2010	Area 1	0.021	0.021	Acenaphthylene		12	36	66.0057			Yes	Include
HB10-1-14	60 - 66	10/17/2010	Area 1	0.018	0.018	Acenaphthylene		60	66	66.0057			Yes	Include
HB10-1-15	0 - 6	10/18/2010	Area 1	0.0043 U	0.0043	Acenaphthylene	OC-13	0	6	16.0056996			Yes	Include
HB10-1-15	12 - 16	10/18/2010	Area 1	0.024	0.024	Acenaphthylene	OC-13	12	16	16.0056996			Yes	Include
HB10-1-16	0 - 6	10/17/2010	Hughitt Ave Slip	0.011	0.011	Acenaphthylene	HS-3	0	6	31.0056996			Yes	Include
HB10-1-16	0 - 12	10/17/2010	Hughitt Ave Slip	0.34 U	0.34	Acenaphthylene	HS-3	0	12	31.0056996			Yes	Include
HB10-1-16	12 - 31	10/17/2010	Hughitt Ave Slip	0.047	0.047	Acenaphthylene	HS-3	12	31	31.0056996			Yes	Include
HB10-1-17	0 - 6	10/17/2010	Area 1	0.019 J	0.019	Acenaphthylene	OC-14	0	6	12			Yes	Include
HB10-1-20	0 - 6	10/17/2010	Hughitt Ave Slip	0.12	0.12	Acenaphthylene		0	6	6.0057			Yes	Include
HB10-1-21	0 - 6	10/18/2010	Cummings Ave Slip	0.0069 J	0.0069	Acenaphthylene		0	6	6.0012996			Yes	Include
HB10-1-21	12 - 23	10/18/2010	Cummings Ave Slip	R	R	Acenaphthylene		12	23	6.0012996			No	Exclude
HB10-1-23	0 - 6	10/17/2010	Area 1	0.012	0.012	Acenaphthylene		0	6	36.0057			Yes	Include
HB10-1-23	0 - 12	10/17/2010	Area 1	0.02	0.02	Acenaphthylene		0	12	36.0057			Yes	Include
HB10-1-23	12 - 36	10/17/2010	Area 1	0.037	0.037	Acenaphthylene		12	36	36.0057			Yes	Include
HB10-1-24	0 - 6	10/18/2010	Cummings Ave Slip	0.012 J	0.012	Acenaphthylene	CS-4	0	6	36.0047496			Yes	Include
HB10-1-24	0 - 12	10/18/2010	Cummings Ave Slip	0.032	0.032	Acenaphthylene	CS-4	0	12	36.0047496			Yes	Include
HB10-1-24	12 - 36	10/18/2010	Cummings Ave Slip	0.037	0.037	Acenaphthylene	CS-4	12	36	36.0047496			Yes	Include
HB10-1-25	0 - 6	10/17/2010	Baxter Ave Embayment	0.0094	0.0094	Acenaphthylene		0	6	6.0057			Yes	Include
HB10-1-27	0 - 6	10/18/2010	Area 1	0.0089 U	0.0089	Acenaphthylene		0	6	-0.0027			No	Exclude
HB10-1-28	0 - 6	10/17/2010	Hughitt Ave Slip	0.039	0.039	Acenaphthylene	HS-1	0	6	84.0057			Yes	Include
HB10-1-28	0 - 12	10/17/2010	Hughitt Ave Slip	0.034	0.034	Acenaphthylene	HS-1	0	12	84.0057			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB10-1-28	12 - 36	10/17/2010	Hughitt Ave Slip	0.031	0.031	Acenaphthylene	HS-1	12	36	84.0057			Yes	Include
HB10-1-28	36 - 60	10/17/2010	Hughitt Ave Slip	0.027	0.027	Acenaphthylene	HS-1	36	60	84.0057			Yes	Include
HB10-1-28	60 - 84	10/17/2010	Hughitt Ave Slip	0.058	0.058	Acenaphthylene	HS-1	60	84	84.0057			Yes	Include
HB10-1-28	60 - 96	10/17/2010	Hughitt Ave Slip	0.015	0.015	Acenaphthylene	HS-1	60	96	84.0057			Yes	Include
HB10-1-29	0 - 6	10/17/2010	Cummings Ave Slip	0.072 U	0.072	Acenaphthylene	CS-1	0	6	83.9937			Yes	Include
HB10-1-29	0 - 12	10/17/2010	Cummings Ave Slip	0.072 U	0.072	Acenaphthylene	CS-1	0	12	83.9937			Yes	Include
HB10-1-29	12 - 36	10/17/2010	Cummings Ave Slip	0.19	0.19	Acenaphthylene	CS-1	12	36	83.9937			Yes	Include
HB10-1-29	36 - 60	10/17/2010	Cummings Ave Slip	0.11	0.11	Acenaphthylene	CS-1	36	60	83.9937			Yes	Include
HB10-1-29	60 - 93	10/17/2010	Cummings Ave Slip	0.13	0.13	Acenaphthylene	CS-1	60	93	83.9937			Yes	Include
HB10-1-30	0 - 6	10/18/2010	Baxter Ave Embayment	0.031	0.031	Acenaphthylene		0	6	60.0053004			Yes	Include
HB10-1-30	0 - 12	10/18/2010	Baxter Ave Embayment	0.094	0.094	Acenaphthylene		0	12	60.0053004			Yes	Include
HB10-1-30	12 - 36	10/18/2010	Baxter Ave Embayment	0.049	0.049	Acenaphthylene		12	36	60.0053004			Yes	Include
HB10-1-30	36 - 60	10/18/2010	Baxter Ave Embayment	0.025	0.025	Acenaphthylene		36	60	60.0053004			Yes	Include
HB10-1-30	60 - 77	10/18/2010	Baxter Ave Embayment	0.025	0.025	Acenaphthylene		60	77	60.0053004			Yes	Include
HB10-1-31	0 - 6	10/18/2010	Baxter Ave Embayment	0.028	0.028	Acenaphthylene	OC-11	0	6	35.9973			Yes	Include
HB10-1-31	0 - 12	10/18/2010	Baxter Ave Embayment	0.03	0.03	Acenaphthylene	OC-11	0	12	35.9973			Yes	Include
HB10-1-31	12 - 36	10/18/2010	Baxter Ave Embayment	0.029	0.029	Acenaphthylene	OC-11	12	36	35.9973			Yes	Include
HB10-2-18	0 - 6	10/18/2010	Area 2	0.02	0.02	Acenaphthylene	OC-2	0	6	6.0053004			Yes	Include
HB10-2-26	0 - 6	10/16/2010	Area 2	0.0047 U	0.0047	Acenaphthylene		0	6					Exclude
HB10-2-26	12 - 17	10/16/2010	Area 2	0.006	0.006	Acenaphthylene		12	17					Exclude
HB10-2-32	0 - 6	10/18/2010	Area 2	0.017 J	0.017	Acenaphthylene		0	6					Exclude
HB10-2-33	0 - 6	10/18/2010	Area 2	0.0061	0.0061	Acenaphthylene		0	6	6.0012996			Yes	Include
HB10-2-33	12 - 22	10/18/2010	Area 2	0.028	0.028	Acenaphthylene		12	22	6.0012996			No	Exclude
HB10-2-34	0 - 6	10/18/2010	Area 2	0.018	0.018	Acenaphthylene	FC-7	0	6	6.0053004	0.816	include	Yes	Include
HB10-2-35	0 - 6	10/18/2010	Area 2	0.0051	0.0051	Acenaphthylene		0	6	30.0012996			Yes	Include
HB10-2-35	0 - 12	10/18/2010	Area 2	0.0079	0.0079	Acenaphthylene		0	12	30.0012996			Yes	Include
HB10-2-35	12 - 30	10/18/2010	Area 2	0.024	0.024	Acenaphthylene		12	30	30.0012996			Yes	Include
HB10-2-36	0 - 6	10/18/2010	Area 2	0.024	0.024	Acenaphthylene	FC-5	0	6	6.0053004	-29.184	include	Yes	Include
HB10-2-37	0 - 6	10/18/2010	Area 2	0.0082 J	0.0082	Acenaphthylene		0	6	23.0013			Yes	Include
HB10-2-37	12 - 23	10/18/2010	Area 2	0.012	0.012	Acenaphthylene		12	23	23.0013			Yes	Include
HB10-2-38	0 - 6	10/18/2010	Area 2	0.0076 U	0.0076	Acenaphthylene	OC-6	0	6	38.0013			Yes	Include
HB10-2-38	0 - 12	10/18/2010	Area 2	0.016 J	0.016	Acenaphthylene	OC-6	0	12	38.0013			Yes	Include
HB10-2-38	36 - 38	10/18/2010	Area 2	0.039	0.039	Acenaphthylene	OC-6	36	38	38.0013			Yes	Include
HB10-2-39	0 - 6	10/18/2010	Area 2	0.0088 J	0.0088	Acenaphthylene		0	6	6.0012996			Yes	Include
HB10-2-39	0 - 12	10/18/2010	Area 2	0.025	0.025	Acenaphthylene		0	12	6.0012996			Yes	Include
HB10-2-39	12 - 28	10/18/2010	Area 2	0.021	0.021	Acenaphthylene		12	28	6.0012996			No	Exclude
HB10-2-40	0 - 6	10/18/2010	Area 2	0.019	0.019	Acenaphthylene	OC-5	0	6	48.0053004			Yes	Include
HB10-2-40	0 - 12	10/18/2010	Area 2	0.0062	0.0062	Acenaphthylene	OC-5	0	12	48.0053004			Yes	Include
HB10-2-40	12 - 36	10/18/2010	Area 2	0.0044 U	0.0044	Acenaphthylene	OC-5	12	36	48.0053004			Yes	Include
HB10-2-40	36 - 48	10/18/2010	Area 2	0.0043 U	0.0043	Acenaphthylene	OC-5	36	48	48.0053004			Yes	Include
HB10-2-41	0 - 6	10/18/2010	Area 2	0.047 J	0.047	Acenaphthylene	FP-2	0	6	31.0012992			Yes	Include
HB10-2-41	0 - 12	10/18/2010	Area 2	0.005	0.005	Acenaphthylene	FP-2	0	12	31.0012992			Yes	Include
HB10-2-41	12 - 31	10/18/2010	Area 2	0.0080 U	0.008	Acenaphthylene	FP-2	12	31	31.0012992			Yes	Include
HB10-2-42	0 - 6	10/18/2010	Area 2	0.016	0.016	Acenaphthylene	FP-1	0	6	12.0012996			Yes	Include
HB10-2-42	0 - 12	10/18/2010	Area 2	0.039	0.039	Acenaphthylene	FP-1	0	12	12.0012996			Yes	Include
HB10-2-42	12 - 30	10/18/2010	Area 2	0.02	0.02	Acenaphthylene	FP-1	12	30	12.0012996			Yes	Include
HB10-2-43	0 - 6	10/17/2010	Area 2	0.0039 U	0.0039	Acenaphthylene		0	6	22.0056996			Yes	Include
HB10-2-43	12 - 22	10/17/2010	Area 2	0.026	0.026	Acenaphthylene		12	22	22.0056996			Yes	Include
HB10-2-44	0 - 6	10/18/2010	Area 2	0.03	0.03	Acenaphthylene	FP-2	0	6	16.0012992			Yes	Include
HB10-2-44	12 - 16	10/18/2010	Area 2	0.029	0.029	Acenaphthylene	FP-2	12	16	16.0012992			Yes	Include
HB10-2-45	0 - 6	10/18/2010	Area 2	0.0099	0.0099	Acenaphthylene	FP-2	0	6	19.0012992			Yes	Include
HB10-2-45	12 - 19	10/18/2010	Area 2	0.022	0.022	Acenaphthylene	FP-2	12	19	19.0012992			Yes	Include
HB13-01	0 - 6 *	9/11/2013	Area 2	NA	NA	Acenaphthylene	FP-1	0	6	48			Yes	Include
HB13-01	6 - 12 *	9/11/2013	Area 2	NA	NA	Acenaphthylene	FP-1	6	12	48			Yes	Include
HB13-01	12 - 18 *	9/11/2013	Area 2	NA	NA	Acenaphthylene	FP-1	12	18	48			Yes	Include
HB13-01	18 - 24 *	9/11/2013	Area 2	NA	NA	Acenaphthylene	FP-1	18	24	48			Yes	Include
HB13-01	24 - 30 *	9/11/2013	Area 2	NA	NA	Acenaphthylene	FP-1	24	30	48			Yes	Include
HB13-01	30 - 36 *	9/11/2013	Area 2	NA	NA	Acenaphthylene	FP-1	30	36	48			Yes	Include
HB13-01	36 - 42 *	9/11/2013	Area 2	NA	NA	Acenaphthylene	FP-1	36	42	48			Yes	Include
HB13-01	42 - 48 *	9/11/2013	Area 2	NA	NA	Acenaphthylene	FP-1	42	48	48			Yes	Include
HB13-01	48 - 54 *	9/11/2013	Area 2	NA	NA	Acenaphthylene	FP-1	48	54	48			No	Exclude
HB13-01	54 - 60 *	9/11/2013	Area 2	NA	NA	Acenaphthylene	FP-1	54	60	48			No	Exclude
HB13-01	60 - 66 *	9/11/2013	Area 2	NA	NA	Acenaphthylene	FP-1	60	66	48			No	Exclude
HB13-01	66 - 72 *	9/11/2013	Area 2	NA	NA	Acenaphthylene	FP-1	66	72	48			No	Exclude
HB13-01	72 - 74 *	9/11/2013	Area 2	NA	NA	Acenaphthylene	FP-1	72	74	48			No	Exclude
HB13-02	0 - 6 *	9/9/2013	Area 2	0.016 U	0.016	Acenaphthylene		0	6	29.9960004			Yes	Include
HB13-02	6 - 12 *	9/9/2013	Area 2	NA	NA	Acenaphthylene		6	12	29.9960004			Yes	Include
HB13-02	12 - 18 *	9/9/2013	Area 2	NA	NA	Acenaphthylene		12	18	29.9960004			Yes	Include
HB13-02	18 - 24 *	9/9/2013	Area 2	NA	NA	Acenaphthylene		18	24	29.9960004			Yes	Include
HB13-02	24 - 30 *	9/9/2013	Area 2	NA	NA	Acenaphthylene		24	30	29.9960004			Yes	Include
HB13-02	30 - 36 *	9/9/2013	Area 2	NA	NA	Acenaphthylene		30	36	29.9960004			No	Exclude
HB13-02	36 - 42 *	9/9/2013	Area 2	NA	NA	Acenaphthylene		36	42	29.9960004			No	Exclude
HB13-02	42 - 48 *	9/9/2013	Area 2	NA	NA	Acenaphthylene		42	48	29.9960004			No	Exclude
HB13-03	0 - 6 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	FP-2	0	6	46.0040004			Yes	Include
HB13-03	0 - 24	9/9/2013	Area 2	0.12 U	0.12	Acenaphthylene	FP-2	0	24	46.0040004			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-03	6 - 12 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	FP-2	6	12	46.0040004			Yes	Include
HB13-03	12 - 18 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	FP-2	12	18	46.0040004			Yes	Include
HB13-03	18 - 24 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	FP-2	18	24	46.0040004			Yes	Include
HB13-03	24 - 30 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	FP-2	24	30	46.0040004			Yes	Include
HB13-03	24 - 46	9/9/2013	Area 2	0.047 U	0.047	Acenaphthylene	FP-2	24	46	46.0040004			Yes	Include
HB13-03	30 - 36 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	FP-2	30	36	46.0040004			Yes	Include
HB13-03	36 - 42 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	FP-2	36	42	46.0040004			Yes	Include
HB13-03	42 - 46 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	FP-2	42	46	46.0040004			Yes	Include
HB13-03	46 - 51 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	FP-2	46	51	46.0040004			Yes	Include
HB13-04	0 - 6 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	OC-1	0	6	41.9960004			Yes	Include
HB13-04	6 - 12 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	OC-1	6	12	41.9960004			Yes	Include
HB13-04	12 - 18 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	OC-1	12	18	41.9960004			Yes	Include
HB13-04	18 - 24 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	OC-1	18	24	41.9960004			Yes	Include
HB13-04	24 - 30 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	OC-1	24	30	41.9960004			Yes	Include
HB13-04	30 - 36 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	OC-1	30	36	41.9960004			Yes	Include
HB13-04	36 - 42 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	OC-1	36	42	41.9960004			Yes	Include
HB13-04	42 - 44 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	OC-1	42	44	41.9960004			No	Exclude
HB13-05	0 - 32 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	FC-1	0	32	43.8	33.156	exclude	Yes	Exclude
HB13-05	32 - 38 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	FC-1	32	38	43.8	33.156	include	Yes	Include
HB13-05	38 - 44 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	FC-1	38	44	43.8	33.156	include	Yes	Include
HB13-05	44 - 50 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	FC-1	44	50	43.8	33.156	include	No	Exclude
HB13-05	50 - 56 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	FC-1	50	56	43.8	33.156	include	No	Exclude
HB13-05	56 - 62	9/9/2013	Area 2	0.21 U	0.21	Acenaphthylene	FC-1	56	62	43.8	33.156	include	No	Exclude
HB13-05	62 - 66	9/9/2013	Area 2	0.012	0.012	Acenaphthylene	FC-1	62	66	43.8	33.156	include	No	Exclude
HB13-05	68 - 74 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	FC-1	68	74	43.8	33.156	include	No	Exclude
HB13-05	74 - 77 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	FC-1	74	77	43.8	33.156	include	No	Exclude
HB13-06	0 - 6 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	OC-2	0	6	48			Yes	Include
HB13-06	6 - 12 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	OC-2	6	12	48			Yes	Include
HB13-06	12 - 18 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	OC-2	12	18	48			Yes	Include
HB13-06	18 - 24 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	OC-2	18	24	48			Yes	Include
HB13-06	24 - 30 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	OC-2	24	30	48			Yes	Include
HB13-06	30 - 36 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	OC-2	30	36	48			Yes	Include
HB13-06	36 - 42 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	OC-2	36	42	48			Yes	Include
HB13-06	42 - 48 *	9/9/2013	Area 2	NA	NA	Acenaphthylene	OC-2	42	48	48			Yes	Include
HB13-07	0 - 6 *	9/10/2013	Area 2	NA	NA	Acenaphthylene		0	6					Exclude
HB13-07	6 - 12 *	9/10/2013	Area 2	NA	NA	Acenaphthylene		6	12					Exclude
HB13-07	12 - 18 *	9/10/2013	Area 2	NA	NA	Acenaphthylene		12	18					Exclude
HB13-07	18 - 24 *	9/10/2013	Area 2	NA	NA	Acenaphthylene		18	24					Exclude
HB13-07	24 - 30 *	9/10/2013	Area 2	NA	NA	Acenaphthylene		24	30					Exclude
HB13-07	30 - 36 *	9/10/2013	Area 2	NA	NA	Acenaphthylene		30	36					Exclude
HB13-07	36 - 42 *	9/10/2013	Area 2	NA	NA	Acenaphthylene		36	42					Exclude
HB13-07	42 - 48 *	9/10/2013	Area 2	NA	NA	Acenaphthylene		42	48					Exclude
HB13-08	0 - 18	9/11/2013	Area 2	0.049 U	0.049	Acenaphthylene	FC-2	0	18	38.28	21.756	exclude	Yes	Exclude
HB13-08	18 - 36	9/11/2013	Area 2	0.049	0.049	Acenaphthylene	FC-2	18	36	38.28	21.756	include	Yes	Include
HB13-08	36 - 60	9/11/2013	Area 2	0.052	0.052	Acenaphthylene	FC-2	36	60	38.28	21.756	include	Yes	Include
HB13-08	60 - 92	9/11/2013	Area 2	0.033	0.033	Acenaphthylene	FC-2	60	92	38.28	21.756	include	No	Exclude
HB13-10	0 - 6 *	9/10/2013	Area 2	NA	NA	Acenaphthylene		0	6	0.0039996			Yes	Include
HB13-11	0 - 18	9/11/2013	Area 2	0.049 U	0.049	Acenaphthylene	FC-4	0	18	25.2	23.964	exclude	Yes	Exclude
HB13-11	18 - 24 *	9/11/2013	Area 2	NA	NA	Acenaphthylene	FC-4	18	24	25.2	23.964	include	Yes	Include
HB13-11	18 - 42	9/11/2013	Area 2	0.061	0.061	Acenaphthylene	FC-4	18	42	25.2	23.964	include	Yes	Include
HB13-11	24 - 30 *	9/11/2013	Area 2	NA	NA	Acenaphthylene	FC-4	24	30	25.2	23.964	include	Yes	Include
HB13-11	30 - 36 *	9/11/2013	Area 2	NA	NA	Acenaphthylene	FC-4	30	36	25.2	23.964	include	No	Exclude
HB13-11	36 - 42 *	9/11/2013	Area 2	NA	NA	Acenaphthylene	FC-4	36	42	25.2	23.964	include	No	Exclude
HB13-11	42 - 48 *	9/11/2013	Area 2	NA	NA	Acenaphthylene	FC-4	42	48	25.2	23.964	include	No	Exclude
HB13-11	42 - 60	9/11/2013	Area 2	0.014	0.014	Acenaphthylene	FC-4	42	60	25.2	23.964	include	No	Exclude
HB13-11	48 - 54 *	9/11/2013	Area 2	NA	NA	Acenaphthylene	FC-4	48	54	25.2	23.964	include	No	Exclude
HB13-11	54 - 60 *	9/11/2013	Area 2	NA	NA	Acenaphthylene	FC-4	54	60	25.2	23.964	include	No	Exclude
HB13-12	0 - 6 *	9/10/2013	Area 2	NA	NA	Acenaphthylene		0	6	5.9960004			Yes	Include
HB13-13	0 - 1 *	9/11/2013	Area 2	NA	NA	Acenaphthylene	SND-5	0	1	0.9999996			Yes	Include
HB13-14	0 - 6 *	9/12/2013	Area 2	NA	NA	Acenaphthylene	FC-6	0	6	45.9999996	-5.316	include	Yes	Include
HB13-14	0 - 24	9/12/2013	Area 2	0.0094 U	0.0094	Acenaphthylene	FC-6	0	24	45.9999996	-5.316	include	Yes	Include
HB13-14	6 - 24 *	9/12/2013	Area 2	NA	NA	Acenaphthylene	FC-6	6	24	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 42 *	9/12/2013	Area 2	NA	NA	Acenaphthylene	FC-6	24	42	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 46	9/12/2013	Area 2	0.0091 U	0.0091	Acenaphthylene	FC-6	24	46	45.9999996	-5.316	include	Yes	Include
HB13-14	42 - 46 *	9/12/2013	Area 2	NA	NA	Acenaphthylene	FC-6	42	46	45.9999996	-5.316	include	Yes	Include
HB13-15	0 - 6 *	9/12/2013	Area 2	NA	NA	Acenaphthylene	FC-7	0	6	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	6 - 12 *	9/12/2013	Area 2	NA	NA	Acenaphthylene	FC-7	6	12	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	12 - 19 *	9/12/2013	Area 2	NA	NA	Acenaphthylene	FC-7	12	19	18.9999996	18.516	include	Yes	Include
HB13-16	0 - 6 *	9/12/2013	Area 2	NA	NA	Acenaphthylene		0	6	26.0000004			Yes	Include
HB13-16	6 - 12 *	9/12/2013	Area 2	NA	NA	Acenaphthylene		6	12	26.0000004			Yes	Include
HB13-16	12 - 18 *	9/12/2013	Area 2	NA	NA	Acenaphthylene		12	18	26.0000004			Yes	Include
HB13-16	18 - 24 *	9/12/2013	Area 2	NA	NA	Acenaphthylene		18	24	26.0000004			Yes	Include
HB13-16	24 - 27 *	9/12/2013	Area 2	NA	NA	Acenaphthylene		24	27	26.0000004			Yes	Include
HB13-17	0 - 12 *	9/12/2013	Area 2	NA	NA	Acenaphthylene	FC-7	0	12	24	16.2	exclude	Yes	Exclude
HB13-17	12 - 18 *	9/12/2013	Area 2	NA	NA	Acenaphthylene	FC-7	12	18	24	16.2	include	Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-17	18 - 24 *	9/12/2013	Area 2	NA	NA	Acenaphthylene	FC-7	18	24	24	16.2	include	Yes	Include
HB13-17	24 - 47 *	9/12/2013	Area 2	NA	NA	Acenaphthylene	FC-7	24	47	24	16.2	include	No	Exclude
HB13-18	0 - 6	9/12/2013	Area 2	0.052 U	0.052	Acenaphthylene		0	6	9.9999996			Yes	Include
HB13-18	6 - 10	9/12/2013	Area 2	0.013 U	0.013	Acenaphthylene		6	10	9.9999996			Yes	Include
HB13-18	10 - 16	9/12/2013	Area 2	0.0097 U	0.0097	Acenaphthylene		10	16	9.9999996			No	Exclude
HB13-19	0 - 6 *	9/13/2013	Area 2	NA	NA	Acenaphthylene		0	6					Exclude
HB13-19	6 - 24 *	9/13/2013	Area 2	NA	NA	Acenaphthylene		6	24					Exclude
HB13-19	18 - 20 *	9/13/2013	Area 2	NA	NA	Acenaphthylene		18	20					Exclude
HB13-19	24 - 42 *	9/13/2013	Area 2	NA	NA	Acenaphthylene		24	42					Exclude
HB13-19	42 - 61 *	9/13/2013	Area 2	NA	NA	Acenaphthylene		42	61					Exclude
HB13-19	61 - 67 *	9/13/2013	Area 2	NA	NA	Acenaphthylene		61	67					Exclude
HB13-20	0 - 6 *	9/12/2013	Area 2	NA	NA	Acenaphthylene		0	6	24			Yes	Include
HB13-20	0 - 12	9/12/2013	Area 2	0.016 U	0.016	Acenaphthylene		0	12	24			Yes	Include
HB13-20	6 - 12 *	9/12/2013	Area 2	NA	NA	Acenaphthylene		6	12	24			Yes	Include
HB13-20	12 - 18 *	9/12/2013	Area 2	NA	NA	Acenaphthylene		12	18	24			Yes	Include
HB13-20	12 - 24	9/12/2013	Area 2	0.013 U	0.013	Acenaphthylene		12	24	24			Yes	Include
HB13-20	18 - 24 *	9/12/2013	Area 2	NA	NA	Acenaphthylene		18	24	24			Yes	Include
HB13-20	24 - 30 *	9/12/2013	Area 2	NA	NA	Acenaphthylene		24	30	24			No	Exclude
HB13-20	24 - 36	9/12/2013	Area 2	0.012 U	0.012	Acenaphthylene		24	36	24			No	Exclude
HB13-20	30 - 36 *	9/12/2013	Area 2	NA	NA	Acenaphthylene		30	36	24			No	Exclude
HB13-20	36 - 42 *	9/12/2013	Area 2	NA	NA	Acenaphthylene		36	42	24			No	Exclude
HB13-20	36 - 48	9/12/2013	Area 2	0.011 U	0.011	Acenaphthylene		36	48	24			No	Exclude
HB13-20	42 - 48 *	9/12/2013	Area 2	NA	NA	Acenaphthylene		42	48	24			No	Exclude
HB13-21	0 - 6 *	9/13/2013	Area 2	NA	NA	Acenaphthylene	OC-10	0	6	24			Yes	Include
HB13-21	6 - 24 *	9/13/2013	Area 2	NA	NA	Acenaphthylene	OC-10	6	24	24			Yes	Include
HB13-21	24 - 48 *	9/13/2013	Area 2	NA	NA	Acenaphthylene	OC-10	24	48	24			No	Exclude
HB13-21	48 - 72 *	9/13/2013	Area 2	NA	NA	Acenaphthylene	OC-10	48	72	24			No	Exclude
HB13-21	72 - 88 *	9/13/2013	Area 2	NA	NA	Acenaphthylene	OC-10	72	88	24			No	Exclude
HB13-22	0 - 28 *	9/12/2013	Area 2	NA	NA	Acenaphthylene	FC-7	0	28	24	36.72	exclude	Yes	Exclude
HB13-22	28 - 31 *	9/12/2013	Area 2	NA	NA	Acenaphthylene	FC-7	28	31	24	36.72	exclude	No	Exclude
HB13-23	0 - 12 *	9/12/2013	Area 2	NA	NA	Acenaphthylene	SND-5	0	12	27			Yes	Include
HB13-23	12 - 18 *	9/12/2013	Area 2	NA	NA	Acenaphthylene	SND-5	12	18	27			Yes	Include
HB13-23	18 - 24 *	9/12/2013	Area 2	NA	NA	Acenaphthylene	SND-5	18	24	27			Yes	Include
HB13-23	24 - 32 *	9/12/2013	Area 2	NA	NA	Acenaphthylene	SND-5	24	32	27			Yes	Include
HB13-24	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-3	0	6	6			Yes	Include
HB13-24	0 - 24 *	9/12/2013	HUGHITT AVE SLIP	0.065	0.065	Acenaphthylene	HS-3	0	24	6			Yes	Include
HB13-24	6 - 24	9/12/2013	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-3	6	24	6			No	Exclude
HB13-25	0 - 6 *	9/12/2013	Area 1	NA	NA	Acenaphthylene	OC-11	0	6	57			Yes	Include
HB13-25	0 - 18	9/12/2013	Area 1	0.012 U	0.012	Acenaphthylene	OC-11	0	18	57			Yes	Include
HB13-25	6 - 18 *	9/12/2013	Area 1	NA	NA	Acenaphthylene	OC-11	6	18	57			Yes	Include
HB13-25	18 - 36 *	9/12/2013	Area 1	NA	NA	Acenaphthylene	OC-11	18	36	57			Yes	Include
HB13-25	18 - 57	9/12/2013	Area 1	0.014 U	0.014	Acenaphthylene	OC-11	18	57	57			Yes	Include
HB13-25	36 - 57 *	9/12/2013	Area 1	NA	NA	Acenaphthylene	OC-11	36	57	57			Yes	Include
HB13-26	0 - 12	9/13/2013	Area 1	0.013 U	0.013	Acenaphthylene	FC-10	0	12	33	17.04	exclude	Yes	Exclude
HB13-26	12 - 18	9/13/2013	Area 1	0.013 U	0.013	Acenaphthylene	FC-10	12	18	33	17.04	include	Yes	Include
HB13-26	18 - 33	9/13/2013	Area 1	0.012 U	0.012	Acenaphthylene	FC-10	18	33	33	17.04	include	Yes	Include
HB13-27	0 - 6 *	9/13/2013	Area 1	NA	NA	Acenaphthylene		0	6					Exclude
HB13-27	0 - 32	9/13/2013	Area 1	0.0097 U	0.0097	Acenaphthylene		0	32					Exclude
HB13-28	0 - 8 *	9/13/2013	Area 1	NA	NA	Acenaphthylene	FC-11	0	8	14.0000004	13.68	exclude	Yes	Exclude
HB13-28	8 - 14 *	9/13/2013	Area 1	NA	NA	Acenaphthylene	FC-11	8	14	14.0000004	13.68	include	Yes	Include
HB13-28	14 - 26 *	9/13/2013	Area 1	NA	NA	Acenaphthylene	FC-11	14	26	14.0000004	13.68	include	Yes	Include
HB13-28	26 - 40 *	9/13/2013	Area 1	NA	NA	Acenaphthylene	FC-11	26	40	14.0000004	13.68	include	No	Exclude
HB13-29	0 - 6	9/13/2013	Area 1	NA	NA	Acenaphthylene	FC-12/FC-13	0	6	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 12 *	9/13/2013	Area 1	0.012 U	0.012	Acenaphthylene	FC-12/FC-13	0	12	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 18 *	9/13/2013	Area 1	NA	NA	Acenaphthylene	FC-12/FC-13	0	18	44.0000004	1.044	include	Yes	Include
HB13-29	6 - 12	9/13/2013	Area 1	NA	NA	Acenaphthylene	FC-12/FC-13	6	12	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 24	9/13/2013	Area 1	NA	NA	Acenaphthylene	FC-12/FC-13	12	24	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 44 *	9/13/2013	Area 1	0.011 U	0.011	Acenaphthylene	FC-12/FC-13	12	44	44.0000004	1.044	include	Yes	Include
HB13-29	24 - 44	9/13/2013	Area 1	NA	NA	Acenaphthylene	FC-12/FC-13	24	44	44.0000004	1.044	include	Yes	Include
HB13-30	0 - 6	9/10/2013	Area 1	NA	NA	Acenaphthylene	SND-1	0	6	60			Yes	Include
HB13-30	6 - 24	9/10/2013	Area 1	NA	NA	Acenaphthylene	SND-1	6	24	60			Yes	Include
HB13-30	24 - 42	9/10/2013	Area 1	NA	NA	Acenaphthylene	SND-1	24	42	60			Yes	Include
HB13-30	42 - 60	9/10/2013	Area 1	NA	NA	Acenaphthylene	SND-1	42	60	60			Yes	Include
HB13-30	60 - 78	9/10/2013	Area 1	NA	NA	Acenaphthylene	SND-1	60	78	60			No	Exclude
HB13-31	0 - 6	9/13/2013	Area 1	NA	NA	Acenaphthylene	FC-16	0	6	27	2.76	include	Yes	Include
HB13-31	6 - 18	9/13/2013	Area 1	NA	NA	Acenaphthylene	FC-16	6	18	27	2.76	include	Yes	Include
HB13-31	18 - 27	9/13/2013	Area 1	NA	NA	Acenaphthylene	FC-16	18	27	27	2.76	include	Yes	Include
HB13-31	27 - 33	9/13/2013	Area 1	NA	NA	Acenaphthylene	FC-16	27	33	27	2.76	include	No	Exclude
HB13-32	0 - 6	9/13/2013	Area 1	NA	NA	Acenaphthylene	FC-14	0	6	26.0000004	-2.52	include	Yes	Include
HB13-32	6 - 18	9/13/2013	Area 1	NA	NA	Acenaphthylene	FC-14	6	18	26.0000004	-2.52	include	Yes	Include
HB13-32	18 - 26	9/13/2013	Area 1	NA	NA	Acenaphthylene	FC-14	18	26	26.0000004	-2.52	include	Yes	Include
HB13-32	26 - 32	9/13/2013	Area 1	NA	NA	Acenaphthylene	FC-14	26	32	26.0000004	-2.52	include	Yes	Include
HB13-33	0 - 6	9/13/2013	Area 1	NA	NA	Acenaphthylene		0	6	12			Yes	Include
HB13-33	6 - 12	9/13/2013	Area 1	NA	NA	Acenaphthylene		6	12	12			Yes	Include
HB13-34	0 - 6	9/13/2013	Area 1	NA	NA	Acenaphthylene		0	6	0.5000004			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-35	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Acenaphthylene		0	6	3.9999996			Yes	Include
HB13-35	6 - 12	9/13/2013	Hughitt Ave Slip	NA	NA	Acenaphthylene		6	12	3.9999996			No	Exclude
HB13-37	2 - 6	9/10/2013	Hughitt Ave Slip	0.13 U	0.13	Acenaphthylene	HS-3	2	6	6			Yes	Include
HB13-38	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-3	0	6	6			Yes	Include
HB13-39	4 - 10	9/13/2013	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-2	4	10	27.9999996			Yes	Include
HB13-39	10 - 28	9/13/2013	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-2	10	28	27.9999996			Yes	Include
HB13-39	28 - 34	9/13/2013	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-2	28	34	27.9999996			No	Exclude
HB13-40	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-2	0	6	86.0000004			Yes	Include
HB13-40	0 - 24 *	9/13/2013	Hughitt Ave Slip	0.011 U	0.011	Acenaphthylene	HS-2	0	24	86.0000004			Yes	Include
HB13-40	6 - 24	9/13/2013	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-2	6	24	86.0000004			Yes	Include
HB13-40	24 - 48	9/13/2013	Hughitt Ave Slip	0.047 U	0.047	Acenaphthylene	HS-2	24	48	86.0000004			Yes	Include
HB13-40	48 - 72	9/13/2013	Hughitt Ave Slip	0.014 U	0.014	Acenaphthylene	HS-2	48	72	86.0000004			Yes	Include
HB13-40	72 - 86	9/13/2013	Hughitt Ave Slip	0.013 U	0.013	Acenaphthylene	HS-2	72	86	86.0000004			Yes	Include
HB13-41	0 - 6	9/10/2013	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-2	0	6	29.0000004			Yes	Include
HB13-41	0 - 24 *	9/10/2013	Hughitt Ave Slip	0.081	0.081	Acenaphthylene	HS-2	0	24	29.0000004			Yes	Include
HB13-41	6 - 24	9/10/2013	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-2	6	24	29.0000004			Yes	Include
HB13-41	24 - 29	9/10/2013	Hughitt Ave Slip	0.041	0.041	Acenaphthylene	HS-2	24	29	29.0000004			Yes	Include
HB13-42	0 - 6	9/11/2013	Cummings Ave Slip	0.19	0.19	Acenaphthylene	CS-3	0	6	33			Yes	Include
HB13-42	6 - 24	9/11/2013	Cummings Ave Slip	0.054	0.054	Acenaphthylene	CS-3	6	24	33			Yes	Include
HB13-42	24 - 33	9/11/2013	Cummings Ave Slip	0.038	0.038	Acenaphthylene	CS-3	24	33	33			Yes	Include
HB13-42	33 - 36	9/11/2013	Cummings Ave Slip	0.010 U	0.01	Acenaphthylene	CS-3	33	36	33			No	Exclude
HB13-43	0 - 6	9/11/2013	Cummings Ave Slip	0.2	0.2	Acenaphthylene	CS-2	0	6	24			Yes	Include
HB13-43	0 - 24 *	9/11/2013	Cummings Ave Slip	NA	NA	Acenaphthylene	CS-2	0	24	24			Yes	Include
HB13-43	6 - 24	9/11/2013	Cummings Ave Slip	0.063	0.063	Acenaphthylene	CS-2	6	24	24			Yes	Include
HB13-45	0 - 6	9/11/2013	Cummings Ave Slip	0.2	0.2	Acenaphthylene	CS-2	0	6	21			Yes	Include
HB13-45	6 - 21	9/11/2013	Cummings Ave Slip	1.2	1.2	Acenaphthylene	CS-2	6	21	21			Yes	Include
HB13-47	0 - 6	9/10/2013	Fraser Ave Slip	0.12 U	0.12	Acenaphthylene	FS-1	0	6	30.996			Yes	Include
HB13-47	6 - 24	9/10/2013	Fraser Ave Slip	0.12	0.12	Acenaphthylene	FS-1	6	24	30.996			Yes	Include
HB13-47	24 - 31	9/10/2013	Fraser Ave Slip	0.19	0.19	Acenaphthylene	FS-1	24	31	30.996			Yes	Include
HB13-47	31 - 37 *	9/10/2013	Fraser Ave Slip	NA	NA	Acenaphthylene	FS-1	31	37	30.996			No	Exclude
HB13-48	0 - 6 *	9/10/2013	Fraser Ave Slip	NA	NA	Acenaphthylene	FS-2	0	6	45.9999996			Yes	Include
HB13-48	0 - 24	9/10/2013	FRASER AVE SLIP	0.16	0.16	Acenaphthylene	FS-2	0	24	45.9999996			Yes	Include
HB13-48	6 - 24 *	9/10/2013	Fraser Ave Slip	NA	NA	Acenaphthylene	FS-2	6	24	45.9999996			Yes	Include
HB13-48	24 - 42 *	9/10/2013	Fraser Ave Slip	NA	NA	Acenaphthylene	FS-2	24	42	45.9999996			Yes	Include
HB13-48	24 - 46 *	9/10/2013	FRASER AVE SLIP	0.13 U	0.13	Acenaphthylene	FS-2	24	46	45.9999996			Yes	Include
HB13-48	42 - 46 *	9/10/2013	Fraser Ave Slip	NA	NA	Acenaphthylene	FS-2	42	46	45.9999996			Yes	Include
HB13-49	0 - 6	9/11/2013	Fraser Ave Slip	0.11	0.11	Acenaphthylene	FS-2	0	6	30			Yes	Include
HB13-49	6 - 24	9/11/2013	Fraser Ave Slip	0.061	0.061	Acenaphthylene	FS-2	6	24	30			Yes	Include
HB13-49	24 - 30	9/11/2013	Fraser Ave Slip	0.15	0.15	Acenaphthylene	FS-2	24	30	30			Yes	Include
HB13-50	0 - 12 *	9/13/2013	Area 1	NA	NA	Acenaphthylene	OC-12	0	12	47.0000004			Yes	Include
HB13-50	12 - 24 *	9/13/2013	Area 1	NA	NA	Acenaphthylene	OC-12	12	24	47.0000004			Yes	Include
HB13-50	24 - 36 *	9/13/2013	Area 1	NA	NA	Acenaphthylene	OC-12	24	36	47.0000004			Yes	Include
HB13-50	36 - 47 *	9/13/2013	Area 1	NA	NA	Acenaphthylene	OC-12	36	47	47.0000004			Yes	Include
HB13-51	0 - 6 *	9/11/2013	Area 2	NA	NA	Acenaphthylene		0	6					Exclude
HB13-51	6 - 15 *	9/11/2013	Area 2	NA	NA	Acenaphthylene		6	15					Exclude
HB13-52	0 - 6 *	9/11/2013	Area 2	NA	NA	Acenaphthylene	OC-10	0	6	12			Yes	Include
HB13-52	6 - 12 *	9/11/2013	Area 2	NA	NA	Acenaphthylene	OC-10	6	12	12			Yes	Include
HB13-52	12 - 17 *	9/11/2013	Area 2	NA	NA	Acenaphthylene	OC-10	12	17	12			No	Exclude
HB14-01	0 - 6	8/18/2014	Area 1	NA	NA	Acenaphthylene	SND-1	0	6					Exclude
HB14-01	6 - 18	8/18/2014	Area 1	NA	NA	Acenaphthylene	SND-1	6	18					Exclude
HB14-02	0 - 6	8/18/2014	Area 1	NA	NA	Acenaphthylene	FC-15	0	6	17.004	-12.996	include	Yes	Include
HB14-02	6 - 14	8/18/2014	Area 1	NA	NA	Acenaphthylene	FC-15	6	14	17.004	-12.996	include	Yes	Include
HB14-03	0 - 6	8/18/2014	Area 1	NA	NA	Acenaphthylene	FC-15	0	6	29.997288	-2.472	include	Yes	Include
HB14-03	6 - 18	8/18/2014	Area 1	NA	NA	Acenaphthylene	FC-15	6	18	29.997288	-2.472	include	Yes	Include
HB14-03	18 - 30	8/18/2014	Area 1	NA	NA	Acenaphthylene	FC-15	18	30	29.997288	-2.472	include	Yes	Include
HB14-03	30 - 42	8/18/2014	Area 1	NA	NA	Acenaphthylene	FC-15	30	42	29.997288	-2.472	include	No	Exclude
HB14-03	42 - 54	8/18/2014	Area 1	NA	NA	Acenaphthylene	FC-15	42	54	29.997288	-2.472	include	No	Exclude
HB14-04	0 - 6	8/18/2014	Area 1	NA	NA	Acenaphthylene		0	6	29.904			Yes	Include
HB14-04	6 - 18	8/18/2014	Area 1	NA	NA	Acenaphthylene		6	18	29.904			Yes	Include
HB14-04	18 - 30	8/18/2014	Area 1	NA	NA	Acenaphthylene		18	30	29.904			Yes	Include
HB14-05 G		8/18/2014	Area 1	NA	NA	Acenaphthylene			#VALUE!					Exclude
HB14-06	0 - 6	8/18/2014	Area 1	NA	NA	Acenaphthylene		0	6	30.588			Yes	Include
HB14-06	6 - 24	8/18/2014	Area 1	NA	NA	Acenaphthylene		6	24	30.588			Yes	Include
HB14-07	0 - 6	8/18/2014	Area 1	NA	NA	Acenaphthylene		0	6	78.012			Yes	Include
HB14-07	6 - 24	8/18/2014	Area 1	NA	NA	Acenaphthylene		6	24	78.012			Yes	Include
HB14-07	24 - 42	8/18/2014	Area 1	NA	NA	Acenaphthylene		24	42	78.012			Yes	Include
HB14-08	0 - 6	8/19/2014	Area 1	NA	NA	Acenaphthylene		0	6	34.416			Yes	Include
HB14-08	6 - 19	8/19/2014	Area 1	NA	NA	Acenaphthylene		6	19	34.416			Yes	Include
HB14-09	0 - 12	8/19/2014	Area 1	NA	NA	Acenaphthylene	OC-16	0	12	12.003804			Yes	Include
HB14-09	12 - 24	8/19/2014	Area 1	NA	NA	Acenaphthylene	OC-16	12	24	12.003804			Yes	Include
HB14-09	24 - 36	8/19/2014	Area 1	NA	NA	Acenaphthylene	OC-16	24	36	12.003804			No	Exclude
HB14-09	36 - 48	8/19/2014	Area 1	NA	NA	Acenaphthylene	OC-16	36	48	12.003804			No	Exclude
HB14-09	48 - 60	8/19/2014	Area 1	NA	NA	Acenaphthylene	OC-16	48	60	12.003804			No	Exclude
HB14-09	60 - 72	8/19/2014	Area 1	NA	NA	Acenaphthylene	OC-16	60	72	12.003804			No	Exclude
HB14-10	0 - 6	8/20/2014	Area 1	0.018	0.018	Acenaphthylene		0	6	54.005544			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB14-10	6 - 18	8/20/2014	Area 1	0.021	0.021	Acenaphthylene		6	18	54.005544			Yes	Include
HB14-10	18 - 30	8/20/2014	Area 1	0.0520 J	0.052	Acenaphthylene		18	30	54.005544			Yes	Include
HB14-10	30 - 42	8/20/2014	Area 1	0.064	0.064	Acenaphthylene		30	42	54.005544			Yes	Include
HB14-10	42 - 54	8/20/2014	Area 1	0.062	0.062	Acenaphthylene		42	54	54.005544			Yes	Include
HB14-10	54 - 66	8/20/2014	Area 1	NA	NA	Acenaphthylene		54	66	54.005544			Yes	Include
HB14-11	0 - 6	8/19/2014	Area 1	NA	NA	Acenaphthylene	SND-2	0	6					Exclude
HB14-11	6 - 18	8/19/2014	Area 1	NA	NA	Acenaphthylene	SND-2	6	18					Exclude
HB14-11	18 - 20	8/19/2014	Area 1	NA	NA	Acenaphthylene	SND-2	18	20					Exclude
HB14-12	0 - 6	8/19/2014	Area 1	NA	NA	Acenaphthylene	SND-4	0	6	26.34			Yes	Include
HB14-12	6 - 18	8/19/2014	Area 1	NA	NA	Acenaphthylene	SND-4	6	18	26.34			Yes	Include
HB14-12	18 - 32	8/19/2014	Area 1	NA	NA	Acenaphthylene	SND-4	18	32	26.34			Yes	Include
HB14-13	0 - 6	8/19/2014	Area 2	NA	NA	Acenaphthylene	SND-5	0	6	-0.648			No	Exclude
HB14-13	6 - 11	8/19/2014	Area 2	NA	NA	Acenaphthylene	SND-5	6	11	-0.648			No	Exclude
HB14-14	0 - 6	8/20/2014	Area 2	0.0340 J	0.034	Acenaphthylene	OC-4	0	6	101.997672			Yes	Include
HB14-14	4 - 6	8/20/2014	Area 2	0.130 U	0.13	Acenaphthylene	OC-4	4	6	101.997672			Yes	Include
HB14-14	6 - 18	8/20/2014	Area 2	NA	NA	Acenaphthylene	OC-4	6	18	101.997672			Yes	Include
HB14-14	6 - 30	8/20/2014	Area 2	0.0350 U	0.035	Acenaphthylene	OC-4	6	30	101.997672			Yes	Include
HB14-14	18 - 30	8/20/2014	Area 2	NA	NA	Acenaphthylene	OC-4	18	30	101.997672			Yes	Include
HB14-14	30 - 42	8/20/2014	Area 2	NA	NA	Acenaphthylene	OC-4	30	42	101.997672			Yes	Include
HB14-14	30 - 54	8/20/2014	Area 2	0.0620 J	0.062	Acenaphthylene	OC-4	30	54	101.997672			Yes	Include
HB14-14	42 - 54	8/20/2014	Area 2	NA	NA	Acenaphthylene	OC-4	42	54	101.997672			Yes	Include
HB14-14	54 - 66	8/20/2014	Area 2	NA	NA	Acenaphthylene	OC-4	54	66	101.997672			Yes	Include
HB14-14	54 - 78	8/20/2014	Area 2	0.043	0.043	Acenaphthylene	OC-4	54	78	101.997672			Yes	Include
HB14-14	66 - 78	8/20/2014	Area 2	NA	NA	Acenaphthylene	OC-4	66	78	101.997672			Yes	Include
HB14-14	78 - 90	8/20/2014	Area 2	NA	NA	Acenaphthylene	OC-4	78	90	101.997672			Yes	Include
HB14-14	78 - 102	8/20/2014	Area 2	0.14	0.14	Acenaphthylene	OC-4	78	102	101.997672			Yes	Include
HB14-14	90 - 102	8/20/2014	Area 2	NA	NA	Acenaphthylene	OC-4	90	102	101.997672			Yes	Include
HB14-14	102 - 111	8/20/2014	Area 2	NA	NA	Acenaphthylene	OC-4	102	111	101.997672			No	Exclude
HB15-01	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	0	12	51.096			Yes	Include
HB15-01	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	12	24	51.096			Yes	Include
HB15-01	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	24	36	51.096			Yes	Include
HB15-01	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	36	48	51.096			Yes	Include
HB15-01	48 - 57	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	48	57	51.096			Yes	Include
HB15-02	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	0	12	48.000696			Yes	Include
HB15-02	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	12	24	48.000696			Yes	Include
HB15-02	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	24	36	48.000696			Yes	Include
HB15-02	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	36	48	48.000696			Yes	Include
HB15-03	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	0	12	67.9950564			Yes	Include
HB15-03	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	12	24	67.9950564			Yes	Include
HB15-03	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	24	36	67.9950564			Yes	Include
HB15-03	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	36	48	67.9950564			Yes	Include
HB15-03	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	48	60	67.9950564			Yes	Include
HB15-03	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	60	68	67.9950564			Yes	Include
HB15-03R	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	0	12	67.9950564			Yes	Include
HB15-03R	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	12	24	67.9950564			Yes	Include
HB15-03R	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	24	36	67.9950564			Yes	Include
HB15-03R	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	36	48	67.9950564			Yes	Include
HB15-03R	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	48	60	67.9950564			Yes	Include
HB15-03R	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	60	68	67.9950564			Yes	Include
HB15-04	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	0	12	63.84			Yes	Include
HB15-04	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	12	24	63.84			Yes	Include
HB15-04	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	24	36	63.84			Yes	Include
HB15-04	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	36	48	63.84			Yes	Include
HB15-04	48 - 59	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	48	59	63.84			Yes	Include
HB15-05	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	0	12	71.994852			Yes	Include
HB15-05	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	12	24	71.994852			Yes	Include
HB15-05	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	24	36	71.994852			Yes	Include
HB15-05	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	36	48	71.994852			Yes	Include
HB15-05	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	48	60	71.994852			Yes	Include
HB15-05	60 - 72	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	60	72	71.994852			Yes	Include
HB15-05	72 - 80	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-1	72	80	71.994852			No	Exclude
HB15-06	0 - 9	6/23/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene	HS-2	0	9	9.000636			Yes	Include
HB15-07	0 - 12	6/23/2015	Cummings Ave Slip	NA	NA	Acenaphthylene	CS-1	0	12	90.9955116			Yes	Include
HB15-07	12 - 24	6/23/2015	Cummings Ave Slip	NA	NA	Acenaphthylene	CS-1	12	24	90.9955116			Yes	Include
HB15-07	24 - 36	6/23/2015	Cummings Ave Slip	NA	NA	Acenaphthylene	CS-1	24	36	90.9955116			Yes	Include
HB15-07	36 - 48	6/23/2015	Cummings Ave Slip	0.22	0.22	Acenaphthylene	CS-1	36	48	90.9955116			Yes	Include
HB15-07	48 - 60	6/23/2015	Cummings Ave Slip	0.36	0.36	Acenaphthylene	CS-1	48	60	90.9955116			Yes	Include
HB15-07	60 - 72	6/23/2015	Cummings Ave Slip	0.22	0.22	Acenaphthylene	CS-1	60	72	90.9955116			Yes	Include
HB15-07	72 - 84	6/23/2015	Cummings Ave Slip	0.25	0.25	Acenaphthylene	CS-1	72	84	90.9955116			Yes	Include
HB15-07	84 - 91	6/23/2015	Cummings Ave Slip	0.19	0.19	Acenaphthylene	CS-1	84	91	90.9955116			Yes	Include
HB15-08	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Acenaphthylene	CS-2	0	12	65.997804			Yes	Include
HB15-08	12 - 24	6/24/2015	Cummings Ave Slip	0.18	0.18	Acenaphthylene	CS-2	12	24	65.997804			Yes	Include
HB15-08	24 - 36	6/24/2015	Cummings Ave Slip	0.17	0.17	Acenaphthylene	CS-2	24	36	65.997804			Yes	Include
HB15-08	36 - 48	6/24/2015	Cummings Ave Slip	NA	NA	Acenaphthylene	CS-2	36	48	65.997804			Yes	Include
HB15-08	48 - 60	6/24/2015	Cummings Ave Slip	NA	NA	Acenaphthylene	CS-2	48	60	65.997804			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB15-08	60 - 66	6/24/2015	Cummings Ave Slip	NA	NA	Acenaphthylene	CS-2	60	66	65.997804			Yes	Include
HB15-09	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Acenaphthylene	CS-3	0	12	45.396			Yes	Include
HB15-09	12 - 17	6/24/2015	Cummings Ave Slip	NA	NA	Acenaphthylene	CS-3	12	17	45.396			Yes	Include
HB15-10	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Acenaphthylene		0	12	-0.936			No	Exclude
HB15-11	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Acenaphthylene	CS-5	0	12	27.9944796			Yes	Include
HB15-11	12 - 24	6/24/2015	Cummings Ave Slip	NA	NA	Acenaphthylene	CS-5	12	24	27.9944796			Yes	Include
HB15-11	24 - 28	6/24/2015	Cummings Ave Slip	NA	NA	Acenaphthylene	CS-5	24	28	27.9944796			Yes	Include
HB15-12	0 - 12	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-1	0	12	29.994876			Yes	Include
HB15-12	12 - 24	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-1	12	24	29.994876			Yes	Include
HB15-12	24 - 30	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-1	24	30	29.994876			Yes	Include
HB15-13	0 - 12	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-1	0	12	64.0033716			Yes	Include
HB15-13	12 - 24	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-1	12	24	64.0033716			Yes	Include
HB15-13	24 - 36	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-1	24	36	64.0033716			Yes	Include
HB15-13	36 - 48	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-1	36	48	64.0033716			Yes	Include
HB15-13	48 - 60	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-1	48	60	64.0033716			Yes	Include
HB15-13	60 - 64	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-1	60	64	64.0033716			Yes	Include
HB15-14	0 - 12	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-1	0	12	23.996196			Yes	Include
HB15-14	12 - 24	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-1	12	24	23.996196			Yes	Include
HB15-14	24 - 28	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-1	24	28	23.996196			No	Exclude
HB15-14	28 - 35	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-1	28	35	23.996196			No	Exclude
HB15-15	0 - 12	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-2	0	12	19.0051356			Yes	Include
HB15-15	12 - 19	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-2	12	19	19.0051356			Yes	Include
HB15-15R	0 - 12	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-2	0	12	18.9999996			Yes	Include
HB15-15R	12 - 19	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-2	12	19	18.9999996			Yes	Include
HB15-16	0 - 12	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-1	0	12	8.304			Yes	Include
HB15-16	12 - 19	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-1	12	19	8.304			No	Exclude
HB15-17	0 - 12	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-2	0	12	36.004608			Yes	Include
HB15-17	12 - 24	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-2	12	24	36.004608			Yes	Include
HB15-17	24 - 36	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-2	24	36	36.004608			Yes	Include
HB15-17	36 - 48	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-2	36	48	36.004608			Yes	Include
HB15-17	48 - 54	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-2	48	54	36.004608			No	Exclude
HB15-18	0 - 12	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-2	0	12	23.999508			Yes	Include
HB15-18	12 - 24	6/24/2015	Area 2	NA	NA	Acenaphthylene	FP-2	12	24	23.999508			Yes	Include
HB15-19	0 - 12	6/24/2015	Area 2	NA	NA	Acenaphthylene		0	12					Exclude
HB15-19	12 - 24	6/24/2015	Area 2	NA	NA	Acenaphthylene		12	24					Exclude
HB15-19	24 - 32	6/24/2015	Area 2	NA	NA	Acenaphthylene		24	32					Exclude
HB15-20	0 - 12	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-3	0	12	33.864			Yes	Include
HB15-20	12 - 24	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-3	12	24	33.864			Yes	Include
HB15-20	24 - 28	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-3	24	28	33.864			Yes	Include
HB15-20B	0 - 6	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-13	0	6	11.996892			Yes	Include
HB15-20B	6 - 12	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-13	6	12	11.996892			Yes	Include
HB15-21G	15 - 21	6/29/2015	Fraser Ave Slip	NA	NA	Acenaphthylene		15	21					Exclude
HB15-22G	0 - 6	6/29/2015	Fraser Ave Slip	0.015	0.015	Acenaphthylene	OC-8	0	6	6			Yes	Include
HB15-23	0 - 12	6/25/2015	Fraser Ave Slip	NA	NA	Acenaphthylene	FS-1	0	12	55.02			Yes	Include
HB15-23	12 - 24	6/25/2015	Fraser Ave Slip	NA	NA	Acenaphthylene	FS-1	12	24	55.02			Yes	Include
HB15-23	24 - 36	6/25/2015	Fraser Ave Slip	NA	NA	Acenaphthylene	FS-1	24	36	55.02			Yes	Include
HB15-23	36 - 48	6/25/2015	Fraser Ave Slip	NA	NA	Acenaphthylene	FS-1	36	48	55.02			Yes	Include
HB15-23	48 - 56	6/25/2015	Fraser Ave Slip	NA	NA	Acenaphthylene	FS-1	48	56	55.02			Yes	Include
HB15-25	0 - 12	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-1	0	12	77.4			Yes	Include
HB15-25	12 - 24	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-1	12	24	77.4			Yes	Include
HB15-25	24 - 36	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-1	24	36	77.4			Yes	Include
HB15-25	36 - 48	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-1	36	48	77.4			Yes	Include
HB15-25	48 - 60	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-1	48	60	77.4			Yes	Include
HB15-25	60 - 72	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-1	60	72	77.4			Yes	Include
HB15-25	72 - 88	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-1	72	88	77.4			Yes	Include
HB15-26	0 - 12	6/25/2015	Area 2	NA	NA	Acenaphthylene	FC-2	0	12	38.28	6.36	include	Yes	Include
HB15-26	12 - 24	6/25/2015	Area 2	NA	NA	Acenaphthylene	FC-2	12	24	38.28	6.36	include	Yes	Include
HB15-26	24 - 36	6/25/2015	Area 2	NA	NA	Acenaphthylene	FC-2	24	36	38.28	6.36	include	Yes	Include
HB15-26	36 - 46	6/25/2015	Area 2	NA	NA	Acenaphthylene	FC-2	36	46	38.28	6.36	include	Yes	Include
HB15-27	0 - 12	6/25/2015	Area 2	NA	NA	Acenaphthylene	FC-3	0	12	33.6	14.64	exclude	Yes	Exclude
HB15-27	12 - 24	6/25/2015	Area 2	NA	NA	Acenaphthylene	FC-3	12	24	33.6	14.64	include	Yes	Include
HB15-27	24 - 36	6/25/2015	Area 2	NA	NA	Acenaphthylene	FC-3	24	36	33.6	14.64	include	Yes	Include
HB15-27	36 - 48	6/25/2015	Area 2	NA	NA	Acenaphthylene	FC-3	36	48	33.6	14.64	include	No	Exclude
HB15-27	48 - 60	6/25/2015	Area 2	NA	NA	Acenaphthylene	FC-3	48	60	33.6	14.64	include	No	Exclude
HB15-27	60 - 71	6/25/2015	Area 2	NA	NA	Acenaphthylene	FC-3	60	71	33.6	14.64	include	No	Exclude
HB15-28	0 - 12	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-7	0	12	11.994072			Yes	Include
HB15-28	12 - 24	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-7	12	24	11.994072			No	Exclude
HB15-28	24 - 30	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-7	24	30	11.994072			No	Exclude
HB15-30	0 - 12	6/25/2015	Area 2	NA	NA	Acenaphthylene		0	12	43.776			Yes	Include
HB15-30	12 - 24	6/25/2015	Area 2	NA	NA	Acenaphthylene		12	24	43.776			Yes	Include
HB15-30	24 - 36	6/25/2015	Area 2	NA	NA	Acenaphthylene		24	36	43.776			Yes	Include
HB15-30	36 - 50	6/25/2015	Area 2	NA	NA	Acenaphthylene		36	50	43.776			Yes	Include
HB15-31	0 - 12	6/25/2015	Area 2	NA	NA	Acenaphthylene		0	12					Exclude
HB15-31	12 - 20	6/25/2015	Area 2	NA	NA	Acenaphthylene		12	20					Exclude
HB15-32	0 - 12	6/25/2015	Area 1	NA	NA	Acenaphthylene	SND-4	0	12	11.995236			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB15-32	12 - 26	6/25/2015	Area 1	NA	NA	Acenaphthylene	SND-4	12	26	11.995236			No	Exclude
HB15-33	0 - 12	6/25/2015	Area 1	NA	NA	Acenaphthylene		0	12	26.292			Yes	Include
HB15-33	12 - 24	6/25/2015	Area 1	NA	NA	Acenaphthylene		12	24	26.292			Yes	Include
HB15-33	24 - 39	6/25/2015	Area 1	NA	NA	Acenaphthylene		24	39	26.292			Yes	Include
HB15-34	0 - 12	6/25/2015	Area 1	NA	NA	Acenaphthylene	FC-11	0	12		35.52	exclude		Exclude
HB15-34	12 - 24	6/25/2015	Area 1	NA	NA	Acenaphthylene	FC-11	12	24		35.52	exclude		Exclude
HB15-34	24 - 32	6/25/2015	Area 1	NA	NA	Acenaphthylene	FC-11	24	32		35.52	exclude		Exclude
HB15-35	0 - 12	6/25/2015	Area 1	NA	NA	Acenaphthylene	FC-16	0	12	74.28	-6.48	include	Yes	Include
HB15-35	12 - 24	6/25/2015	Area 1	NA	NA	Acenaphthylene	FC-16	12	24	74.28	-6.48	include	Yes	Include
HB15-35	24 - 36	6/25/2015	Area 1	NA	NA	Acenaphthylene	FC-16	24	36	74.28	-6.48	include	Yes	Include
HB15-35	36 - 48	6/25/2015	Area 1	NA	NA	Acenaphthylene	FC-16	36	48	74.28	-6.48	include	Yes	Include
HB15-35	48 - 60	6/25/2015	Area 1	NA	NA	Acenaphthylene	FC-16	48	60	74.28	-6.48	include	Yes	Include
HB15-35	60 - 72	6/25/2015	Area 1	NA	NA	Acenaphthylene	FC-16	60	72	74.28	-6.48	include	Yes	Include
HB15-36G	15 - 36	6/29/2015	Area 2	NA	NA	Acenaphthylene		15	36					Exclude
HB15-37	0 - 12	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-9	0	12	51.048			Yes	Include
HB15-37	12 - 24	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-9	12	24	51.048			Yes	Include
HB15-37	24 - 36	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-9	24	36	51.048			Yes	Include
HB15-37	36 - 48	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-9	36	48	51.048			Yes	Include
HB15-37	48 - 60	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-9	48	60	51.048			Yes	Include
HB15-37	60 - 74	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-9	60	74	51.048			No	Exclude
HB15-38	0 - 12	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-9	0	12	83.184			Yes	Include
HB15-38	12 - 24	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-9	12	24	83.184			Yes	Include
HB15-38	24 - 36	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-9	24	36	83.184			Yes	Include
HB15-38	36 - 48	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-9	36	48	83.184			Yes	Include
HB15-38	48 - 60	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-9	48	60	83.184			Yes	Include
HB15-38	60 - 72	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-9	60	72	83.184			Yes	Include
HB15-38	72 - 84	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-9	72	84	83.184			Yes	Include
HB15-38	84 - 96	6/25/2015	Area 2	NA	NA	Acenaphthylene	OC-9	84	96	83.184			No	Exclude
HB15-G28	0 - 6	6/25/2015	Hughitt Ave Slip	NA	NA	Acenaphthylene		0	6					Exclude
HB15-HC20A	0 - 6	6/25/2015	Area 1	NA	NA	Acenaphthylene	OC-13	0	6	6.003036			Yes	Include
HB2A_4	0 - 6	5/12/2007	Hughitt Ave Slip	0.054 J-L-M	0.054	Anthracene	HS-1	0	6	48.00432			Yes	Include
HB2A_4	6 - 24	5/12/2007	Hughitt Ave Slip	0.21 J-L-M	0.21	Anthracene	HS-1	6	24	48.00432			Yes	Include
HB2A_4	24 - 48	5/12/2007	Hughitt Ave Slip	0.034 J-L-M	0.034	Anthracene	HS-1	24	48	48.00432			Yes	Include
HB2A_6	0 - 5	5/2/2007	Area 1	0.32	0.32	Anthracene		0	5					Exclude
HB2A_7	0 - 5	5/10/2007	Area 1	0.12	0.12	Anthracene	SND-1	0	5					Exclude
HB2A_8	0 - 5	5/10/2007	Area 1	0.073	0.073	Anthracene	FC-12/FC-13	0	5	4.9944804	79.824	exclude	Yes	Exclude
HB2A_11	0 - 5	5/10/2007	Area 1	0.14 J-	0.14	Anthracene		0	5					Exclude
HB2A_13	0 - 5	5/2/2007	Area 1	0.10 BL	0.1	Anthracene		0	5					Exclude
HB2A_16	0 - 5	5/2/2007	Area 1	0.029 JBL	0.029	Anthracene		0	5					Exclude
HB2A_210	0 - 6	5/16/2007	Area 1	0.0046 JM-H	0.0046	Anthracene		0	6					Exclude
HB2A_210	6 - 24	5/16/2007	Area 1	0.0083 UJM-H	0.0083	Anthracene		6	24					Exclude
HB2A_210	24 - 48	5/16/2007	Area 1	0.0061 UJM-H	0.0061	Anthracene		24	48					Exclude
HB2A_GENES	0 - 5	5/22/2007	Cummings Ave Slip	0.22 BL	0.22	Anthracene		0	5					Exclude
HB2B_17	0 - 6	5/12/2007	Fraser Ave Slip	0.089 J-L-M	0.089	Anthracene	FS-2	0	6	24.005676			Yes	Include
HB2B_17	6 - 24	5/12/2007	Fraser Ave Slip	0.041 J-L-M	0.041	Anthracene	FS-2	6	24	24.005676			Yes	Include
HB2B_18	0 - 6	5/7/2007	Area 2	0.076 J-M-	0.076	Anthracene	FP-1	0	6	47.997552			Yes	Include
HB2B_18	6 - 24	5/7/2007	Area 2	0.055 J-M-	0.055	Anthracene	FP-1	6	24	47.997552			Yes	Include
HB2B_18	24 - 48	5/7/2007	Area 2	0.14 J-M-	0.14	Anthracene	FP-1	24	48	47.997552			Yes	Include
HB2B_19	0 - 6	5/2/2007	Area 2	0.041 J-M-	0.041	Anthracene	OC-1	0	6	6.001728			Yes	Include
HB2B_19	6 - 24	5/2/2007	Area 2	0.0030 JM-	0.003	Anthracene	OC-1	6	24	6.001728			Yes	Include
HB2B_20	0 - 6	5/2/2007	Area 2	0.054 J-M-	0.054	Anthracene	OC-9	0	6	23.997336			Yes	Include
HB2B_20	6 - 24	5/2/2007	Area 2	0.045 J-M-	0.045	Anthracene	OC-9	6	24	23.997336			Yes	Include
HB2B_20	24 - 48	5/2/2007	Area 2	0.014 J-M-	0.014	Anthracene	OC-9	24	48	23.997336			No	Exclude
HB2B_21	0 - 5	5/2/2007	Area 2	0.044 BL	0.044	Anthracene		0	5					Exclude
HB2B_22	0 - 5	5/2/2007	Area 2	0.079 BL	0.079	Anthracene	OC-5	0	5	5.0028204			Yes	Include
HB3A_GENES	0 - 5	9/6/2007	Cummings Ave Slip	0.024	0.024	Anthracene		0	5					Exclude
HB10-1-01	0 - 6	10/16/2010	Area 1	0.046	0.046	Anthracene		0	6					Exclude
HB10-1-01	0 - 12	10/16/2010	Area 1	0.0071 U	0.0071	Anthracene		0	12					Exclude
HB10-1-01	36 - 40	10/16/2010	Area 1	0.0051 U	0.0051	Anthracene		36	40					Exclude
HB10-1-02	0 - 6	10/16/2010	Area 1	0.035 J	0.035	Anthracene		0	6	23.0027508			Yes	Include
HB10-1-02	12 - 23	10/16/2010	Area 1	0.030 J	0.03	Anthracene		12	23	23.0027508			Yes	Include
HB10-1-03	0 - 6	10/16/2010	Area 1	0.059	0.059	Anthracene	FC-17	0	6	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	0 - 12	10/16/2010	Area 1	0.032	0.032	Anthracene	FC-17	0	12	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	12 - 36	10/16/2010	Area 1	0.029	0.029	Anthracene	FC-17	12	36	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	36 - 60	10/16/2010	Area 1	0.076	0.076	Anthracene	FC-17	36	60	59.99475	49.872	include	Yes	Include
HB10-1-03	60 - 84	10/16/2010	Area 1	0.061	0.061	Anthracene	FC-17	60	84	59.99475	49.872	include	No	Exclude
HB10-1-04	0 - 6	10/17/2010	Area 1	0.028	0.028	Anthracene		0	6					Exclude
HB10-1-04	0 - 12	10/17/2010	Area 1	0.088	0.088	Anthracene		0	12					Exclude
HB10-1-04	12 - 36	10/17/2010	Area 1	0.036	0.036	Anthracene		12	36					Exclude
HB10-1-04	36 - 50	10/17/2010	Area 1	0.078	0.078	Anthracene		36	50					Exclude
HB10-1-05	0 - 6	10/16/2010	Area 1	0.12	0.12	Anthracene	OC-17	0	6	5.9987496			Yes	Include
HB10-1-07	0 - 6	10/17/2010	Area 1	2.1	2.1	Anthracene	OC-15	0	6	6.0057			Yes	Include
HB10-1-07	0 - 12	10/17/2010	Area 1	0.093	0.093	Anthracene	OC-15	0	12	6.0057			Yes	Include
HB10-1-07	12 - 36	10/17/2010	Area 1	0.054	0.054	Anthracene	OC-15	12	36	6.0057			No	Exclude
HB10-1-07	60 - 64	10/17/2010	Area 1	0.0040 U	0.004	Anthracene	OC-15	60	64	6.0057			No	Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
 Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB10-1-08	0 - 6	10/17/2010	Area 1	0.071 U	0.071	Anthracene		0	6	36.0057			Yes	Include
HB10-1-08	0 - 12	10/17/2010	Area 1	0.052	0.052	Anthracene		0	12	36.0057			Yes	Include
HB10-1-08	12 - 36	10/17/2010	Area 1	0.085	0.085	Anthracene		12	36	36.0057			Yes	Include
HB10-1-10	0 - 6	10/18/2010	Area 1	0.91	0.91	Anthracene	SND-1	0	6					Exclude
HB10-1-11	0 - 6	10/16/2010	Area 1	0.035	0.035	Anthracene		0	6	20.9987496			Yes	Include
HB10-1-11	12 - 21	10/16/2010	Area 1	0.042 J	0.042	Anthracene		12	21	20.9987496			Yes	Include
HB10-1-12	0 - 6	10/17/2010	Area 1	0.056	0.056	Anthracene		0	6					Exclude
HB10-1-12	0 - 12	10/17/2010	Area 1	0.069	0.069	Anthracene		0	12					Exclude
HB10-1-12	12 - 34	10/17/2010	Area 1	0.041	0.041	Anthracene		12	34					Exclude
HB10-1-13	0 - 6	10/18/2010	Area 1	0.11	0.11	Anthracene	FC-12/FC-13	0	6	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	0 - 12	10/18/2010	Area 1	0.11	0.11	Anthracene	FC-12/FC-13	0	12	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	12 - 36	10/18/2010	Area 1	0.11	0.11	Anthracene	FC-12/FC-13	12	36	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	60 - 67	10/18/2010	Area 1	0.15	0.15	Anthracene	FC-12/FC-13	60	67	36.0053004	42.816	include	No	Exclude
HB10-1-14	0 - 6	10/17/2010	Area 1	0.098	0.098	Anthracene		0	6	66.0057			Yes	Include
HB10-1-14	0 - 12	10/17/2010	Area 1	0.048	0.048	Anthracene		0	12	66.0057			Yes	Include
HB10-1-14	12 - 36	10/17/2010	Area 1	0.072	0.072	Anthracene		12	36	66.0057			Yes	Include
HB10-1-14	60 - 66	10/17/2010	Area 1	0.094	0.094	Anthracene		60	66	66.0057			Yes	Include
HB10-1-15	0 - 6	10/18/2010	Area 1	0.0043 U	0.0043	Anthracene	OC-13	0	6	16.0056996			Yes	Include
HB10-1-15	12 - 16	10/18/2010	Area 1	0.089 J	0.089	Anthracene	OC-13	12	16	16.0056996			Yes	Include
HB10-1-16	0 - 6	10/17/2010	Hughitt Ave Slip	0.12	0.12	Anthracene	HS-3	0	6	31.0056996			Yes	Include
HB10-1-16	0 - 12	10/17/2010	Hughitt Ave Slip	0.34 U	0.34	Anthracene	HS-3	0	12	31.0056996			Yes	Include
HB10-1-16	12 - 31	10/17/2010	Hughitt Ave Slip	0.16 U	0.16	Anthracene	HS-3	12	31	31.0056996			Yes	Include
HB10-1-17	0 - 6	10/17/2010	Area 1	0.061	0.061	Anthracene	OC-14	0	6	12			Yes	Include
HB10-1-20	0 - 6	10/17/2010	Hughitt Ave Slip	0.61	0.61	Anthracene		0	6	6.0057			Yes	Include
HB10-1-21	0 - 6	10/18/2010	Cummings Ave Slip	0.027 J	0.027	Anthracene		0	6	6.0012996			Yes	Include
HB10-1-21	12 - 23	10/18/2010	Cummings Ave Slip	0.11 J	0.11	Anthracene		12	23	6.0012996			No	Exclude
HB10-1-23	0 - 6	10/17/2010	Area 1	0.046	0.046	Anthracene		0	6	36.0057			Yes	Include
HB10-1-23	0 - 12	10/17/2010	Area 1	0.12	0.12	Anthracene		0	12	36.0057			Yes	Include
HB10-1-23	12 - 36	10/17/2010	Area 1	0.11	0.11	Anthracene		12	36	36.0057			Yes	Include
HB10-1-24	0 - 6	10/18/2010	Cummings Ave Slip	0.092	0.092	Anthracene	CS-4	0	6	36.0047496			Yes	Include
HB10-1-24	0 - 12	10/18/2010	Cummings Ave Slip	0.13	0.13	Anthracene	CS-4	0	12	36.0047496			Yes	Include
HB10-1-24	12 - 36	10/18/2010	Cummings Ave Slip	0.26	0.26	Anthracene	CS-4	12	36	36.0047496			Yes	Include
HB10-1-25	0 - 6	10/17/2010	Baxter Ave Embayment	0.047	0.047	Anthracene		0	6	6.0057			Yes	Include
HB10-1-27	0 - 6	10/18/2010	Area 1	0.017	0.017	Anthracene		0	6	-0.0027			No	Exclude
HB10-1-28	0 - 6	10/17/2010	Hughitt Ave Slip	0.11	0.11	Anthracene	HS-1	0	6	84.0057			Yes	Include
HB10-1-28	0 - 12	10/17/2010	Hughitt Ave Slip	0.096	0.096	Anthracene	HS-1	0	12	84.0057			Yes	Include
HB10-1-28	12 - 36	10/17/2010	Hughitt Ave Slip	0.19	0.19	Anthracene	HS-1	12	36	84.0057			Yes	Include
HB10-1-28	36 - 60	10/17/2010	Hughitt Ave Slip	0.064	0.064	Anthracene	HS-1	36	60	84.0057			Yes	Include
HB10-1-28	60 - 84	10/17/2010	Hughitt Ave Slip	0.16	0.16	Anthracene	HS-1	60	84	84.0057			Yes	Include
HB10-1-28	60 - 96	10/17/2010	Hughitt Ave Slip	0.027	0.027	Anthracene	HS-1	60	96	84.0057			Yes	Include
HB10-1-29	0 - 6	10/17/2010	Cummings Ave Slip	0.24	0.24	Anthracene	CS-1	0	6	83.9937			Yes	Include
HB10-1-29	0 - 12	10/17/2010	Cummings Ave Slip	0.61	0.61	Anthracene	CS-1	0	12	83.9937			Yes	Include
HB10-1-29	12 - 36	10/17/2010	Cummings Ave Slip	2	2	Anthracene	CS-1	12	36	83.9937			Yes	Include
HB10-1-29	36 - 60	10/17/2010	Cummings Ave Slip	1.4 U	1.4	Anthracene	CS-1	36	60	83.9937			Yes	Include
HB10-1-29	60 - 93	10/17/2010	Cummings Ave Slip	1.9	1.9	Anthracene	CS-1	60	93	83.9937			Yes	Include
HB10-1-30	0 - 6	10/18/2010	Baxter Ave Embayment	0.11	0.11	Anthracene		0	6	60.0053004			Yes	Include
HB10-1-30	0 - 12	10/18/2010	Baxter Ave Embayment	0.5	0.5	Anthracene		0	12	60.0053004			Yes	Include
HB10-1-30	12 - 36	10/18/2010	Baxter Ave Embayment	0.24	0.24	Anthracene		12	36	60.0053004			Yes	Include
HB10-1-30	36 - 60	10/18/2010	Baxter Ave Embayment	0.084	0.084	Anthracene		36	60	60.0053004			Yes	Include
HB10-1-30	60 - 77	10/18/2010	Baxter Ave Embayment	0.063	0.063	Anthracene		60	77	60.0053004			Yes	Include
HB10-1-31	0 - 6	10/18/2010	Baxter Ave Embayment	0.1	0.1	Anthracene	OC-11	0	6	35.9973			Yes	Include
HB10-1-31	0 - 12	10/18/2010	Baxter Ave Embayment	0.1	0.1	Anthracene	OC-11	0	12	35.9973			Yes	Include
HB10-1-31	12 - 36	10/18/2010	Baxter Ave Embayment	0.076	0.076	Anthracene	OC-11	12	36	35.9973			Yes	Include
HB10-2-18	0 - 6	10/18/2010	Area 2	0.052	0.052	Anthracene	OC-2	0	6	6.0053004			Yes	Include
HB10-2-26	0 - 6	10/16/2010	Area 2	0.014	0.014	Anthracene		0	6					Exclude
HB10-2-26	12 - 17	10/16/2010	Area 2	0.047	0.047	Anthracene		12	17					Exclude
HB10-2-32	0 - 6	10/18/2010	Area 2	0.059 J	0.059	Anthracene		0	6					Exclude
HB10-2-33	0 - 6	10/18/2010	Area 2	0.018	0.018	Anthracene		0	6	6.0012996			Yes	Include
HB10-2-33	12 - 22	10/18/2010	Area 2	0.052	0.052	Anthracene		12	22	6.0012996			No	Exclude
HB10-2-34	0 - 6	10/18/2010	Area 2	0.049	0.049	Anthracene	FC-7	0	6	6.0053004	0.816	include	Yes	Include
HB10-2-35	0 - 6	10/18/2010	Area 2	0.014	0.014	Anthracene		0	6	30.0012996			Yes	Include
HB10-2-35	0 - 12	10/18/2010	Area 2	0.03	0.03	Anthracene		0	12	30.0012996			Yes	Include
HB10-2-35	12 - 30	10/18/2010	Area 2	0.12	0.12	Anthracene		12	30	30.0012996			Yes	Include
HB10-2-36	0 - 6	10/18/2010	Area 2	0.049	0.049	Anthracene	FC-5	0	6	6.0053004	-29.184	include	Yes	Include
HB10-2-37	0 - 6	10/18/2010	Area 2	0.20 J	0.2	Anthracene		0	6	23.0013			Yes	Include
HB10-2-37	12 - 23	10/18/2010	Area 2	0.035	0.035	Anthracene		12	23	23.0013			Yes	Include
HB10-2-38	0 - 6	10/18/2010	Area 2	0.019	0.019	Anthracene	OC-6	0	6	38.0013			Yes	Include
HB10-2-38	0 - 12	10/18/2010	Area 2	0.074	0.074	Anthracene	OC-6	0	12	38.0013			Yes	Include
HB10-2-38	36 - 38	10/18/2010	Area 2	0.43	0.43	Anthracene	OC-6	36	38	38.0013			Yes	Include
HB10-2-39	0 - 6	10/18/2010	Area 2	0.023	0.023	Anthracene		0	6	6.0012996			Yes	Include
HB10-2-39	0 - 12	10/18/2010	Area 2	0.037	0.037	Anthracene		0	12	6.0012996			Yes	Include
HB10-2-39	12 - 28	10/18/2010	Area 2	0.023	0.023	Anthracene		12	28	6.0012996			No	Exclude
HB10-2-40	0 - 6	10/18/2010	Area 2	0.14	0.14	Anthracene	OC-5	0	6	48.0053004			Yes	Include
HB10-2-40	0 - 12	10/18/2010	Area 2	0.017	0.017	Anthracene	OC-5	0	12	48.0053004			Yes	Include
HB10-2-40	12 - 36	10/18/2010	Area 2	0.0044 U	0.0044	Anthracene	OC-5	12	36	48.0053004			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB10-2-40	36 - 48	10/18/2010	Area 2	0.0043 U	0.0043	Anthracene	OC-5	36	48	48.0053004			Yes	Include
HB10-2-41	0 - 6	10/18/2010	Area 2	2	2	Anthracene	FP-2	0	6	31.0012992			Yes	Include
HB10-2-41	0 - 12	10/18/2010	Area 2	0.017	0.017	Anthracene	FP-2	0	12	31.0012992			Yes	Include
HB10-2-41	12 - 31	10/18/2010	Area 2	0.02	0.02	Anthracene	FP-2	12	31	31.0012992			Yes	Include
HB10-2-42	0 - 6	10/18/2010	Area 2	0.07	0.07	Anthracene	FP-1	0	6	12.0012996			Yes	Include
HB10-2-42	0 - 12	10/18/2010	Area 2	NA	NA	Anthracene	FP-1	0	12	12.0012996			Yes	Include
HB10-2-42	12 - 30	10/18/2010	Area 2	0.07	0.07	Anthracene	FP-1	12	30	12.0012996			Yes	Include
HB10-2-43	0 - 6	10/17/2010	Area 2	0.0099	0.0099	Anthracene		0	6	22.0056996			Yes	Include
HB10-2-43	12 - 22	10/17/2010	Area 2	0.21	0.21	Anthracene		12	22	22.0056996			Yes	Include
HB10-2-44	0 - 6	10/18/2010	Area 2	0.11	0.11	Anthracene	FP-2	0	6	16.0012992			Yes	Include
HB10-2-44	12 - 16	10/18/2010	Area 2	0.18	0.18	Anthracene	FP-2	12	16	16.0012992			Yes	Include
HB10-2-45	0 - 6	10/18/2010	Area 2	0.048	0.048	Anthracene	FP-2	0	6	19.0012992			Yes	Include
HB10-2-45	12 - 19	10/18/2010	Area 2	0.21	0.21	Anthracene	FP-2	12	19	19.0012992			Yes	Include
HB13-01	0 - 6 *	9/11/2013	Area 2	NA	NA	Anthracene	FP-1	0	6	48			Yes	Include
HB13-01	6 - 12 *	9/11/2013	Area 2	NA	NA	Anthracene	FP-1	6	12	48			Yes	Include
HB13-01	12 - 18 *	9/11/2013	Area 2	NA	NA	Anthracene	FP-1	12	18	48			Yes	Include
HB13-01	18 - 24 *	9/11/2013	Area 2	NA	NA	Anthracene	FP-1	18	24	48			Yes	Include
HB13-01	24 - 30 *	9/11/2013	Area 2	NA	NA	Anthracene	FP-1	24	30	48			Yes	Include
HB13-01	30 - 36 *	9/11/2013	Area 2	NA	NA	Anthracene	FP-1	30	36	48			Yes	Include
HB13-01	36 - 42 *	9/11/2013	Area 2	NA	NA	Anthracene	FP-1	36	42	48			Yes	Include
HB13-01	42 - 48 *	9/11/2013	Area 2	NA	NA	Anthracene	FP-1	42	48	48			Yes	Include
HB13-01	48 - 54 *	9/11/2013	Area 2	NA	NA	Anthracene	FP-1	48	54	48			No	Exclude
HB13-01	54 - 60 *	9/11/2013	Area 2	NA	NA	Anthracene	FP-1	54	60	48			No	Exclude
HB13-01	60 - 66 *	9/11/2013	Area 2	NA	NA	Anthracene	FP-1	60	66	48			No	Exclude
HB13-01	66 - 72 *	9/11/2013	Area 2	NA	NA	Anthracene	FP-1	66	72	48			No	Exclude
HB13-01	72 - 74 *	9/11/2013	Area 2	NA	NA	Anthracene	FP-1	72	74	48			No	Exclude
HB13-02	0 - 6 *	9/9/2013	Area 2	0.016 U	0.016	Anthracene		0	6	29.9960004			Yes	Include
HB13-02	6 - 12 *	9/9/2013	Area 2	NA	NA	Anthracene		6	12	29.9960004			Yes	Include
HB13-02	12 - 18 *	9/9/2013	Area 2	NA	NA	Anthracene		12	18	29.9960004			Yes	Include
HB13-02	18 - 24 *	9/9/2013	Area 2	NA	NA	Anthracene		18	24	29.9960004			Yes	Include
HB13-02	24 - 30 *	9/9/2013	Area 2	NA	NA	Anthracene		24	30	29.9960004			Yes	Include
HB13-02	30 - 36 *	9/9/2013	Area 2	NA	NA	Anthracene		30	36	29.9960004			No	Exclude
HB13-02	36 - 42 *	9/9/2013	Area 2	NA	NA	Anthracene		36	42	29.9960004			No	Exclude
HB13-02	42 - 48 *	9/9/2013	Area 2	NA	NA	Anthracene		42	48	29.9960004			No	Exclude
HB13-03	0 - 6 *	9/9/2013	Area 2	NA	NA	Anthracene	FP-2	0	6	46.0040004			Yes	Include
HB13-03	0 - 24	9/9/2013	Area 2	0.36	0.36	Anthracene	FP-2	0	24	46.0040004			Yes	Include
HB13-03	6 - 12 *	9/9/2013	Area 2	NA	NA	Anthracene	FP-2	6	12	46.0040004			Yes	Include
HB13-03	12 - 18 *	9/9/2013	Area 2	NA	NA	Anthracene	FP-2	12	18	46.0040004			Yes	Include
HB13-03	18 - 24 *	9/9/2013	Area 2	NA	NA	Anthracene	FP-2	18	24	46.0040004			Yes	Include
HB13-03	24 - 30 *	9/9/2013	Area 2	NA	NA	Anthracene	FP-2	24	30	46.0040004			Yes	Include
HB13-03	24 - 46	9/9/2013	Area 2	0.13	0.13	Anthracene	FP-2	24	46	46.0040004			Yes	Include
HB13-03	30 - 36 *	9/9/2013	Area 2	NA	NA	Anthracene	FP-2	30	36	46.0040004			Yes	Include
HB13-03	36 - 42 *	9/9/2013	Area 2	NA	NA	Anthracene	FP-2	36	42	46.0040004			Yes	Include
HB13-03	42 - 46 *	9/9/2013	Area 2	NA	NA	Anthracene	FP-2	42	46	46.0040004			Yes	Include
HB13-03	46 - 51 *	9/9/2013	Area 2	NA	NA	Anthracene	FP-2	46	51	46.0040004			Yes	Include
HB13-04	0 - 6 *	9/9/2013	Area 2	NA	NA	Anthracene	OC-1	0	6	41.9960004			Yes	Include
HB13-04	6 - 12 *	9/9/2013	Area 2	NA	NA	Anthracene	OC-1	6	12	41.9960004			Yes	Include
HB13-04	12 - 18 *	9/9/2013	Area 2	NA	NA	Anthracene	OC-1	12	18	41.9960004			Yes	Include
HB13-04	18 - 24 *	9/9/2013	Area 2	NA	NA	Anthracene	OC-1	18	24	41.9960004			Yes	Include
HB13-04	24 - 30 *	9/9/2013	Area 2	NA	NA	Anthracene	OC-1	24	30	41.9960004			Yes	Include
HB13-04	30 - 36 *	9/9/2013	Area 2	NA	NA	Anthracene	OC-1	30	36	41.9960004			Yes	Include
HB13-04	36 - 42 *	9/9/2013	Area 2	NA	NA	Anthracene	OC-1	36	42	41.9960004			Yes	Include
HB13-04	42 - 44 *	9/9/2013	Area 2	NA	NA	Anthracene	OC-1	42	44	41.9960004			No	Exclude
HB13-05	0 - 32 *	9/9/2013	Area 2	NA	NA	Anthracene	FC-1	0	32	43.8	33.156	exclude	Yes	Exclude
HB13-05	32 - 38 *	9/9/2013	Area 2	NA	NA	Anthracene	FC-1	32	38	43.8	33.156	include	Yes	Include
HB13-05	38 - 44 *	9/9/2013	Area 2	NA	NA	Anthracene	FC-1	38	44	43.8	33.156	include	Yes	Include
HB13-05	44 - 50 *	9/9/2013	Area 2	NA	NA	Anthracene	FC-1	44	50	43.8	33.156	include	No	Exclude
HB13-05	50 - 56 *	9/9/2013	Area 2	NA	NA	Anthracene	FC-1	50	56	43.8	33.156	include	No	Exclude
HB13-05	56 - 62	9/9/2013	Area 2	0.21 U	0.21	Anthracene	FC-1	56	62	43.8	33.156	include	No	Exclude
HB13-05	62 - 66	9/9/2013	Area 2	0.039	0.039	Anthracene	FC-1	62	66	43.8	33.156	include	No	Exclude
HB13-05	68 - 74 *	9/9/2013	Area 2	NA	NA	Anthracene	FC-1	68	74	43.8	33.156	include	No	Exclude
HB13-05	74 - 77 *	9/9/2013	Area 2	NA	NA	Anthracene	FC-1	74	77	43.8	33.156	include	No	Exclude
HB13-06	0 - 6 *	9/9/2013	Area 2	NA	NA	Anthracene	OC-2	0	6	48			Yes	Include
HB13-06	6 - 12 *	9/9/2013	Area 2	NA	NA	Anthracene	OC-2	6	12	48			Yes	Include
HB13-06	12 - 18 *	9/9/2013	Area 2	NA	NA	Anthracene	OC-2	12	18	48			Yes	Include
HB13-06	18 - 24 *	9/9/2013	Area 2	NA	NA	Anthracene	OC-2	18	24	48			Yes	Include
HB13-06	24 - 30 *	9/9/2013	Area 2	NA	NA	Anthracene	OC-2	24	30	48			Yes	Include
HB13-06	30 - 36 *	9/9/2013	Area 2	NA	NA	Anthracene	OC-2	30	36	48			Yes	Include
HB13-06	36 - 42 *	9/9/2013	Area 2	NA	NA	Anthracene	OC-2	36	42	48			Yes	Include
HB13-06	42 - 48 *	9/9/2013	Area 2	NA	NA	Anthracene	OC-2	42	48	48			Yes	Include
HB13-07	0 - 6 *	9/10/2013	Area 2	NA	NA	Anthracene		0	6					Exclude
HB13-07	6 - 12 *	9/10/2013	Area 2	NA	NA	Anthracene		6	12					Exclude
HB13-07	12 - 18 *	9/10/2013	Area 2	NA	NA	Anthracene		12	18					Exclude
HB13-07	18 - 24 *	9/10/2013	Area 2	NA	NA	Anthracene		18	24					Exclude
HB13-07	24 - 30 *	9/10/2013	Area 2	NA	NA	Anthracene		24	30					Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-07	30 - 36 *	9/10/2013	Area 2	NA	NA	Anthracene		30	36					Exclude
HB13-07	36 - 42 *	9/10/2013	Area 2	NA	NA	Anthracene		36	42					Exclude
HB13-07	42 - 48 *	9/10/2013	Area 2	NA	NA	Anthracene		42	48					Exclude
HB13-08	0 - 18	9/11/2013	Area 2	0.13	0.13	Anthracene	FC-2	0	18	38.28	21.756	exclude	Yes	Exclude
HB13-08	18 - 36	9/11/2013	Area 2	0.16	0.16	Anthracene	FC-2	18	36	38.28	21.756	include	Yes	Include
HB13-08	36 - 60	9/11/2013	Area 2	0.26	0.26	Anthracene	FC-2	36	60	38.28	21.756	include	Yes	Include
HB13-08	60 - 92	9/11/2013	Area 2	0.1	0.1	Anthracene	FC-2	60	92	38.28	21.756	include	No	Exclude
HB13-10	0 - 6 *	9/10/2013	Area 2	NA	NA	Anthracene		0	6	0.0039996			Yes	Include
HB13-11	0 - 18	9/11/2013	Area 2	0.19	0.19	Anthracene	FC-4	0	18	25.2	23.964	exclude	Yes	Exclude
HB13-11	18 - 24 *	9/11/2013	Area 2	NA	NA	Anthracene	FC-4	18	24	25.2	23.964	include	Yes	Include
HB13-11	18 - 42	9/11/2013	Area 2	0.15	0.15	Anthracene	FC-4	18	42	25.2	23.964	include	Yes	Include
HB13-11	24 - 30 *	9/11/2013	Area 2	NA	NA	Anthracene	FC-4	24	30	25.2	23.964	include	Yes	Include
HB13-11	30 - 36 *	9/11/2013	Area 2	NA	NA	Anthracene	FC-4	30	36	25.2	23.964	include	No	Exclude
HB13-11	36 - 42 *	9/11/2013	Area 2	NA	NA	Anthracene	FC-4	36	42	25.2	23.964	include	No	Exclude
HB13-11	42 - 48 *	9/11/2013	Area 2	NA	NA	Anthracene	FC-4	42	48	25.2	23.964	include	No	Exclude
HB13-11	42 - 60	9/11/2013	Area 2	0.058	0.058	Anthracene	FC-4	42	60	25.2	23.964	include	No	Exclude
HB13-11	48 - 54 *	9/11/2013	Area 2	NA	NA	Anthracene	FC-4	48	54	25.2	23.964	include	No	Exclude
HB13-11	54 - 60 *	9/11/2013	Area 2	NA	NA	Anthracene	FC-4	54	60	25.2	23.964	include	No	Exclude
HB13-12	0 - 6 *	9/10/2013	Area 2	NA	NA	Anthracene		0	6	5.9960004			Yes	Include
HB13-13	0 - 1 *	9/11/2013	Area 2	NA	NA	Anthracene	SND-5	0	1	0.9999996			Yes	Include
HB13-14	0 - 6 *	9/12/2013	Area 2	NA	NA	Anthracene	FC-6	0	6	45.9999996	-5.316	include	Yes	Include
HB13-14	0 - 24	9/12/2013	Area 2	0.014	0.014	Anthracene	FC-6	0	24	45.9999996	-5.316	include	Yes	Include
HB13-14	6 - 24 *	9/12/2013	Area 2	NA	NA	Anthracene	FC-6	6	24	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 42 *	9/12/2013	Area 2	NA	NA	Anthracene	FC-6	24	42	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 46	9/12/2013	Area 2	0.022	0.022	Anthracene	FC-6	24	46	45.9999996	-5.316	include	Yes	Include
HB13-14	42 - 46 *	9/12/2013	Area 2	NA	NA	Anthracene	FC-6	42	46	45.9999996	-5.316	include	Yes	Include
HB13-15	0 - 6 *	9/12/2013	Area 2	NA	NA	Anthracene	FC-7	0	6	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	6 - 12 *	9/12/2013	Area 2	NA	NA	Anthracene	FC-7	6	12	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	12 - 19 *	9/12/2013	Area 2	NA	NA	Anthracene	FC-7	12	19	18.9999996	18.516	include	Yes	Include
HB13-16	0 - 6 *	9/12/2013	Area 2	NA	NA	Anthracene		0	6	26.0000004			Yes	Include
HB13-16	6 - 12 *	9/12/2013	Area 2	NA	NA	Anthracene		6	12	26.0000004			Yes	Include
HB13-16	12 - 18 *	9/12/2013	Area 2	NA	NA	Anthracene		12	18	26.0000004			Yes	Include
HB13-16	18 - 24 *	9/12/2013	Area 2	NA	NA	Anthracene		18	24	26.0000004			Yes	Include
HB13-16	24 - 27 *	9/12/2013	Area 2	NA	NA	Anthracene		24	27	26.0000004			Yes	Include
HB13-17	0 - 12 *	9/12/2013	Area 2	NA	NA	Anthracene	FC-7	0	12	24	16.2	exclude	Yes	Exclude
HB13-17	12 - 18 *	9/12/2013	Area 2	NA	NA	Anthracene	FC-7	12	18	24	16.2	include	Yes	Include
HB13-17	18 - 24 *	9/12/2013	Area 2	NA	NA	Anthracene	FC-7	18	24	24	16.2	include	Yes	Include
HB13-17	24 - 47 *	9/12/2013	Area 2	NA	NA	Anthracene	FC-7	24	47	24	16.2	include	No	Exclude
HB13-18	0 - 6	9/12/2013	Area 2	0.1	0.1	Anthracene		0	6	9.9999996			Yes	Include
HB13-18	6 - 10	9/12/2013	Area 2	0.024	0.024	Anthracene		6	10	9.9999996			Yes	Include
HB13-18	10 - 16	9/12/2013	Area 2	0.0097 U	0.0097	Anthracene		10	16	9.9999996			No	Exclude
HB13-19	0 - 6 *	9/13/2013	Area 2	NA	NA	Anthracene		0	6					Exclude
HB13-19	6 - 24 *	9/13/2013	Area 2	NA	NA	Anthracene		6	24					Exclude
HB13-19	18 - 20 *	9/13/2013	Area 2	NA	NA	Anthracene		18	20					Exclude
HB13-19	24 - 42 *	9/13/2013	Area 2	NA	NA	Anthracene		24	42					Exclude
HB13-19	42 - 61 *	9/13/2013	Area 2	NA	NA	Anthracene		42	61					Exclude
HB13-19	61 - 67 *	9/13/2013	Area 2	NA	NA	Anthracene		61	67					Exclude
HB13-20	0 - 6 *	9/12/2013	Area 2	NA	NA	Anthracene		0	6	24			Yes	Include
HB13-20	0 - 12	9/12/2013	Area 2	0.016 U	0.016	Anthracene		0	12	24			Yes	Include
HB13-20	6 - 12 *	9/12/2013	Area 2	NA	NA	Anthracene		6	12	24			Yes	Include
HB13-20	12 - 18 *	9/12/2013	Area 2	NA	NA	Anthracene		12	18	24			Yes	Include
HB13-20	12 - 24	9/12/2013	Area 2	0.022	0.022	Anthracene		12	24	24			Yes	Include
HB13-20	18 - 24 *	9/12/2013	Area 2	NA	NA	Anthracene		18	24	24			Yes	Include
HB13-20	24 - 30 *	9/12/2013	Area 2	NA	NA	Anthracene		24	30	24			No	Exclude
HB13-20	24 - 36	9/12/2013	Area 2	0.019	0.019	Anthracene		24	36	24			No	Exclude
HB13-20	30 - 36 *	9/12/2013	Area 2	NA	NA	Anthracene		30	36	24			No	Exclude
HB13-20	36 - 42 *	9/12/2013	Area 2	NA	NA	Anthracene		36	42	24			No	Exclude
HB13-20	36 - 48	9/12/2013	Area 2	0.027	0.027	Anthracene		36	48	24			No	Exclude
HB13-20	42 - 48 *	9/12/2013	Area 2	NA	NA	Anthracene		42	48	24			No	Exclude
HB13-21	0 - 6 *	9/13/2013	Area 2	NA	NA	Anthracene	OC-10	0	6	24			Yes	Include
HB13-21	6 - 24 *	9/13/2013	Area 2	NA	NA	Anthracene	OC-10	6	24	24			Yes	Include
HB13-21	24 - 48 *	9/13/2013	Area 2	NA	NA	Anthracene	OC-10	24	48	24			No	Exclude
HB13-21	48 - 72 *	9/13/2013	Area 2	NA	NA	Anthracene	OC-10	48	72	24			No	Exclude
HB13-21	72 - 88 *	9/13/2013	Area 2	NA	NA	Anthracene	OC-10	72	88	24			No	Exclude
HB13-22	0 - 28 *	9/12/2013	Area 2	NA	NA	Anthracene	FC-7	0	28	24	36.72	exclude	Yes	Exclude
HB13-22	28 - 31 *	9/12/2013	Area 2	NA	NA	Anthracene	FC-7	28	31	24	36.72	exclude	No	Exclude
HB13-23	0 - 12 *	9/12/2013	Area 2	NA	NA	Anthracene	SND-5	0	12	27			Yes	Include
HB13-23	12 - 18 *	9/12/2013	Area 2	NA	NA	Anthracene	SND-5	12	18	27			Yes	Include
HB13-23	18 - 24 *	9/12/2013	Area 2	NA	NA	Anthracene	SND-5	18	24	27			Yes	Include
HB13-23	24 - 32 *	9/12/2013	Area 2	NA	NA	Anthracene	SND-5	24	32	27			Yes	Include
HB13-24	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Anthracene	HS-3	0	6	6			Yes	Include
HB13-24	0 - 24 *	9/12/2013	HUGHITT AVE SLIP	0.7	0.7	Anthracene	HS-3	0	24	6			Yes	Include
HB13-24	6 - 24	9/12/2013	Hughitt Ave Slip	NA	NA	Anthracene	HS-3	6	24	6			No	Exclude
HB13-25	0 - 6 *	9/12/2013	Area 1	NA	NA	Anthracene	OC-11	0	6	57			Yes	Include
HB13-25	0 - 18	9/12/2013	Area 1	0.032	0.032	Anthracene	OC-11	0	18	57			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB13-25	6 - 18 *	9/12/2013	Area 1	NA	NA	Anthracene	OC-11	6	18	57			Yes	Include
HB13-25	18 - 36 *	9/12/2013	Area 1	NA	NA	Anthracene	OC-11	18	36	57			Yes	Include
HB13-25	18 - 57	9/12/2013	Area 1	0.014	0.014	Anthracene	OC-11	18	57	57			Yes	Include
HB13-25	36 - 57 *	9/12/2013	Area 1	NA	NA	Anthracene	OC-11	36	57	57			Yes	Include
HB13-26	0 - 12	9/13/2013	Area 1	0.015	0.015	Anthracene	FC-10	0	12	33	17.04	exclude	Yes	Exclude
HB13-26	12 - 18	9/13/2013	Area 1	0.022	0.022	Anthracene	FC-10	12	18	33	17.04	include	Yes	Include
HB13-26	18 - 33	9/13/2013	Area 1	0.025	0.025	Anthracene	FC-10	18	33	33	17.04	include	Yes	Include
HB13-27	0 - 6 *	9/13/2013	Area 1	NA	NA	Anthracene		0	6					Exclude
HB13-27	0 - 32	9/13/2013	Area 1	0.0097 U	0.0097	Anthracene		0	32					Exclude
HB13-28	0 - 8 *	9/13/2013	Area 1	NA	NA	Anthracene	FC-11	0	8	14.0000004	13.68	exclude	Yes	Exclude
HB13-28	8 - 14 *	9/13/2013	Area 1	NA	NA	Anthracene	FC-11	8	14	14.0000004	13.68	include	Yes	Include
HB13-28	14 - 26 *	9/13/2013	Area 1	NA	NA	Anthracene	FC-11	14	26	14.0000004	13.68	include	Yes	Include
HB13-28	26 - 40 *	9/13/2013	Area 1	NA	NA	Anthracene	FC-11	26	40	14.0000004	13.68	include	No	Exclude
HB13-29	0 - 6	9/13/2013	Area 1	NA	NA	Anthracene	FC-12/FC-13	0	6	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 12 *	9/13/2013	Area 1	0.032	0.032	Anthracene	FC-12/FC-13	0	12	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 18 *	9/13/2013	Area 1	NA	NA	Anthracene	FC-12/FC-13	0	18	44.0000004	1.044	include	Yes	Include
HB13-29	6 - 12	9/13/2013	Area 1	NA	NA	Anthracene	FC-12/FC-13	6	12	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 24	9/13/2013	Area 1	NA	NA	Anthracene	FC-12/FC-13	12	24	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 44 *	9/13/2013	Area 1	0.055	0.055	Anthracene	FC-12/FC-13	12	44	44.0000004	1.044	include	Yes	Include
HB13-29	24 - 44	9/13/2013	Area 1	NA	NA	Anthracene	FC-12/FC-13	24	44	44.0000004	1.044	include	Yes	Include
HB13-30	0 - 6	9/10/2013	Area 1	NA	NA	Anthracene	SND-1	0	6	60			Yes	Include
HB13-30	6 - 24	9/10/2013	Area 1	NA	NA	Anthracene	SND-1	6	24	60			Yes	Include
HB13-30	24 - 42	9/10/2013	Area 1	NA	NA	Anthracene	SND-1	24	42	60			Yes	Include
HB13-30	42 - 60	9/10/2013	Area 1	NA	NA	Anthracene	SND-1	42	60	60			Yes	Include
HB13-30	60 - 78	9/10/2013	Area 1	NA	NA	Anthracene	SND-1	60	78	60			No	Exclude
HB13-31	0 - 6	9/13/2013	Area 1	NA	NA	Anthracene	FC-16	0	6	27	2.76	include	Yes	Include
HB13-31	6 - 18	9/13/2013	Area 1	NA	NA	Anthracene	FC-16	6	18	27	2.76	include	Yes	Include
HB13-31	18 - 27	9/13/2013	Area 1	NA	NA	Anthracene	FC-16	18	27	27	2.76	include	Yes	Include
HB13-31	27 - 33	9/13/2013	Area 1	NA	NA	Anthracene	FC-16	27	33	27	2.76	include	No	Exclude
HB13-32	0 - 6	9/13/2013	Area 1	NA	NA	Anthracene	FC-14	0	6	26.0000004	-2.52	include	Yes	Include
HB13-32	6 - 18	9/13/2013	Area 1	NA	NA	Anthracene	FC-14	6	18	26.0000004	-2.52	include	Yes	Include
HB13-32	18 - 26	9/13/2013	Area 1	NA	NA	Anthracene	FC-14	18	26	26.0000004	-2.52	include	Yes	Include
HB13-32	26 - 32	9/13/2013	Area 1	NA	NA	Anthracene	FC-14	26	32	26.0000004	-2.52	include	Yes	Include
HB13-33	0 - 6	9/13/2013	Area 1	NA	NA	Anthracene		0	6	12			Yes	Include
HB13-33	6 - 12	9/13/2013	Area 1	NA	NA	Anthracene		6	12	12			Yes	Include
HB13-34	0 - 6	9/13/2013	Area 1	NA	NA	Anthracene		0	6	0.5000004			Yes	Include
HB13-35	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Anthracene		0	6	3.9999996			Yes	Include
HB13-35	6 - 12	9/13/2013	Hughitt Ave Slip	NA	NA	Anthracene		6	12	3.9999996			No	Exclude
HB13-37	2 - 6	9/10/2013	Hughitt Ave Slip	2.1	2.1	Anthracene	HS-3	2	6	6			Yes	Include
HB13-38	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Anthracene	HS-3	0	6	6			Yes	Include
HB13-39	4 - 10	9/13/2013	Hughitt Ave Slip	NA	NA	Anthracene	HS-2	4	10	27.9999996			Yes	Include
HB13-39	10 - 28	9/13/2013	Hughitt Ave Slip	NA	NA	Anthracene	HS-2	10	28	27.9999996			Yes	Include
HB13-39	28 - 34	9/13/2013	Hughitt Ave Slip	NA	NA	Anthracene	HS-2	28	34	27.9999996			No	Exclude
HB13-40	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Anthracene	HS-2	0	6	86.0000004			Yes	Include
HB13-40	0 - 24 *	9/13/2013	Hughitt Ave Slip	0.062	0.062	Anthracene	HS-2	0	24	86.0000004			Yes	Include
HB13-40	6 - 24	9/13/2013	Hughitt Ave Slip	NA	NA	Anthracene	HS-2	6	24	86.0000004			Yes	Include
HB13-40	24 - 48	9/13/2013	Hughitt Ave Slip	0.38	0.38	Anthracene	HS-2	24	48	86.0000004			Yes	Include
HB13-40	48 - 72	9/13/2013	Hughitt Ave Slip	0.085	0.085	Anthracene	HS-2	48	72	86.0000004			Yes	Include
HB13-40	72 - 86	9/13/2013	Hughitt Ave Slip	0.013 U	0.013	Anthracene	HS-2	72	86	86.0000004			Yes	Include
HB13-41	0 - 6	9/10/2013	Hughitt Ave Slip	NA	NA	Anthracene	HS-2	0	6	29.0000004			Yes	Include
HB13-41	0 - 24 *	9/10/2013	Hughitt Ave Slip	0.4	0.4	Anthracene	HS-2	0	24	29.0000004			Yes	Include
HB13-41	6 - 24	9/10/2013	Hughitt Ave Slip	NA	NA	Anthracene	HS-2	6	24	29.0000004			Yes	Include
HB13-41	24 - 29	9/10/2013	Hughitt Ave Slip	0.15	0.15	Anthracene	HS-2	24	29	29.0000004			Yes	Include
HB13-42	0 - 6	9/11/2013	Cummings Ave Slip	0.66	0.66	Anthracene	CS-3	0	6	33			Yes	Include
HB13-42	6 - 24	9/11/2013	Cummings Ave Slip	0.25	0.25	Anthracene	CS-3	6	24	33			Yes	Include
HB13-42	24 - 33	9/11/2013	Cummings Ave Slip	0.31	0.31	Anthracene	CS-3	24	33	33			Yes	Include
HB13-42	33 - 36	9/11/2013	Cummings Ave Slip	0.010 U	0.01	Anthracene	CS-3	33	36	33			No	Exclude
HB13-43	0 - 6	9/11/2013	Cummings Ave Slip	7	7	Anthracene	CS-2	0	6	24			Yes	Include
HB13-43	0 - 24 *	9/11/2013	Cummings Ave Slip	NA	NA	Anthracene	CS-2	0	24	24			Yes	Include
HB13-43	6 - 24	9/11/2013	Cummings Ave Slip	0.21	0.21	Anthracene	CS-2	6	24	24			Yes	Include
HB13-45	0 - 6	9/11/2013	Cummings Ave Slip	0.59	0.59	Anthracene	CS-2	0	6	21			Yes	Include
HB13-45	6 - 21	9/11/2013	Cummings Ave Slip	1.7	1.7	Anthracene	CS-2	6	21	21			Yes	Include
HB13-47	0 - 6	9/10/2013	Fraser Ave Slip	0.96	0.96	Anthracene	FS-1	0	6	30.996			Yes	Include
HB13-47	6 - 24	9/10/2013	Fraser Ave Slip	1	1	Anthracene	FS-1	6	24	30.996			Yes	Include
HB13-47	24 - 31	9/10/2013	Fraser Ave Slip	1.6	1.6	Anthracene	FS-1	24	31	30.996			Yes	Include
HB13-47	31 - 37 *	9/10/2013	Fraser Ave Slip	NA	NA	Anthracene	FS-1	31	37	30.996			No	Exclude
HB13-48	0 - 6 *	9/10/2013	Fraser Ave Slip	NA	NA	Anthracene	FS-2	0	6	45.9999996			Yes	Include
HB13-48	0 - 24	9/10/2013	FRASER AVE SLIP	0.86	0.86	Anthracene	FS-2	0	24	45.9999996			Yes	Include
HB13-48	6 - 24 *	9/10/2013	Fraser Ave Slip	NA	NA	Anthracene	FS-2	6	24	45.9999996			Yes	Include
HB13-48	24 - 42 *	9/10/2013	Fraser Ave Slip	NA	NA	Anthracene	FS-2	24	42	45.9999996			Yes	Include
HB13-48	24 - 46 *	9/10/2013	FRASER AVE SLIP	2.1	2.1	Anthracene	FS-2	24	46	45.9999996			Yes	Include
HB13-48	42 - 46 *	9/10/2013	Fraser Ave Slip	NA	NA	Anthracene	FS-2	42	46	45.9999996			Yes	Include
HB13-49	0 - 6	9/11/2013	Fraser Ave Slip	0.31	0.31	Anthracene	FS-2	0	6	30			Yes	Include
HB13-49	6 - 24	9/11/2013	Fraser Ave Slip	0.46	0.46	Anthracene	FS-2	6	24	30			Yes	Include
HB13-49	24 - 30	9/11/2013	Fraser Ave Slip	0.67	0.67	Anthracene	FS-2	24	30	30			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-50	0 - 12 *	9/13/2013	Area 1	NA	NA	Anthracene	OC-12	0	12	47.0000004			Yes	Include
HB13-50	12 - 24 *	9/13/2013	Area 1	NA	NA	Anthracene	OC-12	12	24	47.0000004			Yes	Include
HB13-50	24 - 36 *	9/13/2013	Area 1	NA	NA	Anthracene	OC-12	24	36	47.0000004			Yes	Include
HB13-50	36 - 47 *	9/13/2013	Area 1	NA	NA	Anthracene	OC-12	36	47	47.0000004			Yes	Include
HB13-51	0 - 6 *	9/11/2013	Area 2	NA	NA	Anthracene		0	6					Exclude
HB13-51	6 - 15 *	9/11/2013	Area 2	NA	NA	Anthracene		6	15					Exclude
HB13-52	0 - 6 *	9/11/2013	Area 2	NA	NA	Anthracene	OC-10	0	6	12			Yes	Include
HB13-52	6 - 12 *	9/11/2013	Area 2	NA	NA	Anthracene	OC-10	6	12	12			Yes	Include
HB13-52	12 - 17 *	9/11/2013	Area 2	NA	NA	Anthracene	OC-10	12	17	12			No	Exclude
HB14-01	0 - 6	8/18/2014	Area 1	NA	NA	Anthracene	SND-1	0	6					Exclude
HB14-01	6 - 18	8/18/2014	Area 1	NA	NA	Anthracene	SND-1	6	18					Exclude
HB14-02	0 - 6	8/18/2014	Area 1	NA	NA	Anthracene	FC-15	0	6	17.004	-12.996	include	Yes	Include
HB14-02	6 - 14	8/18/2014	Area 1	NA	NA	Anthracene	FC-15	6	14	17.004	-12.996	include	Yes	Include
HB14-03	0 - 6	8/18/2014	Area 1	NA	NA	Anthracene	FC-15	0	6	29.997288	-2.472	include	Yes	Include
HB14-03	6 - 18	8/18/2014	Area 1	NA	NA	Anthracene	FC-15	6	18	29.997288	-2.472	include	Yes	Include
HB14-03	18 - 30	8/18/2014	Area 1	NA	NA	Anthracene	FC-15	18	30	29.997288	-2.472	include	Yes	Include
HB14-03	30 - 42	8/18/2014	Area 1	NA	NA	Anthracene	FC-15	30	42	29.997288	-2.472	include	No	Exclude
HB14-03	42 - 54	8/18/2014	Area 1	NA	NA	Anthracene	FC-15	42	54	29.997288	-2.472	include	No	Exclude
HB14-04	0 - 6	8/18/2014	Area 1	NA	NA	Anthracene		0	6	29.904			Yes	Include
HB14-04	6 - 18	8/18/2014	Area 1	NA	NA	Anthracene		6	18	29.904			Yes	Include
HB14-04	18 - 30	8/18/2014	Area 1	NA	NA	Anthracene		18	30	29.904			Yes	Include
HB14-05 G		8/18/2014	Area 1	NA	NA	Anthracene			#VALUE!					Exclude
HB14-06	0 - 6	8/18/2014	Area 1	NA	NA	Anthracene		0	6	30.588			Yes	Include
HB14-06	6 - 24	8/18/2014	Area 1	NA	NA	Anthracene		6	24	30.588			Yes	Include
HB14-07	0 - 6	8/18/2014	Area 1	NA	NA	Anthracene		0	6	78.012			Yes	Include
HB14-07	6 - 24	8/18/2014	Area 1	NA	NA	Anthracene		6	24	78.012			Yes	Include
HB14-07	24 - 42	8/18/2014	Area 1	NA	NA	Anthracene		24	42	78.012			Yes	Include
HB14-08	0 - 6	8/19/2014	Area 1	NA	NA	Anthracene		0	6	34.416			Yes	Include
HB14-08	6 - 19	8/19/2014	Area 1	NA	NA	Anthracene		6	19	34.416			Yes	Include
HB14-09	0 - 12	8/19/2014	Area 1	NA	NA	Anthracene	OC-16	0	12	12.003804			Yes	Include
HB14-09	12 - 24	8/19/2014	Area 1	NA	NA	Anthracene	OC-16	12	24	12.003804			Yes	Include
HB14-09	24 - 36	8/19/2014	Area 1	NA	NA	Anthracene	OC-16	24	36	12.003804			No	Exclude
HB14-09	36 - 48	8/19/2014	Area 1	NA	NA	Anthracene	OC-16	36	48	12.003804			No	Exclude
HB14-09	48 - 60	8/19/2014	Area 1	NA	NA	Anthracene	OC-16	48	60	12.003804			No	Exclude
HB14-09	60 - 72	8/19/2014	Area 1	NA	NA	Anthracene	OC-16	60	72	12.003804			No	Exclude
HB14-10	0 - 6	8/20/2014	Area 1	0.061	0.061	Anthracene		0	6	54.005544			Yes	Include
HB14-10	6 - 18	8/20/2014	Area 1	0.083	0.083	Anthracene		6	18	54.005544			Yes	Include
HB14-10	18 - 30	8/20/2014	Area 1	0.15	0.15	Anthracene		18	30	54.005544			Yes	Include
HB14-10	30 - 42	8/20/2014	Area 1	0.25	0.25	Anthracene		30	42	54.005544			Yes	Include
HB14-10	42 - 54	8/20/2014	Area 1	0.21	0.21	Anthracene		42	54	54.005544			Yes	Include
HB14-10	54 - 66	8/20/2014	Area 1	NA	NA	Anthracene		54	66	54.005544			Yes	Include
HB14-11	0 - 6	8/19/2014	Area 1	NA	NA	Anthracene	SND-2	0	6					Exclude
HB14-11	6 - 18	8/19/2014	Area 1	NA	NA	Anthracene	SND-2	6	18					Exclude
HB14-11	18 - 20	8/19/2014	Area 1	NA	NA	Anthracene	SND-2	18	20					Exclude
HB14-12	0 - 6	8/19/2014	Area 1	NA	NA	Anthracene	SND-4	0	6	26.34			Yes	Include
HB14-12	6 - 18	8/19/2014	Area 1	NA	NA	Anthracene	SND-4	6	18	26.34			Yes	Include
HB14-12	18 - 32	8/19/2014	Area 1	NA	NA	Anthracene	SND-4	18	32	26.34			Yes	Include
HB14-13	0 - 6	8/19/2014	Area 2	NA	NA	Anthracene	SND-5	0	6	-0.648			No	Exclude
HB14-13	6 - 11	8/19/2014	Area 2	NA	NA	Anthracene	SND-5	6	11	-0.648			No	Exclude
HB14-14	0 - 6	8/20/2014	Area 2	0.2	0.2	Anthracene	OC-4	0	6	101.997672			Yes	Include
HB14-14	4 - 6	8/20/2014	Area 2	2.5	2.5	Anthracene	OC-4	4	6	101.997672			Yes	Include
HB14-14	6 - 18	8/20/2014	Area 2	NA	NA	Anthracene	OC-4	6	18	101.997672			Yes	Include
HB14-14	6 - 30	8/20/2014	Area 2	0.14	0.14	Anthracene	OC-4	6	30	101.997672			Yes	Include
HB14-14	18 - 30	8/20/2014	Area 2	NA	NA	Anthracene	OC-4	18	30	101.997672			Yes	Include
HB14-14	30 - 42	8/20/2014	Area 2	NA	NA	Anthracene	OC-4	30	42	101.997672			Yes	Include
HB14-14	30 - 54	8/20/2014	Area 2	0.15	0.15	Anthracene	OC-4	30	54	101.997672			Yes	Include
HB14-14	42 - 54	8/20/2014	Area 2	NA	NA	Anthracene	OC-4	42	54	101.997672			Yes	Include
HB14-14	54 - 66	8/20/2014	Area 2	NA	NA	Anthracene	OC-4	54	66	101.997672			Yes	Include
HB14-14	54 - 78	8/20/2014	Area 2	0.15	0.15	Anthracene	OC-4	54	78	101.997672			Yes	Include
HB14-14	66 - 78	8/20/2014	Area 2	NA	NA	Anthracene	OC-4	66	78	101.997672			Yes	Include
HB14-14	78 - 90	8/20/2014	Area 2	NA	NA	Anthracene	OC-4	78	90	101.997672			Yes	Include
HB14-14	78 - 102	8/20/2014	Area 2	0.37	0.37	Anthracene	OC-4	78	102	101.997672			Yes	Include
HB14-14	90 - 102	8/20/2014	Area 2	NA	NA	Anthracene	OC-4	90	102	101.997672			Yes	Include
HB14-14	102 - 111	8/20/2014	Area 2	NA	NA	Anthracene	OC-4	102	111	101.997672			No	Exclude
HB15-01	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	0	12	51.096			Yes	Include
HB15-01	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	12	24	51.096			Yes	Include
HB15-01	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	24	36	51.096			Yes	Include
HB15-01	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	36	48	51.096			Yes	Include
HB15-01	48 - 57	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	48	57	51.096			Yes	Include
HB15-02	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	0	12	48.000696			Yes	Include
HB15-02	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	12	24	48.000696			Yes	Include
HB15-02	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	24	36	48.000696			Yes	Include
HB15-02	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	36	48	48.000696			Yes	Include
HB15-03	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	0	12	67.9950564			Yes	Include
HB15-03	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	12	24	67.9950564			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
 Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB15-03	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	24	36	67.9950564			Yes	Include
HB15-03	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	36	48	67.9950564			Yes	Include
HB15-03	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	48	60	67.9950564			Yes	Include
HB15-03	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	60	68	67.9950564			Yes	Include
HB15-03R	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	0	12	67.9950564			Yes	Include
HB15-03R	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	12	24	67.9950564			Yes	Include
HB15-03R	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	24	36	67.9950564			Yes	Include
HB15-03R	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	36	48	67.9950564			Yes	Include
HB15-03R	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	48	60	67.9950564			Yes	Include
HB15-03R	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	60	68	67.9950564			Yes	Include
HB15-04	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	0	12	63.84			Yes	Include
HB15-04	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	12	24	63.84			Yes	Include
HB15-04	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	24	36	63.84			Yes	Include
HB15-04	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	36	48	63.84			Yes	Include
HB15-04	48 - 59	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	48	59	63.84			Yes	Include
HB15-05	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	0	12	71.994852			Yes	Include
HB15-05	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	12	24	71.994852			Yes	Include
HB15-05	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	24	36	71.994852			Yes	Include
HB15-05	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	36	48	71.994852			Yes	Include
HB15-05	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	48	60	71.994852			Yes	Include
HB15-05	60 - 72	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	60	72	71.994852			Yes	Include
HB15-05	72 - 80	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-1	72	80	71.994852			No	Exclude
HB15-06	0 - 9	6/23/2015	Hughitt Ave Slip	NA	NA	Anthracene	HS-2	0	9	9.000636			Yes	Include
HB15-07	0 - 12	6/23/2015	Cummings Ave Slip	NA	NA	Anthracene	CS-1	0	12	90.9955116			Yes	Include
HB15-07	12 - 24	6/23/2015	Cummings Ave Slip	NA	NA	Anthracene	CS-1	12	24	90.9955116			Yes	Include
HB15-07	24 - 36	6/23/2015	Cummings Ave Slip	NA	NA	Anthracene	CS-1	24	36	90.9955116			Yes	Include
HB15-07	36 - 48	6/23/2015	Cummings Ave Slip	1.6	1.6	Anthracene	CS-1	36	48	90.9955116			Yes	Include
HB15-07	48 - 60	6/23/2015	Cummings Ave Slip	3.3	3.3	Anthracene	CS-1	48	60	90.9955116			Yes	Include
HB15-07	60 - 72	6/23/2015	Cummings Ave Slip	1.8	1.8	Anthracene	CS-1	60	72	90.9955116			Yes	Include
HB15-07	72 - 84	6/23/2015	Cummings Ave Slip	1.9	1.9	Anthracene	CS-1	72	84	90.9955116			Yes	Include
HB15-07	84 - 91	6/23/2015	Cummings Ave Slip	2.9	2.9	Anthracene	CS-1	84	91	90.9955116			Yes	Include
HB15-08	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Anthracene	CS-2	0	12	65.997804			Yes	Include
HB15-08	12 - 24	6/24/2015	Cummings Ave Slip	1.5	1.5	Anthracene	CS-2	12	24	65.997804			Yes	Include
HB15-08	24 - 36	6/24/2015	Cummings Ave Slip	1.3	1.3	Anthracene	CS-2	24	36	65.997804			Yes	Include
HB15-08	36 - 48	6/24/2015	Cummings Ave Slip	NA	NA	Anthracene	CS-2	36	48	65.997804			Yes	Include
HB15-08	48 - 60	6/24/2015	Cummings Ave Slip	NA	NA	Anthracene	CS-2	48	60	65.997804			Yes	Include
HB15-08	60 - 66	6/24/2015	Cummings Ave Slip	NA	NA	Anthracene	CS-2	60	66	65.997804			Yes	Include
HB15-09	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Anthracene	CS-3	0	12	45.396			Yes	Include
HB15-09	12 - 17	6/24/2015	Cummings Ave Slip	NA	NA	Anthracene	CS-3	12	17	45.396			Yes	Include
HB15-10	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Anthracene		0	12	-0.936			No	Exclude
HB15-11	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Anthracene	CS-5	0	12	27.9944796			Yes	Include
HB15-11	12 - 24	6/24/2015	Cummings Ave Slip	NA	NA	Anthracene	CS-5	12	24	27.9944796			Yes	Include
HB15-11	24 - 28	6/24/2015	Cummings Ave Slip	NA	NA	Anthracene	CS-5	24	28	27.9944796			Yes	Include
HB15-12	0 - 12	6/24/2015	Area 2	NA	NA	Anthracene	FP-1	0	12	29.994876			Yes	Include
HB15-12	12 - 24	6/24/2015	Area 2	NA	NA	Anthracene	FP-1	12	24	29.994876			Yes	Include
HB15-12	24 - 30	6/24/2015	Area 2	NA	NA	Anthracene	FP-1	24	30	29.994876			Yes	Include
HB15-13	0 - 12	6/24/2015	Area 2	NA	NA	Anthracene	FP-1	0	12	64.0033716			Yes	Include
HB15-13	12 - 24	6/24/2015	Area 2	NA	NA	Anthracene	FP-1	12	24	64.0033716			Yes	Include
HB15-13	24 - 36	6/24/2015	Area 2	NA	NA	Anthracene	FP-1	24	36	64.0033716			Yes	Include
HB15-13	36 - 48	6/24/2015	Area 2	NA	NA	Anthracene	FP-1	36	48	64.0033716			Yes	Include
HB15-13	48 - 60	6/24/2015	Area 2	NA	NA	Anthracene	FP-1	48	60	64.0033716			Yes	Include
HB15-13	60 - 64	6/24/2015	Area 2	NA	NA	Anthracene	FP-1	60	64	64.0033716			Yes	Include
HB15-14	0 - 12	6/24/2015	Area 2	NA	NA	Anthracene	FP-1	0	12	23.996196			Yes	Include
HB15-14	12 - 24	6/24/2015	Area 2	NA	NA	Anthracene	FP-1	12	24	23.996196			Yes	Include
HB15-14	24 - 28	6/24/2015	Area 2	NA	NA	Anthracene	FP-1	24	28	23.996196			No	Exclude
HB15-14	28 - 35	6/24/2015	Area 2	NA	NA	Anthracene	FP-1	28	35	23.996196			No	Exclude
HB15-15	0 - 12	6/24/2015	Area 2	NA	NA	Anthracene	FP-2	0	12	19.0051356			Yes	Include
HB15-15	12 - 19	6/24/2015	Area 2	NA	NA	Anthracene	FP-2	12	19	19.0051356			Yes	Include
HB15-15R	0 - 12	6/24/2015	Area 2	NA	NA	Anthracene	FP-2	0	12	18.9999996			Yes	Include
HB15-15R	12 - 19	6/24/2015	Area 2	NA	NA	Anthracene	FP-2	12	19	18.9999996			Yes	Include
HB15-16	0 - 12	6/24/2015	Area 2	NA	NA	Anthracene	FP-1	0	12	8.304			Yes	Include
HB15-16	12 - 19	6/24/2015	Area 2	NA	NA	Anthracene	FP-1	12	19	8.304			No	Exclude
HB15-17	0 - 12	6/24/2015	Area 2	NA	NA	Anthracene	FP-2	0	12	36.004608			Yes	Include
HB15-17	12 - 24	6/24/2015	Area 2	NA	NA	Anthracene	FP-2	12	24	36.004608			Yes	Include
HB15-17	24 - 36	6/24/2015	Area 2	NA	NA	Anthracene	FP-2	24	36	36.004608			Yes	Include
HB15-17	36 - 48	6/24/2015	Area 2	NA	NA	Anthracene	FP-2	36	48	36.004608			Yes	Include
HB15-17	48 - 54	6/24/2015	Area 2	NA	NA	Anthracene	FP-2	48	54	36.004608			No	Exclude
HB15-18	0 - 12	6/24/2015	Area 2	NA	NA	Anthracene	FP-2	0	12	23.999508			Yes	Include
HB15-18	12 - 24	6/24/2015	Area 2	NA	NA	Anthracene	FP-2	12	24	23.999508			Yes	Include
HB15-19	0 - 12	6/24/2015	Area 2	NA	NA	Anthracene		0	12					Exclude
HB15-19	12 - 24	6/24/2015	Area 2	NA	NA	Anthracene		12	24					Exclude
HB15-19	24 - 32	6/24/2015	Area 2	NA	NA	Anthracene		24	32					Exclude
HB15-20	0 - 12	6/25/2015	Area 2	NA	NA	Anthracene	OC-3	0	12	33.864			Yes	Include
HB15-20	12 - 24	6/25/2015	Area 2	NA	NA	Anthracene	OC-3	12	24	33.864			Yes	Include
HB15-20	24 - 28	6/25/2015	Area 2	NA	NA	Anthracene	OC-3	24	28	33.864			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB15-20B	0 - 6	6/25/2015	Area 2	NA	NA	Anthracene	OC-13	0	6	11.996892			Yes	Include
HB15-20B	6 - 12	6/25/2015	Area 2	NA	NA	Anthracene	OC-13	6	12	11.996892			Yes	Include
HB15-21G	15 - 21	6/29/2015	Fraser Ave Slip	NA	NA	Anthracene		15	21					Exclude
HB15-22G	0 - 6	6/29/2015	Fraser Ave Slip	0.092	0.092	Anthracene	OC-8	0	6	6			Yes	Include
HB15-23	0 - 12	6/25/2015	Fraser Ave Slip	NA	NA	Anthracene	FS-1	0	12	55.02			Yes	Include
HB15-23	12 - 24	6/25/2015	Fraser Ave Slip	NA	NA	Anthracene	FS-1	12	24	55.02			Yes	Include
HB15-23	24 - 36	6/25/2015	Fraser Ave Slip	NA	NA	Anthracene	FS-1	24	36	55.02			Yes	Include
HB15-23	36 - 48	6/25/2015	Fraser Ave Slip	NA	NA	Anthracene	FS-1	36	48	55.02			Yes	Include
HB15-23	48 - 56	6/25/2015	Fraser Ave Slip	NA	NA	Anthracene	FS-1	48	56	55.02			Yes	Include
HB15-25	0 - 12	6/25/2015	Area 2	NA	NA	Anthracene	OC-1	0	12	77.4			Yes	Include
HB15-25	12 - 24	6/25/2015	Area 2	NA	NA	Anthracene	OC-1	12	24	77.4			Yes	Include
HB15-25	24 - 36	6/25/2015	Area 2	NA	NA	Anthracene	OC-1	24	36	77.4			Yes	Include
HB15-25	36 - 48	6/25/2015	Area 2	NA	NA	Anthracene	OC-1	36	48	77.4			Yes	Include
HB15-25	48 - 60	6/25/2015	Area 2	NA	NA	Anthracene	OC-1	48	60	77.4			Yes	Include
HB15-25	60 - 72	6/25/2015	Area 2	NA	NA	Anthracene	OC-1	60	72	77.4			Yes	Include
HB15-25	72 - 88	6/25/2015	Area 2	NA	NA	Anthracene	OC-1	72	88	77.4			Yes	Include
HB15-26	0 - 12	6/25/2015	Area 2	NA	NA	Anthracene	FC-2	0	12	38.28	6.36	include	Yes	Include
HB15-26	12 - 24	6/25/2015	Area 2	NA	NA	Anthracene	FC-2	12	24	38.28	6.36	include	Yes	Include
HB15-26	24 - 36	6/25/2015	Area 2	NA	NA	Anthracene	FC-2	24	36	38.28	6.36	include	Yes	Include
HB15-26	36 - 46	6/25/2015	Area 2	NA	NA	Anthracene	FC-2	36	46	38.28	6.36	include	Yes	Include
HB15-27	0 - 12	6/25/2015	Area 2	NA	NA	Anthracene	FC-3	0	12	33.6	14.64	exclude	Yes	Exclude
HB15-27	12 - 24	6/25/2015	Area 2	NA	NA	Anthracene	FC-3	12	24	33.6	14.64	include	Yes	Include
HB15-27	24 - 36	6/25/2015	Area 2	NA	NA	Anthracene	FC-3	24	36	33.6	14.64	include	Yes	Include
HB15-27	36 - 48	6/25/2015	Area 2	NA	NA	Anthracene	FC-3	36	48	33.6	14.64	include	No	Exclude
HB15-27	48 - 60	6/25/2015	Area 2	NA	NA	Anthracene	FC-3	48	60	33.6	14.64	include	No	Exclude
HB15-27	60 - 71	6/25/2015	Area 2	NA	NA	Anthracene	FC-3	60	71	33.6	14.64	include	No	Exclude
HB15-28	0 - 12	6/25/2015	Area 2	NA	NA	Anthracene	OC-7	0	12	11.994072			Yes	Include
HB15-28	12 - 24	6/25/2015	Area 2	NA	NA	Anthracene	OC-7	12	24	11.994072			No	Exclude
HB15-28	24 - 30	6/25/2015	Area 2	NA	NA	Anthracene	OC-7	24	30	11.994072			No	Exclude
HB15-30	0 - 12	6/25/2015	Area 2	NA	NA	Anthracene		0	12	43.776			Yes	Include
HB15-30	12 - 24	6/25/2015	Area 2	NA	NA	Anthracene		12	24	43.776			Yes	Include
HB15-30	24 - 36	6/25/2015	Area 2	NA	NA	Anthracene		24	36	43.776			Yes	Include
HB15-30	36 - 50	6/25/2015	Area 2	NA	NA	Anthracene		36	50	43.776			Yes	Include
HB15-31	0 - 12	6/25/2015	Area 2	NA	NA	Anthracene		0	12					Exclude
HB15-31	12 - 20	6/25/2015	Area 2	NA	NA	Anthracene		12	20					Exclude
HB15-32	0 - 12	6/25/2015	Area 1	NA	NA	Anthracene	SND-4	0	12	11.995236			Yes	Include
HB15-32	12 - 26	6/25/2015	Area 1	NA	NA	Anthracene	SND-4	12	26	11.995236			No	Exclude
HB15-33	0 - 12	6/25/2015	Area 1	NA	NA	Anthracene		0	12	26.292			Yes	Include
HB15-33	12 - 24	6/25/2015	Area 1	NA	NA	Anthracene		12	24	26.292			Yes	Include
HB15-33	24 - 39	6/25/2015	Area 1	NA	NA	Anthracene		24	39	26.292			Yes	Include
HB15-34	0 - 12	6/25/2015	Area 1	NA	NA	Anthracene	FC-11	0	12		35.52	exclude		Exclude
HB15-34	12 - 24	6/25/2015	Area 1	NA	NA	Anthracene	FC-11	12	24		35.52	exclude		Exclude
HB15-34	24 - 32	6/25/2015	Area 1	NA	NA	Anthracene	FC-11	24	32		35.52	exclude		Exclude
HB15-35	0 - 12	6/25/2015	Area 1	NA	NA	Anthracene	FC-16	0	12	74.28	-6.48	include	Yes	Include
HB15-35	12 - 24	6/25/2015	Area 1	NA	NA	Anthracene	FC-16	12	24	74.28	-6.48	include	Yes	Include
HB15-35	24 - 36	6/25/2015	Area 1	NA	NA	Anthracene	FC-16	24	36	74.28	-6.48	include	Yes	Include
HB15-35	36 - 48	6/25/2015	Area 1	NA	NA	Anthracene	FC-16	36	48	74.28	-6.48	include	Yes	Include
HB15-35	48 - 60	6/25/2015	Area 1	NA	NA	Anthracene	FC-16	48	60	74.28	-6.48	include	Yes	Include
HB15-35	60 - 72	6/25/2015	Area 1	NA	NA	Anthracene	FC-16	60	72	74.28	-6.48	include	Yes	Include
HB15-36G	15 - 36	6/29/2015	Area 2	NA	NA	Anthracene		15	36					Exclude
HB15-37	0 - 12	6/25/2015	Area 2	NA	NA	Anthracene	OC-9	0	12	51.048			Yes	Include
HB15-37	12 - 24	6/25/2015	Area 2	NA	NA	Anthracene	OC-9	12	24	51.048			Yes	Include
HB15-37	24 - 36	6/25/2015	Area 2	NA	NA	Anthracene	OC-9	24	36	51.048			Yes	Include
HB15-37	36 - 48	6/25/2015	Area 2	NA	NA	Anthracene	OC-9	36	48	51.048			Yes	Include
HB15-37	48 - 60	6/25/2015	Area 2	NA	NA	Anthracene	OC-9	48	60	51.048			Yes	Include
HB15-37	60 - 74	6/25/2015	Area 2	NA	NA	Anthracene	OC-9	60	74	51.048			No	Exclude
HB15-38	0 - 12	6/25/2015	Area 2	NA	NA	Anthracene	OC-9	0	12	83.184			Yes	Include
HB15-38	12 - 24	6/25/2015	Area 2	NA	NA	Anthracene	OC-9	12	24	83.184			Yes	Include
HB15-38	24 - 36	6/25/2015	Area 2	NA	NA	Anthracene	OC-9	24	36	83.184			Yes	Include
HB15-38	36 - 48	6/25/2015	Area 2	NA	NA	Anthracene	OC-9	36	48	83.184			Yes	Include
HB15-38	48 - 60	6/25/2015	Area 2	NA	NA	Anthracene	OC-9	48	60	83.184			Yes	Include
HB15-38	60 - 72	6/25/2015	Area 2	NA	NA	Anthracene	OC-9	60	72	83.184			Yes	Include
HB15-38	72 - 84	6/25/2015	Area 2	NA	NA	Anthracene	OC-9	72	84	83.184			Yes	Include
HB15-38	84 - 96	6/25/2015	Area 2	NA	NA	Anthracene	OC-9	84	96	83.184			No	Exclude
HB15-G28	0 - 6	6/25/2015	Hughitt Ave Slip	NA	NA	Anthracene		0	6					Exclude
HB15-HC20A	0 - 6	6/25/2015	Area 1	NA	NA	Anthracene	OC-13	0	6	6.003036			Yes	Include
HB2A_4	0 - 6	5/12/2007	Hughitt Ave Slip	0.21	0.21	Benzo(a)anthracene	HS-1	0	6	48.00432			Yes	Include
HB2A_4	6 - 24	5/12/2007	Hughitt Ave Slip	0.46 J-	0.46	Benzo(a)anthracene	HS-1	6	24	48.00432			Yes	Include
HB2A_4	24 - 48	5/12/2007	Hughitt Ave Slip	0.09	0.09	Benzo(a)anthracene	HS-1	24	48	48.00432			Yes	Include
HB2A_6	0 - 5	5/2/2007	Area 1	0.68	0.68	Benzo(a)anthracene		0	5					Exclude
HB2A_7	0 - 5	5/10/2007	Area 1	0.55	0.55	Benzo(a)anthracene	SND-1	0	5					Exclude
HB2A_8	0 - 5	5/10/2007	Area 1	0.22	0.22	Benzo(a)anthracene	FC-12/FC-13	0	5	4.9944804	79.824	exclude	Yes	Exclude
HB2A_11	0 - 5	5/10/2007	Area 1	0.32 J-BL	0.32	Benzo(a)anthracene		0	5					Exclude
HB2A_13	0 - 5	5/2/2007	Area 1	0.25 BL	0.25	Benzo(a)anthracene		0	5					Exclude
HB2A_16	0 - 5	5/2/2007	Area 1	0.085 JBL	0.085	Benzo(a)anthracene		0	5					Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
 Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB2A 210	0 - 6	5/16/2007	Area 1	0.0080 UJL-M	0.008	Benzo(a)anthracene		0	6					Exclude
HB2A 210	6 - 24	5/16/2007	Area 1	0.0083 UJL-M	0.0083	Benzo(a)anthracene		6	24					Exclude
HB2A 210	24 - 48	5/16/2007	Area 1	0.0061 UJLMS	0.0061	Benzo(a)anthracene		24	48					Exclude
HB2A GENES	0 - 5	5/22/2007	Cummings Ave Slip	0.34	0.34	Benzo(a)anthracene		0	5					Exclude
HB2B 17	0 - 6	5/12/2007	Fraser Ave Slip	0.26	0.26	Benzo(a)anthracene	FS-2	0	6	24.005676			Yes	Include
HB2B 17	6 - 24	5/12/2007	Fraser Ave Slip	0.092	0.092	Benzo(a)anthracene	FS-2	6	24	24.005676			Yes	Include
HB2B 18	0 - 6	5/7/2007	Area 2	0.26	0.26	Benzo(a)anthracene	FP-1	0	6	47.997552			Yes	Include
HB2B 18	6 - 24	5/7/2007	Area 2	0.15	0.15	Benzo(a)anthracene	FP-1	6	24	47.997552			Yes	Include
HB2B 18	24 - 48	5/7/2007	Area 2	0.19	0.19	Benzo(a)anthracene	FP-1	24	48	47.997552			Yes	Include
HB2B 19	0 - 6	5/2/2007	Area 2	0.073 J-M-	0.073	Benzo(a)anthracene	OC-1	0	6	6.001728			Yes	Include
HB2B 19	6 - 24	5/2/2007	Area 2	0.011 J-M-	0.011	Benzo(a)anthracene	OC-1	6	24	6.001728			Yes	Include
HB2B 20	0 - 6	5/2/2007	Area 2	0.15 J-M-	0.15	Benzo(a)anthracene	OC-9	0	6	23.997336			Yes	Include
HB2B 20	6 - 24	5/2/2007	Area 2	0.12 J-M-	0.12	Benzo(a)anthracene	OC-9	6	24	23.997336			Yes	Include
HB2B 20	24 - 48	5/2/2007	Area 2	0.035 J-M-	0.035	Benzo(a)anthracene	OC-9	24	48	23.997336			No	Exclude
HB2B 21	0 - 5	5/2/2007	Area 2	0.14 BL	0.14	Benzo(a)anthracene		0	5					Exclude
HB2B 22	0 - 5	5/2/2007	Area 2	0.24 BL	0.24	Benzo(a)anthracene	OC-5	0	5	5.0028204			Yes	Include
HB3A GENES	0 - 5	9/6/2007	Cummings Ave Slip	0.061	0.061	Benzo(a)anthracene		0	5					Exclude
HB10-1-01	0 - 6	10/16/2010	Area 1	0.11	0.11	Benzo(a)anthracene		0	6					Exclude
HB10-1-01	0 - 12	10/16/2010	Area 1	0.0071 U	0.0071	Benzo(a)anthracene		0	12					Exclude
HB10-1-01	36 - 40	10/16/2010	Area 1	0.0051 U	0.0051	Benzo(a)anthracene		36	40					Exclude
HB10-1-02	0 - 6	10/16/2010	Area 1	0.11	0.11	Benzo(a)anthracene		0	6	23.0027508			Yes	Include
HB10-1-02	12 - 23	10/16/2010	Area 1	0.1	0.1	Benzo(a)anthracene		12	23	23.0027508			Yes	Include
HB10-1-03	0 - 6	10/16/2010	Area 1	0.21	0.21	Benzo(a)anthracene	FC-17	0	6	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	0 - 12	10/16/2010	Area 1	0.097	0.097	Benzo(a)anthracene	FC-17	0	12	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	12 - 36	10/16/2010	Area 1	0.093	0.093	Benzo(a)anthracene	FC-17	12	36	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	36 - 60	10/16/2010	Area 1	0.2	0.2	Benzo(a)anthracene	FC-17	36	60	59.99475	49.872	include	Yes	Include
HB10-1-03	60 - 84	10/16/2010	Area 1	0.21	0.21	Benzo(a)anthracene	FC-17	60	84	59.99475	49.872	include	No	Exclude
HB10-1-04	0 - 6	10/17/2010	Area 1	0.14	0.14	Benzo(a)anthracene		0	6					Exclude
HB10-1-04	0 - 12	10/17/2010	Area 1	0.24	0.24	Benzo(a)anthracene		0	12					Exclude
HB10-1-04	12 - 36	10/17/2010	Area 1	0.13	0.13	Benzo(a)anthracene		12	36					Exclude
HB10-1-04	36 - 50	10/17/2010	Area 1	0.15	0.15	Benzo(a)anthracene		36	50					Exclude
HB10-1-05	0 - 6	10/16/2010	Area 1	0.33	0.33	Benzo(a)anthracene	OC-17	0	6	5.9987496			Yes	Include
HB10-1-07	0 - 6	10/17/2010	Area 1	2.8	2.8	Benzo(a)anthracene	OC-15	0	6	6.0057			Yes	Include
HB10-1-07	0 - 12	10/17/2010	Area 1	0.27	0.27	Benzo(a)anthracene	OC-15	0	12	6.0057			Yes	Include
HB10-1-07	12 - 36	10/17/2010	Area 1	0.27	0.27	Benzo(a)anthracene	OC-15	12	36	6.0057			No	Exclude
HB10-1-07	60 - 64	10/17/2010	Area 1	0.004	0.004	Benzo(a)anthracene	OC-15	60	64	6.0057			No	Exclude
HB10-1-08	0 - 6	10/17/2010	Area 1	0.16	0.16	Benzo(a)anthracene		0	6	36.0057			Yes	Include
HB10-1-08	0 - 12	10/17/2010	Area 1	0.21	0.21	Benzo(a)anthracene		0	12	36.0057			Yes	Include
HB10-1-08	12 - 36	10/17/2010	Area 1	0.29	0.29	Benzo(a)anthracene		12	36	36.0057			Yes	Include
HB10-1-10	0 - 6	10/18/2010	Area 1	0.97	0.97	Benzo(a)anthracene	SND-1	0	6					Exclude
HB10-1-11	0 - 6	10/16/2010	Area 1	0.12 J	0.12	Benzo(a)anthracene		0	6	20.9987496			Yes	Include
HB10-1-11	12 - 21	10/16/2010	Area 1	0.16	0.16	Benzo(a)anthracene		12	21	20.9987496			Yes	Include
HB10-1-12	0 - 6	10/17/2010	Area 1	0.19	0.19	Benzo(a)anthracene		0	6					Exclude
HB10-1-12	0 - 12	10/17/2010	Area 1	0.23	0.23	Benzo(a)anthracene		0	12					Exclude
HB10-1-12	12 - 34	10/17/2010	Area 1	0.097	0.097	Benzo(a)anthracene		12	34					Exclude
HB10-1-13	0 - 6	10/18/2010	Area 1	0.23	0.23	Benzo(a)anthracene	FC-12/FC-13	0	6	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	0 - 12	10/18/2010	Area 1	0.43	0.43	Benzo(a)anthracene	FC-12/FC-13	0	12	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	12 - 36	10/18/2010	Area 1	0.28	0.28	Benzo(a)anthracene	FC-12/FC-13	12	36	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	60 - 67	10/18/2010	Area 1	0.36	0.36	Benzo(a)anthracene	FC-12/FC-13	60	67	36.0053004	42.816	include	No	Exclude
HB10-1-14	0 - 6	10/17/2010	Area 1	0.3	0.3	Benzo(a)anthracene		0	6	66.0057			Yes	Include
HB10-1-14	0 - 12	10/17/2010	Area 1	0.2	0.2	Benzo(a)anthracene		0	12	66.0057			Yes	Include
HB10-1-14	12 - 36	10/17/2010	Area 1	0.26	0.26	Benzo(a)anthracene		12	36	66.0057			Yes	Include
HB10-1-14	60 - 66	10/17/2010	Area 1	0.28	0.28	Benzo(a)anthracene		60	66	66.0057			Yes	Include
HB10-1-15	0 - 6	10/18/2010	Area 1	0.01	0.01	Benzo(a)anthracene	OC-13	0	6	16.0056996			Yes	Include
HB10-1-15	12 - 16	10/18/2010	Area 1	0.26	0.26	Benzo(a)anthracene	OC-13	12	16	16.0056996			Yes	Include
HB10-1-16	0 - 6	10/17/2010	Hughitt Ave Slip	0.33	0.33	Benzo(a)anthracene	HS-3	0	6	31.0056996			Yes	Include
HB10-1-16	0 - 12	10/17/2010	Hughitt Ave Slip	0.62	0.62	Benzo(a)anthracene	HS-3	0	12	31.0056996			Yes	Include
HB10-1-16	12 - 31	10/17/2010	Hughitt Ave Slip	0.34	0.34	Benzo(a)anthracene	HS-3	12	31	31.0056996			Yes	Include
HB10-1-17	0 - 6	10/17/2010	Area 1	0.14	0.14	Benzo(a)anthracene	OC-14	0	6	12			Yes	Include
HB10-1-20	0 - 6	10/17/2010	Hughitt Ave Slip	1.4	1.4	Benzo(a)anthracene		0	6	6.0057			Yes	Include
HB10-1-21	0 - 6	10/18/2010	Cummings Ave Slip	0.054	0.054	Benzo(a)anthracene		0	6	6.0012996			Yes	Include
HB10-1-21	12 - 23	10/18/2010	Cummings Ave Slip	0.18	0.18	Benzo(a)anthracene		12	23	6.0012996			No	Exclude
HB10-1-23	0 - 6	10/17/2010	Area 1	0.17	0.17	Benzo(a)anthracene		0	6	36.0057			Yes	Include
HB10-1-23	0 - 12	10/17/2010	Area 1	0.26	0.26	Benzo(a)anthracene		0	12	36.0057			Yes	Include
HB10-1-23	12 - 36	10/17/2010	Area 1	0.3	0.3	Benzo(a)anthracene		12	36	36.0057			Yes	Include
HB10-1-24	0 - 6	10/18/2010	Cummings Ave Slip	0.16	0.16	Benzo(a)anthracene	CS-4	0	6	36.0047496			Yes	Include
HB10-1-24	0 - 12	10/18/2010	Cummings Ave Slip	0.42	0.42	Benzo(a)anthracene	CS-4	0	12	36.0047496			Yes	Include
HB10-1-24	12 - 36	10/18/2010	Cummings Ave Slip	0.55	0.55	Benzo(a)anthracene	CS-4	12	36	36.0047496			Yes	Include
HB10-1-25	0 - 6	10/17/2010	Baxter Ave Embayment	0.14	0.14	Benzo(a)anthracene		0	6	6.0057			Yes	Include
HB10-1-27	0 - 6	10/18/2010	Area 1	0.081	0.081	Benzo(a)anthracene		0	6	-0.0027			No	Exclude
HB10-1-28	0 - 6	10/17/2010	Hughitt Ave Slip	0.46	0.46	Benzo(a)anthracene	HS-1	0	6	84.0057			Yes	Include
HB10-1-28	0 - 12	10/17/2010	Hughitt Ave Slip	0.38	0.38	Benzo(a)anthracene	HS-1	0	12	84.0057			Yes	Include
HB10-1-28	12 - 36	10/17/2010	Hughitt Ave Slip	0.6	0.6	Benzo(a)anthracene	HS-1	12	36	84.0057			Yes	Include
HB10-1-28	36 - 60	10/17/2010	Hughitt Ave Slip	0.25 J	0.25	Benzo(a)anthracene	HS-1	36	60	84.0057			Yes	Include
HB10-1-28	60 - 84	10/17/2010	Hughitt Ave Slip	0.44	0.44	Benzo(a)anthracene	HS-1	60	84	84.0057			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB10-1-28	60 - 96	10/17/2010	Hughitt Ave Slip	0.083 J	0.083	Benzo(a)anthracene	HS-1	60	96	84.0057			Yes	Include
HB10-1-29	0 - 6	10/17/2010	Cummings Ave Slip	0.45	0.45	Benzo(a)anthracene	CS-1	0	6	83.9937			Yes	Include
HB10-1-29	0 - 12	10/17/2010	Cummings Ave Slip	1	1	Benzo(a)anthracene	CS-1	0	12	83.9937			Yes	Include
HB10-1-29	12 - 36	10/17/2010	Cummings Ave Slip	5	5	Benzo(a)anthracene	CS-1	12	36	83.9937			Yes	Include
HB10-1-29	36 - 60	10/17/2010	Cummings Ave Slip	2.4	2.4	Benzo(a)anthracene	CS-1	36	60	83.9937			Yes	Include
HB10-1-29	60 - 93	10/17/2010	Cummings Ave Slip	3	3	Benzo(a)anthracene	CS-1	60	93	83.9937			Yes	Include
HB10-1-30	0 - 6	10/18/2010	Baxter Ave Embayment	0.38	0.38	Benzo(a)anthracene		0	6	60.0053004			Yes	Include
HB10-1-30	0 - 12	10/18/2010	Baxter Ave Embayment	1.4	1.4	Benzo(a)anthracene		0	12	60.0053004			Yes	Include
HB10-1-30	12 - 36	10/18/2010	Baxter Ave Embayment	0.68	0.68	Benzo(a)anthracene		12	36	60.0053004			Yes	Include
HB10-1-30	36 - 60	10/18/2010	Baxter Ave Embayment	0.31	0.31	Benzo(a)anthracene		36	60	60.0053004			Yes	Include
HB10-1-30	60 - 77	10/18/2010	Baxter Ave Embayment	0.25	0.25	Benzo(a)anthracene		60	77	60.0053004			Yes	Include
HB10-1-31	0 - 6	10/18/2010	Baxter Ave Embayment	0.39	0.39	Benzo(a)anthracene	OC-11	0	6	35.9973			Yes	Include
HB10-1-31	0 - 12	10/18/2010	Baxter Ave Embayment	0.47	0.47	Benzo(a)anthracene	OC-11	0	12	35.9973			Yes	Include
HB10-1-31	12 - 36	10/18/2010	Baxter Ave Embayment	0.29	0.29	Benzo(a)anthracene	OC-11	12	36	35.9973			Yes	Include
HB10-2-18	0 - 6	10/18/2010	Area 2	0.31	0.31	Benzo(a)anthracene	OC-2	0	6	6.0053004			Yes	Include
HB10-2-26	0 - 6	10/16/2010	Area 2	0.061 J	0.061	Benzo(a)anthracene		0	6					Exclude
HB10-2-26	12 - 17	10/16/2010	Area 2	0.13	0.13	Benzo(a)anthracene		12	17					Exclude
HB10-2-32	0 - 6	10/18/2010	Area 2	0.21	0.21	Benzo(a)anthracene		0	6					Exclude
HB10-2-33	0 - 6	10/18/2010	Area 2	0.045 J	0.045	Benzo(a)anthracene		0	6	6.0012996			Yes	Include
HB10-2-33	12 - 22	10/18/2010	Area 2	0.29	0.29	Benzo(a)anthracene		12	22	6.0012996			No	Exclude
HB10-2-34	0 - 6	10/18/2010	Area 2	0.18	0.18	Benzo(a)anthracene	FC-7	0	6	6.0053004	0.816	include	Yes	Include
HB10-2-35	0 - 6	10/18/2010	Area 2	0.032 J	0.032	Benzo(a)anthracene		0	6	30.0012996			Yes	Include
HB10-2-35	0 - 12	10/18/2010	Area 2	0.17	0.17	Benzo(a)anthracene		0	12	30.0012996			Yes	Include
HB10-2-35	12 - 30	10/18/2010	Area 2	0.27	0.27	Benzo(a)anthracene		12	30	30.0012996			Yes	Include
HB10-2-36	0 - 6	10/18/2010	Area 2	0.29	0.29	Benzo(a)anthracene	FC-5	0	6	6.0053004	-29.184	include	Yes	Include
HB10-2-37	0 - 6	10/18/2010	Area 2	0.25	0.25	Benzo(a)anthracene		0	6	23.0013			Yes	Include
HB10-2-37	12 - 23	10/18/2010	Area 2	0.12	0.12	Benzo(a)anthracene		12	23	23.0013			Yes	Include
HB10-2-38	0 - 6	10/18/2010	Area 2	0.076 U	0.076	Benzo(a)anthracene	OC-6	0	6	38.0013			Yes	Include
HB10-2-38	0 - 12	10/18/2010	Area 2	0.25	0.25	Benzo(a)anthracene	OC-6	0	12	38.0013			Yes	Include
HB10-2-38	36 - 38	10/18/2010	Area 2	1.1	1.1	Benzo(a)anthracene	OC-6	36	38	38.0013			Yes	Include
HB10-2-39	0 - 6	10/18/2010	Area 2	0.046 J	0.046	Benzo(a)anthracene		0	6	6.0012996			Yes	Include
HB10-2-39	0 - 12	10/18/2010	Area 2	0.37	0.37	Benzo(a)anthracene		0	12	6.0012996			Yes	Include
HB10-2-39	12 - 28	10/18/2010	Area 2	0.19	0.19	Benzo(a)anthracene		12	28	6.0012996			No	Exclude
HB10-2-40	0 - 6	10/18/2010	Area 2	0.22	0.22	Benzo(a)anthracene	OC-5	0	6	48.0053004			Yes	Include
HB10-2-40	0 - 12	10/18/2010	Area 2	0.08	0.08	Benzo(a)anthracene	OC-5	0	12	48.0053004			Yes	Include
HB10-2-40	12 - 36	10/18/2010	Area 2	0.0044 U	0.0044	Benzo(a)anthracene	OC-5	12	36	48.0053004			Yes	Include
HB10-2-40	36 - 48	10/18/2010	Area 2	0.0043 U	0.0043	Benzo(a)anthracene	OC-5	36	48	48.0053004			Yes	Include
HB10-2-41	0 - 6	10/18/2010	Area 2	1.5	1.5	Benzo(a)anthracene	FP-2	0	6	31.0012992			Yes	Include
HB10-2-41	0 - 12	10/18/2010	Area 2	0.076	0.076	Benzo(a)anthracene	FP-2	0	12	31.0012992			Yes	Include
HB10-2-41	12 - 31	10/18/2010	Area 2	0.075 J	0.075	Benzo(a)anthracene	FP-2	12	31	31.0012992			Yes	Include
HB10-2-42	0 - 6	10/18/2010	Area 2	0.24	0.24	Benzo(a)anthracene	FP-1	0	6	12.0012996			Yes	Include
HB10-2-42	0 - 12	10/18/2010	Area 2	NA	NA	Benzo(a)anthracene	FP-1	0	12	12.0012996			Yes	Include
HB10-2-42	12 - 30	10/18/2010	Area 2	0.24	0.24	Benzo(a)anthracene	FP-1	12	30	12.0012996			Yes	Include
HB10-2-43	0 - 6	10/17/2010	Area 2	0.031	0.031	Benzo(a)anthracene		0	6	22.0056996			Yes	Include
HB10-2-43	12 - 22	10/17/2010	Area 2	0.49	0.49	Benzo(a)anthracene		12	22	22.0056996			Yes	Include
HB10-2-44	0 - 6	10/18/2010	Area 2	0.44	0.44	Benzo(a)anthracene	FP-2	0	6	16.0012992			Yes	Include
HB10-2-44	12 - 16	10/18/2010	Area 2	0.53	0.53	Benzo(a)anthracene	FP-2	12	16	16.0012992			Yes	Include
HB10-2-45	0 - 6	10/18/2010	Area 2	0.15	0.15	Benzo(a)anthracene	FP-2	0	6	19.0012992			Yes	Include
HB10-2-45	12 - 19	10/18/2010	Area 2	0.43	0.43	Benzo(a)anthracene	FP-2	12	19	19.0012992			Yes	Include
HB13-01	0 - 6 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	0	6	48			Yes	Include
HB13-01	6 - 12 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	6	12	48			Yes	Include
HB13-01	12 - 18 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	12	18	48			Yes	Include
HB13-01	18 - 24 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	18	24	48			Yes	Include
HB13-01	24 - 30 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	24	30	48			Yes	Include
HB13-01	30 - 36 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	30	36	48			Yes	Include
HB13-01	36 - 42 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	36	42	48			Yes	Include
HB13-01	42 - 48 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	42	48	48			Yes	Include
HB13-01	48 - 54 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	48	54	48			No	Exclude
HB13-01	54 - 60 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	54	60	48			No	Exclude
HB13-01	60 - 66 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	60	66	48			No	Exclude
HB13-01	66 - 72 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	66	72	48			No	Exclude
HB13-01	72 - 74 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	72	74	48			No	Exclude
HB13-02	0 - 6 *	9/9/2013	Area 2	0.016 U	0.016	Benzo(a)anthracene		0	6	29.9960004			Yes	Include
HB13-02	6 - 12 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene		6	12	29.9960004			Yes	Include
HB13-02	12 - 18 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene		12	18	29.9960004			Yes	Include
HB13-02	18 - 24 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene		18	24	29.9960004			Yes	Include
HB13-02	24 - 30 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene		24	30	29.9960004			Yes	Include
HB13-02	30 - 36 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene		30	36	29.9960004			No	Exclude
HB13-02	36 - 42 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene		36	42	29.9960004			No	Exclude
HB13-02	42 - 48 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene		42	48	29.9960004			No	Exclude
HB13-03	0 - 6 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-2	0	6	46.0040004			Yes	Include
HB13-03	0 - 24	9/9/2013	Area 2	1	1	Benzo(a)anthracene	FP-2	0	24	46.0040004			Yes	Include
HB13-03	6 - 12 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-2	6	12	46.0040004			Yes	Include
HB13-03	12 - 18 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-2	12	18	46.0040004			Yes	Include
HB13-03	18 - 24 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-2	18	24	46.0040004			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-03	24 - 30 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-2	24	30	46.0040004			Yes	Include
HB13-03	24 - 46	9/9/2013	Area 2	0.35	0.35	Benzo(a)anthracene	FP-2	24	46	46.0040004			Yes	Include
HB13-03	30 - 36 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-2	30	36	46.0040004			Yes	Include
HB13-03	36 - 42 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-2	36	42	46.0040004			Yes	Include
HB13-03	42 - 46 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-2	42	46	46.0040004			Yes	Include
HB13-03	46 - 51 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-2	46	51	46.0040004			Yes	Include
HB13-04	0 - 6 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-1	0	6	41.9960004			Yes	Include
HB13-04	6 - 12 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-1	6	12	41.9960004			Yes	Include
HB13-04	12 - 18 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-1	12	18	41.9960004			Yes	Include
HB13-04	18 - 24 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-1	18	24	41.9960004			Yes	Include
HB13-04	24 - 30 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-1	24	30	41.9960004			Yes	Include
HB13-04	30 - 36 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-1	30	36	41.9960004			Yes	Include
HB13-04	36 - 42 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-1	36	42	41.9960004			Yes	Include
HB13-04	42 - 44 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-1	42	44	41.9960004			No	Exclude
HB13-05	0 - 32 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-1	0	32	43.8	33.156	exclude	Yes	Exclude
HB13-05	32 - 38 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-1	32	38	43.8	33.156	include	Yes	Include
HB13-05	38 - 44 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-1	38	44	43.8	33.156	include	Yes	Include
HB13-05	44 - 50 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-1	44	50	43.8	33.156	include	No	Exclude
HB13-05	50 - 56 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-1	50	56	43.8	33.156	include	No	Exclude
HB13-05	56 - 62	9/9/2013	Area 2	0.51	0.51	Benzo(a)anthracene	FC-1	56	62	43.8	33.156	include	No	Exclude
HB13-05	62 - 66	9/9/2013	Area 2	0.11	0.11	Benzo(a)anthracene	FC-1	62	66	43.8	33.156	include	No	Exclude
HB13-05	68 - 74 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-1	68	74	43.8	33.156	include	No	Exclude
HB13-05	74 - 77 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-1	74	77	43.8	33.156	include	No	Exclude
HB13-06	0 - 6 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-2	0	6	48			Yes	Include
HB13-06	6 - 12 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-2	6	12	48			Yes	Include
HB13-06	12 - 18 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-2	12	18	48			Yes	Include
HB13-06	18 - 24 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-2	18	24	48			Yes	Include
HB13-06	24 - 30 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-2	24	30	48			Yes	Include
HB13-06	30 - 36 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-2	30	36	48			Yes	Include
HB13-06	36 - 42 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-2	36	42	48			Yes	Include
HB13-06	42 - 48 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-2	42	48	48			Yes	Include
HB13-07	0 - 6 *	9/10/2013	Area 2	NA	NA	Benzo(a)anthracene		0	6					Exclude
HB13-07	6 - 12 *	9/10/2013	Area 2	NA	NA	Benzo(a)anthracene		6	12					Exclude
HB13-07	12 - 18 *	9/10/2013	Area 2	NA	NA	Benzo(a)anthracene		12	18					Exclude
HB13-07	18 - 24 *	9/10/2013	Area 2	NA	NA	Benzo(a)anthracene		18	24					Exclude
HB13-07	24 - 30 *	9/10/2013	Area 2	NA	NA	Benzo(a)anthracene		24	30					Exclude
HB13-07	30 - 36 *	9/10/2013	Area 2	NA	NA	Benzo(a)anthracene		30	36					Exclude
HB13-07	36 - 42 *	9/10/2013	Area 2	NA	NA	Benzo(a)anthracene		36	42					Exclude
HB13-07	42 - 48 *	9/10/2013	Area 2	NA	NA	Benzo(a)anthracene		42	48					Exclude
HB13-08	0 - 18	9/11/2013	Area 2	0.38	0.38	Benzo(a)anthracene	FC-2	0	18	38.28	21.756	exclude	Yes	Exclude
HB13-08	18 - 36	9/11/2013	Area 2	0.44	0.44	Benzo(a)anthracene	FC-2	18	36	38.28	21.756	include	Yes	Include
HB13-08	36 - 60	9/11/2013	Area 2	0.63	0.63	Benzo(a)anthracene	FC-2	36	60	38.28	21.756	include	Yes	Include
HB13-08	60 - 92	9/11/2013	Area 2	0.3	0.3	Benzo(a)anthracene	FC-2	60	92	38.28	21.756	include	No	Exclude
HB13-10	0 - 6 *	9/10/2013	Area 2	NA	NA	Benzo(a)anthracene		0	6	0.0039996			Yes	Include
HB13-11	0 - 18	9/11/2013	Area 2	0.4	0.4	Benzo(a)anthracene	FC-4	0	18	25.2	23.964	exclude	Yes	Exclude
HB13-11	18 - 24 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-4	18	24	25.2	23.964	include	Yes	Include
HB13-11	18 - 42	9/11/2013	Area 2	0.46	0.46	Benzo(a)anthracene	FC-4	18	42	25.2	23.964	include	Yes	Include
HB13-11	24 - 30 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-4	24	30	25.2	23.964	include	Yes	Include
HB13-11	30 - 36 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-4	30	36	25.2	23.964	include	No	Exclude
HB13-11	36 - 42 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-4	36	42	25.2	23.964	include	No	Exclude
HB13-11	42 - 48 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-4	42	48	25.2	23.964	include	No	Exclude
HB13-11	42 - 60	9/11/2013	Area 2	0.15	0.15	Benzo(a)anthracene	FC-4	42	60	25.2	23.964	include	No	Exclude
HB13-11	48 - 54 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-4	48	54	25.2	23.964	include	No	Exclude
HB13-11	54 - 60 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-4	54	60	25.2	23.964	include	No	Exclude
HB13-12	0 - 6 *	9/10/2013	Area 2	NA	NA	Benzo(a)anthracene		0	6	5.9960004			Yes	Include
HB13-13	0 - 1 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	SND-5	0	1	0.9999996			Yes	Include
HB13-14	0 - 6 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-6	0	6	45.9999996			Yes	Include
HB13-14	0 - 24	9/12/2013	Area 2	0.042	0.042	Benzo(a)anthracene	FC-6	0	24	45.9999996	-5.316	include	Yes	Include
HB13-14	6 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-6	6	24	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 42 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-6	24	42	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 46	9/12/2013	Area 2	0.054	0.054	Benzo(a)anthracene	FC-6	24	46	45.9999996	-5.316	include	Yes	Include
HB13-14	42 - 46 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-6	42	46	45.9999996	-5.316	include	Yes	Include
HB13-15	0 - 6 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-7	0	6	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	6 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-7	6	12	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	12 - 19 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-7	12	19	18.9999996	18.516	include	Yes	Include
HB13-16	0 - 6 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		0	6	26.0000004			Yes	Include
HB13-16	6 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		6	12	26.0000004			Yes	Include
HB13-16	12 - 18 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		12	18	26.0000004			Yes	Include
HB13-16	18 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		18	24	26.0000004			Yes	Include
HB13-16	24 - 27 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		24	27	26.0000004			Yes	Include
HB13-17	0 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-7	0	12	24	16.2	exclude	Yes	Exclude
HB13-17	12 - 18 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-7	12	18	24	16.2	include	Yes	Include
HB13-17	18 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-7	18	24	24	16.2	include	Yes	Include
HB13-17	24 - 47 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-7	24	47	24	16.2	include	No	Exclude
HB13-18	0 - 6	9/12/2013	Area 2	0.36	0.36	Benzo(a)anthracene		0	6	9.9999996			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-18	6 - 10	9/12/2013	Area 2	0.083	0.083	Benzo(a)anthracene		6	10	9.9999996			Yes	Include
HB13-18	10 - 16	9/12/2013	Area 2	0.0097 U	0.0097	Benzo(a)anthracene		10	16	9.9999996			No	Exclude
HB13-19	0 - 6 *	9/13/2013	Area 2	NA	NA	Benzo(a)anthracene		0	6					Exclude
HB13-19	6 - 24 *	9/13/2013	Area 2	NA	NA	Benzo(a)anthracene		6	24					Exclude
HB13-19	18 - 20 *	9/13/2013	Area 2	NA	NA	Benzo(a)anthracene		18	20					Exclude
HB13-19	24 - 42 *	9/13/2013	Area 2	NA	NA	Benzo(a)anthracene		24	42					Exclude
HB13-19	42 - 61 *	9/13/2013	Area 2	NA	NA	Benzo(a)anthracene		42	61					Exclude
HB13-19	61 - 67 *	9/13/2013	Area 2	NA	NA	Benzo(a)anthracene		61	67					Exclude
HB13-20	0 - 6 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		0	6	24			Yes	Include
HB13-20	0 - 12	9/12/2013	Area 2	0.053	0.053	Benzo(a)anthracene		0	12	24			Yes	Include
HB13-20	6 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		6	12	24			Yes	Include
HB13-20	12 - 18 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		12	18	24			Yes	Include
HB13-20	12 - 24	9/12/2013	Area 2	0.072	0.072	Benzo(a)anthracene		12	24	24			Yes	Include
HB13-20	18 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		18	24	24			Yes	Include
HB13-20	24 - 30 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		24	30	24			No	Exclude
HB13-20	24 - 36	9/12/2013	Area 2	0.054	0.054	Benzo(a)anthracene		24	36	24			No	Exclude
HB13-20	30 - 36 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		30	36	24			No	Exclude
HB13-20	36 - 42 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		36	42	24			No	Exclude
HB13-20	36 - 48	9/12/2013	Area 2	0.083	0.083	Benzo(a)anthracene		36	48	24			No	Exclude
HB13-20	42 - 48 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		42	48	24			No	Exclude
HB13-21	0 - 6 *	9/13/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-10	0	6	24			Yes	Include
HB13-21	6 - 24 *	9/13/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-10	6	24	24			Yes	Include
HB13-21	24 - 48 *	9/13/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-10	24	48	24			No	Exclude
HB13-21	48 - 72 *	9/13/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-10	48	72	24			No	Exclude
HB13-21	72 - 88 *	9/13/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-10	72	88	24			No	Exclude
HB13-22	0 - 28 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-7	0	28	24	36.72	exclude	Yes	Exclude
HB13-22	28 - 31 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-7	28	31	24	36.72	exclude	No	Exclude
HB13-23	0 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	SND-5	0	12	27			Yes	Include
HB13-23	12 - 18 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	SND-5	12	18	27			Yes	Include
HB13-23	18 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	SND-5	18	24	27			Yes	Include
HB13-23	24 - 32 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	SND-5	24	32	27			Yes	Include
HB13-24	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-3	0	6	6			Yes	Include
HB13-24	0 - 24 *	9/12/2013	HUGHITT AVE SLIP	1.2	1.2	Benzo(a)anthracene	HS-3	0	24	6			Yes	Include
HB13-24	6 - 24	9/12/2013	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-3	6	24	6			No	Exclude
HB13-25	0 - 6 *	9/12/2013	Area 1	NA	NA	Benzo(a)anthracene	OC-11	0	6	57			Yes	Include
HB13-25	0 - 18	9/12/2013	Area 1	0.082	0.082	Benzo(a)anthracene	OC-11	0	18	57			Yes	Include
HB13-25	6 - 18 *	9/12/2013	Area 1	NA	NA	Benzo(a)anthracene	OC-11	6	18	57			Yes	Include
HB13-25	18 - 36 *	9/12/2013	Area 1	NA	NA	Benzo(a)anthracene	OC-11	18	36	57			Yes	Include
HB13-25	18 - 57	9/12/2013	Area 1	0.037	0.037	Benzo(a)anthracene	OC-11	18	57	57			Yes	Include
HB13-25	36 - 57 *	9/12/2013	Area 1	NA	NA	Benzo(a)anthracene	OC-11	36	57	57			Yes	Include
HB13-26	0 - 12	9/13/2013	Area 1	0.049	0.049	Benzo(a)anthracene	FC-10	0	12	33	17.04	exclude	Yes	Exclude
HB13-26	12 - 18	9/13/2013	Area 1	0.072	0.072	Benzo(a)anthracene	FC-10	12	18	33	17.04	include	Yes	Include
HB13-26	18 - 33	9/13/2013	Area 1	0.068	0.068	Benzo(a)anthracene	FC-10	18	33	33	17.04	include	Yes	Include
HB13-27	0 - 6 *	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene		0	6					Exclude
HB13-27	0 - 32	9/13/2013	Area 1	0.011	0.011	Benzo(a)anthracene		0	32					Exclude
HB13-28	0 - 8 *	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-11	0	8	14.0000004	13.68	exclude	Yes	Exclude
HB13-28	8 - 14 *	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-11	8	14	14.0000004	13.68	include	Yes	Include
HB13-28	14 - 26 *	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-11	14	26	14.0000004	13.68	include	Yes	Include
HB13-28	26 - 40 *	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-11	26	40	14.0000004	13.68	include	No	Exclude
HB13-29	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-12/FC-13	0	6	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 12 *	9/13/2013	Area 1	0.069	0.069	Benzo(a)anthracene	FC-12/FC-13	0	12	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 18 *	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-12/FC-13	0	18	44.0000004	1.044	include	Yes	Include
HB13-29	6 - 12	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-12/FC-13	6	12	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 24	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-12/FC-13	12	24	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 44 *	9/13/2013	Area 1	0.18	0.18	Benzo(a)anthracene	FC-12/FC-13	12	44	44.0000004	1.044	include	Yes	Include
HB13-29	24 - 44	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-12/FC-13	24	44	44.0000004	1.044	include	Yes	Include
HB13-30	0 - 6	9/10/2013	Area 1	NA	NA	Benzo(a)anthracene	SND-1	0	6	60			Yes	Include
HB13-30	6 - 24	9/10/2013	Area 1	NA	NA	Benzo(a)anthracene	SND-1	6	24	60			Yes	Include
HB13-30	24 - 42	9/10/2013	Area 1	NA	NA	Benzo(a)anthracene	SND-1	24	42	60			Yes	Include
HB13-30	42 - 60	9/10/2013	Area 1	NA	NA	Benzo(a)anthracene	SND-1	42	60	60			Yes	Include
HB13-30	60 - 78	9/10/2013	Area 1	NA	NA	Benzo(a)anthracene	SND-1	60	78	60			No	Exclude
HB13-31	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-16	0	6	27	2.76	include	Yes	Include
HB13-31	6 - 18	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-16	6	18	27	2.76	include	Yes	Include
HB13-31	18 - 27	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-16	18	27	27	2.76	include	Yes	Include
HB13-31	27 - 33	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-16	27	33	27	2.76	include	No	Exclude
HB13-32	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-14	0	6	26.0000004	-2.52	include	Yes	Include
HB13-32	6 - 18	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-14	6	18	26.0000004	-2.52	include	Yes	Include
HB13-32	18 - 26	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-14	18	26	26.0000004	-2.52	include	Yes	Include
HB13-32	26 - 32	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-14	26	32	26.0000004	-2.52	include	Yes	Include
HB13-33	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene		0	6	12			Yes	Include
HB13-33	6 - 12	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene		6	12	12			Yes	Include
HB13-34	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene		0	6	0.5000004			Yes	Include
HB13-35	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene		0	6	3.9999996			Yes	Include
HB13-35	6 - 12	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene		6	12	3.9999996			No	Exclude
HB13-37	2 - 6	9/10/2013	Hughitt Ave Slip	4.1	4.1	Benzo(a)anthracene	HS-3	2	6	6			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-38	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-3	0	6	6			Yes	Include
HB13-39	4 - 10	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-2	4	10	27.9999996			Yes	Include
HB13-39	10 - 28	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-2	10	28	27.9999996			Yes	Include
HB13-39	28 - 34	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-2	28	34	27.9999996			No	Exclude
HB13-40	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-2	0	6	86.0000004			Yes	Include
HB13-40	0 - 24 *	9/13/2013	Hughitt Ave Slip	0.18	0.18	Benzo(a)anthracene	HS-2	0	24	86.0000004			Yes	Include
HB13-40	6 - 24	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-2	6	24	86.0000004			Yes	Include
HB13-40	24 - 48	9/13/2013	Hughitt Ave Slip	0.8	0.8	Benzo(a)anthracene	HS-2	24	48	86.0000004			Yes	Include
HB13-40	48 - 72	9/13/2013	Hughitt Ave Slip	0.11	0.11	Benzo(a)anthracene	HS-2	48	72	86.0000004			Yes	Include
HB13-40	72 - 86	9/13/2013	Hughitt Ave Slip	0.013 U	0.013	Benzo(a)anthracene	HS-2	72	86	86.0000004			Yes	Include
HB13-41	0 - 6	9/10/2013	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-2	0	6	29.0000004			Yes	Include
HB13-41	0 - 24 *	9/10/2013	Hughitt Ave Slip	1.2	1.2	Benzo(a)anthracene	HS-2	0	24	29.0000004			Yes	Include
HB13-41	6 - 24	9/10/2013	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-2	6	24	29.0000004			Yes	Include
HB13-41	24 - 29	9/10/2013	Hughitt Ave Slip	0.38	0.38	Benzo(a)anthracene	HS-2	24	29	29.0000004			Yes	Include
HB13-42	0 - 6	9/11/2013	Cummings Ave Slip	1.6	1.6	Benzo(a)anthracene	CS-3	0	6	33			Yes	Include
HB13-42	6 - 24	9/11/2013	Cummings Ave Slip	0.54	0.54	Benzo(a)anthracene	CS-3	6	24	33			Yes	Include
HB13-42	24 - 33	9/11/2013	Cummings Ave Slip	0.26	0.26	Benzo(a)anthracene	CS-3	24	33	33			Yes	Include
HB13-42	33 - 36	9/11/2013	Cummings Ave Slip	0.02	0.02	Benzo(a)anthracene	CS-3	33	36	33			No	Exclude
HB13-43	0 - 6	9/11/2013	Cummings Ave Slip	14	14	Benzo(a)anthracene	CS-2	0	6	24			Yes	Include
HB13-43	0 - 24 *	9/11/2013	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-2	0	24	24			Yes	Include
HB13-43	6 - 24	9/11/2013	Cummings Ave Slip	0.41	0.41	Benzo(a)anthracene	CS-2	6	24	24			Yes	Include
HB13-45	0 - 6	9/11/2013	Cummings Ave Slip	1.8	1.8	Benzo(a)anthracene	CS-2	0	6	21			Yes	Include
HB13-45	6 - 21	9/11/2013	Cummings Ave Slip	3.4	3.4	Benzo(a)anthracene	CS-2	6	21	21			Yes	Include
HB13-47	0 - 6	9/10/2013	Fraser Ave Slip	3	3	Benzo(a)anthracene	FS-1	0	6	30.996			Yes	Include
HB13-47	6 - 24	9/10/2013	Fraser Ave Slip	3.2	3.2	Benzo(a)anthracene	FS-1	6	24	30.996			Yes	Include
HB13-47	24 - 31	9/10/2013	Fraser Ave Slip	3.9	3.9	Benzo(a)anthracene	FS-1	24	31	30.996			Yes	Include
HB13-47	31 - 37 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(a)anthracene	FS-1	31	37	30.996			No	Exclude
HB13-48	0 - 6 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(a)anthracene	FS-2	0	6	45.9999996			Yes	Include
HB13-48	0 - 24	9/10/2013	FRASER AVE SLIP	2.3	2.3	Benzo(a)anthracene	FS-2	0	24	45.9999996			Yes	Include
HB13-48	6 - 24 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(a)anthracene	FS-2	6	24	45.9999996			Yes	Include
HB13-48	24 - 42 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(a)anthracene	FS-2	24	42	45.9999996			Yes	Include
HB13-48	24 - 46 *	9/10/2013	FRASER AVE SLIP	4.1	4.1	Benzo(a)anthracene	FS-2	24	46	45.9999996			Yes	Include
HB13-48	42 - 46 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(a)anthracene	FS-2	42	46	45.9999996			Yes	Include
HB13-49	0 - 6	9/11/2013	Fraser Ave Slip	1.1	1.1	Benzo(a)anthracene	FS-2	0	6	30			Yes	Include
HB13-49	6 - 24	9/11/2013	Fraser Ave Slip	1.3	1.3	Benzo(a)anthracene	FS-2	6	24	30			Yes	Include
HB13-49	24 - 30	9/11/2013	Fraser Ave Slip	1.7	1.7	Benzo(a)anthracene	FS-2	24	30	30			Yes	Include
HB13-50	0 - 12 *	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	OC-12	0	12	47.0000004			Yes	Include
HB13-50	12 - 24 *	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	OC-12	12	24	47.0000004			Yes	Include
HB13-50	24 - 36 *	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	OC-12	24	36	47.0000004			Yes	Include
HB13-50	36 - 47 *	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	OC-12	36	47	47.0000004			Yes	Include
HB13-51	0 - 6 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene		0	6					Exclude
HB13-51	6 - 15 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene		6	15					Exclude
HB13-52	0 - 6 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-10	0	6	12			Yes	Include
HB13-52	6 - 12 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-10	6	12	12			Yes	Include
HB13-52	12 - 17 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-10	12	17	12			No	Exclude
HB14-01	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene	SND-1	0	6					Exclude
HB14-01	6 - 18	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene	SND-1	6	18					Exclude
HB14-02	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene	FC-15	0	6	17.004	-12.996	include	Yes	Include
HB14-02	6 - 14	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene	FC-15	6	14	17.004	-12.996	include	Yes	Include
HB14-03	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene	FC-15	0	6	29.997288	-2.472	include	Yes	Include
HB14-03	6 - 18	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene	FC-15	6	18	29.997288	-2.472	include	Yes	Include
HB14-03	18 - 30	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene	FC-15	18	30	29.997288	-2.472	include	Yes	Include
HB14-03	30 - 42	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene	FC-15	30	42	29.997288	-2.472	include	No	Exclude
HB14-03	42 - 54	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene	FC-15	42	54	29.997288	-2.472	include	No	Exclude
HB14-04	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene		0	6	29.904			Yes	Include
HB14-04	6 - 18	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene		6	18	29.904			Yes	Include
HB14-04	18 - 30	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene		18	30	29.904			Yes	Include
HB14-05 G		8/18/2014	Area 1	NA	NA	Benzo(a)anthracene			#VALUE!					Exclude
HB14-06	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene		0	6	30.588			Yes	Include
HB14-06	6 - 24	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene		6	24	30.588			Yes	Include
HB14-07	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene		0	6	78.012			Yes	Include
HB14-07	6 - 24	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene		6	24	78.012			Yes	Include
HB14-07	24 - 42	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene		24	42	78.012			Yes	Include
HB14-08	0 - 6	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene		0	6	34.416			Yes	Include
HB14-08	6 - 19	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene		6	19	34.416			Yes	Include
HB14-09	0 - 12	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene	OC-16	0	12	12.003804			Yes	Include
HB14-09	12 - 24	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene	OC-16	12	24	12.003804			Yes	Include
HB14-09	24 - 36	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene	OC-16	24	36	12.003804			No	Exclude
HB14-09	36 - 48	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene	OC-16	36	48	12.003804			No	Exclude
HB14-09	48 - 60	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene	OC-16	48	60	12.003804			No	Exclude
HB14-09	60 - 72	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene	OC-16	60	72	12.003804			No	Exclude
HB14-10	0 - 6	8/20/2014	Area 1	0.18	0.18	Benzo(a)anthracene		0	6	54.005544			Yes	Include
HB14-10	6 - 18	8/20/2014	Area 1	0.18	0.18	Benzo(a)anthracene		6	18	54.005544			Yes	Include
HB14-10	18 - 30	8/20/2014	Area 1	0.4	0.4	Benzo(a)anthracene		18	30	54.005544			Yes	Include
HB14-10	30 - 42	8/20/2014	Area 1	0.48	0.48	Benzo(a)anthracene		30	42	54.005544			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB14-10	42 - 54	8/20/2014	Area 1	0.39	0.39	Benzo(a)anthracene		42	54	54.005544			Yes	Include
HB14-10	54 - 66	8/20/2014	Area 1	NA	NA	Benzo(a)anthracene		54	66	54.005544			Yes	Include
HB14-11	0 - 6	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene	SND-2	0	6					Exclude
HB14-11	6 - 18	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene	SND-2	6	18					Exclude
HB14-11	18 - 20	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene	SND-2	18	20					Exclude
HB14-12	0 - 6	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene	SND-4	0	6	26.34			Yes	Include
HB14-12	6 - 18	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene	SND-4	6	18	26.34			Yes	Include
HB14-12	18 - 32	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene	SND-4	18	32	26.34			Yes	Include
HB14-13	0 - 6	8/19/2014	Area 2	NA	NA	Benzo(a)anthracene	SND-5	0	6	-0.648			No	Exclude
HB14-13	6 - 11	8/19/2014	Area 2	NA	NA	Benzo(a)anthracene	SND-5	6	11	-0.648			No	Exclude
HB14-14	0 - 6	8/20/2014	Area 2	0.33	0.33	Benzo(a)anthracene	OC-4	0	6	101.997672			Yes	Include
HB14-14	4 - 6	8/20/2014	Area 2	3.2	3.2	Benzo(a)anthracene	OC-4	4	6	101.997672			Yes	Include
HB14-14	6 - 18	8/20/2014	Area 2	NA	NA	Benzo(a)anthracene	OC-4	6	18	101.997672			Yes	Include
HB14-14	6 - 30	8/20/2014	Area 2	0.43	0.43	Benzo(a)anthracene	OC-4	6	30	101.997672			Yes	Include
HB14-14	18 - 30	8/20/2014	Area 2	NA	NA	Benzo(a)anthracene	OC-4	18	30	101.997672			Yes	Include
HB14-14	30 - 42	8/20/2014	Area 2	NA	NA	Benzo(a)anthracene	OC-4	30	42	101.997672			Yes	Include
HB14-14	30 - 54	8/20/2014	Area 2	0.55	0.55	Benzo(a)anthracene	OC-4	30	54	101.997672			Yes	Include
HB14-14	42 - 54	8/20/2014	Area 2	NA	NA	Benzo(a)anthracene	OC-4	42	54	101.997672			Yes	Include
HB14-14	54 - 66	8/20/2014	Area 2	NA	NA	Benzo(a)anthracene	OC-4	54	66	101.997672			Yes	Include
HB14-14	54 - 78	8/20/2014	Area 2	0.39	0.39	Benzo(a)anthracene	OC-4	54	78	101.997672			Yes	Include
HB14-14	66 - 78	8/20/2014	Area 2	NA	NA	Benzo(a)anthracene	OC-4	66	78	101.997672			Yes	Include
HB14-14	78 - 90	8/20/2014	Area 2	NA	NA	Benzo(a)anthracene	OC-4	78	90	101.997672			Yes	Include
HB14-14	78 - 102	8/20/2014	Area 2	0.87	0.87	Benzo(a)anthracene	OC-4	78	102	101.997672			Yes	Include
HB14-14	90 - 102	8/20/2014	Area 2	NA	NA	Benzo(a)anthracene	OC-4	90	102	101.997672			Yes	Include
HB14-14	102 - 111	8/20/2014	Area 2	NA	NA	Benzo(a)anthracene	OC-4	102	111	101.997672			No	Exclude
HB15-01	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	0	12	51.096			Yes	Include
HB15-01	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	12	24	51.096			Yes	Include
HB15-01	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	24	36	51.096			Yes	Include
HB15-01	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	36	48	51.096			Yes	Include
HB15-01	48 - 57	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	48	57	51.096			Yes	Include
HB15-02	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	0	12	48.000696			Yes	Include
HB15-02	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	12	24	48.000696			Yes	Include
HB15-02	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	24	36	48.000696			Yes	Include
HB15-02	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	36	48	48.000696			Yes	Include
HB15-03	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	0	12	67.9950564			Yes	Include
HB15-03	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	12	24	67.9950564			Yes	Include
HB15-03	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	24	36	67.9950564			Yes	Include
HB15-03	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	36	48	67.9950564			Yes	Include
HB15-03	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	48	60	67.9950564			Yes	Include
HB15-03	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	60	68	67.9950564			Yes	Include
HB15-03R	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	0	12	67.9950564			Yes	Include
HB15-03R	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	12	24	67.9950564			Yes	Include
HB15-03R	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	24	36	67.9950564			Yes	Include
HB15-03R	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	36	48	67.9950564			Yes	Include
HB15-03R	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	48	60	67.9950564			Yes	Include
HB15-03R	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	60	68	67.9950564			Yes	Include
HB15-04	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	0	12	63.84			Yes	Include
HB15-04	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	12	24	63.84			Yes	Include
HB15-04	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	24	36	63.84			Yes	Include
HB15-04	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	36	48	63.84			Yes	Include
HB15-04	48 - 59	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	48	59	63.84			Yes	Include
HB15-05	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	0	12	71.994852			Yes	Include
HB15-05	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	12	24	71.994852			Yes	Include
HB15-05	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	24	36	71.994852			Yes	Include
HB15-05	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	36	48	71.994852			Yes	Include
HB15-05	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	48	60	71.994852			Yes	Include
HB15-05	60 - 72	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	60	72	71.994852			Yes	Include
HB15-05	72 - 80	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	72	80	71.994852			No	Exclude
HB15-06	0 - 9	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-2	0	9	9.000636			Yes	Include
HB15-07	0 - 12	6/23/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-1	0	12	90.9955116			Yes	Include
HB15-07	12 - 24	6/23/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-1	12	24	90.9955116			Yes	Include
HB15-07	24 - 36	6/23/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-1	24	36	90.9955116			Yes	Include
HB15-07	36 - 48	6/23/2015	Cummings Ave Slip	3.8	3.8	Benzo(a)anthracene	CS-1	36	48	90.9955116			Yes	Include
HB15-07	48 - 60	6/23/2015	Cummings Ave Slip	6.3	6.3	Benzo(a)anthracene	CS-1	48	60	90.9955116			Yes	Include
HB15-07	60 - 72	6/23/2015	Cummings Ave Slip	4.2	4.2	Benzo(a)anthracene	CS-1	60	72	90.9955116			Yes	Include
HB15-07	72 - 84	6/23/2015	Cummings Ave Slip	4.6	4.6	Benzo(a)anthracene	CS-1	72	84	90.9955116			Yes	Include
HB15-07	84 - 91	6/23/2015	Cummings Ave Slip	5.5	5.5	Benzo(a)anthracene	CS-1	84	91	90.9955116			Yes	Include
HB15-08	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-2	0	12	65.997804			Yes	Include
HB15-08	12 - 24	6/24/2015	Cummings Ave Slip	3.5	3.5	Benzo(a)anthracene	CS-2	12	24	65.997804			Yes	Include
HB15-08	24 - 36	6/24/2015	Cummings Ave Slip	3.1	3.1	Benzo(a)anthracene	CS-2	24	36	65.997804			Yes	Include
HB15-08	36 - 48	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-2	36	48	65.997804			Yes	Include
HB15-08	48 - 60	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-2	48	60	65.997804			Yes	Include
HB15-08	60 - 66	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-2	60	66	65.997804			Yes	Include
HB15-09	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-3	0	12	45.396			Yes	Include
HB15-09	12 - 17	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-3	12	17	45.396			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
 Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB15-10	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene		0	12	-0.936			No	Exclude
HB15-11	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-5	0	12	27.9944796			Yes	Include
HB15-11	12 - 24	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-5	12	24	27.9944796			Yes	Include
HB15-11	24 - 28	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-5	24	28	27.9944796			Yes	Include
HB15-12	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	0	12	29.994876			Yes	Include
HB15-12	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	12	24	29.994876			Yes	Include
HB15-12	24 - 30	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	24	30	29.994876			Yes	Include
HB15-13	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	0	12	64.0033716			Yes	Include
HB15-13	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	12	24	64.0033716			Yes	Include
HB15-13	24 - 36	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	24	36	64.0033716			Yes	Include
HB15-13	36 - 48	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	36	48	64.0033716			Yes	Include
HB15-13	48 - 60	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	48	60	64.0033716			Yes	Include
HB15-13	60 - 64	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	60	64	64.0033716			Yes	Include
HB15-14	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	0	12	23.996196			Yes	Include
HB15-14	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	12	24	23.996196			Yes	Include
HB15-14	24 - 28	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	24	28	23.996196			No	Exclude
HB15-14	28 - 35	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	28	35	23.996196			No	Exclude
HB15-15	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-2	0	12	19.0051356			Yes	Include
HB15-15	12 - 19	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-2	12	19	19.0051356			Yes	Include
HB15-15R	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-2	0	12	18.9999996			Yes	Include
HB15-15R	12 - 19	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-2	12	19	18.9999996			Yes	Include
HB15-16	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	0	12	8.304			Yes	Include
HB15-16	12 - 19	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	12	19	8.304			No	Exclude
HB15-17	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-2	0	12	36.004608			Yes	Include
HB15-17	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-2	12	24	36.004608			Yes	Include
HB15-17	24 - 36	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-2	24	36	36.004608			Yes	Include
HB15-17	36 - 48	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-2	36	48	36.004608			Yes	Include
HB15-17	48 - 54	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-2	48	54	36.004608			No	Exclude
HB15-18	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-2	0	12	23.999508			Yes	Include
HB15-18	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-2	12	24	23.999508			Yes	Include
HB15-19	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene		0	12					Exclude
HB15-19	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene		12	24					Exclude
HB15-19	24 - 32	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene		24	32					Exclude
HB15-20	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-3	0	12	33.864			Yes	Include
HB15-20	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-3	12	24	33.864			Yes	Include
HB15-20	24 - 28	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-3	24	28	33.864			Yes	Include
HB15-20B	0 - 6	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-13	0	6	11.996892			Yes	Include
HB15-20B	6 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-13	6	12	11.996892			Yes	Include
HB15-21G	15 - 21	6/29/2015	Fraser Ave Slip	NA	NA	Benzo(a)anthracene		15	21					Exclude
HB15-22G	0 - 6	6/29/2015	Fraser Ave Slip	0.19	0.19	Benzo(a)anthracene	OC-8	0	6	6			Yes	Include
HB15-23	0 - 12	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(a)anthracene	FS-1	0	12	55.02			Yes	Include
HB15-23	12 - 24	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(a)anthracene	FS-1	12	24	55.02			Yes	Include
HB15-23	24 - 36	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(a)anthracene	FS-1	24	36	55.02			Yes	Include
HB15-23	36 - 48	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(a)anthracene	FS-1	36	48	55.02			Yes	Include
HB15-23	48 - 56	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(a)anthracene	FS-1	48	56	55.02			Yes	Include
HB15-25	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-1	0	12	77.4			Yes	Include
HB15-25	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-1	12	24	77.4			Yes	Include
HB15-25	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-1	24	36	77.4			Yes	Include
HB15-25	36 - 48	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-1	36	48	77.4			Yes	Include
HB15-25	48 - 60	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-1	48	60	77.4			Yes	Include
HB15-25	60 - 72	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-1	60	72	77.4			Yes	Include
HB15-25	72 - 88	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-1	72	88	77.4			Yes	Include
HB15-26	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	FC-2	0	12	38.28	6.36	include	Yes	Include
HB15-26	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	FC-2	12	24	38.28	6.36	include	Yes	Include
HB15-26	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	FC-2	24	36	38.28	6.36	include	Yes	Include
HB15-26	36 - 46	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	FC-2	36	46	38.28	6.36	include	Yes	Include
HB15-27	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	FC-3	0	12	33.6	14.64	exclude	Yes	Exclude
HB15-27	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	FC-3	12	24	33.6	14.64	include	Yes	Include
HB15-27	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	FC-3	24	36	33.6	14.64	include	Yes	Include
HB15-27	36 - 48	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	FC-3	36	48	33.6	14.64	include	No	Exclude
HB15-27	48 - 60	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	FC-3	48	60	33.6	14.64	include	No	Exclude
HB15-27	60 - 71	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	FC-3	60	71	33.6	14.64	include	No	Exclude
HB15-28	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-7	0	12	11.994072			Yes	Include
HB15-28	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-7	12	24	11.994072			No	Exclude
HB15-28	24 - 30	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-7	24	30	11.994072			No	Exclude
HB15-30	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene		0	12	43.776			Yes	Include
HB15-30	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene		12	24	43.776			Yes	Include
HB15-30	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene		24	36	43.776			Yes	Include
HB15-30	36 - 50	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene		36	50	43.776			Yes	Include
HB15-31	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene		0	12					Exclude
HB15-31	12 - 20	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene		12	20					Exclude
HB15-32	0 - 12	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene	SND-4	0	12	11.995236			Yes	Include
HB15-32	12 - 26	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene	SND-4	12	26	11.995236			No	Exclude
HB15-33	0 - 12	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene		0	12	26.292			Yes	Include
HB15-33	12 - 24	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene		12	24	26.292			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB15-33	24 - 39	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene		24	39	26.292			Yes	Include
HB15-34	0 - 12	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene	FC-11	0	12		35.52	exclude		Exclude
HB15-34	12 - 24	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene	FC-11	12	24		35.52	exclude		Exclude
HB15-34	24 - 32	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene	FC-11	24	32		35.52	exclude		Exclude
HB15-35	0 - 12	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene	FC-16	0	12	74.28	-6.48	include	Yes	Include
HB15-35	12 - 24	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene	FC-16	12	24	74.28	-6.48	include	Yes	Include
HB15-35	24 - 36	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene	FC-16	24	36	74.28	-6.48	include	Yes	Include
HB15-35	36 - 48	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene	FC-16	36	48	74.28	-6.48	include	Yes	Include
HB15-35	48 - 60	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene	FC-16	48	60	74.28	-6.48	include	Yes	Include
HB15-35	60 - 72	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene	FC-16	60	72	74.28	-6.48	include	Yes	Include
HB15-36G	15 - 36	6/29/2015	Area 2	NA	NA	Benzo(a)anthracene		15	36					Exclude
HB15-37	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	0	12	51.048			Yes	Include
HB15-37	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	12	24	51.048			Yes	Include
HB15-37	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	24	36	51.048			Yes	Include
HB15-37	36 - 48	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	36	48	51.048			Yes	Include
HB15-37	48 - 60	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	48	60	51.048			Yes	Include
HB15-37	60 - 74	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	60	74	51.048			No	Exclude
HB15-38	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	0	12	83.184			Yes	Include
HB15-38	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	12	24	83.184			Yes	Include
HB15-38	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	24	36	83.184			Yes	Include
HB15-38	36 - 48	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	36	48	83.184			Yes	Include
HB15-38	48 - 60	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	48	60	83.184			Yes	Include
HB15-38	60 - 72	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	60	72	83.184			Yes	Include
HB15-38	72 - 84	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	72	84	83.184			Yes	Include
HB15-38	84 - 96	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	84	96	83.184			No	Exclude
HB15-G28	0 - 6	6/25/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene		0	6					Exclude
HB15-HC20A	0 - 6	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene	OC-13	0	6	6.003036			Yes	Include
HB2A_4	0 - 6	5/12/2007	Hughitt Ave Slip	0.21 J-LS-	0.21	Benzo(a)pyrene	HS-1	0	6	48.00432			Yes	Include
HB2A_4	6 - 24	5/12/2007	Hughitt Ave Slip	0.42 J-LS-	0.42	Benzo(a)pyrene	HS-1	6	24	48.00432			Yes	Include
HB2A_4	24 - 48	5/12/2007	Hughitt Ave Slip	0.084 J-LS-	0.084	Benzo(a)pyrene	HS-1	24	48	48.00432			Yes	Include
HB2A_6	0 - 5	5/2/2007	Area 1	0.71	0.71	Benzo(a)pyrene		0	5					Exclude
HB2A_7	0 - 5	5/10/2007	Area 1	0.47	0.47	Benzo(a)pyrene	SND-1	0	5					Exclude
HB2A_8	0 - 5	5/10/2007	Area 1	0.24	0.24	Benzo(a)pyrene	FC-12/FC-13	0	5	4.9944804	79.824	exclude	Yes	Exclude
HB2A_11	0 - 5	5/10/2007	Area 1	0.40 J-	0.4	Benzo(a)pyrene		0	5					Exclude
HB2A_13	0 - 5	5/2/2007	Area 1	0.29	0.29	Benzo(a)pyrene		0	5					Exclude
HB2A_16	0 - 5	5/2/2007	Area 1	0.11 J-	0.11	Benzo(a)pyrene		0	5					Exclude
HB2A_210	0 - 6	5/16/2007	Area 1	0.0036 JM-H	0.0036	Benzo(a)pyrene		0	6					Exclude
HB2A_210	6 - 24	5/16/2007	Area 1	0.0083 UJM-H	0.0083	Benzo(a)pyrene		6	24					Exclude
HB2A_210	24 - 48	5/16/2007	Area 1	0.0061 UJM-H	0.0061	Benzo(a)pyrene		24	48					Exclude
HB2A_GENES	0 - 5	5/22/2007	Cummings Ave Slip	0.44	0.44	Benzo(a)pyrene		0	5					Exclude
HB2B_17	0 - 6	5/12/2007	Fraser Ave Slip	0.25 J-LS-	0.25	Benzo(a)pyrene	FS-2	0	6	24.005676			Yes	Include
HB2B_17	6 - 24	5/12/2007	Fraser Ave Slip	0.077 J-LS-	0.077	Benzo(a)pyrene	FS-2	6	24	24.005676			Yes	Include
HB2B_18	0 - 6	5/7/2007	Area 2	0.25 J-M-	0.25	Benzo(a)pyrene	FP-1	0	6	47.997552			Yes	Include
HB2B_18	6 - 24	5/7/2007	Area 2	0.12 J-	0.12	Benzo(a)pyrene	FP-1	6	24	47.997552			Yes	Include
HB2B_18	24 - 48	5/7/2007	Area 2	0.16 J-M-	0.16	Benzo(a)pyrene	FP-1	24	48	47.997552			Yes	Include
HB2B_19	0 - 6	5/2/2007	Area 2	0.071 J-M-	0.071	Benzo(a)pyrene	OC-1	0	6	6.001728			Yes	Include
HB2B_19	6 - 24	5/2/2007	Area 2	0.011 J-M-	0.011	Benzo(a)pyrene	OC-1	6	24	6.001728			Yes	Include
HB2B_20	0 - 6	5/2/2007	Area 2	0.13 J-M-	0.13	Benzo(a)pyrene	OC-9	0	6	23.997336			Yes	Include
HB2B_20	6 - 24	5/2/2007	Area 2	0.11 J-M-	0.11	Benzo(a)pyrene	OC-9	6	24	23.997336			Yes	Include
HB2B_20	24 - 48	5/2/2007	Area 2	0.033 J-M-	0.033	Benzo(a)pyrene	OC-9	24	48	23.997336			No	Exclude
HB2B_21	0 - 5	5/2/2007	Area 2	0.15	0.15	Benzo(a)pyrene		0	5					Exclude
HB2B_22	0 - 5	5/2/2007	Area 2	0.24	0.24	Benzo(a)pyrene	OC-5	0	5	5.0028204			Yes	Include
HB3A_GENES	0 - 5	9/6/2007	Cummings Ave Slip	0.063	0.063	Benzo(a)pyrene		0	5					Exclude
HB10-1-01	0 - 6	10/16/2010	Area 1	0.097	0.097	Benzo(a)pyrene		0	6					Exclude
HB10-1-01	0 - 12	10/16/2010	Area 1	0.0071 U	0.0071	Benzo(a)pyrene		0	12					Exclude
HB10-1-01	36 - 40	10/16/2010	Area 1	0.0051 U	0.0051	Benzo(a)pyrene		36	40					Exclude
HB10-1-02	0 - 6	10/16/2010	Area 1	0.059	0.059	Benzo(a)pyrene		0	6	23.0027508			Yes	Include
HB10-1-02	12 - 23	10/16/2010	Area 1	0.056	0.056	Benzo(a)pyrene		12	23	23.0027508			Yes	Include
HB10-1-03	0 - 6	10/16/2010	Area 1	0.2	0.2	Benzo(a)pyrene	FC-17	0	6	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	0 - 12	10/16/2010	Area 1	0.088	0.088	Benzo(a)pyrene	FC-17	0	12	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	12 - 36	10/16/2010	Area 1	0.085	0.085	Benzo(a)pyrene	FC-17	12	36	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	36 - 60	10/16/2010	Area 1	0.19	0.19	Benzo(a)pyrene	FC-17	36	60	59.99475	49.872	include	Yes	Include
HB10-1-03	60 - 84	10/16/2010	Area 1	0.21	0.21	Benzo(a)pyrene	FC-17	60	84	59.99475	49.872	include	No	Exclude
HB10-1-04	0 - 6	10/17/2010	Area 1	0.15	0.15	Benzo(a)pyrene		0	6					Exclude
HB10-1-04	0 - 12	10/17/2010	Area 1	0.22	0.22	Benzo(a)pyrene		0	12					Exclude
HB10-1-04	12 - 36	10/17/2010	Area 1	0.13	0.13	Benzo(a)pyrene		12	36					Exclude
HB10-1-04	36 - 50	10/17/2010	Area 1	0.13	0.13	Benzo(a)pyrene		36	50					Exclude
HB10-1-05	0 - 6	10/16/2010	Area 1	0.37	0.37	Benzo(a)pyrene	OC-17	0	6	5.9987496			Yes	Include
HB10-1-07	0 - 6	10/17/2010	Area 1	2.3	2.3	Benzo(a)pyrene	OC-15	0	6	6.0057			Yes	Include
HB10-1-07	0 - 12	10/17/2010	Area 1	0.26	0.26	Benzo(a)pyrene	OC-15	0	12	6.0057			Yes	Include
HB10-1-07	12 - 36	10/17/2010	Area 1	0.24	0.24	Benzo(a)pyrene	OC-15	12	36	6.0057			No	Exclude
HB10-1-07	60 - 64	10/17/2010	Area 1	0.0040 U	0.004	Benzo(a)pyrene	OC-15	60	64	6.0057			No	Exclude
HB10-1-08	0 - 6	10/17/2010	Area 1	0.19	0.19	Benzo(a)pyrene		0	6	36.0057			Yes	Include
HB10-1-08	0 - 12	10/17/2010	Area 1	0.2	0.2	Benzo(a)pyrene		0	12	36.0057			Yes	Include
HB10-1-08	12 - 36	10/17/2010	Area 1	0.29	0.29	Benzo(a)pyrene		12	36	36.0057			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB10-1-10	0 - 6	10/18/2010	Area 1	0.93	0.93	Benzo(a)pyrene	SND-1	0	6					Exclude
HB10-1-11	0 - 6	10/16/2010	Area 1	0.13 J	0.13	Benzo(a)pyrene		0	6	20.9987496			Yes	Exclude
HB10-1-11	12 - 21	10/16/2010	Area 1	0.15	0.15	Benzo(a)pyrene		12	21	20.9987496			Yes	Exclude
HB10-1-12	0 - 6	10/17/2010	Area 1	0.22	0.22	Benzo(a)pyrene		0	6					Exclude
HB10-1-12	0 - 12	10/17/2010	Area 1	0.26	0.26	Benzo(a)pyrene		0	12					Exclude
HB10-1-12	12 - 34	10/17/2010	Area 1	0.098	0.098	Benzo(a)pyrene		12	34					Exclude
HB10-1-13	0 - 6	10/18/2010	Area 1	0.3	0.3	Benzo(a)pyrene	FC-12/FC-13	0	6	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	0 - 12	10/18/2010	Area 1	0.53	0.53	Benzo(a)pyrene	FC-12/FC-13	0	12	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	12 - 36	10/18/2010	Area 1	0.34	0.34	Benzo(a)pyrene	FC-12/FC-13	12	36	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	60 - 67	10/18/2010	Area 1	0.51	0.51	Benzo(a)pyrene	FC-12/FC-13	60	67	36.0053004	42.816	include	No	Exclude
HB10-1-14	0 - 6	10/17/2010	Area 1	0.31	0.31	Benzo(a)pyrene		0	6	66.0057			Yes	Exclude
HB10-1-14	0 - 12	10/17/2010	Area 1	0.19	0.19	Benzo(a)pyrene		0	12	66.0057			Yes	Exclude
HB10-1-14	12 - 36	10/17/2010	Area 1	0.31	0.31	Benzo(a)pyrene		12	36	66.0057			Yes	Exclude
HB10-1-14	60 - 66	10/17/2010	Area 1	0.27	0.27	Benzo(a)pyrene		60	66	66.0057			Yes	Exclude
HB10-1-15	0 - 6	10/18/2010	Area 1	0.01	0.01	Benzo(a)pyrene	OC-13	0	6	16.0056996			Yes	Exclude
HB10-1-15	12 - 16	10/18/2010	Area 1	0.3	0.3	Benzo(a)pyrene	OC-13	12	16	16.0056996			Yes	Exclude
HB10-1-16	0 - 6	10/17/2010	Hughitt Ave Slip	0.4	0.4	Benzo(a)pyrene	HS-3	0	6	31.0056996			Yes	Exclude
HB10-1-16	0 - 12	10/17/2010	Hughitt Ave Slip	0.68	0.68	Benzo(a)pyrene	HS-3	0	12	31.0056996			Yes	Exclude
HB10-1-16	12 - 31	10/17/2010	Hughitt Ave Slip	0.34	0.34	Benzo(a)pyrene	HS-3	12	31	31.0056996			Yes	Exclude
HB10-1-17	0 - 6	10/17/2010	Area 1	0.16	0.16	Benzo(a)pyrene	OC-14	0	6	12			Yes	Exclude
HB10-1-20	0 - 6	10/17/2010	Hughitt Ave Slip	1.4	1.4	Benzo(a)pyrene		0	6	6.0057			Yes	Exclude
HB10-1-21	0 - 6	10/18/2010	Cummings Ave Slip	0.062	0.062	Benzo(a)pyrene		0	6	6.0012996			Yes	Exclude
HB10-1-21	12 - 23	10/18/2010	Cummings Ave Slip	0.21	0.21	Benzo(a)pyrene		12	23	6.0012996			No	Exclude
HB10-1-23	0 - 6	10/17/2010	Area 1	0.16	0.16	Benzo(a)pyrene		0	6	36.0057			Yes	Exclude
HB10-1-23	0 - 12	10/17/2010	Area 1	0.24	0.24	Benzo(a)pyrene		0	12	36.0057			Yes	Exclude
HB10-1-23	12 - 36	10/17/2010	Area 1	0.31	0.31	Benzo(a)pyrene		12	36	36.0057			Yes	Exclude
HB10-1-24	0 - 6	10/18/2010	Cummings Ave Slip	0.2	0.2	Benzo(a)pyrene	CS-4	0	6	36.0047496			Yes	Exclude
HB10-1-24	0 - 12	10/18/2010	Cummings Ave Slip	0.52	0.52	Benzo(a)pyrene	CS-4	0	12	36.0047496			Yes	Exclude
HB10-1-24	12 - 36	10/18/2010	Cummings Ave Slip	0.66	0.66	Benzo(a)pyrene	CS-4	12	36	36.0047496			Yes	Exclude
HB10-1-25	0 - 6	10/17/2010	Baxter Ave Embayment	0.13	0.13	Benzo(a)pyrene		0	6	6.0057			Yes	Exclude
HB10-1-27	0 - 6	10/18/2010	Area 1	0.098	0.098	Benzo(a)pyrene		0	6	-0.0027			No	Exclude
HB10-1-28	0 - 6	10/17/2010	Hughitt Ave Slip	0.51	0.51	Benzo(a)pyrene	HS-1	0	6	84.0057			Yes	Exclude
HB10-1-28	0 - 12	10/17/2010	Hughitt Ave Slip	0.44	0.44	Benzo(a)pyrene	HS-1	0	12	84.0057			Yes	Exclude
HB10-1-28	12 - 36	10/17/2010	Hughitt Ave Slip	0.6	0.6	Benzo(a)pyrene	HS-1	12	36	84.0057			Yes	Exclude
HB10-1-28	36 - 60	10/17/2010	Hughitt Ave Slip	0.28 J	0.28	Benzo(a)pyrene	HS-1	36	60	84.0057			Yes	Exclude
HB10-1-28	60 - 84	10/17/2010	Hughitt Ave Slip	0.5	0.5	Benzo(a)pyrene	HS-1	60	84	84.0057			Yes	Exclude
HB10-1-28	60 - 96	10/17/2010	Hughitt Ave Slip	0.096 J	0.096	Benzo(a)pyrene	HS-1	60	96	84.0057			Yes	Exclude
HB10-1-29	0 - 6	10/17/2010	Cummings Ave Slip	0.46	0.46	Benzo(a)pyrene	CS-1	0	6	83.9937			Yes	Exclude
HB10-1-29	0 - 12	10/17/2010	Cummings Ave Slip	1.3	1.3	Benzo(a)pyrene	CS-1	0	12	83.9937			Yes	Exclude
HB10-1-29	12 - 36	10/17/2010	Cummings Ave Slip	5	5	Benzo(a)pyrene	CS-1	12	36	83.9937			Yes	Exclude
HB10-1-29	36 - 60	10/17/2010	Cummings Ave Slip	2.5	2.5	Benzo(a)pyrene	CS-1	36	60	83.9937			Yes	Exclude
HB10-1-29	60 - 93	10/17/2010	Cummings Ave Slip	2.7	2.7	Benzo(a)pyrene	CS-1	60	93	83.9937			Yes	Exclude
HB10-1-30	0 - 6	10/18/2010	Baxter Ave Embayment	0.56	0.56	Benzo(a)pyrene		0	6	60.0053004			Yes	Exclude
HB10-1-30	0 - 12	10/18/2010	Baxter Ave Embayment	1.7	1.7	Benzo(a)pyrene		0	12	60.0053004			Yes	Exclude
HB10-1-30	12 - 36	10/18/2010	Baxter Ave Embayment	0.84	0.84	Benzo(a)pyrene		12	36	60.0053004			Yes	Exclude
HB10-1-30	36 - 60	10/18/2010	Baxter Ave Embayment	0.37	0.37	Benzo(a)pyrene		36	60	60.0053004			Yes	Exclude
HB10-1-30	60 - 77	10/18/2010	Baxter Ave Embayment	0.34	0.34	Benzo(a)pyrene		60	77	60.0053004			Yes	Exclude
HB10-1-31	0 - 6	10/18/2010	Baxter Ave Embayment	0.53	0.53	Benzo(a)pyrene	OC-11	0	6	35.9973			Yes	Exclude
HB10-1-31	0 - 12	10/18/2010	Baxter Ave Embayment	0.65	0.65	Benzo(a)pyrene	OC-11	0	12	35.9973			Yes	Exclude
HB10-1-31	12 - 36	10/18/2010	Baxter Ave Embayment	0.35	0.35	Benzo(a)pyrene	OC-11	12	36	35.9973			Yes	Exclude
HB10-2-18	0 - 6	10/18/2010	Area 2	0.39	0.39	Benzo(a)pyrene	OC-2	0	6	6.0053004			Yes	Exclude
HB10-2-26	0 - 6	10/16/2010	Area 2	0.071 J	0.071	Benzo(a)pyrene		0	6					Exclude
HB10-2-26	12 - 17	10/16/2010	Area 2	0.12	0.12	Benzo(a)pyrene		12	17					Exclude
HB10-2-32	0 - 6	10/18/2010	Area 2	0.22	0.22	Benzo(a)pyrene		0	6					Exclude
HB10-2-33	0 - 6	10/18/2010	Area 2	0.054 J	0.054	Benzo(a)pyrene		0	6	6.0012996			Yes	Exclude
HB10-2-33	12 - 22	10/18/2010	Area 2	0.42	0.42	Benzo(a)pyrene		12	22	6.0012996			No	Exclude
HB10-2-34	0 - 6	10/18/2010	Area 2	0.23	0.23	Benzo(a)pyrene	FC-7	0	6	6.0053004	0.816	include	Yes	Exclude
HB10-2-35	0 - 6	10/18/2010	Area 2	0.039 J	0.039	Benzo(a)pyrene		0	6	30.0012996			Yes	Exclude
HB10-2-35	0 - 12	10/18/2010	Area 2	0.21	0.21	Benzo(a)pyrene		0	12	30.0012996			Yes	Exclude
HB10-2-35	12 - 30	10/18/2010	Area 2	0.26	0.26	Benzo(a)pyrene		12	30	30.0012996			Yes	Exclude
HB10-2-36	0 - 6	10/18/2010	Area 2	0.39	0.39	Benzo(a)pyrene	FC-5	0	6	6.0053004	-29.184	include	Yes	Exclude
HB10-2-37	0 - 6	10/18/2010	Area 2	0.21 J	0.21	Benzo(a)pyrene		0	6	23.0013			Yes	Exclude
HB10-2-37	12 - 23	10/18/2010	Area 2	0.14	0.14	Benzo(a)pyrene		12	23	23.0013			Yes	Exclude
HB10-2-38	0 - 6	10/18/2010	Area 2	0.091	0.091	Benzo(a)pyrene	OC-6	0	6	38.0013			Yes	Exclude
HB10-2-38	0 - 12	10/18/2010	Area 2	0.3	0.3	Benzo(a)pyrene	OC-6	0	12	38.0013			Yes	Exclude
HB10-2-38	36 - 38	10/18/2010	Area 2	1.1	1.1	Benzo(a)pyrene	OC-6	36	38	38.0013			Yes	Exclude
HB10-2-39	0 - 6	10/18/2010	Area 2	0.055 J	0.055	Benzo(a)pyrene		0	6	6.0012996			Yes	Exclude
HB10-2-39	0 - 12	10/18/2010	Area 2	0.44	0.44	Benzo(a)pyrene		0	12	6.0012996			Yes	Exclude
HB10-2-39	12 - 28	10/18/2010	Area 2	0.24	0.24	Benzo(a)pyrene		12	28	6.0012996			No	Exclude
HB10-2-40	0 - 6	10/18/2010	Area 2	0.16	0.16	Benzo(a)pyrene	OC-5	0	6	48.0053004			Yes	Exclude
HB10-2-40	0 - 12	10/18/2010	Area 2	0.11	0.11	Benzo(a)pyrene	OC-5	0	12	48.0053004			Yes	Exclude
HB10-2-40	12 - 36	10/18/2010	Area 2	0.0044 U	0.0044	Benzo(a)pyrene	OC-5	12	36	48.0053004			Yes	Exclude
HB10-2-40	36 - 48	10/18/2010	Area 2	0.0043 U	0.0043	Benzo(a)pyrene	OC-5	36	48	48.0053004			Yes	Exclude
HB10-2-41	0 - 6	10/18/2010	Area 2	1.3	1.3	Benzo(a)pyrene	FP-2	0	6	31.0012992			Yes	Exclude
HB10-2-41	0 - 12	10/18/2010	Area 2	0.076	0.076	Benzo(a)pyrene	FP-2	0	12	31.0012992			Yes	Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
 Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB10-2-41	12 - 31	10/18/2010	Area 2	0.086	0.086	Benzo(a)pyrene	FP-2	12	31	31.0012992			Yes	Include
HB10-2-42	0 - 6	10/18/2010	Area 2	0.3	0.3	Benzo(a)pyrene	FP-1	0	6	12.0012996			Yes	Include
HB10-2-42	0 - 12	10/18/2010	Area 2	NA	NA	Benzo(a)pyrene	FP-1	0	12	12.0012996			Yes	Include
HB10-2-42	12 - 30	10/18/2010	Area 2	0.29	0.29	Benzo(a)pyrene	FP-1	12	30	12.0012996			Yes	Include
HB10-2-43	0 - 6	10/17/2010	Area 2	R	R	Benzo(a)pyrene		0	6	22.0056996			Yes	Include
HB10-2-43	12 - 22	10/17/2010	Area 2	0.52	0.52	Benzo(a)pyrene		12	22	22.0056996			Yes	Include
HB10-2-44	0 - 6	10/18/2010	Area 2	0.65	0.65	Benzo(a)pyrene	FP-2	0	6	16.0012992			Yes	Include
HB10-2-44	12 - 16	10/18/2010	Area 2	0.71	0.71	Benzo(a)pyrene	FP-2	12	16	16.0012992			Yes	Include
HB10-2-45	0 - 6	10/18/2010	Area 2	0.17	0.17	Benzo(a)pyrene	FP-2	0	6	19.0012992			Yes	Include
HB10-2-45	12 - 19	10/18/2010	Area 2	0.47	0.47	Benzo(a)pyrene	FP-2	12	19	19.0012992			Yes	Include
HB13-01	0 - 6 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene	FP-1	0	6	48			Yes	Include
HB13-01	6 - 12 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene	FP-1	6	12	48			Yes	Include
HB13-01	12 - 18 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene	FP-1	12	18	48			Yes	Include
HB13-01	18 - 24 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene	FP-1	18	24	48			Yes	Include
HB13-01	24 - 30 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene	FP-1	24	30	48			Yes	Include
HB13-01	30 - 36 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene	FP-1	30	36	48			Yes	Include
HB13-01	36 - 42 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene	FP-1	36	42	48			Yes	Include
HB13-01	42 - 48 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene	FP-1	42	48	48			Yes	Include
HB13-01	48 - 54 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene	FP-1	48	54	48			No	Exclude
HB13-01	54 - 60 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene	FP-1	54	60	48			No	Exclude
HB13-01	60 - 66 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene	FP-1	60	66	48			No	Exclude
HB13-01	66 - 72 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene	FP-1	66	72	48			No	Exclude
HB13-01	72 - 74 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene	FP-1	72	74	48			No	Exclude
HB13-02	0 - 6 *	9/9/2013	Area 2	0.016 U	0.016	Benzo(a)pyrene		0	6	29.9960004			Yes	Include
HB13-02	6 - 12 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene		6	12	29.9960004			Yes	Include
HB13-02	12 - 18 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene		12	18	29.9960004			Yes	Include
HB13-02	18 - 24 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene		18	24	29.9960004			Yes	Include
HB13-02	24 - 30 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene		24	30	29.9960004			Yes	Include
HB13-02	30 - 36 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene		30	36	29.9960004			No	Exclude
HB13-02	36 - 42 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene		36	42	29.9960004			No	Exclude
HB13-02	42 - 48 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene		42	48	29.9960004			No	Exclude
HB13-03	0 - 6 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	FP-2	0	6	46.0040004			Yes	Include
HB13-03	6 - 12 *	9/9/2013	Area 2	1	1	Benzo(a)pyrene	FP-2	0	24	46.0040004			Yes	Include
HB13-03	6 - 12 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	FP-2	6	12	46.0040004			Yes	Include
HB13-03	12 - 18 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	FP-2	12	18	46.0040004			Yes	Include
HB13-03	18 - 24 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	FP-2	18	24	46.0040004			Yes	Include
HB13-03	24 - 30 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	FP-2	24	30	46.0040004			Yes	Include
HB13-03	24 - 46	9/9/2013	Area 2	0.36	0.36	Benzo(a)pyrene	FP-2	24	46	46.0040004			Yes	Include
HB13-03	30 - 36 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	FP-2	30	36	46.0040004			Yes	Include
HB13-03	36 - 42 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	FP-2	36	42	46.0040004			Yes	Include
HB13-03	42 - 46 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	FP-2	42	46	46.0040004			Yes	Include
HB13-03	46 - 51 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	FP-2	46	51	46.0040004			Yes	Include
HB13-04	0 - 6 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	OC-1	0	6	41.9960004			Yes	Include
HB13-04	6 - 12 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	OC-1	6	12	41.9960004			Yes	Include
HB13-04	12 - 18 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	OC-1	12	18	41.9960004			Yes	Include
HB13-04	18 - 24 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	OC-1	18	24	41.9960004			Yes	Include
HB13-04	24 - 30 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	OC-1	24	30	41.9960004			Yes	Include
HB13-04	30 - 36 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	OC-1	30	36	41.9960004			Yes	Include
HB13-04	36 - 42 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	OC-1	36	42	41.9960004			Yes	Include
HB13-04	42 - 44 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	OC-1	42	44	41.9960004			No	Exclude
HB13-05	0 - 32 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-1	0	32	43.8	33.156	exclude	Yes	Exclude
HB13-05	32 - 38 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-1	32	38	43.8	33.156	include	Yes	Include
HB13-05	38 - 44 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-1	38	44	43.8	33.156	include	Yes	Include
HB13-05	44 - 50 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-1	44	50	43.8	33.156	include	No	Exclude
HB13-05	50 - 56 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-1	50	56	43.8	33.156	include	No	Exclude
HB13-05	56 - 62	9/9/2013	Area 2	0.48	0.48	Benzo(a)pyrene	FC-1	56	62	43.8	33.156	include	No	Exclude
HB13-05	62 - 66	9/9/2013	Area 2	0.11	0.11	Benzo(a)pyrene	FC-1	62	66	43.8	33.156	include	No	Exclude
HB13-05	68 - 74 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-1	68	74	43.8	33.156	include	No	Exclude
HB13-05	74 - 77 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-1	74	77	43.8	33.156	include	No	Exclude
HB13-06	0 - 6 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	OC-2	0	6	48			Yes	Include
HB13-06	6 - 12 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	OC-2	6	12	48			Yes	Include
HB13-06	12 - 18 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	OC-2	12	18	48			Yes	Include
HB13-06	18 - 24 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	OC-2	18	24	48			Yes	Include
HB13-06	24 - 30 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	OC-2	24	30	48			Yes	Include
HB13-06	30 - 36 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	OC-2	30	36	48			Yes	Include
HB13-06	36 - 42 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	OC-2	36	42	48			Yes	Include
HB13-06	42 - 48 *	9/9/2013	Area 2	NA	NA	Benzo(a)pyrene	OC-2	42	48	48			Yes	Include
HB13-07	0 - 6 *	9/10/2013	Area 2	NA	NA	Benzo(a)pyrene		0	6					Exclude
HB13-07	6 - 12 *	9/10/2013	Area 2	NA	NA	Benzo(a)pyrene		6	12					Exclude
HB13-07	12 - 18 *	9/10/2013	Area 2	NA	NA	Benzo(a)pyrene		12	18					Exclude
HB13-07	18 - 24 *	9/10/2013	Area 2	NA	NA	Benzo(a)pyrene		18	24					Exclude
HB13-07	24 - 30 *	9/10/2013	Area 2	NA	NA	Benzo(a)pyrene		24	30					Exclude
HB13-07	30 - 36 *	9/10/2013	Area 2	NA	NA	Benzo(a)pyrene		30	36					Exclude
HB13-07	36 - 42 *	9/10/2013	Area 2	NA	NA	Benzo(a)pyrene		36	42					Exclude
HB13-07	42 - 48 *	9/10/2013	Area 2	NA	NA	Benzo(a)pyrene		42	48					Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
 Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-08	0 - 18	9/11/2013	Area 2	0.36	0.36	Benzo(a)pyrene	FC-2	0	18	38.28	21.756	exclude	Yes	Exclude
HB13-08	18 - 36	9/11/2013	Area 2	0.46	0.46	Benzo(a)pyrene	FC-2	18	36	38.28	21.756	include	Yes	Include
HB13-08	36 - 60	9/11/2013	Area 2	0.58	0.58	Benzo(a)pyrene	FC-2	36	60	38.28	21.756	include	Yes	Include
HB13-08	60 - 92	9/11/2013	Area 2	0.27	0.27	Benzo(a)pyrene	FC-2	60	92	38.28	21.756	include	No	Exclude
HB13-10	0 - 6 *	9/10/2013	Area 2	NA	NA	Benzo(a)pyrene		0	6	0.0039996			Yes	Include
HB13-11	0 - 18	9/11/2013	Area 2	0.41	0.41	Benzo(a)pyrene	FC-4	0	18	25.2	23.964	exclude	Yes	Exclude
HB13-11	18 - 24 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-4	18	24	25.2	23.964	include	Yes	Include
HB13-11	18 - 42	9/11/2013	Area 2	0.41	0.41	Benzo(a)pyrene	FC-4	18	42	25.2	23.964	include	Yes	Include
HB13-11	24 - 30 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-4	24	30	25.2	23.964	include	Yes	Include
HB13-11	30 - 36 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-4	30	36	25.2	23.964	include	No	Exclude
HB13-11	36 - 42 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-4	36	42	25.2	23.964	include	No	Exclude
HB13-11	42 - 48 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-4	42	48	25.2	23.964	include	No	Exclude
HB13-11	42 - 60	9/11/2013	Area 2	0.14	0.14	Benzo(a)pyrene	FC-4	42	60	25.2	23.964	include	No	Exclude
HB13-11	48 - 54 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-4	48	54	25.2	23.964	include	No	Exclude
HB13-11	54 - 60 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-4	54	60	25.2	23.964	include	No	Exclude
HB13-12	0 - 6 *	9/10/2013	Area 2	NA	NA	Benzo(a)pyrene		0	6	5.9960004			Yes	Include
HB13-13	0 - 1 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene	SND-5	0	1	0.9999996			Yes	Include
HB13-14	0 - 6 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-6	0	6	45.9999996	-5.316	include	Yes	Include
HB13-14	0 - 24	9/12/2013	Area 2	0.036	0.036	Benzo(a)pyrene	FC-6	0	24	45.9999996	-5.316	include	Yes	Include
HB13-14	6 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-6	6	24	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 42 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-6	24	42	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 46	9/12/2013	Area 2	0.046	0.046	Benzo(a)pyrene	FC-6	24	46	45.9999996	-5.316	include	Yes	Include
HB13-14	42 - 46 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-6	42	46	45.9999996	-5.316	include	Yes	Include
HB13-15	0 - 6 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-7	0	6	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	6 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-7	6	12	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	12 - 19 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-7	12	19	18.9999996	18.516	include	Yes	Include
HB13-16	0 - 6 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene		0	6	26.0000004			Yes	Include
HB13-16	6 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene		6	12	26.0000004			Yes	Include
HB13-16	12 - 18 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene		12	18	26.0000004			Yes	Include
HB13-16	18 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene		18	24	26.0000004			Yes	Include
HB13-16	24 - 27 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene		24	27	26.0000004			Yes	Include
HB13-17	0 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-7	0	12	24	16.2	exclude	Yes	Exclude
HB13-17	12 - 18 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-7	12	18	24	16.2	include	Yes	Include
HB13-17	18 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-7	18	24	24	16.2	include	Yes	Include
HB13-17	24 - 47 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-7	24	47	24	16.2	include	No	Exclude
HB13-18	0 - 6	9/12/2013	Area 2	0.39	0.39	Benzo(a)pyrene		0	6	9.9999996			Yes	Include
HB13-18	6 - 10	9/12/2013	Area 2	0.086	0.086	Benzo(a)pyrene		6	10	9.9999996			Yes	Include
HB13-18	10 - 16	9/12/2013	Area 2	0.0097 U	0.0097	Benzo(a)pyrene		10	16	9.9999996			No	Exclude
HB13-19	0 - 6 *	9/13/2013	Area 2	NA	NA	Benzo(a)pyrene		0	6					Exclude
HB13-19	6 - 24 *	9/13/2013	Area 2	NA	NA	Benzo(a)pyrene		6	24					Exclude
HB13-19	18 - 20 *	9/13/2013	Area 2	NA	NA	Benzo(a)pyrene		18	20					Exclude
HB13-19	24 - 42 *	9/13/2013	Area 2	NA	NA	Benzo(a)pyrene		24	42					Exclude
HB13-19	42 - 61 *	9/13/2013	Area 2	NA	NA	Benzo(a)pyrene		42	61					Exclude
HB13-19	61 - 67 *	9/13/2013	Area 2	NA	NA	Benzo(a)pyrene		61	67					Exclude
HB13-20	0 - 6 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene		0	6	24			Yes	Include
HB13-20	0 - 12	9/12/2013	Area 2	0.056	0.056	Benzo(a)pyrene		0	12	24			Yes	Include
HB13-20	6 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene		6	12	24			Yes	Include
HB13-20	12 - 18 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene		12	18	24			Yes	Include
HB13-20	12 - 24	9/12/2013	Area 2	0.076	0.076	Benzo(a)pyrene		12	24	24			Yes	Include
HB13-20	18 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene		18	24	24			Yes	Include
HB13-20	24 - 30 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene		24	30	24			No	Exclude
HB13-20	24 - 36	9/12/2013	Area 2	0.053	0.053	Benzo(a)pyrene		24	36	24			No	Exclude
HB13-20	30 - 36 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene		30	36	24			No	Exclude
HB13-20	36 - 42 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene		36	42	24			No	Exclude
HB13-20	36 - 48	9/12/2013	Area 2	0.093	0.093	Benzo(a)pyrene		36	48	24			No	Exclude
HB13-20	42 - 48 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene		42	48	24			No	Exclude
HB13-21	0 - 6 *	9/13/2013	Area 2	NA	NA	Benzo(a)pyrene	OC-10	0	6	24			Yes	Include
HB13-21	6 - 24 *	9/13/2013	Area 2	NA	NA	Benzo(a)pyrene	OC-10	6	24	24			Yes	Include
HB13-21	24 - 48 *	9/13/2013	Area 2	NA	NA	Benzo(a)pyrene	OC-10	24	48	24			No	Exclude
HB13-21	48 - 72 *	9/13/2013	Area 2	NA	NA	Benzo(a)pyrene	OC-10	48	72	24			No	Exclude
HB13-21	72 - 88 *	9/13/2013	Area 2	NA	NA	Benzo(a)pyrene	OC-10	72	88	24			No	Exclude
HB13-22	0 - 28 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-7	0	28	24	36.72	exclude	Yes	Exclude
HB13-22	28 - 31 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene	FC-7	28	31	24	36.72	exclude	No	Exclude
HB13-23	0 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene	SND-5	0	12	27			Yes	Include
HB13-23	12 - 18 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene	SND-5	12	18	27			Yes	Include
HB13-23	18 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene	SND-5	18	24	27			Yes	Include
HB13-23	24 - 32 *	9/12/2013	Area 2	NA	NA	Benzo(a)pyrene	SND-5	24	32	27			Yes	Include
HB13-24	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-3	0	6	6			Yes	Include
HB13-24	0 - 24 *	9/12/2013	HUGHITT AVE SLIP	0.98	0.98	Benzo(a)pyrene	HS-3	0	24	6			Yes	Include
HB13-24	6 - 24	9/12/2013	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-3	6	24	6			No	Exclude
HB13-25	0 - 6 *	9/12/2013	Area 1	NA	NA	Benzo(a)pyrene	OC-11	0	6	57			Yes	Include
HB13-25	0 - 18	9/12/2013	Area 1	0.075	0.075	Benzo(a)pyrene	OC-11	0	18	57			Yes	Include
HB13-25	6 - 18 *	9/12/2013	Area 1	NA	NA	Benzo(a)pyrene	OC-11	6	18	57			Yes	Include
HB13-25	18 - 36 *	9/12/2013	Area 1	NA	NA	Benzo(a)pyrene	OC-11	18	36	57			Yes	Include
HB13-25	18 - 57	9/12/2013	Area 1	0.033	0.033	Benzo(a)pyrene	OC-11	18	57	57			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-25	36 - 57 *	9/12/2013	Area 1	NA	NA	Benzo(a)pyrene	OC-11	36	57	57			Yes	Include
HB13-26	0 - 12	9/13/2013	Area 1	0.042	0.042	Benzo(a)pyrene	FC-10	0	12	33	17.04	exclude	Yes	Exclude
HB13-26	12 - 18	9/13/2013	Area 1	0.082	0.082	Benzo(a)pyrene	FC-10	12	18	33	17.04	include	Yes	Include
HB13-26	18 - 33	9/13/2013	Area 1	0.063	0.063	Benzo(a)pyrene	FC-10	18	33	33	17.04	include	Yes	Include
HB13-27	0 - 6 *	9/13/2013	Area 1	NA	NA	Benzo(a)pyrene		0	6					Exclude
HB13-27	0 - 32	9/13/2013	Area 1	0.0097 U	0.0097	Benzo(a)pyrene		0	32					Exclude
HB13-28	0 - 8 *	9/13/2013	Area 1	NA	NA	Benzo(a)pyrene	FC-11	0	8	14.0000004	13.68	exclude	Yes	Exclude
HB13-28	8 - 14 *	9/13/2013	Area 1	NA	NA	Benzo(a)pyrene	FC-11	8	14	14.0000004	13.68	include	Yes	Include
HB13-28	14 - 26 *	9/13/2013	Area 1	NA	NA	Benzo(a)pyrene	FC-11	14	26	14.0000004	13.68	include	Yes	Include
HB13-28	26 - 40 *	9/13/2013	Area 1	NA	NA	Benzo(a)pyrene	FC-11	26	40	14.0000004	13.68	include	No	Exclude
HB13-29	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(a)pyrene	FC-12/FC-13	0	6	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 12 *	9/13/2013	Area 1	0.071	0.071	Benzo(a)pyrene	FC-12/FC-13	0	12	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 18 *	9/13/2013	Area 1	NA	NA	Benzo(a)pyrene	FC-12/FC-13	0	18	44.0000004	1.044	include	Yes	Include
HB13-29	6 - 12	9/13/2013	Area 1	NA	NA	Benzo(a)pyrene	FC-12/FC-13	6	12	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 24	9/13/2013	Area 1	NA	NA	Benzo(a)pyrene	FC-12/FC-13	12	24	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 44 *	9/13/2013	Area 1	0.14	0.14	Benzo(a)pyrene	FC-12/FC-13	12	44	44.0000004	1.044	include	Yes	Include
HB13-29	24 - 44	9/13/2013	Area 1	NA	NA	Benzo(a)pyrene	FC-12/FC-13	24	44	44.0000004	1.044	include	Yes	Include
HB13-30	0 - 6	9/10/2013	Area 1	NA	NA	Benzo(a)pyrene	SND-1	0	6	60			Yes	Include
HB13-30	6 - 24	9/10/2013	Area 1	NA	NA	Benzo(a)pyrene	SND-1	6	24	60			Yes	Include
HB13-30	24 - 42	9/10/2013	Area 1	NA	NA	Benzo(a)pyrene	SND-1	24	42	60			Yes	Include
HB13-30	42 - 60	9/10/2013	Area 1	NA	NA	Benzo(a)pyrene	SND-1	42	60	60			Yes	Include
HB13-30	60 - 78	9/10/2013	Area 1	NA	NA	Benzo(a)pyrene	SND-1	60	78	60			No	Exclude
HB13-31	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(a)pyrene	FC-16	0	6	27	2.76	include	Yes	Include
HB13-31	6 - 18	9/13/2013	Area 1	NA	NA	Benzo(a)pyrene	FC-16	6	18	27	2.76	include	Yes	Include
HB13-31	18 - 27	9/13/2013	Area 1	NA	NA	Benzo(a)pyrene	FC-16	18	27	27	2.76	include	Yes	Include
HB13-31	27 - 33	9/13/2013	Area 1	NA	NA	Benzo(a)pyrene	FC-16	27	33	27	2.76	include	No	Exclude
HB13-32	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(a)pyrene	FC-14	0	6	26.0000004	-2.52	include	Yes	Include
HB13-32	6 - 18	9/13/2013	Area 1	NA	NA	Benzo(a)pyrene	FC-14	6	18	26.0000004	-2.52	include	Yes	Include
HB13-32	18 - 26	9/13/2013	Area 1	NA	NA	Benzo(a)pyrene	FC-14	18	26	26.0000004	-2.52	include	Yes	Include
HB13-32	26 - 32	9/13/2013	Area 1	NA	NA	Benzo(a)pyrene	FC-14	26	32	26.0000004	-2.52	include	Yes	Include
HB13-33	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(a)pyrene		0	6	12			Yes	Include
HB13-33	6 - 12	9/13/2013	Area 1	NA	NA	Benzo(a)pyrene		6	12	12			Yes	Include
HB13-34	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(a)pyrene		0	6	0.5000004			Yes	Include
HB13-35	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene		0	6	3.9999996			Yes	Include
HB13-35	6 - 12	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene		6	12	3.9999996			No	Exclude
HB13-37	2 - 6	9/10/2013	Hughitt Ave Slip	3.3	3.3	Benzo(a)pyrene	HS-3	2	6	6			Yes	Include
HB13-38	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-3	0	6	6			Yes	Include
HB13-39	4 - 10	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-2	4	10	27.9999996			Yes	Include
HB13-39	10 - 28	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-2	10	28	27.9999996			Yes	Include
HB13-39	28 - 34	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-2	28	34	27.9999996			No	Exclude
HB13-40	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-2	0	6	86.0000004			Yes	Include
HB13-40	0 - 24 *	9/13/2013	Hughitt Ave Slip	0.16	0.16	Benzo(a)pyrene	HS-2	0	24	86.0000004			Yes	Include
HB13-40	6 - 24	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-2	6	24	86.0000004			Yes	Include
HB13-40	24 - 48	9/13/2013	Hughitt Ave Slip	0.73	0.73	Benzo(a)pyrene	HS-2	24	48	86.0000004			Yes	Include
HB13-40	48 - 72	9/13/2013	Hughitt Ave Slip	0.083	0.083	Benzo(a)pyrene	HS-2	48	72	86.0000004			Yes	Include
HB13-40	72 - 86	9/13/2013	Hughitt Ave Slip	0.013 U	0.013	Benzo(a)pyrene	HS-2	72	86	86.0000004			Yes	Include
HB13-41	0 - 6	9/10/2013	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-2	0	6	29.0000004			Yes	Include
HB13-41	0 - 24 *	9/10/2013	Hughitt Ave Slip	0.99	0.99	Benzo(a)pyrene	HS-2	0	24	29.0000004			Yes	Include
HB13-41	6 - 24	9/10/2013	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-2	6	24	29.0000004			Yes	Include
HB13-41	24 - 29	9/10/2013	Hughitt Ave Slip	0.38	0.38	Benzo(a)pyrene	HS-2	24	29	29.0000004			Yes	Include
HB13-42	0 - 6	9/11/2013	Cummings Ave Slip	1.6	1.6	Benzo(a)pyrene	CS-3	0	6	33			Yes	Include
HB13-42	6 - 24	9/11/2013	Cummings Ave Slip	0.5	0.5	Benzo(a)pyrene	CS-3	6	24	33			Yes	Include
HB13-42	24 - 33	9/11/2013	Cummings Ave Slip	0.2	0.2	Benzo(a)pyrene	CS-3	24	33	33			Yes	Include
HB13-42	33 - 36	9/11/2013	Cummings Ave Slip	0.015	0.015	Benzo(a)pyrene	CS-3	33	36	33			No	Exclude
HB13-43	0 - 6	9/11/2013	Cummings Ave Slip	10	10	Benzo(a)pyrene	CS-2	0	6	24			Yes	Include
HB13-43	0 - 24 *	9/11/2013	Cummings Ave Slip	NA	NA	Benzo(a)pyrene	CS-2	0	24	24			Yes	Include
HB13-43	6 - 24	9/11/2013	Cummings Ave Slip	0.39	0.39	Benzo(a)pyrene	CS-2	6	24	24			Yes	Include
HB13-45	0 - 6	9/11/2013	Cummings Ave Slip	1.7	1.7	Benzo(a)pyrene	CS-2	0	6	21			Yes	Include
HB13-45	6 - 21	9/11/2013	Cummings Ave Slip	3.5	3.5	Benzo(a)pyrene	CS-2	6	21	21			Yes	Include
HB13-47	0 - 6	9/10/2013	Fraser Ave Slip	2.5	2.5	Benzo(a)pyrene	FS-1	0	6	30.996			Yes	Include
HB13-47	6 - 24	9/10/2013	Fraser Ave Slip	2.7	2.7	Benzo(a)pyrene	FS-1	6	24	30.996			Yes	Include
HB13-47	24 - 31	9/10/2013	Fraser Ave Slip	3.4	3.4	Benzo(a)pyrene	FS-1	24	31	30.996			Yes	Include
HB13-47	31 - 37 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(a)pyrene	FS-1	31	37	30.996			No	Exclude
HB13-48	0 - 6 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(a)pyrene	FS-2	0	6	45.9999996			Yes	Include
HB13-48	0 - 24	9/10/2013	FRASER AVE SLIP	2.2	2.2	Benzo(a)pyrene	FS-2	0	24	45.9999996			Yes	Include
HB13-48	6 - 24 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(a)pyrene	FS-2	6	24	45.9999996			Yes	Include
HB13-48	24 - 42 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(a)pyrene	FS-2	24	42	45.9999996			Yes	Include
HB13-48	24 - 46 *	9/10/2013	FRASER AVE SLIP	3.3	3.3	Benzo(a)pyrene	FS-2	24	46	45.9999996			Yes	Include
HB13-48	42 - 46 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(a)pyrene	FS-2	42	46	45.9999996			Yes	Include
HB13-49	0 - 6	9/11/2013	Fraser Ave Slip	1.1	1.1	Benzo(a)pyrene	FS-2	0	6	30			Yes	Include
HB13-49	6 - 24	9/11/2013	Fraser Ave Slip	1.3	1.3	Benzo(a)pyrene	FS-2	6	24	30			Yes	Include
HB13-49	24 - 30	9/11/2013	Fraser Ave Slip	1.5	1.5	Benzo(a)pyrene	FS-2	24	30	30			Yes	Include
HB13-50	0 - 12 *	9/13/2013	Area 1	NA	NA	Benzo(a)pyrene	OC-12	0	12	47.0000004			Yes	Include
HB13-50	12 - 24 *	9/13/2013	Area 1	NA	NA	Benzo(a)pyrene	OC-12	12	24	47.0000004			Yes	Include
HB13-50	24 - 36 *	9/13/2013	Area 1	NA	NA	Benzo(a)pyrene	OC-12	24	36	47.0000004			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-50	36 - 47 *	9/13/2013	Area 1	NA	NA	Benzo(a)pyrene	OC-12	36	47	47.0000004			Yes	Include
HB13-51	0 - 6 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene		0	6					Exclude
HB13-51	6 - 15 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene		6	15					Exclude
HB13-52	0 - 6 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene	OC-10	0	6	12			Yes	Include
HB13-52	6 - 12 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene	OC-10	6	12	12			Yes	Include
HB13-52	12 - 17 *	9/11/2013	Area 2	NA	NA	Benzo(a)pyrene	OC-10	12	17	12			No	Exclude
HB14-01	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(a)pyrene	SND-1	0	6					Exclude
HB14-01	6 - 18	8/18/2014	Area 1	NA	NA	Benzo(a)pyrene	SND-1	6	18					Exclude
HB14-02	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(a)pyrene	FC-15	0	6	17.004	-12.996	include	Yes	Include
HB14-02	6 - 14	8/18/2014	Area 1	NA	NA	Benzo(a)pyrene	FC-15	6	14	17.004	-12.996	include	Yes	Include
HB14-03	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(a)pyrene	FC-15	0	6	29.997288	-2.472	include	Yes	Include
HB14-03	6 - 18	8/18/2014	Area 1	NA	NA	Benzo(a)pyrene	FC-15	6	18	29.997288	-2.472	include	Yes	Include
HB14-03	18 - 30	8/18/2014	Area 1	NA	NA	Benzo(a)pyrene	FC-15	18	30	29.997288	-2.472	include	Yes	Include
HB14-03	30 - 42	8/18/2014	Area 1	NA	NA	Benzo(a)pyrene	FC-15	30	42	29.997288	-2.472	include	No	Exclude
HB14-03	42 - 54	8/18/2014	Area 1	NA	NA	Benzo(a)pyrene	FC-15	42	54	29.997288	-2.472	include	No	Exclude
HB14-04	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(a)pyrene		0	6	29.904			Yes	Include
HB14-04	6 - 18	8/18/2014	Area 1	NA	NA	Benzo(a)pyrene		6	18	29.904			Yes	Include
HB14-04	18 - 30	8/18/2014	Area 1	NA	NA	Benzo(a)pyrene		18	30	29.904			Yes	Include
HB14-05 G		8/18/2014	Area 1	NA	NA	Benzo(a)pyrene			#VALUE!					Exclude
HB14-06	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(a)pyrene		0	6	30.588			Yes	Include
HB14-06	6 - 24	8/18/2014	Area 1	NA	NA	Benzo(a)pyrene		6	24	30.588			Yes	Include
HB14-07	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(a)pyrene		0	6	78.012			Yes	Include
HB14-07	6 - 24	8/18/2014	Area 1	NA	NA	Benzo(a)pyrene		6	24	78.012			Yes	Include
HB14-07	24 - 42	8/18/2014	Area 1	NA	NA	Benzo(a)pyrene		24	42	78.012			Yes	Include
HB14-08	0 - 6	8/19/2014	Area 1	NA	NA	Benzo(a)pyrene		0	6	34.416			Yes	Include
HB14-08	6 - 19	8/19/2014	Area 1	NA	NA	Benzo(a)pyrene		6	19	34.416			Yes	Include
HB14-09	0 - 12	8/19/2014	Area 1	NA	NA	Benzo(a)pyrene	OC-16	0	12	12.003804			Yes	Include
HB14-09	12 - 24	8/19/2014	Area 1	NA	NA	Benzo(a)pyrene	OC-16	12	24	12.003804			Yes	Include
HB14-09	24 - 36	8/19/2014	Area 1	NA	NA	Benzo(a)pyrene	OC-16	24	36	12.003804			No	Exclude
HB14-09	36 - 48	8/19/2014	Area 1	NA	NA	Benzo(a)pyrene	OC-16	36	48	12.003804			No	Exclude
HB14-09	48 - 60	8/19/2014	Area 1	NA	NA	Benzo(a)pyrene	OC-16	48	60	12.003804			No	Exclude
HB14-09	60 - 72	8/19/2014	Area 1	NA	NA	Benzo(a)pyrene	OC-16	60	72	12.003804			No	Exclude
HB14-10	0 - 6	8/20/2014	Area 1	0.17	0.17	Benzo(a)pyrene		0	6	54.005544			Yes	Include
HB14-10	6 - 18	8/20/2014	Area 1	0.16	0.16	Benzo(a)pyrene		6	18	54.005544			Yes	Include
HB14-10	18 - 30	8/20/2014	Area 1	0.35	0.35	Benzo(a)pyrene		18	30	54.005544			Yes	Include
HB14-10	30 - 42	8/20/2014	Area 1	0.4	0.4	Benzo(a)pyrene		30	42	54.005544			Yes	Include
HB14-10	42 - 54	8/20/2014	Area 1	0.34	0.34	Benzo(a)pyrene		42	54	54.005544			Yes	Include
HB14-10	54 - 66	8/20/2014	Area 1	NA	NA	Benzo(a)pyrene		54	66	54.005544			Yes	Include
HB14-11	0 - 6	8/19/2014	Area 1	NA	NA	Benzo(a)pyrene	SND-2	0	6					Exclude
HB14-11	6 - 18	8/19/2014	Area 1	NA	NA	Benzo(a)pyrene	SND-2	6	18					Exclude
HB14-11	18 - 20	8/19/2014	Area 1	NA	NA	Benzo(a)pyrene	SND-2	18	20					Exclude
HB14-12	0 - 6	8/19/2014	Area 1	NA	NA	Benzo(a)pyrene	SND-4	0	6	26.34			Yes	Include
HB14-12	6 - 18	8/19/2014	Area 1	NA	NA	Benzo(a)pyrene	SND-4	6	18	26.34			Yes	Include
HB14-12	18 - 32	8/19/2014	Area 1	NA	NA	Benzo(a)pyrene	SND-4	18	32	26.34			Yes	Include
HB14-13	0 - 6	8/19/2014	Area 2	NA	NA	Benzo(a)pyrene	SND-5	0	6	-0.648			No	Exclude
HB14-13	6 - 11	8/19/2014	Area 2	NA	NA	Benzo(a)pyrene	SND-5	6	11	-0.648			No	Exclude
HB14-14	0 - 6	8/20/2014	Area 2	0.22	0.22	Benzo(a)pyrene	OC-4	0	6	101.997672			Yes	Include
HB14-14	6 - 18	8/20/2014	Area 2	1.2	1.2	Benzo(a)pyrene	OC-4	6	18	101.997672			Yes	Include
HB14-14	18 - 30	8/20/2014	Area 2	NA	NA	Benzo(a)pyrene	OC-4	18	30	101.997672			Yes	Include
HB14-14	30 - 42	8/20/2014	Area 2	NA	NA	Benzo(a)pyrene	OC-4	30	42	101.997672			Yes	Include
HB14-14	30 - 54	8/20/2014	Area 2	0.48	0.48	Benzo(a)pyrene	OC-4	30	54	101.997672			Yes	Include
HB14-14	42 - 54	8/20/2014	Area 2	NA	NA	Benzo(a)pyrene	OC-4	42	54	101.997672			Yes	Include
HB14-14	54 - 66	8/20/2014	Area 2	NA	NA	Benzo(a)pyrene	OC-4	54	66	101.997672			Yes	Include
HB14-14	54 - 78	8/20/2014	Area 2	0.33	0.33	Benzo(a)pyrene	OC-4	54	78	101.997672			Yes	Include
HB14-14	66 - 78	8/20/2014	Area 2	NA	NA	Benzo(a)pyrene	OC-4	66	78	101.997672			Yes	Include
HB14-14	78 - 90	8/20/2014	Area 2	NA	NA	Benzo(a)pyrene	OC-4	78	90	101.997672			Yes	Include
HB14-14	78 - 102	8/20/2014	Area 2	0.69	0.69	Benzo(a)pyrene	OC-4	78	102	101.997672			Yes	Include
HB14-14	90 - 102	8/20/2014	Area 2	NA	NA	Benzo(a)pyrene	OC-4	90	102	101.997672			Yes	Include
HB14-14	102 - 111	8/20/2014	Area 2	NA	NA	Benzo(a)pyrene	OC-4	102	111	101.997672			No	Exclude
HB15-01	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	0	12	51.096			Yes	Include
HB15-01	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	12	24	51.096			Yes	Include
HB15-01	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	24	36	51.096			Yes	Include
HB15-01	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	36	48	51.096			Yes	Include
HB15-01	48 - 57	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	48	57	51.096			Yes	Include
HB15-02	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	0	12	48.000696			Yes	Include
HB15-02	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	12	24	48.000696			Yes	Include
HB15-02	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	24	36	48.000696			Yes	Include
HB15-02	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	36	48	48.000696			Yes	Include
HB15-03	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	0	12	67.9950564			Yes	Include
HB15-03	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	12	24	67.9950564			Yes	Include
HB15-03	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	24	36	67.9950564			Yes	Include
HB15-03	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	36	48	67.9950564			Yes	Include
HB15-03	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	48	60	67.9950564			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB15-03	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	60	68	67.9950564			Yes	Include
HB15-03R	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	0	12	67.9950564			Yes	Include
HB15-03R	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	12	24	67.9950564			Yes	Include
HB15-03R	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	24	36	67.9950564			Yes	Include
HB15-03R	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	36	48	67.9950564			Yes	Include
HB15-03R	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	48	60	67.9950564			Yes	Include
HB15-03R	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	60	68	67.9950564			Yes	Include
HB15-04	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	0	12	63.84			Yes	Include
HB15-04	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	12	24	63.84			Yes	Include
HB15-04	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	24	36	63.84			Yes	Include
HB15-04	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	36	48	63.84			Yes	Include
HB15-04	48 - 59	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	48	59	63.84			Yes	Include
HB15-05	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	0	12	71.994852			Yes	Include
HB15-05	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	12	24	71.994852			Yes	Include
HB15-05	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	24	36	71.994852			Yes	Include
HB15-05	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	36	48	71.994852			Yes	Include
HB15-05	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	48	60	71.994852			Yes	Include
HB15-05	60 - 72	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	60	72	71.994852			Yes	Include
HB15-05	72 - 80	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-1	72	80	71.994852			No	Exclude
HB15-06	0 - 9	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene	HS-2	0	9	9.000636			Yes	Include
HB15-07	0 - 12	6/23/2015	Cummings Ave Slip	NA	NA	Benzo(a)pyrene	CS-1	0	12	90.9955116			Yes	Include
HB15-07	12 - 24	6/23/2015	Cummings Ave Slip	NA	NA	Benzo(a)pyrene	CS-1	12	24	90.9955116			Yes	Include
HB15-07	24 - 36	6/23/2015	Cummings Ave Slip	NA	NA	Benzo(a)pyrene	CS-1	24	36	90.9955116			Yes	Include
HB15-07	36 - 48	6/23/2015	Cummings Ave Slip	3.2	3.2	Benzo(a)pyrene	CS-1	36	48	90.9955116			Yes	Include
HB15-07	48 - 60	6/23/2015	Cummings Ave Slip	5.3	5.3	Benzo(a)pyrene	CS-1	48	60	90.9955116			Yes	Include
HB15-07	60 - 72	6/23/2015	Cummings Ave Slip	3.4	3.4	Benzo(a)pyrene	CS-1	60	72	90.9955116			Yes	Include
HB15-07	72 - 84	6/23/2015	Cummings Ave Slip	3.8	3.8	Benzo(a)pyrene	CS-1	72	84	90.9955116			Yes	Include
HB15-07	84 - 91	6/23/2015	Cummings Ave Slip	4.4	4.4	Benzo(a)pyrene	CS-1	84	91	90.9955116			Yes	Include
HB15-08	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)pyrene	CS-2	0	12	65.997804			Yes	Include
HB15-08	12 - 24	6/24/2015	Cummings Ave Slip	3	3	Benzo(a)pyrene	CS-2	12	24	65.997804			Yes	Include
HB15-08	24 - 36	6/24/2015	Cummings Ave Slip	2.8	2.8	Benzo(a)pyrene	CS-2	24	36	65.997804			Yes	Include
HB15-08	36 - 48	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)pyrene	CS-2	36	48	65.997804			Yes	Include
HB15-08	48 - 60	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)pyrene	CS-2	48	60	65.997804			Yes	Include
HB15-08	60 - 66	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)pyrene	CS-2	60	66	65.997804			Yes	Include
HB15-09	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)pyrene	CS-3	0	12	45.396			Yes	Include
HB15-09	12 - 17	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)pyrene	CS-3	12	17	45.396			Yes	Include
HB15-10	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)pyrene		0	12	-0.936			No	Exclude
HB15-11	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)pyrene	CS-5	0	12	27.9944796			Yes	Include
HB15-11	12 - 24	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)pyrene	CS-5	12	24	27.9944796			Yes	Include
HB15-11	24 - 28	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)pyrene	CS-5	24	28	27.9944796			Yes	Include
HB15-12	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-1	0	12	29.994876			Yes	Include
HB15-12	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-1	12	24	29.994876			Yes	Include
HB15-12	24 - 30	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-1	24	30	29.994876			Yes	Include
HB15-13	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-1	0	12	64.0033716			Yes	Include
HB15-13	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-1	12	24	64.0033716			Yes	Include
HB15-13	24 - 36	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-1	24	36	64.0033716			Yes	Include
HB15-13	36 - 48	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-1	36	48	64.0033716			Yes	Include
HB15-13	48 - 60	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-1	48	60	64.0033716			Yes	Include
HB15-13	60 - 64	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-1	60	64	64.0033716			Yes	Include
HB15-14	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-1	0	12	23.996196			Yes	Include
HB15-14	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-1	12	24	23.996196			Yes	Include
HB15-14	24 - 28	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-1	24	28	23.996196			No	Exclude
HB15-14	28 - 35	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-1	28	35	23.996196			No	Exclude
HB15-15	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-2	0	12	19.0051356			Yes	Include
HB15-15	12 - 19	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-2	12	19	19.0051356			Yes	Include
HB15-15R	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-2	0	12	18.9999996			Yes	Include
HB15-15R	12 - 19	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-2	12	19	18.9999996			Yes	Include
HB15-16	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-1	0	12	8.304			Yes	Include
HB15-16	12 - 19	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-1	12	19	8.304			No	Exclude
HB15-17	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-2	0	12	36.004608			Yes	Include
HB15-17	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-2	12	24	36.004608			Yes	Include
HB15-17	24 - 36	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-2	24	36	36.004608			Yes	Include
HB15-17	36 - 48	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-2	36	48	36.004608			Yes	Include
HB15-17	48 - 54	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-2	48	54	36.004608			No	Exclude
HB15-18	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-2	0	12	23.999508			Yes	Include
HB15-18	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene	FP-2	12	24	23.999508			Yes	Include
HB15-19	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene		0	12					Exclude
HB15-19	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene		12	24					Exclude
HB15-19	24 - 32	6/24/2015	Area 2	NA	NA	Benzo(a)pyrene		24	32					Exclude
HB15-20	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-3	0	12	33.864			Yes	Include
HB15-20	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-3	12	24	33.864			Yes	Include
HB15-20	24 - 28	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-3	24	28	33.864			Yes	Include
HB15-20B	0 - 6	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-13	0	6	11.996892			Yes	Include
HB15-20B	6 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-13	6	12	11.996892			Yes	Include
HB15-21G	15 - 21	6/29/2015	Fraser Ave Slip	NA	NA	Benzo(a)pyrene		15	21					Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB15-22G	0 - 6	6/29/2015	Fraser Ave Slip	0.18	0.18	Benzo(a)pyrene	OC-8	0	6	6			Yes	Include
HB15-23	0 - 12	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(a)pyrene	FS-1	0	12	55.02			Yes	Include
HB15-23	12 - 24	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(a)pyrene	FS-1	12	24	55.02			Yes	Include
HB15-23	24 - 36	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(a)pyrene	FS-1	24	36	55.02			Yes	Include
HB15-23	36 - 48	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(a)pyrene	FS-1	36	48	55.02			Yes	Include
HB15-23	48 - 56	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(a)pyrene	FS-1	48	56	55.02			Yes	Include
HB15-25	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-1	0	12	77.4			Yes	Include
HB15-25	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-1	12	24	77.4			Yes	Include
HB15-25	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-1	24	36	77.4			Yes	Include
HB15-25	36 - 48	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-1	36	48	77.4			Yes	Include
HB15-25	48 - 60	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-1	48	60	77.4			Yes	Include
HB15-25	60 - 72	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-1	60	72	77.4			Yes	Include
HB15-25	72 - 88	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-1	72	88	77.4			Yes	Include
HB15-26	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	FC-2	0	12	38.28	6.36	include	Yes	Include
HB15-26	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	FC-2	12	24	38.28	6.36	include	Yes	Include
HB15-26	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	FC-2	24	36	38.28	6.36	include	Yes	Include
HB15-26	36 - 46	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	FC-2	36	46	38.28	6.36	include	Yes	Include
HB15-27	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	FC-3	0	12	33.6	14.64	exclude	Yes	Exclude
HB15-27	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	FC-3	12	24	33.6	14.64	include	Yes	Include
HB15-27	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	FC-3	24	36	33.6	14.64	include	Yes	Include
HB15-27	36 - 48	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	FC-3	36	48	33.6	14.64	include	No	Exclude
HB15-27	48 - 60	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	FC-3	48	60	33.6	14.64	include	No	Exclude
HB15-27	60 - 71	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	FC-3	60	71	33.6	14.64	include	No	Exclude
HB15-28	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-7	0	12	11.994072			Yes	Include
HB15-28	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-7	12	24	11.994072			No	Exclude
HB15-28	24 - 30	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-7	24	30	11.994072			No	Exclude
HB15-30	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene		0	12	43.776			Yes	Include
HB15-30	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene		12	24	43.776			Yes	Include
HB15-30	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene		24	36	43.776			Yes	Include
HB15-30	36 - 50	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene		36	50	43.776			Yes	Include
HB15-31	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene		0	12					Exclude
HB15-31	12 - 20	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene		12	20					Exclude
HB15-32	0 - 12	6/25/2015	Area 1	NA	NA	Benzo(a)pyrene	SND-4	0	12	11.995236			Yes	Include
HB15-32	12 - 26	6/25/2015	Area 1	NA	NA	Benzo(a)pyrene	SND-4	12	26	11.995236			No	Exclude
HB15-33	0 - 12	6/25/2015	Area 1	NA	NA	Benzo(a)pyrene		0	12	26.292			Yes	Include
HB15-33	12 - 24	6/25/2015	Area 1	NA	NA	Benzo(a)pyrene		12	24	26.292			Yes	Include
HB15-33	24 - 39	6/25/2015	Area 1	NA	NA	Benzo(a)pyrene		24	39	26.292			Yes	Include
HB15-34	0 - 12	6/25/2015	Area 1	NA	NA	Benzo(a)pyrene	FC-11	0	12		35.52	exclude		Exclude
HB15-34	12 - 24	6/25/2015	Area 1	NA	NA	Benzo(a)pyrene	FC-11	12	24		35.52	exclude		Exclude
HB15-34	24 - 32	6/25/2015	Area 1	NA	NA	Benzo(a)pyrene	FC-11	24	32		35.52	exclude		Exclude
HB15-35	0 - 12	6/25/2015	Area 1	NA	NA	Benzo(a)pyrene	FC-16	0	12	74.28	-6.48	include	Yes	Include
HB15-35	12 - 24	6/25/2015	Area 1	NA	NA	Benzo(a)pyrene	FC-16	12	24	74.28	-6.48	include	Yes	Include
HB15-35	24 - 36	6/25/2015	Area 1	NA	NA	Benzo(a)pyrene	FC-16	24	36	74.28	-6.48	include	Yes	Include
HB15-35	36 - 48	6/25/2015	Area 1	NA	NA	Benzo(a)pyrene	FC-16	36	48	74.28	-6.48	include	Yes	Include
HB15-35	48 - 60	6/25/2015	Area 1	NA	NA	Benzo(a)pyrene	FC-16	48	60	74.28	-6.48	include	Yes	Include
HB15-35	60 - 72	6/25/2015	Area 1	NA	NA	Benzo(a)pyrene	FC-16	60	72	74.28	-6.48	include	Yes	Include
HB15-36G	15 - 36	6/29/2015	Area 2	NA	NA	Benzo(a)pyrene		15	36					Exclude
HB15-37	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-9	0	12	51.048			Yes	Include
HB15-37	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-9	12	24	51.048			Yes	Include
HB15-37	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-9	24	36	51.048			Yes	Include
HB15-37	36 - 48	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-9	36	48	51.048			Yes	Include
HB15-37	48 - 60	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-9	48	60	51.048			Yes	Include
HB15-37	60 - 74	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-9	60	74	51.048			No	Exclude
HB15-38	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-9	0	12	83.184			Yes	Include
HB15-38	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-9	12	24	83.184			Yes	Include
HB15-38	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-9	24	36	83.184			Yes	Include
HB15-38	36 - 48	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-9	36	48	83.184			Yes	Include
HB15-38	48 - 60	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-9	48	60	83.184			Yes	Include
HB15-38	60 - 72	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-9	60	72	83.184			Yes	Include
HB15-38	72 - 84	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-9	72	84	83.184			Yes	Include
HB15-38	84 - 96	6/25/2015	Area 2	NA	NA	Benzo(a)pyrene	OC-9	84	96	83.184			No	Exclude
HB15-G28	0 - 6	6/25/2015	Hughitt Ave Slip	NA	NA	Benzo(a)pyrene		0	6					Exclude
HB15-HC20A	0 - 6	6/25/2015	Area 1	NA	NA	Benzo(a)pyrene	OC-13	0	6	6.003036			Yes	Include
HB2A_4	0 - 6	5/12/2007	Hughitt Ave Slip	0.22	0.22	Benzo(b)fluoranthene	HS-1	0	6	48.00432			Yes	Include
HB2A_4	6 - 24	5/12/2007	Hughitt Ave Slip	0.45 J-	0.45	Benzo(b)fluoranthene	HS-1	6	24	48.00432			Yes	Include
HB2A_4	24 - 48	5/12/2007	Hughitt Ave Slip	0.081	0.081	Benzo(b)fluoranthene	HS-1	24	48	48.00432			Yes	Include
HB2A_6	0 - 5	5/2/2007	Area 1	0.47	0.47	Benzo(b)fluoranthene		0	5					Exclude
HB2A_7	0 - 5	5/10/2007	Area 1	0.46	0.46	Benzo(b)fluoranthene	SND-1	0	5					Exclude
HB2A_8	0 - 5	5/10/2007	Area 1	0.21	0.21	Benzo(b)fluoranthene	FC-12/FC-13	0	5	4.9944804	79.824	exclude	Yes	Exclude
HB2A_11	0 - 5	5/10/2007	Area 1	0.32 J-	0.32	Benzo(b)fluoranthene		0	5					Exclude
HB2A_13	0 - 5	5/2/2007	Area 1	0.27 BL	0.27	Benzo(b)fluoranthene		0	5					Exclude
HB2A_16	0 - 5	5/2/2007	Area 1	0.092 J-BL	0.092	Benzo(b)fluoranthene		0	5					Exclude
HB2A_210	0 - 6	5/16/2007	Area 1	0.0080 U	0.008	Benzo(b)fluoranthene		0	6					Exclude
HB2A_210	6 - 24	5/16/2007	Area 1	0.0083 U	0.0083	Benzo(b)fluoranthene		6	24					Exclude
HB2A_210	24 - 48	5/16/2007	Area 1	0.0061 UJS-	0.0061	Benzo(b)fluoranthene		24	48					Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB2A_GENES	0 - 5	5/22/2007	Cummings Ave Slip	0.34	0.34	Benzo(b)fluoranthene		0	5					Exclude
HB2B_17	0 - 6	5/12/2007	Fraser Ave Slip	0.24	0.24	Benzo(b)fluoranthene	FS-2	0	6	24.005676			Yes	Include
HB2B_17	6 - 24	5/12/2007	Fraser Ave Slip	0.063	0.063	Benzo(b)fluoranthene	FS-2	6	24	24.005676			Yes	Include
HB2B_18	0 - 6	5/7/2007	Area 2	0.24	0.24	Benzo(b)fluoranthene	FP-1	0	6	47.997552			Yes	Include
HB2B_18	6 - 24	5/7/2007	Area 2	0.11	0.11	Benzo(b)fluoranthene	FP-1	6	24	47.997552			Yes	Include
HB2B_18	24 - 48	5/7/2007	Area 2	0.13	0.13	Benzo(b)fluoranthene	FP-1	24	48	47.997552			Yes	Include
HB2B_19	0 - 6	5/2/2007	Area 2	0.059 J-M-	0.059	Benzo(b)fluoranthene	OC-1	0	6	6.001728			Yes	Include
HB2B_19	6 - 24	5/2/2007	Area 2	0.0096 J-M-	0.0096	Benzo(b)fluoranthene	OC-1	6	24	6.001728			Yes	Include
HB2B_20	0 - 6	5/2/2007	Area 2	0.11 J-M-	0.11	Benzo(b)fluoranthene	OC-9	0	6	23.997336			Yes	Include
HB2B_20	6 - 24	5/2/2007	Area 2	0.088 J-M-	0.088	Benzo(b)fluoranthene	OC-9	6	24	23.997336			Yes	Include
HB2B_20	24 - 48	5/2/2007	Area 2	0.028 J-M-	0.028	Benzo(b)fluoranthene	OC-9	24	48	23.997336			No	Exclude
HB2B_21	0 - 5	5/2/2007	Area 2	0.14 BL	0.14	Benzo(b)fluoranthene		0	5					Exclude
HB2B_22	0 - 5	5/2/2007	Area 2	0.22 BL	0.22	Benzo(b)fluoranthene	OC-5	0	5	5.0028204			Yes	Include
HB3A_GENES	0 - 5	9/6/2007	Cummings Ave Slip	0.058	0.058	Benzo(b)fluoranthene		0	5					Exclude
HB10-1-01	0 - 6	10/16/2010	Area 1	0.12 J	0.12	Benzo(b)fluoranthene		0	6					Exclude
HB10-1-01	0 - 12	10/16/2010	Area 1	0.0071 U	0.0071	Benzo(b)fluoranthene		0	12					Exclude
HB10-1-01	36 - 40	10/16/2010	Area 1	0.0051 U	0.0051	Benzo(b)fluoranthene		36	40					Exclude
HB10-1-02	0 - 6	10/16/2010	Area 1	0.13 J	0.13	Benzo(b)fluoranthene		0	6	23.0027508			Yes	Include
HB10-1-02	12 - 23	10/16/2010	Area 1	0.14 J	0.14	Benzo(b)fluoranthene		12	23	23.0027508			Yes	Include
HB10-1-03	0 - 6	10/16/2010	Area 1	0.29 J	0.29	Benzo(b)fluoranthene	FC-17	0	6	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	0 - 12	10/16/2010	Area 1	0.10 J	0.1	Benzo(b)fluoranthene	FC-17	0	12	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	12 - 36	10/16/2010	Area 1	0.11 J	0.11	Benzo(b)fluoranthene	FC-17	12	36	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	36 - 60	10/16/2010	Area 1	0.24 J	0.24	Benzo(b)fluoranthene	FC-17	36	60	59.99475	49.872	include	Yes	Include
HB10-1-03	60 - 84	10/16/2010	Area 1	0.26 J	0.26	Benzo(b)fluoranthene	FC-17	60	84	59.99475	49.872	include	No	Exclude
HB10-1-04	0 - 6	10/17/2010	Area 1	0.18	0.18	Benzo(b)fluoranthene		0	6					Exclude
HB10-1-04	0 - 12	10/17/2010	Area 1	0.22	0.22	Benzo(b)fluoranthene		0	12					Exclude
HB10-1-04	12 - 36	10/17/2010	Area 1	0.15	0.15	Benzo(b)fluoranthene		12	36					Exclude
HB10-1-04	36 - 50	10/17/2010	Area 1	0.15	0.15	Benzo(b)fluoranthene		36	50					Exclude
HB10-1-05	0 - 6	10/16/2010	Area 1	0.43	0.43	Benzo(b)fluoranthene	OC-17	0	6	5.9987496			Yes	Include
HB10-1-07	0 - 6	10/17/2010	Area 1	2.3	2.3	Benzo(b)fluoranthene	OC-15	0	6	6.0057			Yes	Include
HB10-1-07	0 - 12	10/17/2010	Area 1	0.27	0.27	Benzo(b)fluoranthene	OC-15	0	12	6.0057			Yes	Include
HB10-1-07	12 - 36	10/17/2010	Area 1	0.27	0.27	Benzo(b)fluoranthene	OC-15	12	36	6.0057			No	Exclude
HB10-1-07	60 - 64	10/17/2010	Area 1	0.0040 U	0.004	Benzo(b)fluoranthene	OC-15	60	64	6.0057			No	Exclude
HB10-1-08	0 - 6	10/17/2010	Area 1	0.24	0.24	Benzo(b)fluoranthene		0	6	36.0057			Yes	Include
HB10-1-08	0 - 12	10/17/2010	Area 1	0.24	0.24	Benzo(b)fluoranthene		0	12	36.0057			Yes	Include
HB10-1-08	12 - 36	10/17/2010	Area 1	0.33	0.33	Benzo(b)fluoranthene		12	36	36.0057			Yes	Include
HB10-1-10	0 - 6	10/18/2010	Area 1	1	1	Benzo(b)fluoranthene	SND-1	0	6					Exclude
HB10-1-11	0 - 6	10/16/2010	Area 1	0.16 J	0.16	Benzo(b)fluoranthene		0	6	20.9987496			Yes	Include
HB10-1-11	12 - 21	10/16/2010	Area 1	0.20 J	0.2	Benzo(b)fluoranthene		12	21	20.9987496			Yes	Include
HB10-1-12	0 - 6	10/17/2010	Area 1	0.28	0.28	Benzo(b)fluoranthene		0	6					Exclude
HB10-1-12	0 - 12	10/17/2010	Area 1	0.29	0.29	Benzo(b)fluoranthene		0	12					Exclude
HB10-1-12	12 - 34	10/17/2010	Area 1	0.17	0.17	Benzo(b)fluoranthene		12	34					Exclude
HB10-1-13	0 - 6	10/18/2010	Area 1	0.32	0.32	Benzo(b)fluoranthene	FC-12/FC-13	0	6	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	0 - 12	10/18/2010	Area 1	0.71	0.71	Benzo(b)fluoranthene	FC-12/FC-13	0	12	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	12 - 36	10/18/2010	Area 1	0.38	0.38	Benzo(b)fluoranthene	FC-12/FC-13	12	36	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	60 - 67	10/18/2010	Area 1	0.61	0.61	Benzo(b)fluoranthene	FC-12/FC-13	60	67	36.0053004	42.816	include	No	Exclude
HB10-1-14	0 - 6	10/17/2010	Area 1	0.37	0.37	Benzo(b)fluoranthene		0	6	66.0057			Yes	Include
HB10-1-14	0 - 12	10/17/2010	Area 1	0.23	0.23	Benzo(b)fluoranthene		0	12	66.0057			Yes	Include
HB10-1-14	12 - 36	10/17/2010	Area 1	0.38	0.38	Benzo(b)fluoranthene		12	36	66.0057			Yes	Include
HB10-1-14	60 - 66	10/17/2010	Area 1	0.32	0.32	Benzo(b)fluoranthene		60	66	66.0057			Yes	Include
HB10-1-15	0 - 6	10/18/2010	Area 1	0.013	0.013	Benzo(b)fluoranthene	OC-13	0	6	16.0056996			Yes	Include
HB10-1-15	12 - 16	10/18/2010	Area 1	0.34	0.34	Benzo(b)fluoranthene	OC-13	12	16	16.0056996			Yes	Include
HB10-1-16	0 - 6	10/17/2010	Hughitt Ave Slip	0.48	0.48	Benzo(b)fluoranthene	HS-3	0	6	31.0056996			Yes	Include
HB10-1-16	0 - 12	10/17/2010	Hughitt Ave Slip	0.68	0.68	Benzo(b)fluoranthene	HS-3	0	12	31.0056996			Yes	Include
HB10-1-16	12 - 31	10/17/2010	Hughitt Ave Slip	0.39	0.39	Benzo(b)fluoranthene	HS-3	12	31	31.0056996			Yes	Include
HB10-1-17	0 - 6	10/17/2010	Area 1	0.2	0.2	Benzo(b)fluoranthene	OC-14	0	6	12			Yes	Include
HB10-1-20	0 - 6	10/17/2010	Hughitt Ave Slip	1.2	1.2	Benzo(b)fluoranthene		0	6	6.0057			Yes	Include
HB10-1-21	0 - 6	10/18/2010	Cummings Ave Slip	0.079	0.079	Benzo(b)fluoranthene		0	6	6.0012996			Yes	Include
HB10-1-21	12 - 23	10/18/2010	Cummings Ave Slip	0.24	0.24	Benzo(b)fluoranthene		12	23	6.0012996			No	Exclude
HB10-1-23	0 - 6	10/17/2010	Area 1	0.17	0.17	Benzo(b)fluoranthene		0	6	36.0057			Yes	Include
HB10-1-23	0 - 12	10/17/2010	Area 1	0.27	0.27	Benzo(b)fluoranthene		0	12	36.0057			Yes	Include
HB10-1-23	12 - 36	10/17/2010	Area 1	0.35	0.35	Benzo(b)fluoranthene		12	36	36.0057			Yes	Include
HB10-1-24	0 - 6	10/18/2010	Cummings Ave Slip	0.2	0.2	Benzo(b)fluoranthene	CS-4	0	6	36.0047496			Yes	Include
HB10-1-24	0 - 12	10/18/2010	Cummings Ave Slip	0.55	0.55	Benzo(b)fluoranthene	CS-4	0	12	36.0047496			Yes	Include
HB10-1-24	12 - 36	10/18/2010	Cummings Ave Slip	0.67	0.67	Benzo(b)fluoranthene	CS-4	12	36	36.0047496			Yes	Include
HB10-1-25	0 - 6	10/17/2010	Baxter Ave Embayment	0.16	0.16	Benzo(b)fluoranthene		0	6	6.0057			Yes	Include
HB10-1-27	0 - 6	10/18/2010	Area 1	0.1	0.1	Benzo(b)fluoranthene		0	6	-0.0027			No	Exclude
HB10-1-28	0 - 6	10/17/2010	Hughitt Ave Slip	0.74	0.74	Benzo(b)fluoranthene	HS-1	0	6	84.0057			Yes	Include
HB10-1-28	0 - 12	10/17/2010	Hughitt Ave Slip	0.62	0.62	Benzo(b)fluoranthene	HS-1	0	12	84.0057			Yes	Include
HB10-1-28	12 - 36	10/17/2010	Hughitt Ave Slip	0.85	0.85	Benzo(b)fluoranthene	HS-1	12	36	84.0057			Yes	Include
HB10-1-28	36 - 60	10/17/2010	Hughitt Ave Slip	0.33 J	0.33	Benzo(b)fluoranthene	HS-1	36	60	84.0057			Yes	Include
HB10-1-28	60 - 84	10/17/2010	Hughitt Ave Slip	0.53	0.53	Benzo(b)fluoranthene	HS-1	60	84	84.0057			Yes	Include
HB10-1-28	60 - 96	10/17/2010	Hughitt Ave Slip	0.11 J	0.11	Benzo(b)fluoranthene	HS-1	60	96	84.0057			Yes	Include
HB10-1-29	0 - 6	10/17/2010	Cummings Ave Slip	0.56	0.56	Benzo(b)fluoranthene	CS-1	0	6	83.9937			Yes	Include
HB10-1-29	0 - 12	10/17/2010	Cummings Ave Slip	1.4	1.4	Benzo(b)fluoranthene	CS-1	0	12	83.9937			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB10-1-29	12 - 36	10/17/2010	Cummings Ave Slip	5.4	5.4	Benzo(b)fluoranthene	CS-1	12	36	83.9937			Yes	Include
HB10-1-29	36 - 60	10/17/2010	Cummings Ave Slip	2.6	2.6	Benzo(b)fluoranthene	CS-1	36	60	83.9937			Yes	Include
HB10-1-29	60 - 93	10/17/2010	Cummings Ave Slip	3.2	3.2	Benzo(b)fluoranthene	CS-1	60	93	83.9937			Yes	Include
HB10-1-30	0 - 6	10/18/2010	Baxter Ave Embayment	0.63	0.63	Benzo(b)fluoranthene		0	6	60.0053004			Yes	Include
HB10-1-30	0 - 12	10/18/2010	Baxter Ave Embayment	2.2	2.2	Benzo(b)fluoranthene		0	12	60.0053004			Yes	Include
HB10-1-30	12 - 36	10/18/2010	Baxter Ave Embayment	0.85	0.85	Benzo(b)fluoranthene		12	36	60.0053004			Yes	Include
HB10-1-30	36 - 60	10/18/2010	Baxter Ave Embayment	0.42	0.42	Benzo(b)fluoranthene		36	60	60.0053004			Yes	Include
HB10-1-30	60 - 77	10/18/2010	Baxter Ave Embayment	0.39	0.39	Benzo(b)fluoranthene		60	77	60.0053004			Yes	Include
HB10-1-31	0 - 6	10/18/2010	Baxter Ave Embayment	0.69	0.69	Benzo(b)fluoranthene	OC-11	0	6	35.9973			Yes	Include
HB10-1-31	0 - 12	10/18/2010	Baxter Ave Embayment	0.86	0.86	Benzo(b)fluoranthene	OC-11	0	12	35.9973			Yes	Include
HB10-1-31	12 - 36	10/18/2010	Baxter Ave Embayment	0.41	0.41	Benzo(b)fluoranthene	OC-11	12	36	35.9973			Yes	Include
HB10-2-18	0 - 6	10/18/2010	Area 2	0.45	0.45	Benzo(b)fluoranthene	OC-2	0	6	6.0053004			Yes	Include
HB10-2-26	0 - 6	10/16/2010	Area 2	0.097 J	0.097	Benzo(b)fluoranthene		0	6					Exclude
HB10-2-26	12 - 17	10/16/2010	Area 2	0.16 J	0.16	Benzo(b)fluoranthene		12	17					Exclude
HB10-2-32	0 - 6	10/18/2010	Area 2	0.31	0.31	Benzo(b)fluoranthene		0	6					Exclude
HB10-2-33	0 - 6	10/18/2010	Area 2	0.059 J	0.059	Benzo(b)fluoranthene		0	6	6.0012996			Yes	Include
HB10-2-33	12 - 22	10/18/2010	Area 2	0.5	0.5	Benzo(b)fluoranthene		12	22	6.0012996			No	Exclude
HB10-2-34	0 - 6	10/18/2010	Area 2	0.27	0.27	Benzo(b)fluoranthene	FC-7	0	6	6.0053004	0.816	include	Yes	Include
HB10-2-35	0 - 6	10/18/2010	Area 2	0.050 J	0.05	Benzo(b)fluoranthene		0	6	30.0012996			Yes	Include
HB10-2-35	0 - 12	10/18/2010	Area 2	0.22	0.22	Benzo(b)fluoranthene		0	12	30.0012996			Yes	Include
HB10-2-35	12 - 30	10/18/2010	Area 2	0.26	0.26	Benzo(b)fluoranthene		12	30	30.0012996			Yes	Include
HB10-2-36	0 - 6	10/18/2010	Area 2	0.49	0.49	Benzo(b)fluoranthene	FC-5	0	6	6.0053004	-29.184	include	Yes	Include
HB10-2-37	0 - 6	10/18/2010	Area 2	0.21 U	0.21	Benzo(b)fluoranthene		0	6	23.0013			Yes	Include
HB10-2-37	12 - 23	10/18/2010	Area 2	0.13	0.13	Benzo(b)fluoranthene		12	23	23.0013			Yes	Include
HB10-2-38	0 - 6	10/18/2010	Area 2	0.092	0.092	Benzo(b)fluoranthene	OC-6	0	6	38.0013			Yes	Include
HB10-2-38	0 - 12	10/18/2010	Area 2	0.34	0.34	Benzo(b)fluoranthene	OC-6	0	12	38.0013			Yes	Include
HB10-2-38	36 - 38	10/18/2010	Area 2	1.2	1.2	Benzo(b)fluoranthene	OC-6	36	38	38.0013			Yes	Include
HB10-2-39	0 - 6	10/18/2010	Area 2	0.066 J	0.066	Benzo(b)fluoranthene		0	6	6.0012996			Yes	Include
HB10-2-39	0 - 12	10/18/2010	Area 2	0.54	0.54	Benzo(b)fluoranthene		0	12	6.0012996			Yes	Include
HB10-2-39	12 - 28	10/18/2010	Area 2	0.3	0.3	Benzo(b)fluoranthene		12	28	6.0012996			No	Exclude
HB10-2-40	0 - 6	10/18/2010	Area 2	0.19	0.19	Benzo(b)fluoranthene	OC-5	0	6	48.0053004			Yes	Include
HB10-2-40	0 - 12	10/18/2010	Area 2	0.12	0.12	Benzo(b)fluoranthene	OC-5	0	12	48.0053004			Yes	Include
HB10-2-40	12 - 36	10/18/2010	Area 2	0.0044 U	0.0044	Benzo(b)fluoranthene	OC-5	12	36	48.0053004			Yes	Include
HB10-2-40	36 - 48	10/18/2010	Area 2	0.0043 U	0.0043	Benzo(b)fluoranthene	OC-5	36	48	48.0053004			Yes	Include
HB10-2-41	0 - 6	10/18/2010	Area 2	1.3	1.3	Benzo(b)fluoranthene	FP-2	0	6	31.0012992			Yes	Include
HB10-2-41	0 - 12	10/18/2010	Area 2	0.08	0.08	Benzo(b)fluoranthene	FP-2	0	12	31.0012992			Yes	Include
HB10-2-41	12 - 31	10/18/2010	Area 2	0.10 J	0.1	Benzo(b)fluoranthene	FP-2	12	31	31.0012992			Yes	Include
HB10-2-42	0 - 6	10/18/2010	Area 2	0.37	0.37	Benzo(b)fluoranthene	FP-1	0	6	12.0012996			Yes	Include
HB10-2-42	0 - 12	10/18/2010	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	0	12	12.0012996			Yes	Include
HB10-2-42	12 - 30	10/18/2010	Area 2	0.34	0.34	Benzo(b)fluoranthene	FP-1	12	30	12.0012996			Yes	Include
HB10-2-43	0 - 6	10/17/2010	Area 2	R	R	Benzo(b)fluoranthene		0	6	22.0056996			Yes	Include
HB10-2-43	12 - 22	10/17/2010	Area 2	0.74	0.74	Benzo(b)fluoranthene		12	22	22.0056996			Yes	Include
HB10-2-44	0 - 6	10/18/2010	Area 2	0.81	0.81	Benzo(b)fluoranthene	FP-2	0	6	16.0012992			Yes	Include
HB10-2-44	12 - 16	10/18/2010	Area 2	0.82	0.82	Benzo(b)fluoranthene	FP-2	12	16	16.0012992			Yes	Include
HB10-2-45	0 - 6	10/18/2010	Area 2	0.19	0.19	Benzo(b)fluoranthene	FP-2	0	6	19.0012992			Yes	Include
HB10-2-45	12 - 19	10/18/2010	Area 2	0.62	0.62	Benzo(b)fluoranthene	FP-2	12	19	19.0012992			Yes	Include
HB13-01	0 - 6 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	0	6	48			Yes	Include
HB13-01	6 - 12 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	6	12	48			Yes	Include
HB13-01	12 - 18 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	12	18	48			Yes	Include
HB13-01	18 - 24 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	18	24	48			Yes	Include
HB13-01	24 - 30 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	24	30	48			Yes	Include
HB13-01	30 - 36 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	30	36	48			Yes	Include
HB13-01	36 - 42 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	36	42	48			Yes	Include
HB13-01	42 - 48 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	42	48	48			Yes	Include
HB13-01	48 - 54 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	48	54	48			No	Exclude
HB13-01	54 - 60 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	54	60	48			No	Exclude
HB13-01	60 - 66 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	60	66	48			No	Exclude
HB13-01	66 - 72 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	66	72	48			No	Exclude
HB13-01	72 - 74 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	72	74	48			No	Exclude
HB13-02	0 - 6 *	9/9/2013	Area 2	0.016 U	0.016	Benzo(b)fluoranthene		0	6	29.9960004			Yes	Include
HB13-02	6 - 12 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene		6	12	29.9960004			Yes	Include
HB13-02	12 - 18 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene		12	18	29.9960004			Yes	Include
HB13-02	18 - 24 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene		18	24	29.9960004			Yes	Include
HB13-02	24 - 30 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene		24	30	29.9960004			Yes	Include
HB13-02	30 - 36 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene		30	36	29.9960004			No	Exclude
HB13-02	36 - 42 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene		36	42	29.9960004			No	Exclude
HB13-02	42 - 48 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene		42	48	29.9960004			No	Exclude
HB13-03	0 - 6 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FP-2	0	6	46.0040004			Yes	Include
HB13-03	0 - 24	9/9/2013	Area 2	1.7	1.7	Benzo(b)fluoranthene	FP-2	0	24	46.0040004			Yes	Include
HB13-03	6 - 12 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FP-2	6	12	46.0040004			Yes	Include
HB13-03	12 - 18 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FP-2	12	18	46.0040004			Yes	Include
HB13-03	18 - 24 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FP-2	18	24	46.0040004			Yes	Include
HB13-03	24 - 30 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FP-2	24	30	46.0040004			Yes	Include
HB13-03	24 - 46	9/9/2013	Area 2	0.52	0.52	Benzo(b)fluoranthene	FP-2	24	46	46.0040004			Yes	Include
HB13-03	30 - 36 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FP-2	30	36	46.0040004			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-03	36 - 42 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FP-2	36	42	46.0040004			Yes	Include
HB13-03	42 - 46 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FP-2	42	46	46.0040004			Yes	Include
HB13-03	46 - 51 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FP-2	46	51	46.0040004			Yes	Include
HB13-04	0 - 6 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	OC-1	0	6	41.9960004			Yes	Include
HB13-04	6 - 12 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	OC-1	6	12	41.9960004			Yes	Include
HB13-04	12 - 18 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	OC-1	12	18	41.9960004			Yes	Include
HB13-04	18 - 24 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	OC-1	18	24	41.9960004			Yes	Include
HB13-04	24 - 30 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	OC-1	24	30	41.9960004			Yes	Include
HB13-04	30 - 36 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	OC-1	30	36	41.9960004			Yes	Include
HB13-04	36 - 42 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	OC-1	36	42	41.9960004			Yes	Include
HB13-04	42 - 44 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	OC-1	42	44	41.9960004			No	Exclude
HB13-05	0 - 32 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-1	0	32	43.8	33.156	exclude	Yes	Exclude
HB13-05	32 - 38 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-1	32	38	43.8	33.156	include	Yes	Include
HB13-05	38 - 44 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-1	38	44	43.8	33.156	include	Yes	Include
HB13-05	44 - 50 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-1	44	50	43.8	33.156	include	No	Exclude
HB13-05	50 - 56 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-1	50	56	43.8	33.156	include	No	Exclude
HB13-05	56 - 62	9/9/2013	Area 2	0.76	0.76	Benzo(b)fluoranthene	FC-1	56	62	43.8	33.156	include	No	Exclude
HB13-05	62 - 66	9/9/2013	Area 2	0.15	0.15	Benzo(b)fluoranthene	FC-1	62	66	43.8	33.156	include	No	Exclude
HB13-05	66 - 74 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-1	66	74	43.8	33.156	include	No	Exclude
HB13-05	74 - 77 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-1	74	77	43.8	33.156	include	No	Exclude
HB13-06	0 - 6 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	OC-2	0	6	48			Yes	Include
HB13-06	6 - 12 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	OC-2	6	12	48			Yes	Include
HB13-06	12 - 18 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	OC-2	12	18	48			Yes	Include
HB13-06	18 - 24 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	OC-2	18	24	48			Yes	Include
HB13-06	24 - 30 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	OC-2	24	30	48			Yes	Include
HB13-06	30 - 36 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	OC-2	30	36	48			Yes	Include
HB13-06	36 - 42 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	OC-2	36	42	48			Yes	Include
HB13-06	42 - 48 *	9/9/2013	Area 2	NA	NA	Benzo(b)fluoranthene	OC-2	42	48	48			Yes	Include
HB13-07	0 - 6 *	9/10/2013	Area 2	NA	NA	Benzo(b)fluoranthene		0	6					Exclude
HB13-07	6 - 12 *	9/10/2013	Area 2	NA	NA	Benzo(b)fluoranthene		6	12					Exclude
HB13-07	12 - 18 *	9/10/2013	Area 2	NA	NA	Benzo(b)fluoranthene		12	18					Exclude
HB13-07	18 - 24 *	9/10/2013	Area 2	NA	NA	Benzo(b)fluoranthene		18	24					Exclude
HB13-07	24 - 30 *	9/10/2013	Area 2	NA	NA	Benzo(b)fluoranthene		24	30					Exclude
HB13-07	30 - 36 *	9/10/2013	Area 2	NA	NA	Benzo(b)fluoranthene		30	36					Exclude
HB13-07	36 - 42 *	9/10/2013	Area 2	NA	NA	Benzo(b)fluoranthene		36	42					Exclude
HB13-07	42 - 48 *	9/10/2013	Area 2	NA	NA	Benzo(b)fluoranthene		42	48					Exclude
HB13-08	0 - 18	9/11/2013	Area 2	0.55	0.55	Benzo(b)fluoranthene	FC-2	0	18	38.28	21.756	exclude	Yes	Exclude
HB13-08	18 - 36	9/11/2013	Area 2	0.73	0.73	Benzo(b)fluoranthene	FC-2	18	36	38.28	21.756	include	Yes	Include
HB13-08	36 - 60	9/11/2013	Area 2	0.81	0.81	Benzo(b)fluoranthene	FC-2	36	60	38.28	21.756	include	Yes	Include
HB13-08	60 - 92	9/11/2013	Area 2	0.38	0.38	Benzo(b)fluoranthene	FC-2	60	92	38.28	21.756	include	No	Exclude
HB13-10	0 - 6 *	9/10/2013	Area 2	NA	NA	Benzo(b)fluoranthene		0	6	0.0039996			Yes	Include
HB13-11	0 - 18	9/11/2013	Area 2	0.61	0.61	Benzo(b)fluoranthene	FC-4	0	18	25.2	23.964	exclude	Yes	Exclude
HB13-11	18 - 24 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-4	18	24	25.2	23.964	include	Yes	Include
HB13-11	18 - 42	9/11/2013	Area 2	0.6	0.6	Benzo(b)fluoranthene	FC-4	18	42	25.2	23.964	include	Yes	Include
HB13-11	24 - 30 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-4	24	30	25.2	23.964	include	Yes	Include
HB13-11	30 - 36 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-4	30	36	25.2	23.964	include	No	Exclude
HB13-11	36 - 42 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-4	36	42	25.2	23.964	include	No	Exclude
HB13-11	42 - 48 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-4	42	48	25.2	23.964	include	No	Exclude
HB13-11	42 - 60	9/11/2013	Area 2	0.2	0.2	Benzo(b)fluoranthene	FC-4	42	60	25.2	23.964	include	No	Exclude
HB13-11	48 - 54 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-4	48	54	25.2	23.964	include	No	Exclude
HB13-11	54 - 60 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-4	54	60	25.2	23.964	include	No	Exclude
HB13-12	0 - 6 *	9/10/2013	Area 2	NA	NA	Benzo(b)fluoranthene		0	6	5.9960004			Yes	Include
HB13-13	0 - 1 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene	SND-5	0	1	0.9999996			Yes	Include
HB13-14	0 - 6 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-6	0	6	45.9999996	-5.316	include	Yes	Include
HB13-14	0 - 24	9/12/2013	Area 2	0.041	0.041	Benzo(b)fluoranthene	FC-6	0	24	45.9999996	-5.316	include	Yes	Include
HB13-14	6 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-6	6	24	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 42 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-6	24	42	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 46	9/12/2013	Area 2	0.063	0.063	Benzo(b)fluoranthene	FC-6	24	46	45.9999996	-5.316	include	Yes	Include
HB13-14	42 - 46 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-6	42	46	45.9999996	-5.316	include	Yes	Include
HB13-15	0 - 6 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-7	0	6	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	6 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-7	6	12	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	12 - 19 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-7	12	19	18.9999996	18.516	include	Yes	Include
HB13-16	0 - 6 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene		0	6	26.0000004			Yes	Include
HB13-16	6 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene		6	12	26.0000004			Yes	Include
HB13-16	12 - 18 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene		12	18	26.0000004			Yes	Include
HB13-16	18 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene		18	24	26.0000004			Yes	Include
HB13-16	24 - 27 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene		24	27	26.0000004			Yes	Include
HB13-17	0 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-7	0	12	24	16.2	exclude	Yes	Exclude
HB13-17	12 - 18 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-7	12	18	24	16.2	include	Yes	Include
HB13-17	18 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-7	18	24	24	16.2	include	Yes	Include
HB13-17	24 - 47 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-7	24	47	24	16.2	include	No	Exclude
HB13-18	0 - 6	9/12/2013	Area 2	0.61	0.61	Benzo(b)fluoranthene		0	6	9.9999996			Yes	Include
HB13-18	6 - 10	9/12/2013	Area 2	0.12	0.12	Benzo(b)fluoranthene		6	10	9.9999996			Yes	Include
HB13-18	10 - 16	9/12/2013	Area 2	0.0097 U	0.0097	Benzo(b)fluoranthene		10	16	9.9999996			No	Exclude
HB13-19	0 - 6 *	9/13/2013	Area 2	NA	NA	Benzo(b)fluoranthene		0	6					Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-19	6 - 24 *	9/13/2013	Area 2	NA	NA	Benzo(b)fluoranthene		6	24					Exclude
HB13-19	18 - 20 *	9/13/2013	Area 2	NA	NA	Benzo(b)fluoranthene		18	20					Exclude
HB13-19	24 - 42 *	9/13/2013	Area 2	NA	NA	Benzo(b)fluoranthene		24	42					Exclude
HB13-19	42 - 61 *	9/13/2013	Area 2	NA	NA	Benzo(b)fluoranthene		42	61					Exclude
HB13-19	61 - 67 *	9/13/2013	Area 2	NA	NA	Benzo(b)fluoranthene		61	67					Exclude
HB13-20	0 - 6 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene		0	6	24			Yes	Include
HB13-20	0 - 12	9/12/2013	Area 2	0.073	0.073	Benzo(b)fluoranthene		0	12	24			Yes	Include
HB13-20	6 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene		6	12	24			Yes	Include
HB13-20	12 - 18 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene		12	18	24			Yes	Include
HB13-20	12 - 24	9/12/2013	Area 2	0.1	0.1	Benzo(b)fluoranthene		12	24	24			Yes	Include
HB13-20	18 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene		18	24	24			Yes	Include
HB13-20	24 - 30 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene		24	30	24			No	Exclude
HB13-20	24 - 36	9/12/2013	Area 2	0.062	0.062	Benzo(b)fluoranthene		24	36	24			No	Exclude
HB13-20	30 - 36 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene		30	36	24			No	Exclude
HB13-20	36 - 42 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene		36	42	24			No	Exclude
HB13-20	36 - 48	9/12/2013	Area 2	0.11	0.11	Benzo(b)fluoranthene		36	48	24			No	Exclude
HB13-20	42 - 48 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene		42	48	24			No	Exclude
HB13-21	0 - 6 *	9/13/2013	Area 2	NA	NA	Benzo(b)fluoranthene	OC-10	0	6	24			Yes	Include
HB13-21	6 - 24 *	9/13/2013	Area 2	NA	NA	Benzo(b)fluoranthene	OC-10	6	24	24			Yes	Include
HB13-21	24 - 48 *	9/13/2013	Area 2	NA	NA	Benzo(b)fluoranthene	OC-10	24	48	24			No	Exclude
HB13-21	48 - 72 *	9/13/2013	Area 2	NA	NA	Benzo(b)fluoranthene	OC-10	48	72	24			No	Exclude
HB13-21	72 - 88 *	9/13/2013	Area 2	NA	NA	Benzo(b)fluoranthene	OC-10	72	88	24			No	Exclude
HB13-22	0 - 28 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-7	0	28	24	36.72	exclude	Yes	Exclude
HB13-22	28 - 31 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene	FC-7	28	31	24	36.72	exclude	No	Exclude
HB13-23	0 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene	SND-5	0	12	27			Yes	Include
HB13-23	12 - 18 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene	SND-5	12	18	27			Yes	Include
HB13-23	18 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene	SND-5	18	24	27			Yes	Include
HB13-23	24 - 32 *	9/12/2013	Area 2	NA	NA	Benzo(b)fluoranthene	SND-5	24	32	27			Yes	Include
HB13-24	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-3	0	6	6			Yes	Include
HB13-24	0 - 24 *	9/12/2013	HUGHITT AVE SLIP	1.3	1.3	Benzo(b)fluoranthene	HS-3	0	24	6			Yes	Include
HB13-24	6 - 24	9/12/2013	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-3	6	24	6			No	Exclude
HB13-25	0 - 6 *	9/12/2013	Area 1	NA	NA	Benzo(b)fluoranthene	OC-11	0	6	57			Yes	Include
HB13-25	0 - 18	9/12/2013	Area 1	0.11	0.11	Benzo(b)fluoranthene	OC-11	0	18	57			Yes	Include
HB13-25	6 - 18 *	9/12/2013	Area 1	NA	NA	Benzo(b)fluoranthene	OC-11	6	18	57			Yes	Include
HB13-25	18 - 36 *	9/12/2013	Area 1	NA	NA	Benzo(b)fluoranthene	OC-11	18	36	57			Yes	Include
HB13-25	18 - 57	9/12/2013	Area 1	0.039	0.039	Benzo(b)fluoranthene	OC-11	18	57	57			Yes	Include
HB13-25	36 - 57 *	9/12/2013	Area 1	NA	NA	Benzo(b)fluoranthene	OC-11	36	57	57			Yes	Include
HB13-26	0 - 12	9/13/2013	Area 1	0.052	0.052	Benzo(b)fluoranthene	FC-10	0	12	33	17.04	exclude	Yes	Exclude
HB13-26	12 - 18	9/13/2013	Area 1	0.11	0.11	Benzo(b)fluoranthene	FC-10	12	18	33	17.04	include	Yes	Include
HB13-26	18 - 33	9/13/2013	Area 1	0.084	0.084	Benzo(b)fluoranthene	FC-10	18	33	33	17.04	include	Yes	Include
HB13-27	0 - 6 *	9/13/2013	Area 1	NA	NA	Benzo(b)fluoranthene		0	6					Exclude
HB13-27	0 - 32	9/13/2013	Area 1	0.0097 U	0.0097	Benzo(b)fluoranthene		0	32					Exclude
HB13-28	0 - 8 *	9/13/2013	Area 1	NA	NA	Benzo(b)fluoranthene	FC-11	0	8	14.0000004	13.68	exclude	Yes	Exclude
HB13-28	8 - 14 *	9/13/2013	Area 1	NA	NA	Benzo(b)fluoranthene	FC-11	8	14	14.0000004	13.68	include	Yes	Include
HB13-28	14 - 26 *	9/13/2013	Area 1	NA	NA	Benzo(b)fluoranthene	FC-11	14	26	14.0000004	13.68	include	Yes	Include
HB13-28	26 - 40 *	9/13/2013	Area 1	NA	NA	Benzo(b)fluoranthene	FC-11	26	40	14.0000004	13.68	include	No	Exclude
HB13-29	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(b)fluoranthene	FC-12/FC-13	0	6	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 12 *	9/13/2013	Area 1	0.097	0.097	Benzo(b)fluoranthene	FC-12/FC-13	0	12	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 18 *	9/13/2013	Area 1	NA	NA	Benzo(b)fluoranthene	FC-12/FC-13	0	18	44.0000004	1.044	include	Yes	Include
HB13-29	6 - 12	9/13/2013	Area 1	NA	NA	Benzo(b)fluoranthene	FC-12/FC-13	6	12	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 24	9/13/2013	Area 1	NA	NA	Benzo(b)fluoranthene	FC-12/FC-13	12	24	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 44 *	9/13/2013	Area 1	0.19	0.19	Benzo(b)fluoranthene	FC-12/FC-13	12	44	44.0000004	1.044	include	Yes	Include
HB13-29	24 - 44	9/13/2013	Area 1	NA	NA	Benzo(b)fluoranthene	FC-12/FC-13	24	44	44.0000004	1.044	include	Yes	Include
HB13-30	0 - 6	9/10/2013	Area 1	NA	NA	Benzo(b)fluoranthene	SND-1	0	6	60			Yes	Include
HB13-30	6 - 24	9/10/2013	Area 1	NA	NA	Benzo(b)fluoranthene	SND-1	6	24	60			Yes	Include
HB13-30	24 - 42	9/10/2013	Area 1	NA	NA	Benzo(b)fluoranthene	SND-1	24	42	60			Yes	Include
HB13-30	42 - 60	9/10/2013	Area 1	NA	NA	Benzo(b)fluoranthene	SND-1	42	60	60			Yes	Include
HB13-30	60 - 78	9/10/2013	Area 1	NA	NA	Benzo(b)fluoranthene	SND-1	60	78	60			No	Exclude
HB13-31	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(b)fluoranthene	FC-16	0	6	27	2.76	include	Yes	Include
HB13-31	6 - 18	9/13/2013	Area 1	NA	NA	Benzo(b)fluoranthene	FC-16	6	18	27	2.76	include	Yes	Include
HB13-31	18 - 27	9/13/2013	Area 1	NA	NA	Benzo(b)fluoranthene	FC-16	18	27	27	2.76	include	Yes	Include
HB13-31	27 - 33	9/13/2013	Area 1	NA	NA	Benzo(b)fluoranthene	FC-16	27	33	27	2.76	include	No	Exclude
HB13-32	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(b)fluoranthene	FC-14	0	6	26.0000004	-2.52	include	Yes	Include
HB13-32	6 - 18	9/13/2013	Area 1	NA	NA	Benzo(b)fluoranthene	FC-14	6	18	26.0000004	-2.52	include	Yes	Include
HB13-32	18 - 26	9/13/2013	Area 1	NA	NA	Benzo(b)fluoranthene	FC-14	18	26	26.0000004	-2.52	include	Yes	Include
HB13-32	26 - 32	9/13/2013	Area 1	NA	NA	Benzo(b)fluoranthene	FC-14	26	32	26.0000004	-2.52	include	Yes	Include
HB13-33	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(b)fluoranthene		0	6	12			Yes	Include
HB13-33	6 - 12	9/13/2013	Area 1	NA	NA	Benzo(b)fluoranthene		6	12	12			Yes	Include
HB13-34	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(b)fluoranthene		0	6	0.5000004			Yes	Include
HB13-35	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene		0	6	3.9999996			Yes	Include
HB13-35	6 - 12	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene		6	12	3.9999996			No	Exclude
HB13-37	2 - 6	9/10/2013	Hughitt Ave Slip	4.3	4.3	Benzo(b)fluoranthene	HS-3	2	6	6			Yes	Include
HB13-38	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-3	0	6	6			Yes	Include
HB13-39	4 - 10	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-2	4	10	27.9999996			Yes	Include
HB13-39	10 - 28	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-2	10	28	27.9999996			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-39	28 - 34	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-2	28	34	27.9999996			No	Exclude
HB13-40	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-2	0	6	86.0000004			Yes	Include
HB13-40	0 - 24 *	9/13/2013	Hughitt Ave Slip	0.21	0.21	Benzo(b)fluoranthene	HS-2	0	24	86.0000004			Yes	Include
HB13-40	6 - 24	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-2	6	24	86.0000004			Yes	Include
HB13-40	24 - 48	9/13/2013	Hughitt Ave Slip	1.1	1.1	Benzo(b)fluoranthene	HS-2	24	48	86.0000004			Yes	Include
HB13-40	48 - 72	9/13/2013	Hughitt Ave Slip	0.14	0.14	Benzo(b)fluoranthene	HS-2	48	72	86.0000004			Yes	Include
HB13-40	72 - 86	9/13/2013	Hughitt Ave Slip	0.013 U	0.013	Benzo(b)fluoranthene	HS-2	72	86	86.0000004			Yes	Include
HB13-41	0 - 6	9/10/2013	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-2	0	6	29.0000004			Yes	Include
HB13-41	0 - 24 *	9/10/2013	Hughitt Ave Slip	1.4	1.4	Benzo(b)fluoranthene	HS-2	0	24	29.0000004			Yes	Include
HB13-41	6 - 24	9/10/2013	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-2	6	24	29.0000004			Yes	Include
HB13-41	24 - 29	9/10/2013	Hughitt Ave Slip	0.45	0.45	Benzo(b)fluoranthene	HS-2	24	29	29.0000004			Yes	Include
HB13-42	0 - 6	9/11/2013	Cummings Ave Slip	2.2	2.2	Benzo(b)fluoranthene	CS-3	0	6	33			Yes	Include
HB13-42	6 - 24	9/11/2013	Cummings Ave Slip	0.47	0.47	Benzo(b)fluoranthene	CS-3	6	24	33			Yes	Include
HB13-42	24 - 33	9/11/2013	Cummings Ave Slip	0.15	0.15	Benzo(b)fluoranthene	CS-3	24	33	33			Yes	Include
HB13-42	33 - 36	9/11/2013	Cummings Ave Slip	0.023	0.023	Benzo(b)fluoranthene	CS-3	33	36	33			No	Exclude
HB13-43	0 - 6	9/11/2013	Cummings Ave Slip	9.5	9.5	Benzo(b)fluoranthene	CS-2	0	6	24			Yes	Include
HB13-43	0 - 24 *	9/11/2013	Cummings Ave Slip	NA	NA	Benzo(b)fluoranthene	CS-2	0	24	24			Yes	Include
HB13-43	6 - 24	9/11/2013	Cummings Ave Slip	0.38	0.38	Benzo(b)fluoranthene	CS-2	6	24	24			Yes	Include
HB13-45	0 - 6	9/11/2013	Cummings Ave Slip	2.5	2.5	Benzo(b)fluoranthene	CS-2	0	6	21			Yes	Include
HB13-45	6 - 21	9/11/2013	Cummings Ave Slip	3.4	3.4	Benzo(b)fluoranthene	CS-2	6	21	21			Yes	Include
HB13-47	0 - 6	9/10/2013	Fraser Ave Slip	4	4	Benzo(b)fluoranthene	FS-1	0	6	30.996			Yes	Include
HB13-47	6 - 24	9/10/2013	Fraser Ave Slip	4.4	4.4	Benzo(b)fluoranthene	FS-1	6	24	30.996			Yes	Include
HB13-47	24 - 31	9/10/2013	Fraser Ave Slip	4.6	4.6	Benzo(b)fluoranthene	FS-1	24	31	30.996			Yes	Include
HB13-47	31 - 37 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(b)fluoranthene	FS-1	31	37	30.996			No	Exclude
HB13-48	0 - 6 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(b)fluoranthene	FS-2	0	6	45.9999996			Yes	Include
HB13-48	0 - 24	9/10/2013	FRASER AVE SLIP	3.3	3.3	Benzo(b)fluoranthene	FS-2	0	24	45.9999996			Yes	Include
HB13-48	6 - 24 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(b)fluoranthene	FS-2	6	24	45.9999996			Yes	Include
HB13-48	24 - 42 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(b)fluoranthene	FS-2	24	42	45.9999996			Yes	Include
HB13-48	24 - 46 *	9/10/2013	FRASER AVE SLIP	4.3	4.3	Benzo(b)fluoranthene	FS-2	24	46	45.9999996			Yes	Include
HB13-48	42 - 46 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(b)fluoranthene	FS-2	42	46	45.9999996			Yes	Include
HB13-49	0 - 6	9/11/2013	Fraser Ave Slip	1.7	1.7	Benzo(b)fluoranthene	FS-2	0	6	30			Yes	Include
HB13-49	6 - 24	9/11/2013	Fraser Ave Slip	0.8	0.8	Benzo(b)fluoranthene	FS-2	6	24	30			Yes	Include
HB13-49	24 - 30	9/11/2013	Fraser Ave Slip	2.1	2.1	Benzo(b)fluoranthene	FS-2	24	30	30			Yes	Include
HB13-50	0 - 12 *	9/13/2013	Area 1	NA	NA	Benzo(b)fluoranthene	OC-12	0	12	47.0000004			Yes	Include
HB13-50	12 - 24 *	9/13/2013	Area 1	NA	NA	Benzo(b)fluoranthene	OC-12	12	24	47.0000004			Yes	Include
HB13-50	24 - 36 *	9/13/2013	Area 1	NA	NA	Benzo(b)fluoranthene	OC-12	24	36	47.0000004			Yes	Include
HB13-50	36 - 47 *	9/13/2013	Area 1	NA	NA	Benzo(b)fluoranthene	OC-12	36	47	47.0000004			Yes	Include
HB13-51	0 - 6 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene		0	6					Exclude
HB13-51	6 - 15 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene		6	15					Exclude
HB13-52	0 - 6 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene	OC-10	0	6	12			Yes	Include
HB13-52	6 - 12 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene	OC-10	6	12	12			Yes	Include
HB13-52	12 - 17 *	9/11/2013	Area 2	NA	NA	Benzo(b)fluoranthene	OC-10	12	17	12			No	Exclude
HB14-01	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(b)fluoranthene	SND-1	0	6					Exclude
HB14-01	6 - 18	8/18/2014	Area 1	NA	NA	Benzo(b)fluoranthene	SND-1	6	18					Exclude
HB14-02	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(b)fluoranthene	FC-15	0	6	17.004	-12.996	include	Yes	Include
HB14-02	6 - 14	8/18/2014	Area 1	NA	NA	Benzo(b)fluoranthene	FC-15	6	14	17.004	-12.996	include	Yes	Include
HB14-03	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(b)fluoranthene	FC-15	0	6	29.997288	-2.472	include	Yes	Include
HB14-03	6 - 18	8/18/2014	Area 1	NA	NA	Benzo(b)fluoranthene	FC-15	6	18	29.997288	-2.472	include	Yes	Include
HB14-03	18 - 30	8/18/2014	Area 1	NA	NA	Benzo(b)fluoranthene	FC-15	18	30	29.997288	-2.472	include	Yes	Include
HB14-03	30 - 42	8/18/2014	Area 1	NA	NA	Benzo(b)fluoranthene	FC-15	30	42	29.997288	-2.472	include	No	Exclude
HB14-03	42 - 54	8/18/2014	Area 1	NA	NA	Benzo(b)fluoranthene	FC-15	42	54	29.997288	-2.472	include	No	Exclude
HB14-04	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(b)fluoranthene		0	6	29.904			Yes	Include
HB14-04	6 - 18	8/18/2014	Area 1	NA	NA	Benzo(b)fluoranthene		6	18	29.904			Yes	Include
HB14-04	18 - 30	8/18/2014	Area 1	NA	NA	Benzo(b)fluoranthene		18	30	29.904			Yes	Include
HB14-05 G		8/18/2014	Area 1	NA	NA	Benzo(b)fluoranthene			#VALUE!					Exclude
HB14-06	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(b)fluoranthene		0	6	30.588			Yes	Include
HB14-06	6 - 24	8/18/2014	Area 1	NA	NA	Benzo(b)fluoranthene		6	24	30.588			Yes	Include
HB14-07	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(b)fluoranthene		0	6	78.012			Yes	Include
HB14-07	6 - 24	8/18/2014	Area 1	NA	NA	Benzo(b)fluoranthene		6	24	78.012			Yes	Include
HB14-07	24 - 42	8/18/2014	Area 1	NA	NA	Benzo(b)fluoranthene		24	42	78.012			Yes	Include
HB14-08	0 - 6	8/19/2014	Area 1	NA	NA	Benzo(b)fluoranthene		0	6	34.416			Yes	Include
HB14-08	6 - 19	8/19/2014	Area 1	NA	NA	Benzo(b)fluoranthene		6	19	34.416			Yes	Include
HB14-09	0 - 12	8/19/2014	Area 1	NA	NA	Benzo(b)fluoranthene	OC-16	0	12	12.003804			Yes	Include
HB14-09	12 - 24	8/19/2014	Area 1	NA	NA	Benzo(b)fluoranthene	OC-16	12	24	12.003804			Yes	Include
HB14-09	24 - 36	8/19/2014	Area 1	NA	NA	Benzo(b)fluoranthene	OC-16	24	36	12.003804			No	Exclude
HB14-09	36 - 48	8/19/2014	Area 1	NA	NA	Benzo(b)fluoranthene	OC-16	36	48	12.003804			No	Exclude
HB14-09	48 - 60	8/19/2014	Area 1	NA	NA	Benzo(b)fluoranthene	OC-16	48	60	12.003804			No	Exclude
HB14-09	60 - 72	8/19/2014	Area 1	NA	NA	Benzo(b)fluoranthene	OC-16	60	72	12.003804			No	Exclude
HB14-10	0 - 6	8/20/2014	Area 1	0.26	0.26	Benzo(b)fluoranthene		0	6	54.005544			Yes	Include
HB14-10	6 - 18	8/20/2014	Area 1	0.23	0.23	Benzo(b)fluoranthene		6	18	54.005544			Yes	Include
HB14-10	18 - 30	8/20/2014	Area 1	0.52	0.52	Benzo(b)fluoranthene		18	30	54.005544			Yes	Include
HB14-10	30 - 42	8/20/2014	Area 1	0.55	0.55	Benzo(b)fluoranthene		30	42	54.005544			Yes	Include
HB14-10	42 - 54	8/20/2014	Area 1	0.51	0.51	Benzo(b)fluoranthene		42	54	54.005544			Yes	Include
HB14-10	54 - 66	8/20/2014	Area 1	NA	NA	Benzo(b)fluoranthene		54	66	54.005544			Yes	Include
HB14-11	0 - 6	8/19/2014	Area 1	NA	NA	Benzo(b)fluoranthene	SND-2	0	6					Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB14-11	6 - 18	8/19/2014	Area 1	NA	NA	Benzo(b)fluoranthene	SND-2	6	18					Exclude
HB14-11	18 - 20	8/19/2014	Area 1	NA	NA	Benzo(b)fluoranthene	SND-2	18	20					Exclude
HB14-12	0 - 6	8/19/2014	Area 1	NA	NA	Benzo(b)fluoranthene	SND-4	0	6	26.34			Yes	Include
HB14-12	6 - 18	8/19/2014	Area 1	NA	NA	Benzo(b)fluoranthene	SND-4	6	18	26.34			Yes	Include
HB14-12	18 - 32	8/19/2014	Area 1	NA	NA	Benzo(b)fluoranthene	SND-4	18	32	26.34			Yes	Include
HB14-13	0 - 6	8/19/2014	Area 2	NA	NA	Benzo(b)fluoranthene	SND-5	0	6	-0.648			No	Exclude
HB14-13	6 - 11	8/19/2014	Area 2	NA	NA	Benzo(b)fluoranthene	SND-5	6	11	-0.648			No	Exclude
HB14-14	0 - 6	8/20/2014	Area 2	0.27	0.27	Benzo(b)fluoranthene	OC-4	0	6	101.997672			Yes	Include
HB14-14	4 - 6	8/20/2014	Area 2	1.2	1.2	Benzo(b)fluoranthene	OC-4	4	6	101.997672			Yes	Include
HB14-14	6 - 18	8/20/2014	Area 2	NA	NA	Benzo(b)fluoranthene	OC-4	6	18	101.997672			Yes	Include
HB14-14	6 - 30	8/20/2014	Area 2	0.65	0.65	Benzo(b)fluoranthene	OC-4	6	30	101.997672			Yes	Include
HB14-14	18 - 30	8/20/2014	Area 2	NA	NA	Benzo(b)fluoranthene	OC-4	18	30	101.997672			Yes	Include
HB14-14	30 - 42	8/20/2014	Area 2	NA	NA	Benzo(b)fluoranthene	OC-4	30	42	101.997672			Yes	Include
HB14-14	30 - 54	8/20/2014	Area 2	0.83	0.83	Benzo(b)fluoranthene	OC-4	30	54	101.997672			Yes	Include
HB14-14	42 - 54	8/20/2014	Area 2	NA	NA	Benzo(b)fluoranthene	OC-4	42	54	101.997672			Yes	Include
HB14-14	54 - 66	8/20/2014	Area 2	NA	NA	Benzo(b)fluoranthene	OC-4	54	66	101.997672			Yes	Include
HB14-14	54 - 78	8/20/2014	Area 2	0.45	0.45	Benzo(b)fluoranthene	OC-4	54	78	101.997672			Yes	Include
HB14-14	66 - 78	8/20/2014	Area 2	NA	NA	Benzo(b)fluoranthene	OC-4	66	78	101.997672			Yes	Include
HB14-14	78 - 90	8/20/2014	Area 2	NA	NA	Benzo(b)fluoranthene	OC-4	78	90	101.997672			Yes	Include
HB14-14	78 - 102	8/20/2014	Area 2	0.86	0.86	Benzo(b)fluoranthene	OC-4	78	102	101.997672			Yes	Include
HB14-14	90 - 102	8/20/2014	Area 2	NA	NA	Benzo(b)fluoranthene	OC-4	90	102	101.997672			Yes	Include
HB14-14	102 - 111	8/20/2014	Area 2	NA	NA	Benzo(b)fluoranthene	OC-4	102	111	101.997672			No	Exclude
HB15-01	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	0	12	51.096			Yes	Include
HB15-01	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	12	24	51.096			Yes	Include
HB15-01	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	24	36	51.096			Yes	Include
HB15-01	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	36	48	51.096			Yes	Include
HB15-01	48 - 57	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	48	57	51.096			Yes	Include
HB15-02	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	0	12	48.000696			Yes	Include
HB15-02	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	12	24	48.000696			Yes	Include
HB15-02	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	24	36	48.000696			Yes	Include
HB15-02	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	36	48	48.000696			Yes	Include
HB15-03	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	0	12	67.9950564			Yes	Include
HB15-03	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	12	24	67.9950564			Yes	Include
HB15-03	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	24	36	67.9950564			Yes	Include
HB15-03	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	36	48	67.9950564			Yes	Include
HB15-03	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	48	60	67.9950564			Yes	Include
HB15-03	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	60	68	67.9950564			Yes	Include
HB15-03R	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	0	12	67.9950564			Yes	Include
HB15-03R	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	12	24	67.9950564			Yes	Include
HB15-03R	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	24	36	67.9950564			Yes	Include
HB15-03R	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	36	48	67.9950564			Yes	Include
HB15-03R	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	48	60	67.9950564			Yes	Include
HB15-03R	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	60	68	67.9950564			Yes	Include
HB15-04	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	0	12	63.84			Yes	Include
HB15-04	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	12	24	63.84			Yes	Include
HB15-04	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	24	36	63.84			Yes	Include
HB15-04	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	36	48	63.84			Yes	Include
HB15-04	48 - 59	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	48	59	63.84			Yes	Include
HB15-05	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	0	12	71.994852			Yes	Include
HB15-05	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	12	24	71.994852			Yes	Include
HB15-05	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	24	36	71.994852			Yes	Include
HB15-05	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	36	48	71.994852			Yes	Include
HB15-05	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	48	60	71.994852			Yes	Include
HB15-05	60 - 72	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	60	72	71.994852			Yes	Include
HB15-05	72 - 80	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-1	72	80	71.994852			No	Exclude
HB15-06	0 - 9	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene	HS-2	0	9	9.000636			Yes	Include
HB15-07	0 - 12	6/23/2015	Cummings Ave Slip	NA	NA	Benzo(b)fluoranthene	CS-1	0	12	90.9955116			Yes	Include
HB15-07	12 - 24	6/23/2015	Cummings Ave Slip	NA	NA	Benzo(b)fluoranthene	CS-1	12	24	90.9955116			Yes	Include
HB15-07	24 - 36	6/23/2015	Cummings Ave Slip	NA	NA	Benzo(b)fluoranthene	CS-1	24	36	90.9955116			Yes	Include
HB15-07	36 - 48	6/23/2015	Cummings Ave Slip	4.4	4.4	Benzo(b)fluoranthene	CS-1	36	48	90.9955116			Yes	Include
HB15-07	48 - 60	6/23/2015	Cummings Ave Slip	7.8	7.8	Benzo(b)fluoranthene	CS-1	48	60	90.9955116			Yes	Include
HB15-07	60 - 72	6/23/2015	Cummings Ave Slip	5.2	5.2	Benzo(b)fluoranthene	CS-1	60	72	90.9955116			Yes	Include
HB15-07	72 - 84	6/23/2015	Cummings Ave Slip	5.9	5.9	Benzo(b)fluoranthene	CS-1	72	84	90.9955116			Yes	Include
HB15-07	84 - 91	6/23/2015	Cummings Ave Slip	6	6	Benzo(b)fluoranthene	CS-1	84	91	90.9955116			Yes	Include
HB15-08	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(b)fluoranthene	CS-2	0	12	65.997804			Yes	Include
HB15-08	12 - 24	6/24/2015	Cummings Ave Slip	4.3	4.3	Benzo(b)fluoranthene	CS-2	12	24	65.997804			Yes	Include
HB15-08	24 - 36	6/24/2015	Cummings Ave Slip	4.2	4.2	Benzo(b)fluoranthene	CS-2	24	36	65.997804			Yes	Include
HB15-08	36 - 48	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(b)fluoranthene	CS-2	36	48	65.997804			Yes	Include
HB15-08	48 - 60	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(b)fluoranthene	CS-2	48	60	65.997804			Yes	Include
HB15-08	60 - 66	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(b)fluoranthene	CS-2	60	66	65.997804			Yes	Include
HB15-09	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(b)fluoranthene	CS-3	0	12	45.396			Yes	Include
HB15-09	12 - 17	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(b)fluoranthene	CS-3	12	17	45.396			Yes	Include
HB15-10	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(b)fluoranthene		0	12	-0.936			No	Exclude
HB15-11	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(b)fluoranthene	CS-5	0	12	27.9944796			Yes	Include
HB15-11	12 - 24	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(b)fluoranthene	CS-5	12	24	27.9944796			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB15-11	24 - 28	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(b)fluoranthene	CS-5	24	28	27.9944796			Yes	Include
HB15-12	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	0	12	29.994876			Yes	Include
HB15-12	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	12	24	29.994876			Yes	Include
HB15-12	24 - 30	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	24	30	29.994876			Yes	Include
HB15-13	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	0	12	64.0033716			Yes	Include
HB15-13	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	12	24	64.0033716			Yes	Include
HB15-13	24 - 36	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	24	36	64.0033716			Yes	Include
HB15-13	36 - 48	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	36	48	64.0033716			Yes	Include
HB15-13	48 - 60	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	48	60	64.0033716			Yes	Include
HB15-13	60 - 64	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	60	64	64.0033716			Yes	Include
HB15-14	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	0	12	23.996196			Yes	Include
HB15-14	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	12	24	23.996196			Yes	Include
HB15-14	24 - 28	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	24	28	23.996196			No	Exclude
HB15-14	28 - 35	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	28	35	23.996196			No	Exclude
HB15-15	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-2	0	12	19.0051356			Yes	Include
HB15-15	12 - 19	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-2	12	19	19.0051356			Yes	Include
HB15-15R	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-2	0	12	18.9999996			Yes	Include
HB15-15R	12 - 19	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-2	12	19	18.9999996			Yes	Include
HB15-16	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	0	12	8.304			Yes	Include
HB15-16	12 - 19	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-1	12	19	8.304			No	Exclude
HB15-17	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-2	0	12	36.004608			Yes	Include
HB15-17	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-2	12	24	36.004608			Yes	Include
HB15-17	24 - 36	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-2	24	36	36.004608			Yes	Include
HB15-17	36 - 48	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-2	36	48	36.004608			Yes	Include
HB15-17	48 - 54	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-2	48	54	36.004608			No	Exclude
HB15-18	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-2	0	12	23.999508			Yes	Include
HB15-18	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FP-2	12	24	23.999508			Yes	Include
HB15-19	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene		0	12					Exclude
HB15-19	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene		12	24					Exclude
HB15-19	24 - 32	6/24/2015	Area 2	NA	NA	Benzo(b)fluoranthene		24	32					Exclude
HB15-20	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-3	0	12	33.864			Yes	Include
HB15-20	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-3	12	24	33.864			Yes	Include
HB15-20	24 - 28	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-3	24	28	33.864			Yes	Include
HB15-20B	0 - 6	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-13	0	6	11.996892			Yes	Include
HB15-20B	6 - 12	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-13	6	12	11.996892			Yes	Include
HB15-21G	15 - 21	6/29/2015	Fraser Ave Slip	NA	NA	Benzo(b)fluoranthene		15	21					Exclude
HB15-22G	0 - 6	6/29/2015	Fraser Ave Slip	0.24	0.24	Benzo(b)fluoranthene	OC-8	0	6	6			Yes	Include
HB15-23	0 - 12	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(b)fluoranthene	FS-1	0	12	55.02			Yes	Include
HB15-23	12 - 24	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(b)fluoranthene	FS-1	12	24	55.02			Yes	Include
HB15-23	24 - 36	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(b)fluoranthene	FS-1	24	36	55.02			Yes	Include
HB15-23	36 - 48	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(b)fluoranthene	FS-1	36	48	55.02			Yes	Include
HB15-23	48 - 56	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(b)fluoranthene	FS-1	48	56	55.02			Yes	Include
HB15-25	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-1	0	12	77.4			Yes	Include
HB15-25	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-1	12	24	77.4			Yes	Include
HB15-25	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-1	24	36	77.4			Yes	Include
HB15-25	36 - 48	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-1	36	48	77.4			Yes	Include
HB15-25	48 - 60	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-1	48	60	77.4			Yes	Include
HB15-25	60 - 72	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-1	60	72	77.4			Yes	Include
HB15-25	72 - 88	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-1	72	88	77.4			Yes	Include
HB15-26	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FC-2	0	12	38.28	6.36	include	Yes	Include
HB15-26	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FC-2	12	24	38.28	6.36	include	Yes	Include
HB15-26	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FC-2	24	36	38.28	6.36	include	Yes	Include
HB15-26	36 - 46	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FC-2	36	46	38.28	6.36	include	Yes	Include
HB15-27	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FC-3	0	12	33.6	14.64	exclude	Yes	Exclude
HB15-27	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FC-3	12	24	33.6	14.64	include	Yes	Include
HB15-27	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FC-3	24	36	33.6	14.64	include	Yes	Include
HB15-27	36 - 48	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FC-3	36	48	33.6	14.64	include	No	Exclude
HB15-27	48 - 60	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FC-3	48	60	33.6	14.64	include	No	Exclude
HB15-27	60 - 71	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	FC-3	60	71	33.6	14.64	include	No	Exclude
HB15-28	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-7	0	12	11.994072			Yes	Include
HB15-28	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-7	12	24	11.994072			No	Exclude
HB15-28	24 - 30	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-7	24	30	11.994072			No	Exclude
HB15-30	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene		0	12	43.776			Yes	Include
HB15-30	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene		12	24	43.776			Yes	Include
HB15-30	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene		24	36	43.776			Yes	Include
HB15-30	36 - 50	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene		36	50	43.776			Yes	Include
HB15-31	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene		0	12					Exclude
HB15-31	12 - 20	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene		12	20					Exclude
HB15-32	0 - 12	6/25/2015	Area 1	NA	NA	Benzo(b)fluoranthene	SND-4	0	12	11.995236			Yes	Include
HB15-32	12 - 26	6/25/2015	Area 1	NA	NA	Benzo(b)fluoranthene	SND-4	12	26	11.995236			No	Exclude
HB15-33	0 - 12	6/25/2015	Area 1	NA	NA	Benzo(b)fluoranthene		0	12	26.292			Yes	Include
HB15-33	12 - 24	6/25/2015	Area 1	NA	NA	Benzo(b)fluoranthene		12	24	26.292			Yes	Include
HB15-33	24 - 39	6/25/2015	Area 1	NA	NA	Benzo(b)fluoranthene		24	39	26.292			Yes	Include
HB15-34	0 - 12	6/25/2015	Area 1	NA	NA	Benzo(b)fluoranthene	FC-11	0	12		35.52	exclude		Exclude
HB15-34	12 - 24	6/25/2015	Area 1	NA	NA	Benzo(b)fluoranthene	FC-11	12	24		35.52	exclude		Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB15-34	24 - 32	6/25/2015	Area 1	NA	NA	Benzo(b)fluoranthene	FC-11	24	32		35.52	exclude		Exclude
HB15-35	0 - 12	6/25/2015	Area 1	NA	NA	Benzo(b)fluoranthene	FC-16	0	12	74.28	-6.48	include	Yes	Include
HB15-35	12 - 24	6/25/2015	Area 1	NA	NA	Benzo(b)fluoranthene	FC-16	12	24	74.28	-6.48	include	Yes	Include
HB15-35	24 - 36	6/25/2015	Area 1	NA	NA	Benzo(b)fluoranthene	FC-16	24	36	74.28	-6.48	include	Yes	Include
HB15-35	36 - 48	6/25/2015	Area 1	NA	NA	Benzo(b)fluoranthene	FC-16	36	48	74.28	-6.48	include	Yes	Include
HB15-35	48 - 60	6/25/2015	Area 1	NA	NA	Benzo(b)fluoranthene	FC-16	48	60	74.28	-6.48	include	Yes	Include
HB15-35	60 - 72	6/25/2015	Area 1	NA	NA	Benzo(b)fluoranthene	FC-16	60	72	74.28	-6.48	include	Yes	Include
HB15-36G	15 - 36	6/29/2015	Area 2	NA	NA	Benzo(b)fluoranthene		15	36					Exclude
HB15-37	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-9	0	12	51.048			Yes	Include
HB15-37	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-9	12	24	51.048			Yes	Include
HB15-37	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-9	24	36	51.048			Yes	Include
HB15-37	36 - 48	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-9	36	48	51.048			Yes	Include
HB15-37	48 - 60	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-9	48	60	51.048			Yes	Include
HB15-37	60 - 74	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-9	60	74	51.048			No	Exclude
HB15-38	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-9	0	12	83.184			Yes	Include
HB15-38	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-9	12	24	83.184			Yes	Include
HB15-38	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-9	24	36	83.184			Yes	Include
HB15-38	36 - 48	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-9	36	48	83.184			Yes	Include
HB15-38	48 - 60	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-9	48	60	83.184			Yes	Include
HB15-38	60 - 72	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-9	60	72	83.184			Yes	Include
HB15-38	72 - 84	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-9	72	84	83.184			Yes	Include
HB15-38	84 - 96	6/25/2015	Area 2	NA	NA	Benzo(b)fluoranthene	OC-9	84	96	83.184			No	Exclude
HB15-G28	0 - 6	6/25/2015	Hughitt Ave Slip	NA	NA	Benzo(b)fluoranthene		0	6					Exclude
HB15-HC20A	0 - 6	6/25/2015	Area 1	NA	NA	Benzo(b)fluoranthene	OC-13	0	6	6.003036			Yes	Include
HB2A_4	0 - 6	5/12/2007	Hughitt Ave Slip	0.15	0.15	Benzo(g,h,i)perylene	HS-1	0	6	48.00432			Yes	Include
HB2A_4	6 - 24	5/12/2007	Hughitt Ave Slip	0.28 J-	0.28	Benzo(g,h,i)perylene	HS-1	6	24	48.00432			Yes	Include
HB2A_4	24 - 48	5/12/2007	Hughitt Ave Slip	0.048	0.048	Benzo(g,h,i)perylene	HS-1	24	48	48.00432			Yes	Include
HB2A_6	0 - 5	5/2/2007	Area 1	0.42	0.42	Benzo(g,h,i)perylene		0	5					Exclude
HB2A_7	0 - 5	5/10/2007	Area 1	0.25	0.25	Benzo(g,h,i)perylene	SND-1	0	5					Exclude
HB2A_8	0 - 5	5/10/2007	Area 1	0.16	0.16	Benzo(g,h,i)perylene	FC-12/FC-13	0	5	4.9944804	79.824	exclude	Yes	Exclude
HB2A_11	0 - 5	5/10/2007	Area 1	0.31 J-	0.31	Benzo(g,h,i)perylene		0	5					Exclude
HB2A_13	0 - 5	5/2/2007	Area 1	0.15	0.15	Benzo(g,h,i)perylene		0	5					Exclude
HB2A_16	0 - 5	5/2/2007	Area 1	0.086 J-	0.086	Benzo(g,h,i)perylene		0	5					Exclude
HB2A_210	0 - 6	5/16/2007	Area 1	0.0080 U	0.008	Benzo(g,h,i)perylene		0	6					Exclude
HB2A_210	6 - 24	5/16/2007	Area 1	0.0083 U	0.0083	Benzo(g,h,i)perylene		6	24					Exclude
HB2A_210	24 - 48	5/16/2007	Area 1	0.0061 UJS-	0.0061	Benzo(g,h,i)perylene		24	48					Exclude
HB2A_GENES	0 - 5	5/22/2007	Cummings Ave Slip	0.28	0.28	Benzo(g,h,i)perylene		0	5					Exclude
HB2B_17	0 - 6	5/12/2007	Fraser Ave Slip	0.17	0.17	Benzo(g,h,i)perylene	FS-2	0	6	24.005676			Yes	Include
HB2B_17	6 - 24	5/12/2007	Fraser Ave Slip	0.041	0.041	Benzo(g,h,i)perylene	FS-2	6	24	24.005676			Yes	Include
HB2B_18	0 - 6	5/7/2007	Area 2	0.16	0.16	Benzo(g,h,i)perylene	FP-1	0	6	47.997552			Yes	Include
HB2B_18	6 - 24	5/7/2007	Area 2	0.085	0.085	Benzo(g,h,i)perylene	FP-1	6	24	47.997552			Yes	Include
HB2B_18	24 - 48	5/7/2007	Area 2	0.1	0.1	Benzo(g,h,i)perylene	FP-1	24	48	47.997552			Yes	Include
HB2B_19	0 - 6	5/2/2007	Area 2	0.052	0.052	Benzo(g,h,i)perylene	OC-1	0	6	6.001728			Yes	Include
HB2B_19	6 - 24	5/2/2007	Area 2	0.0067	0.0067	Benzo(g,h,i)perylene	OC-1	6	24	6.001728			Yes	Include
HB2B_20	0 - 6	5/2/2007	Area 2	0.093	0.093	Benzo(g,h,i)perylene	OC-9	0	6	23.997336			Yes	Include
HB2B_20	6 - 24	5/2/2007	Area 2	0.073	0.073	Benzo(g,h,i)perylene	OC-9	6	24	23.997336			Yes	Include
HB2B_20	24 - 48	5/2/2007	Area 2	0.02	0.02	Benzo(g,h,i)perylene	OC-9	24	48	23.997336			No	Exclude
HB2B_21	0 - 5	5/2/2007	Area 2	0.12	0.12	Benzo(g,h,i)perylene		0	5					Exclude
HB2B_22	0 - 5	5/2/2007	Area 2	0.16	0.16	Benzo(g,h,i)perylene	OC-5	0	5	5.0028204			Yes	Include
HB3A_GENES	0 - 5	9/6/2007	Cummings Ave Slip	0.032	0.032	Benzo(g,h,i)perylene		0	5					Exclude
HB10-1-01	0 - 6	10/16/2010	Area 1	0.074	0.074	Benzo(g,h,i)perylene		0	6					Exclude
HB10-1-01	0 - 12	10/16/2010	Area 1	0.0071 U	0.0071	Benzo(g,h,i)perylene		0	12					Exclude
HB10-1-01	36 - 40	10/16/2010	Area 1	0.0051 U	0.0051	Benzo(g,h,i)perylene		36	40					Exclude
HB10-1-02	0 - 6	10/16/2010	Area 1	0.013	0.013	Benzo(g,h,i)perylene		0	6	23.0027508			Yes	Include
HB10-1-02	12 - 23	10/16/2010	Area 1	0.043	0.043	Benzo(g,h,i)perylene		12	23	23.0027508			Yes	Include
HB10-1-03	0 - 6	10/16/2010	Area 1	0.17	0.17	Benzo(g,h,i)perylene	FC-17	0	6	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	0 - 12	10/16/2010	Area 1	0.051	0.051	Benzo(g,h,i)perylene	FC-17	0	12	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	12 - 36	10/16/2010	Area 1	0.044	0.044	Benzo(g,h,i)perylene	FC-17	12	36	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	36 - 60	10/16/2010	Area 1	0.15	0.15	Benzo(g,h,i)perylene	FC-17	36	60	59.99475	49.872	include	Yes	Include
HB10-1-03	60 - 84	10/16/2010	Area 1	0.16	0.16	Benzo(g,h,i)perylene	FC-17	60	84	59.99475	49.872	include	No	Exclude
HB10-1-04	0 - 6	10/17/2010	Area 1	0.083	0.083	Benzo(g,h,i)perylene		0	6					Exclude
HB10-1-04	0 - 12	10/17/2010	Area 1	0.14	0.14	Benzo(g,h,i)perylene		0	12					Exclude
HB10-1-04	12 - 36	10/17/2010	Area 1	0.095	0.095	Benzo(g,h,i)perylene		12	36					Exclude
HB10-1-04	36 - 50	10/17/2010	Area 1	0.09	0.09	Benzo(g,h,i)perylene		36	50					Exclude
HB10-1-05	0 - 6	10/16/2010	Area 1	0.22	0.22	Benzo(g,h,i)perylene	OC-17	0	6	5.9987496			Yes	Include
HB10-1-07	0 - 6	10/17/2010	Area 1	0.93	0.93	Benzo(g,h,i)perylene	OC-15	0	6	6.0057			Yes	Include
HB10-1-07	0 - 12	10/17/2010	Area 1	0.18	0.18	Benzo(g,h,i)perylene	OC-15	0	12	6.0057			Yes	Include
HB10-1-07	12 - 36	10/17/2010	Area 1	0.17	0.17	Benzo(g,h,i)perylene	OC-15	12	36	6.0057			No	Exclude
HB10-1-07	60 - 64	10/17/2010	Area 1	0.0040 U	0.004	Benzo(g,h,i)perylene	OC-15	60	64	6.0057			No	Exclude
HB10-1-08	0 - 6	10/17/2010	Area 1	0.12	0.12	Benzo(g,h,i)perylene		0	6	36.0057			Yes	Include
HB10-1-08	0 - 12	10/17/2010	Area 1	0.14	0.14	Benzo(g,h,i)perylene		0	12	36.0057			Yes	Include
HB10-1-08	12 - 36	10/17/2010	Area 1	0.21	0.21	Benzo(g,h,i)perylene		12	36	36.0057			Yes	Include
HB10-1-10	0 - 6	10/18/2010	Area 1	0.42	0.42	Benzo(g,h,i)perylene	SND-1	0	6					Exclude
HB10-1-11	0 - 6	10/16/2010	Area 1	0.081 J	0.081	Benzo(g,h,i)perylene		0	6	20.9987496			Yes	Include
HB10-1-11	12 - 21	10/16/2010	Area 1	0.044	0.044	Benzo(g,h,i)perylene		12	21	20.9987496			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB10-1-12	0 - 6	10/17/2010	Area 1	0.13	0.13	Benzo(g,h,i)perylene		0	6					Exclude
HB10-1-12	0 - 12	10/17/2010	Area 1	0.18	0.18	Benzo(g,h,i)perylene		0	12					Exclude
HB10-1-12	12 - 34	10/17/2010	Area 1	0.2	0.2	Benzo(g,h,i)perylene		12	34					Exclude
HB10-1-13	0 - 6	10/18/2010	Area 1	0.2	0.2	Benzo(g,h,i)perylene	FC-12/FC-13	0	6	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	0 - 12	10/18/2010	Area 1	0.4	0.4	Benzo(g,h,i)perylene	FC-12/FC-13	0	12	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	12 - 36	10/18/2010	Area 1	0.24	0.24	Benzo(g,h,i)perylene	FC-12/FC-13	12	36	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	60 - 67	10/18/2010	Area 1	0.36	0.36	Benzo(g,h,i)perylene	FC-12/FC-13	60	67	36.0053004	42.816	include	No	Exclude
HB10-1-14	0 - 6	10/17/2010	Area 1	0.16	0.16	Benzo(g,h,i)perylene		0	6	66.0057			Yes	Include
HB10-1-14	0 - 12	10/17/2010	Area 1	0.13	0.13	Benzo(g,h,i)perylene		0	12	66.0057			Yes	Include
HB10-1-14	12 - 36	10/17/2010	Area 1	0.23	0.23	Benzo(g,h,i)perylene		12	36	66.0057			Yes	Include
HB10-1-14	60 - 66	10/17/2010	Area 1	0.18	0.18	Benzo(g,h,i)perylene		60	66	66.0057			Yes	Include
HB10-1-15	0 - 6	10/18/2010	Area 1	0.0066	0.0066	Benzo(g,h,i)perylene	OC-13	0	6	16.0056996			Yes	Include
HB10-1-15	12 - 16	10/18/2010	Area 1	0.32	0.32	Benzo(g,h,i)perylene	OC-13	12	16	16.0056996			Yes	Include
HB10-1-16	0 - 6	10/17/2010	Hughitt Ave Slip	0.23	0.23	Benzo(g,h,i)perylene	HS-3	0	6	31.0056996			Yes	Include
HB10-1-16	0 - 12	10/17/2010	Hughitt Ave Slip	0.36	0.36	Benzo(g,h,i)perylene	HS-3	0	12	31.0056996			Yes	Include
HB10-1-16	12 - 31	10/17/2010	Hughitt Ave Slip	0.2	0.2	Benzo(g,h,i)perylene	HS-3	12	31	31.0056996			Yes	Include
HB10-1-17	0 - 6	10/17/2010	Area 1	0.1	0.1	Benzo(g,h,i)perylene	OC-14	0	6	12			Yes	Include
HB10-1-20	0 - 6	10/17/2010	Hughitt Ave Slip	0.7	0.7	Benzo(g,h,i)perylene		0	6	6.0057			Yes	Include
HB10-1-21	0 - 6	10/18/2010	Cummings Ave Slip	0.044	0.044	Benzo(g,h,i)perylene		0	6	6.0012996			Yes	Include
HB10-1-21	12 - 23	10/18/2010	Cummings Ave Slip	0.16 J	0.16	Benzo(g,h,i)perylene		12	23	6.0012996			No	Exclude
HB10-1-23	0 - 6	10/17/2010	Area 1	0.1	0.1	Benzo(g,h,i)perylene		0	6	36.0057			Yes	Include
HB10-1-23	0 - 12	10/17/2010	Area 1	0.16	0.16	Benzo(g,h,i)perylene		0	12	36.0057			Yes	Include
HB10-1-23	12 - 36	10/17/2010	Area 1	0.23	0.23	Benzo(g,h,i)perylene		12	36	36.0057			Yes	Include
HB10-1-24	0 - 6	10/18/2010	Cummings Ave Slip	0.12	0.12	Benzo(g,h,i)perylene	CS-4	0	6	36.0047496			Yes	Include
HB10-1-24	0 - 12	10/18/2010	Cummings Ave Slip	0.33	0.33	Benzo(g,h,i)perylene	CS-4	0	12	36.0047496			Yes	Include
HB10-1-24	12 - 36	10/18/2010	Cummings Ave Slip	0.37	0.37	Benzo(g,h,i)perylene	CS-4	12	36	36.0047496			Yes	Include
HB10-1-25	0 - 6	10/17/2010	Baxter Ave Embayment	0.071	0.071	Benzo(g,h,i)perylene		0	6	6.0057			Yes	Include
HB10-1-27	0 - 6	10/18/2010	Area 1	0.082	0.082	Benzo(g,h,i)perylene		0	6	-0.0027			No	Exclude
HB10-1-28	0 - 6	10/17/2010	Hughitt Ave Slip	0.4	0.4	Benzo(g,h,i)perylene	HS-1	0	6	84.0057			Yes	Include
HB10-1-28	0 - 12	10/17/2010	Hughitt Ave Slip	0.34	0.34	Benzo(g,h,i)perylene	HS-1	0	12	84.0057			Yes	Include
HB10-1-28	12 - 36	10/17/2010	Hughitt Ave Slip	0.44	0.44	Benzo(g,h,i)perylene	HS-1	12	36	84.0057			Yes	Include
HB10-1-28	36 - 60	10/17/2010	Hughitt Ave Slip	0.20 J	0.2	Benzo(g,h,i)perylene	HS-1	36	60	84.0057			Yes	Include
HB10-1-28	60 - 84	10/17/2010	Hughitt Ave Slip	0.39	0.39	Benzo(g,h,i)perylene	HS-1	60	84	84.0057			Yes	Include
HB10-1-28	60 - 96	10/17/2010	Hughitt Ave Slip	0.053	0.053	Benzo(g,h,i)perylene	HS-1	60	96	84.0057			Yes	Include
HB10-1-29	0 - 6	10/17/2010	Cummings Ave Slip	0.25	0.25	Benzo(g,h,i)perylene	CS-1	0	6	83.9937			Yes	Include
HB10-1-29	0 - 12	10/17/2010	Cummings Ave Slip	0.67	0.67	Benzo(g,h,i)perylene	CS-1	0	12	83.9937			Yes	Include
HB10-1-29	12 - 36	10/17/2010	Cummings Ave Slip	2.7	2.7	Benzo(g,h,i)perylene	CS-1	12	36	83.9937			Yes	Include
HB10-1-29	36 - 60	10/17/2010	Cummings Ave Slip	1.4 U	1.4	Benzo(g,h,i)perylene	CS-1	36	60	83.9937			Yes	Include
HB10-1-29	60 - 93	10/17/2010	Cummings Ave Slip	1.6 U	1.6	Benzo(g,h,i)perylene	CS-1	60	93	83.9937			Yes	Include
HB10-1-30	0 - 6	10/18/2010	Baxter Ave Embayment	0.41	0.41	Benzo(g,h,i)perylene		0	6	60.0053004			Yes	Include
HB10-1-30	0 - 12	10/18/2010	Baxter Ave Embayment	1.1	1.1	Benzo(g,h,i)perylene		0	12	60.0053004			Yes	Include
HB10-1-30	12 - 36	10/18/2010	Baxter Ave Embayment	0.66	0.66	Benzo(g,h,i)perylene		12	36	60.0053004			Yes	Include
HB10-1-30	36 - 60	10/18/2010	Baxter Ave Embayment	0.29	0.29	Benzo(g,h,i)perylene		36	60	60.0053004			Yes	Include
HB10-1-30	60 - 77	10/18/2010	Baxter Ave Embayment	0.31	0.31	Benzo(g,h,i)perylene		60	77	60.0053004			Yes	Include
HB10-1-31	0 - 6	10/18/2010	Baxter Ave Embayment	0.33	0.33	Benzo(g,h,i)perylene	OC-11	0	6	35.9973			Yes	Include
HB10-1-31	0 - 12	10/18/2010	Baxter Ave Embayment	0.5	0.5	Benzo(g,h,i)perylene	OC-11	0	12	35.9973			Yes	Include
HB10-1-31	12 - 36	10/18/2010	Baxter Ave Embayment	0.29	0.29	Benzo(g,h,i)perylene	OC-11	12	36	35.9973			Yes	Include
HB10-2-18	0 - 6	10/18/2010	Area 2	0.32	0.32	Benzo(g,h,i)perylene	OC-2	0	6	6.0053004			Yes	Include
HB10-2-26	0 - 6	10/16/2010	Area 2	0.039	0.039	Benzo(g,h,i)perylene		0	6					Exclude
HB10-2-26	12 - 17	10/16/2010	Area 2	0.04	0.04	Benzo(g,h,i)perylene		12	17					Exclude
HB10-2-32	0 - 6	10/18/2010	Area 2	0.16	0.16	Benzo(g,h,i)perylene		0	6					Exclude
HB10-2-33	0 - 6	10/18/2010	Area 2	0.035 J	0.035	Benzo(g,h,i)perylene		0	6	6.0012996			Yes	Include
HB10-2-33	12 - 22	10/18/2010	Area 2	0.3	0.3	Benzo(g,h,i)perylene		12	22	6.0012996			No	Exclude
HB10-2-34	0 - 6	10/18/2010	Area 2	0.2	0.2	Benzo(g,h,i)perylene	FC-7	0	6	6.0053004	0.816	include	Yes	Include
HB10-2-35	0 - 6	10/18/2010	Area 2	0.030 J	0.03	Benzo(g,h,i)perylene		0	6	30.0012996			Yes	Include
HB10-2-35	0 - 12	10/18/2010	Area 2	0.17	0.17	Benzo(g,h,i)perylene		0	12	30.0012996			Yes	Include
HB10-2-35	12 - 30	10/18/2010	Area 2	0.21	0.21	Benzo(g,h,i)perylene		12	30	30.0012996			Yes	Include
HB10-2-36	0 - 6	10/18/2010	Area 2	0.3	0.3	Benzo(g,h,i)perylene	FC-5	0	6	6.0053004	-29.184	include	Yes	Include
HB10-2-37	0 - 6	10/18/2010	Area 2	0.21 U	0.21	Benzo(g,h,i)perylene		0	6	23.0013			Yes	Include
HB10-2-37	12 - 23	10/18/2010	Area 2	0.12	0.12	Benzo(g,h,i)perylene		12	23	23.0013			Yes	Include
HB10-2-38	0 - 6	10/18/2010	Area 2	0.073	0.073	Benzo(g,h,i)perylene	OC-6	0	6	38.0013			Yes	Include
HB10-2-38	0 - 12	10/18/2010	Area 2	0.25	0.25	Benzo(g,h,i)perylene	OC-6	0	12	38.0013			Yes	Include
HB10-2-38	36 - 38	10/18/2010	Area 2	0.79	0.79	Benzo(g,h,i)perylene	OC-6	36	38	38.0013			Yes	Include
HB10-2-39	0 - 6	10/18/2010	Area 2	0.036 J	0.036	Benzo(g,h,i)perylene		0	6	6.0012996			Yes	Include
HB10-2-39	0 - 12	10/18/2010	Area 2	0.27	0.27	Benzo(g,h,i)perylene		0	12	6.0012996			Yes	Include
HB10-2-39	12 - 28	10/18/2010	Area 2	0.19	0.19	Benzo(g,h,i)perylene		12	28	6.0012996			No	Exclude
HB10-2-40	0 - 6	10/18/2010	Area 2	0.15 U	0.15	Benzo(g,h,i)perylene	OC-5	0	6	48.0053004			Yes	Include
HB10-2-40	0 - 12	10/18/2010	Area 2	0.092	0.092	Benzo(g,h,i)perylene	OC-5	0	12	48.0053004			Yes	Include
HB10-2-40	12 - 36	10/18/2010	Area 2	0.0044 U	0.0044	Benzo(g,h,i)perylene	OC-5	12	36	48.0053004			Yes	Include
HB10-2-40	36 - 48	10/18/2010	Area 2	0.0043 U	0.0043	Benzo(g,h,i)perylene	OC-5	36	48	48.0053004			Yes	Include
HB10-2-41	0 - 6	10/18/2010	Area 2	0.72	0.72	Benzo(g,h,i)perylene	FP-2	0	6	31.0012992			Yes	Include
HB10-2-41	0 - 12	10/18/2010	Area 2	0.051	0.051	Benzo(g,h,i)perylene	FP-2	0	12	31.0012992			Yes	Include
HB10-2-41	12 - 31	10/18/2010	Area 2	0.056	0.056	Benzo(g,h,i)perylene	FP-2	12	31	31.0012992			Yes	Include
HB10-2-42	0 - 6	10/18/2010	Area 2	0.2	0.2	Benzo(g,h,i)perylene	FP-1	0	6	12.0012996			Yes	Include
HB10-2-42	0 - 12	10/18/2010	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	0	12	12.0012996			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB10-2-42	12 - 30	10/18/2010	Area 2	0.24	0.24	Benzo(g,h,i)perylene	FP-1	12	30	12.0012996			Yes	Include
HB10-2-43	0 - 6	10/17/2010	Area 2	0.039	0.039	Benzo(g,h,i)perylene		0	6	22.0056996			Yes	Include
HB10-2-43	12 - 22	10/17/2010	Area 2	0.42	0.42	Benzo(g,h,i)perylene		12	22	22.0056996			Yes	Include
HB10-2-44	0 - 6	10/18/2010	Area 2	0.5	0.5	Benzo(g,h,i)perylene	FP-2	0	6	16.0012992			Yes	Include
HB10-2-44	12 - 16	10/18/2010	Area 2	0.48	0.48	Benzo(g,h,i)perylene	FP-2	12	16	16.0012992			Yes	Include
HB10-2-45	0 - 6	10/18/2010	Area 2	0.16	0.16	Benzo(g,h,i)perylene	FP-2	0	6	19.0012992			Yes	Include
HB10-2-45	12 - 19	10/18/2010	Area 2	0.31	0.31	Benzo(g,h,i)perylene	FP-2	12	19	19.0012992			Yes	Include
HB13-01	0 - 6 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	0	6	48			Yes	Include
HB13-01	6 - 12 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	6	12	48			Yes	Include
HB13-01	12 - 18 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	12	18	48			Yes	Include
HB13-01	18 - 24 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	18	24	48			Yes	Include
HB13-01	24 - 30 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	24	30	48			Yes	Include
HB13-01	30 - 36 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	30	36	48			Yes	Include
HB13-01	36 - 42 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	36	42	48			Yes	Include
HB13-01	42 - 48 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	42	48	48			Yes	Include
HB13-01	48 - 54 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	48	54	48			No	Exclude
HB13-01	54 - 60 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	54	60	48			No	Exclude
HB13-01	60 - 66 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	60	66	48			No	Exclude
HB13-01	66 - 72 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	66	72	48			No	Exclude
HB13-01	72 - 74 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	72	74	48			No	Exclude
HB13-02	0 - 6 *	9/9/2013	Area 2	0.016 U	0.016	Benzo(g,h,i)perylene		0	6	29.9960004			Yes	Include
HB13-02	6 - 12 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		6	12	29.9960004			Yes	Include
HB13-02	12 - 18 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		12	18	29.9960004			Yes	Include
HB13-02	18 - 24 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		18	24	29.9960004			Yes	Include
HB13-02	24 - 30 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		24	30	29.9960004			Yes	Include
HB13-02	30 - 36 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		30	36	29.9960004			No	Exclude
HB13-02	36 - 42 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		36	42	29.9960004			No	Exclude
HB13-02	42 - 48 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		42	48	29.9960004			No	Exclude
HB13-03	0 - 6 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-2	0	6	46.0040004			Yes	Include
HB13-03	0 - 24	9/9/2013	Area 2	0.39	0.39	Benzo(g,h,i)perylene	FP-2	0	24	46.0040004			Yes	Include
HB13-03	6 - 12 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-2	6	12	46.0040004			Yes	Include
HB13-03	12 - 18 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-2	12	18	46.0040004			Yes	Include
HB13-03	18 - 24 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-2	18	24	46.0040004			Yes	Include
HB13-03	24 - 30 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-2	24	30	46.0040004			Yes	Include
HB13-03	24 - 46	9/9/2013	Area 2	0.18	0.18	Benzo(g,h,i)perylene	FP-2	24	46	46.0040004			Yes	Include
HB13-03	30 - 36 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-2	30	36	46.0040004			Yes	Include
HB13-03	36 - 42 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-2	36	42	46.0040004			Yes	Include
HB13-03	42 - 46 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-2	42	46	46.0040004			Yes	Include
HB13-03	46 - 51 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-2	46	51	46.0040004			Yes	Include
HB13-04	0 - 6 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-1	0	6	41.9960004			Yes	Include
HB13-04	6 - 12 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-1	6	12	41.9960004			Yes	Include
HB13-04	12 - 18 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-1	12	18	41.9960004			Yes	Include
HB13-04	18 - 24 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-1	18	24	41.9960004			Yes	Include
HB13-04	24 - 30 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-1	24	30	41.9960004			Yes	Include
HB13-04	30 - 36 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-1	30	36	41.9960004			Yes	Include
HB13-04	36 - 42 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-1	36	42	41.9960004			Yes	Include
HB13-04	42 - 44 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-1	42	44	41.9960004			No	Exclude
HB13-05	0 - 32 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-1	0	32	43.8	33.156	exclude	Yes	Exclude
HB13-05	32 - 38 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-1	32	38	43.8	33.156	include	Yes	Include
HB13-05	38 - 44 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-1	38	44	43.8	33.156	include	Yes	Include
HB13-05	44 - 50 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-1	44	50	43.8	33.156	include	No	Exclude
HB13-05	50 - 56 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-1	50	56	43.8	33.156	include	No	Exclude
HB13-05	56 - 62	9/9/2013	Area 2	0.21 U	0.21	Benzo(g,h,i)perylene	FC-1	56	62	43.8	33.156	include	No	Exclude
HB13-05	62 - 66	9/9/2013	Area 2	0.071	0.071	Benzo(g,h,i)perylene	FC-1	62	66	43.8	33.156	include	No	Exclude
HB13-05	68 - 74 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-1	68	74	43.8	33.156	include	No	Exclude
HB13-05	74 - 77 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-1	74	77	43.8	33.156	include	No	Exclude
HB13-06	0 - 6 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-2	0	6	48			Yes	Include
HB13-06	6 - 12 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-2	6	12	48			Yes	Include
HB13-06	12 - 18 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-2	12	18	48			Yes	Include
HB13-06	18 - 24 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-2	18	24	48			Yes	Include
HB13-06	24 - 30 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-2	24	30	48			Yes	Include
HB13-06	30 - 36 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-2	30	36	48			Yes	Include
HB13-06	36 - 42 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-2	36	42	48			Yes	Include
HB13-06	42 - 48 *	9/9/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-2	42	48	48			Yes	Include
HB13-07	0 - 6 *	9/10/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		0	6					Exclude
HB13-07	6 - 12 *	9/10/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		6	12					Exclude
HB13-07	12 - 18 *	9/10/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		12	18					Exclude
HB13-07	18 - 24 *	9/10/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		18	24					Exclude
HB13-07	24 - 30 *	9/10/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		24	30					Exclude
HB13-07	30 - 36 *	9/10/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		30	36					Exclude
HB13-07	36 - 42 *	9/10/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		36	42					Exclude
HB13-07	42 - 48 *	9/10/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		42	48					Exclude
HB13-08	0 - 18	9/11/2013	Area 2	0.17	0.17	Benzo(g,h,i)perylene	FC-2	0	18	38.28	21.756	exclude	Yes	Exclude
HB13-08	18 - 36	9/11/2013	Area 2	0.23	0.23	Benzo(g,h,i)perylene	FC-2	18	36	38.28	21.756	include	Yes	Include
HB13-08	36 - 60	9/11/2013	Area 2	0.25	0.25	Benzo(g,h,i)perylene	FC-2	36	60	38.28	21.756	include	Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-08	60 - 92	9/11/2013	Area 2	0.13	0.13	Benzo(g,h,i)perylene	FC-2	60	92	38.28	21.756	include	No	Exclude
HB13-10	0 - 6 *	9/10/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		0	6	0.0039996			Yes	Include
HB13-11	0 - 18	9/11/2013	Area 2	0.19	0.19	Benzo(g,h,i)perylene	FC-4	0	18	25.2	23.964	exclude	Yes	Exclude
HB13-11	18 - 24 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-4	18	24	25.2	23.964	include	Yes	Include
HB13-11	18 - 42	9/11/2013	Area 2	0.2	0.2	Benzo(g,h,i)perylene	FC-4	18	42	25.2	23.964	include	Yes	Include
HB13-11	24 - 30 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-4	24	30	25.2	23.964	include	Yes	Include
HB13-11	30 - 36 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-4	30	36	25.2	23.964	include	No	Exclude
HB13-11	36 - 42 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-4	36	42	25.2	23.964	include	No	Exclude
HB13-11	42 - 48 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-4	42	48	25.2	23.964	include	No	Exclude
HB13-11	42 - 60	9/11/2013	Area 2	0.061	0.061	Benzo(g,h,i)perylene	FC-4	42	60	25.2	23.964	include	No	Exclude
HB13-11	48 - 54 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-4	48	54	25.2	23.964	include	No	Exclude
HB13-11	54 - 60 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-4	54	60	25.2	23.964	include	No	Exclude
HB13-12	0 - 6 *	9/10/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		0	6	5.9960004			Yes	Include
HB13-13	0 - 1 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	SND-5	0	1	0.9999996			Yes	Include
HB13-14	0 - 6 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-6	0	6	45.9999996	-5.316	include	Yes	Include
HB13-14	0 - 24	9/12/2013	Area 2	0.024	0.024	Benzo(g,h,i)perylene	FC-6	0	24	45.9999996	-5.316	include	Yes	Include
HB13-14	6 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-6	6	24	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 42 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-6	24	42	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 46	9/12/2013	Area 2	0.026	0.026	Benzo(g,h,i)perylene	FC-6	24	46	45.9999996	-5.316	include	Yes	Include
HB13-14	42 - 46 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-6	42	46	45.9999996	-5.316	include	Yes	Include
HB13-15	0 - 6 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-7	0	6	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	6 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-7	6	12	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	12 - 19 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-7	12	19	18.9999996	18.516	include	Yes	Include
HB13-16	0 - 6 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		0	6	26.0000004			Yes	Include
HB13-16	6 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		6	12	26.0000004			Yes	Include
HB13-16	12 - 18 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		12	18	26.0000004			Yes	Include
HB13-16	18 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		18	24	26.0000004			Yes	Include
HB13-16	24 - 27 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		24	27	26.0000004			Yes	Include
HB13-17	0 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-7	0	12	24	16.2	exclude	Yes	Exclude
HB13-17	12 - 18 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-7	12	18	24	16.2	include	Yes	Include
HB13-17	18 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-7	18	24	24	16.2	include	Yes	Include
HB13-17	24 - 47 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-7	24	47	24	16.2	include	No	Exclude
HB13-18	0 - 6	9/12/2013	Area 2	0.21	0.21	Benzo(g,h,i)perylene		0	6	9.9999996			Yes	Include
HB13-18	6 - 10	9/12/2013	Area 2	0.051	0.051	Benzo(g,h,i)perylene		6	10	9.9999996			Yes	Include
HB13-18	10 - 16	9/12/2013	Area 2	0.0097 U	0.0097	Benzo(g,h,i)perylene		10	16	9.9999996			No	Exclude
HB13-19	0 - 6 *	9/13/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		0	6					Exclude
HB13-19	6 - 24 *	9/13/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		6	24					Exclude
HB13-19	18 - 20 *	9/13/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		18	20					Exclude
HB13-19	24 - 42 *	9/13/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		24	42					Exclude
HB13-19	42 - 61 *	9/13/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		42	61					Exclude
HB13-19	61 - 67 *	9/13/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		61	67					Exclude
HB13-20	0 - 6 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		0	6	24			Yes	Include
HB13-20	0 - 12	9/12/2013	Area 2	0.036	0.036	Benzo(g,h,i)perylene		0	12	24			Yes	Include
HB13-20	6 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		6	12	24			Yes	Include
HB13-20	12 - 18 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		12	18	24			Yes	Include
HB13-20	12 - 24	9/12/2013	Area 2	0.047	0.047	Benzo(g,h,i)perylene		12	24	24			Yes	Include
HB13-20	18 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		18	24	24			Yes	Include
HB13-20	24 - 30 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		24	30	24			No	Exclude
HB13-20	24 - 36	9/12/2013	Area 2	0.037	0.037	Benzo(g,h,i)perylene		24	36	24			No	Exclude
HB13-20	30 - 36 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		30	36	24			No	Exclude
HB13-20	36 - 42 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		36	42	24			No	Exclude
HB13-20	36 - 48	9/12/2013	Area 2	0.06	0.06	Benzo(g,h,i)perylene		36	48	24			No	Exclude
HB13-20	42 - 48 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		42	48	24			No	Exclude
HB13-21	0 - 6 *	9/13/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-10	0	6	24			Yes	Include
HB13-21	6 - 24 *	9/13/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-10	6	24	24			Yes	Include
HB13-21	24 - 48 *	9/13/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-10	24	48	24			No	Exclude
HB13-21	48 - 72 *	9/13/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-10	48	72	24			No	Exclude
HB13-21	72 - 88 *	9/13/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-10	72	88	24			No	Exclude
HB13-22	0 - 28 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-7	0	28	24	36.72	exclude	Yes	Exclude
HB13-22	28 - 31 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-7	28	31	24	36.72	exclude	No	Exclude
HB13-23	0 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	SND-5	0	12	27			Yes	Include
HB13-23	12 - 18 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	SND-5	12	18	27			Yes	Include
HB13-23	18 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	SND-5	18	24	27			Yes	Include
HB13-23	24 - 32 *	9/12/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	SND-5	24	32	27			Yes	Include
HB13-24	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-3	0	6	6			Yes	Include
HB13-24	0 - 24 *	9/12/2013	HUGHITT AVE SLIP	0.4	0.4	Benzo(g,h,i)perylene	HS-3	0	24	6			Yes	Include
HB13-24	6 - 24	9/12/2013	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-3	6	24	6			No	Exclude
HB13-25	0 - 6 *	9/12/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	OC-11	0	6	57			Yes	Include
HB13-25	0 - 18	9/12/2013	Area 1	0.047	0.047	Benzo(g,h,i)perylene	OC-11	0	18	57			Yes	Include
HB13-25	6 - 18 *	9/12/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	OC-11	6	18	57			Yes	Include
HB13-25	18 - 36 *	9/12/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	OC-11	18	36	57			Yes	Include
HB13-25	18 - 57	9/12/2013	Area 1	0.02	0.02	Benzo(g,h,i)perylene	OC-11	18	57	57			Yes	Include
HB13-25	36 - 57 *	9/12/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	OC-11	36	57	57			Yes	Include
HB13-26	0 - 12	9/13/2013	Area 1	0.021	0.021	Benzo(g,h,i)perylene	FC-10	0	12	33	17.04	exclude	Yes	Exclude
HB13-26	12 - 18	9/13/2013	Area 1	0.047	0.047	Benzo(g,h,i)perylene	FC-10	12	18	33	17.04	include	Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than	Sample down	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft	573.6 ft (FC units)?	to target depth?	
HB13-26	18 - 33	9/13/2013	Area 1	0.039	0.039	Benzo(g,h,i)perylene	FC-10	18	33	33	17.04	include	Yes	Include
HB13-27	0 - 6 *	9/13/2013	Area 1	NA	NA	Benzo(g,h,i)perylene		0	6					Exclude
HB13-27	0 - 32	9/13/2013	Area 1	0.0097 U	0.0097	Benzo(g,h,i)perylene		0	32					Exclude
HB13-28	0 - 8 *	9/13/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-11	0	8	14.0000004	13.68	exclude	Yes	Exclude
HB13-28	8 - 14 *	9/13/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-11	8	14	14.0000004	13.68	include	Yes	Include
HB13-28	14 - 26 *	9/13/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-11	14	26	14.0000004	13.68	include	Yes	Include
HB13-28	26 - 40 *	9/13/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-11	26	40	14.0000004	13.68	include	No	Exclude
HB13-29	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-12/FC-13	0	6	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 12 *	9/13/2013	Area 1	0.046	0.046	Benzo(g,h,i)perylene	FC-12/FC-13	0	12	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 18 *	9/13/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-12/FC-13	0	18	44.0000004	1.044	include	Yes	Include
HB13-29	6 - 12	9/13/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-12/FC-13	6	12	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 24	9/13/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-12/FC-13	12	24	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 44 *	9/13/2013	Area 1	0.057	0.057	Benzo(g,h,i)perylene	FC-12/FC-13	12	44	44.0000004	1.044	include	Yes	Include
HB13-29	24 - 44	9/13/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-12/FC-13	24	44	44.0000004	1.044	include	Yes	Include
HB13-30	0 - 6	9/10/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	SND-1	0	6	60			Yes	Include
HB13-30	6 - 24	9/10/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	SND-1	6	24	60			Yes	Include
HB13-30	24 - 42	9/10/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	SND-1	24	42	60			Yes	Include
HB13-30	42 - 60	9/10/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	SND-1	42	60	60			Yes	Include
HB13-30	60 - 78	9/10/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	SND-1	60	78	60			No	Exclude
HB13-31	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-16	0	6	27	2.76	include	Yes	Include
HB13-31	6 - 18	9/13/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-16	6	18	27	2.76	include	Yes	Include
HB13-31	18 - 27	9/13/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-16	18	27	27	2.76	include	Yes	Include
HB13-31	27 - 33	9/13/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-16	27	33	27	2.76	include	No	Exclude
HB13-32	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-14	0	6	26.0000004	-2.52	include	Yes	Include
HB13-32	6 - 18	9/13/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-14	6	18	26.0000004	-2.52	include	Yes	Include
HB13-32	18 - 26	9/13/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-14	18	26	26.0000004	-2.52	include	Yes	Include
HB13-32	26 - 32	9/13/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-14	26	32	26.0000004	-2.52	include	Yes	Include
HB13-33	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(g,h,i)perylene		0	6	12			Yes	Include
HB13-33	6 - 12	9/13/2013	Area 1	NA	NA	Benzo(g,h,i)perylene		6	12	12			Yes	Include
HB13-34	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(g,h,i)perylene		0	6	0.5000004			Yes	Include
HB13-35	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene		0	6	3.9999996			Yes	Include
HB13-35	6 - 12	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene		6	12	3.9999996			No	Exclude
HB13-37	2 - 6	9/10/2013	Hughitt Ave Slip	1.7	1.7	Benzo(g,h,i)perylene	HS-3	2	6	6			Yes	Include
HB13-38	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-3	0	6	6			Yes	Include
HB13-39	4 - 10	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-2	4	10	27.9999996			Yes	Include
HB13-39	10 - 28	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-2	10	28	27.9999996			Yes	Include
HB13-39	28 - 34	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-2	28	34	27.9999996			No	Exclude
HB13-40	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-2	0	6	86.0000004			Yes	Include
HB13-40	0 - 24 *	9/13/2013	Hughitt Ave Slip	0.11	0.11	Benzo(g,h,i)perylene	HS-2	0	24	86.0000004			Yes	Include
HB13-40	6 - 24	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-2	6	24	86.0000004			Yes	Include
HB13-40	24 - 48	9/13/2013	Hughitt Ave Slip	0.21	0.21	Benzo(g,h,i)perylene	HS-2	24	48	86.0000004			Yes	Include
HB13-40	48 - 72	9/13/2013	Hughitt Ave Slip	0.014 U	0.014	Benzo(g,h,i)perylene	HS-2	48	72	86.0000004			Yes	Include
HB13-40	72 - 86	9/13/2013	Hughitt Ave Slip	0.013 U	0.013	Benzo(g,h,i)perylene	HS-2	72	86	86.0000004			Yes	Include
HB13-41	0 - 6	9/10/2013	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-2	0	6	29.0000004			Yes	Include
HB13-41	0 - 24 *	9/10/2013	Hughitt Ave Slip	0.67	0.67	Benzo(g,h,i)perylene	HS-2	0	24	29.0000004			Yes	Include
HB13-41	6 - 24	9/10/2013	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-2	6	24	29.0000004			Yes	Include
HB13-41	24 - 29	9/10/2013	Hughitt Ave Slip	0.28	0.28	Benzo(g,h,i)perylene	HS-2	24	29	29.0000004			Yes	Include
HB13-42	0 - 6	9/11/2013	Cummings Ave Slip	1	1	Benzo(g,h,i)perylene	CS-3	0	6	33			Yes	Include
HB13-42	6 - 24	9/11/2013	Cummings Ave Slip	0.25	0.25	Benzo(g,h,i)perylene	CS-3	6	24	33			Yes	Include
HB13-42	24 - 33	9/11/2013	Cummings Ave Slip	0.091	0.091	Benzo(g,h,i)perylene	CS-3	24	33	33			Yes	Include
HB13-42	33 - 36	9/11/2013	Cummings Ave Slip	0.010 U	0.01	Benzo(g,h,i)perylene	CS-3	33	36	33			No	Exclude
HB13-43	0 - 6	9/11/2013	Cummings Ave Slip	4	4	Benzo(g,h,i)perylene	CS-2	0	6	24			Yes	Include
HB13-43	0 - 24 *	9/11/2013	Cummings Ave Slip	NA	NA	Benzo(g,h,i)perylene	CS-2	0	24	24			Yes	Include
HB13-43	6 - 24	9/11/2013	Cummings Ave Slip	0.22	0.22	Benzo(g,h,i)perylene	CS-2	6	24	24			Yes	Include
HB13-45	0 - 6	9/11/2013	Cummings Ave Slip	1.2	1.2	Benzo(g,h,i)perylene	CS-2	0	6	21			Yes	Include
HB13-45	6 - 21	9/11/2013	Cummings Ave Slip	1.6	1.6	Benzo(g,h,i)perylene	CS-2	6	21	21			Yes	Include
HB13-47	0 - 6	9/10/2013	Fraser Ave Slip	0.77	0.77	Benzo(g,h,i)perylene	FS-1	0	6	30.996			Yes	Include
HB13-47	6 - 24	9/10/2013	Fraser Ave Slip	0.96	0.96	Benzo(g,h,i)perylene	FS-1	6	24	30.996			Yes	Include
HB13-47	24 - 31	9/10/2013	Fraser Ave Slip	2.1	2.1	Benzo(g,h,i)perylene	FS-1	24	31	30.996			Yes	Include
HB13-47	31 - 37 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(g,h,i)perylene	FS-1	31	37	30.996			No	Exclude
HB13-48	0 - 6 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(g,h,i)perylene	FS-2	0	6	45.9999996			Yes	Include
HB13-48	0 - 24	9/10/2013	FRASER AVE SLIP	1.5	1.5	Benzo(g,h,i)perylene	FS-2	0	24	45.9999996			Yes	Include
HB13-48	6 - 24 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(g,h,i)perylene	FS-2	6	24	45.9999996			Yes	Include
HB13-48	24 - 42 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(g,h,i)perylene	FS-2	24	42	45.9999996			Yes	Include
HB13-48	24 - 46 *	9/10/2013	FRASER AVE SLIP	1.7	1.7	Benzo(g,h,i)perylene	FS-2	24	46	45.9999996			Yes	Include
HB13-48	42 - 46 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(g,h,i)perylene	FS-2	42	46	45.9999996			Yes	Include
HB13-49	0 - 6	9/11/2013	Fraser Ave Slip	0.54	0.54	Benzo(g,h,i)perylene	FS-2	0	6	30			Yes	Include
HB13-49	6 - 24	9/11/2013	Fraser Ave Slip	0.48	0.48	Benzo(g,h,i)perylene	FS-2	6	24	30			Yes	Include
HB13-49	24 - 30	9/11/2013	Fraser Ave Slip	0.63	0.63	Benzo(g,h,i)perylene	FS-2	24	30	30			Yes	Include
HB13-50	0 - 12 *	9/13/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	OC-12	0	12	47.0000004			Yes	Include
HB13-50	12 - 24 *	9/13/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	OC-12	12	24	47.0000004			Yes	Include
HB13-50	24 - 36 *	9/13/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	OC-12	24	36	47.0000004			Yes	Include
HB13-50	36 - 47 *	9/13/2013	Area 1	NA	NA	Benzo(g,h,i)perylene	OC-12	36	47	47.0000004			Yes	Include
HB13-51	0 - 6 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		0	6					Exclude
HB13-51	6 - 15 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene		6	15					Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB13-52	0 - 6 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-10	0	6	12			Yes	Include
HB13-52	6 - 12 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-10	6	12	12			Yes	Include
HB13-52	12 - 17 *	9/11/2013	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-10	12	17	12			No	Exclude
HB14-01	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(g,h,i)perylene	SND-1	0	6					Exclude
HB14-01	6 - 18	8/18/2014	Area 1	NA	NA	Benzo(g,h,i)perylene	SND-1	6	18					Exclude
HB14-02	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-15	0	6	17.004	-12.996	include	Yes	Include
HB14-02	6 - 14	8/18/2014	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-15	6	14	17.004	-12.996	include	Yes	Include
HB14-03	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-15	0	6	29.997288	-2.472	include	Yes	Include
HB14-03	6 - 18	8/18/2014	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-15	6	18	29.997288	-2.472	include	Yes	Include
HB14-03	18 - 30	8/18/2014	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-15	18	30	29.997288	-2.472	include	Yes	Include
HB14-03	30 - 42	8/18/2014	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-15	30	42	29.997288	-2.472	include	No	Exclude
HB14-03	42 - 54	8/18/2014	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-15	42	54	29.997288	-2.472	include	No	Exclude
HB14-04	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(g,h,i)perylene		0	6	29.904			Yes	Include
HB14-04	6 - 18	8/18/2014	Area 1	NA	NA	Benzo(g,h,i)perylene		6	18	29.904			Yes	Include
HB14-04	18 - 30	8/18/2014	Area 1	NA	NA	Benzo(g,h,i)perylene		18	30	29.904			Yes	Include
HB14-05 G		8/18/2014	Area 1	NA	NA	Benzo(g,h,i)perylene			#VALUE!					Exclude
HB14-06	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(g,h,i)perylene		0	6	30.588			Yes	Include
HB14-06	6 - 24	8/18/2014	Area 1	NA	NA	Benzo(g,h,i)perylene		6	24	30.588			Yes	Include
HB14-07	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(g,h,i)perylene		0	6	78.012			Yes	Include
HB14-07	6 - 24	8/18/2014	Area 1	NA	NA	Benzo(g,h,i)perylene		6	24	78.012			Yes	Include
HB14-07	24 - 42	8/18/2014	Area 1	NA	NA	Benzo(g,h,i)perylene		24	42	78.012			Yes	Include
HB14-08	0 - 6	8/19/2014	Area 1	NA	NA	Benzo(g,h,i)perylene		0	6	34.416			Yes	Include
HB14-08	6 - 19	8/19/2014	Area 1	NA	NA	Benzo(g,h,i)perylene		6	19	34.416			Yes	Include
HB14-09	0 - 12	8/19/2014	Area 1	NA	NA	Benzo(g,h,i)perylene	OC-16	0	12	12.003804			Yes	Include
HB14-09	12 - 24	8/19/2014	Area 1	NA	NA	Benzo(g,h,i)perylene	OC-16	12	24	12.003804			Yes	Include
HB14-09	24 - 36	8/19/2014	Area 1	NA	NA	Benzo(g,h,i)perylene	OC-16	24	36	12.003804			No	Exclude
HB14-09	36 - 48	8/19/2014	Area 1	NA	NA	Benzo(g,h,i)perylene	OC-16	36	48	12.003804			No	Exclude
HB14-09	48 - 60	8/19/2014	Area 1	NA	NA	Benzo(g,h,i)perylene	OC-16	48	60	12.003804			No	Exclude
HB14-09	60 - 72	8/19/2014	Area 1	NA	NA	Benzo(g,h,i)perylene	OC-16	60	72	12.003804			No	Exclude
HB14-10	0 - 6	8/20/2014	Area 1	0.13	0.13	Benzo(g,h,i)perylene		0	6	54.005544			Yes	Include
HB14-10	6 - 18	8/20/2014	Area 1	0.12	0.12	Benzo(g,h,i)perylene		6	18	54.005544			Yes	Include
HB14-10	18 - 30	8/20/2014	Area 1	0.16	0.16	Benzo(g,h,i)perylene		18	30	54.005544			Yes	Include
HB14-10	30 - 42	8/20/2014	Area 1	0.17	0.17	Benzo(g,h,i)perylene		30	42	54.005544			Yes	Include
HB14-10	42 - 54	8/20/2014	Area 1	0.16	0.16	Benzo(g,h,i)perylene		42	54	54.005544			Yes	Include
HB14-10	54 - 66	8/20/2014	Area 1	NA	NA	Benzo(g,h,i)perylene		54	66	54.005544			Yes	Include
HB14-11	0 - 6	8/19/2014	Area 1	NA	NA	Benzo(g,h,i)perylene	SND-2	0	6					Exclude
HB14-11	6 - 18	8/19/2014	Area 1	NA	NA	Benzo(g,h,i)perylene	SND-2	6	18					Exclude
HB14-11	18 - 20	8/19/2014	Area 1	NA	NA	Benzo(g,h,i)perylene	SND-2	18	20					Exclude
HB14-12	0 - 6	8/19/2014	Area 1	NA	NA	Benzo(g,h,i)perylene	SND-4	0	6	26.34			Yes	Include
HB14-12	6 - 18	8/19/2014	Area 1	NA	NA	Benzo(g,h,i)perylene	SND-4	6	18	26.34			Yes	Include
HB14-12	18 - 32	8/19/2014	Area 1	NA	NA	Benzo(g,h,i)perylene	SND-4	18	32	26.34			Yes	Include
HB14-13	0 - 6	8/19/2014	Area 2	NA	NA	Benzo(g,h,i)perylene	SND-5	0	6	-0.648			No	Exclude
HB14-13	6 - 11	8/19/2014	Area 2	NA	NA	Benzo(g,h,i)perylene	SND-5	6	11	-0.648			No	Exclude
HB14-14	0 - 6	8/20/2014	Area 2	0.099	0.099	Benzo(g,h,i)perylene	OC-4	0	6	101.997672			Yes	Include
HB14-14	4 - 6	8/20/2014	Area 2	0.42	0.42	Benzo(g,h,i)perylene	OC-4	4	6	101.997672			Yes	Include
HB14-14	6 - 18	8/20/2014	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-4	6	18	101.997672			Yes	Include
HB14-14	6 - 30	8/20/2014	Area 2	0.0350 U	0.035	Benzo(g,h,i)perylene	OC-4	6	30	101.997672			Yes	Include
HB14-14	18 - 30	8/20/2014	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-4	18	30	101.997672			Yes	Include
HB14-14	30 - 42	8/20/2014	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-4	30	42	101.997672			Yes	Include
HB14-14	30 - 54	8/20/2014	Area 2	0.17	0.17	Benzo(g,h,i)perylene	OC-4	30	54	101.997672			Yes	Include
HB14-14	42 - 54	8/20/2014	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-4	42	54	101.997672			Yes	Include
HB14-14	54 - 66	8/20/2014	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-4	54	66	101.997672			Yes	Include
HB14-14	54 - 78	8/20/2014	Area 2	0.2	0.2	Benzo(g,h,i)perylene	OC-4	54	78	101.997672			Yes	Include
HB14-14	66 - 78	8/20/2014	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-4	66	78	101.997672			Yes	Include
HB14-14	78 - 90	8/20/2014	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-4	78	90	101.997672			Yes	Include
HB14-14	78 - 102	8/20/2014	Area 2	0.36	0.36	Benzo(g,h,i)perylene	OC-4	78	102	101.997672			Yes	Include
HB14-14	90 - 102	8/20/2014	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-4	90	102	101.997672			Yes	Include
HB14-14	102 - 111	8/20/2014	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-4	102	111	101.997672			No	Exclude
HB15-01	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	0	12	51.096			Yes	Include
HB15-01	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	12	24	51.096			Yes	Include
HB15-01	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	24	36	51.096			Yes	Include
HB15-01	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	36	48	51.096			Yes	Include
HB15-01	48 - 57	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	48	57	51.096			Yes	Include
HB15-02	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	0	12	48.000696			Yes	Include
HB15-02	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	12	24	48.000696			Yes	Include
HB15-02	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	24	36	48.000696			Yes	Include
HB15-02	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	36	48	48.000696			Yes	Include
HB15-03	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	0	12	67.9950564			Yes	Include
HB15-03	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	12	24	67.9950564			Yes	Include
HB15-03	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	24	36	67.9950564			Yes	Include
HB15-03	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	36	48	67.9950564			Yes	Include
HB15-03	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	48	60	67.9950564			Yes	Include
HB15-03	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	60	68	67.9950564			Yes	Include
HB15-03R	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	0	12	67.9950564			Yes	Include
HB15-03R	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	12	24	67.9950564			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB15-03R	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	24	36	67.9950564			Yes	Include
HB15-03R	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	36	48	67.9950564			Yes	Include
HB15-03R	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	48	60	67.9950564			Yes	Include
HB15-03R	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	60	68	67.9950564			Yes	Include
HB15-04	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	0	12	63.84			Yes	Include
HB15-04	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	12	24	63.84			Yes	Include
HB15-04	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	24	36	63.84			Yes	Include
HB15-04	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	36	48	63.84			Yes	Include
HB15-04	48 - 59	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	48	59	63.84			Yes	Include
HB15-05	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	0	12	71.994852			Yes	Include
HB15-05	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	12	24	71.994852			Yes	Include
HB15-05	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	24	36	71.994852			Yes	Include
HB15-05	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	36	48	71.994852			Yes	Include
HB15-05	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	48	60	71.994852			Yes	Include
HB15-05	60 - 72	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	60	72	71.994852			Yes	Include
HB15-05	72 - 80	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-1	72	80	71.994852			No	Exclude
HB15-06	0 - 9	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene	HS-2	0	9	9.000636			Yes	Include
HB15-07	0 - 12	6/23/2015	Cummings Ave Slip	NA	NA	Benzo(g,h,i)perylene	CS-1	0	12	90.9955116			Yes	Include
HB15-07	12 - 24	6/23/2015	Cummings Ave Slip	NA	NA	Benzo(g,h,i)perylene	CS-1	12	24	90.9955116			Yes	Include
HB15-07	24 - 36	6/23/2015	Cummings Ave Slip	NA	NA	Benzo(g,h,i)perylene	CS-1	24	36	90.9955116			Yes	Include
HB15-07	36 - 48	6/23/2015	Cummings Ave Slip	1.4	1.4	Benzo(g,h,i)perylene	CS-1	36	48	90.9955116			Yes	Include
HB15-07	48 - 60	6/23/2015	Cummings Ave Slip	1.9	1.9	Benzo(g,h,i)perylene	CS-1	48	60	90.9955116			Yes	Include
HB15-07	60 - 72	6/23/2015	Cummings Ave Slip	1.5	1.5	Benzo(g,h,i)perylene	CS-1	60	72	90.9955116			Yes	Include
HB15-07	72 - 84	6/23/2015	Cummings Ave Slip	1.3	1.3	Benzo(g,h,i)perylene	CS-1	72	84	90.9955116			Yes	Include
HB15-07	84 - 91	6/23/2015	Cummings Ave Slip	1.8	1.8	Benzo(g,h,i)perylene	CS-1	84	91	90.9955116			Yes	Include
HB15-08	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(g,h,i)perylene	CS-2	0	12	65.997804			Yes	Include
HB15-08	12 - 24	6/24/2015	Cummings Ave Slip	1.1	1.1	Benzo(g,h,i)perylene	CS-2	12	24	65.997804			Yes	Include
HB15-08	24 - 36	6/24/2015	Cummings Ave Slip	0.98	0.98	Benzo(g,h,i)perylene	CS-2	24	36	65.997804			Yes	Include
HB15-08	36 - 48	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(g,h,i)perylene	CS-2	36	48	65.997804			Yes	Include
HB15-08	48 - 60	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(g,h,i)perylene	CS-2	48	60	65.997804			Yes	Include
HB15-08	60 - 66	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(g,h,i)perylene	CS-2	60	66	65.997804			Yes	Include
HB15-09	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(g,h,i)perylene	CS-3	0	12	45.396			Yes	Include
HB15-09	12 - 17	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(g,h,i)perylene	CS-3	12	17	45.396			Yes	Include
HB15-10	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(g,h,i)perylene		0	12	-0.936			No	Exclude
HB15-11	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(g,h,i)perylene	CS-5	0	12	27.9944796			Yes	Include
HB15-11	12 - 24	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(g,h,i)perylene	CS-5	12	24	27.9944796			Yes	Include
HB15-11	24 - 28	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(g,h,i)perylene	CS-5	24	28	27.9944796			Yes	Include
HB15-12	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	0	12	29.994876			Yes	Include
HB15-12	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	12	24	29.994876			Yes	Include
HB15-12	24 - 30	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	24	30	29.994876			Yes	Include
HB15-13	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	0	12	64.0033716			Yes	Include
HB15-13	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	12	24	64.0033716			Yes	Include
HB15-13	24 - 36	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	24	36	64.0033716			Yes	Include
HB15-13	36 - 48	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	36	48	64.0033716			Yes	Include
HB15-13	48 - 60	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	48	60	64.0033716			Yes	Include
HB15-13	60 - 64	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	60	64	64.0033716			Yes	Include
HB15-14	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	0	12	23.996196			Yes	Include
HB15-14	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	12	24	23.996196			Yes	Include
HB15-14	24 - 28	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	24	28	23.996196			No	Exclude
HB15-14	28 - 35	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	28	35	23.996196			No	Exclude
HB15-15	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-2	0	12	19.0051356			Yes	Include
HB15-15	12 - 19	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-2	12	19	19.0051356			Yes	Include
HB15-15R	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-2	0	12	18.9999996			Yes	Include
HB15-15R	12 - 19	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-2	12	19	18.9999996			Yes	Include
HB15-16	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	0	12	8.304			Yes	Include
HB15-16	12 - 19	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-1	12	19	8.304			No	Exclude
HB15-17	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-2	0	12	36.004608			Yes	Include
HB15-17	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-2	12	24	36.004608			Yes	Include
HB15-17	24 - 36	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-2	24	36	36.004608			Yes	Include
HB15-17	36 - 48	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-2	36	48	36.004608			Yes	Include
HB15-17	48 - 54	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-2	48	54	36.004608			No	Exclude
HB15-18	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-2	0	12	23.999508			Yes	Include
HB15-18	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FP-2	12	24	23.999508			Yes	Include
HB15-19	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene		0	12					Exclude
HB15-19	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene		12	24					Exclude
HB15-19	24 - 32	6/24/2015	Area 2	NA	NA	Benzo(g,h,i)perylene		24	32					Exclude
HB15-20	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-3	0	12	33.864			Yes	Include
HB15-20	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-3	12	24	33.864			Yes	Include
HB15-20	24 - 28	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-3	24	28	33.864			Yes	Include
HB15-20B	0 - 6	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-13	0	6	11.996892			Yes	Include
HB15-20B	6 - 12	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-13	6	12	11.996892			Yes	Include
HB15-21G	15 - 21	6/29/2015	Fraser Ave Slip	NA	NA	Benzo(g,h,i)perylene		15	21					Exclude
HB15-22G	0 - 6	6/29/2015	Fraser Ave Slip	0.12	0.12	Benzo(g,h,i)perylene	OC-8	0	6	6			Yes	Include
HB15-23	0 - 12	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(g,h,i)perylene	FS-1	0	12	55.02			Yes	Include
HB15-23	12 - 24	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(g,h,i)perylene	FS-1	12	24	55.02			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB15-23	24 - 36	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(g,h,i)perylene	FS-1	24	36	55.02			Yes	Include
HB15-23	36 - 48	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(g,h,i)perylene	FS-1	36	48	55.02			Yes	Include
HB15-23	48 - 56	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(g,h,i)perylene	FS-1	48	56	55.02			Yes	Include
HB15-25	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-1	0	12	77.4			Yes	Include
HB15-25	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-1	12	24	77.4			Yes	Include
HB15-25	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-1	24	36	77.4			Yes	Include
HB15-25	36 - 48	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-1	36	48	77.4			Yes	Include
HB15-25	48 - 60	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-1	48	60	77.4			Yes	Include
HB15-25	60 - 72	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-1	60	72	77.4			Yes	Include
HB15-25	72 - 88	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-1	72	88	77.4			Yes	Include
HB15-26	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-2	0	12	38.28	6.36	include	Yes	Include
HB15-26	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-2	12	24	38.28	6.36	include	Yes	Include
HB15-26	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-2	24	36	38.28	6.36	include	Yes	Include
HB15-26	36 - 46	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-2	36	46	38.28	6.36	include	Yes	Include
HB15-27	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-3	0	12	33.6	14.64	exclude	Yes	Exclude
HB15-27	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-3	12	24	33.6	14.64	include	Yes	Include
HB15-27	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-3	24	36	33.6	14.64	include	Yes	Include
HB15-27	36 - 48	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-3	36	48	33.6	14.64	include	No	Exclude
HB15-27	48 - 60	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-3	48	60	33.6	14.64	include	No	Exclude
HB15-27	60 - 71	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	FC-3	60	71	33.6	14.64	include	No	Exclude
HB15-28	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-7	0	12	11.994072			Yes	Include
HB15-28	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-7	12	24	11.994072			No	Exclude
HB15-28	24 - 30	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-7	24	30	11.994072			No	Exclude
HB15-30	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene		0	12	43.776			Yes	Include
HB15-30	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene		12	24	43.776			Yes	Include
HB15-30	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene		24	36	43.776			Yes	Include
HB15-30	36 - 50	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene		36	50	43.776			Yes	Include
HB15-31	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene		0	12					Exclude
HB15-31	12 - 20	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene		12	20					Exclude
HB15-32	0 - 12	6/25/2015	Area 1	NA	NA	Benzo(g,h,i)perylene	SND-4	0	12	11.995236			Yes	Include
HB15-32	12 - 26	6/25/2015	Area 1	NA	NA	Benzo(g,h,i)perylene	SND-4	12	26	11.995236			No	Exclude
HB15-33	0 - 12	6/25/2015	Area 1	NA	NA	Benzo(g,h,i)perylene		0	12	26.292			Yes	Include
HB15-33	12 - 24	6/25/2015	Area 1	NA	NA	Benzo(g,h,i)perylene		12	24	26.292			Yes	Include
HB15-33	24 - 39	6/25/2015	Area 1	NA	NA	Benzo(g,h,i)perylene		24	39	26.292			Yes	Include
HB15-34	0 - 12	6/25/2015	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-11	0	12		35.52	exclude		Exclude
HB15-34	12 - 24	6/25/2015	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-11	12	24		35.52	exclude		Exclude
HB15-34	24 - 32	6/25/2015	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-11	24	32		35.52	exclude		Exclude
HB15-35	0 - 12	6/25/2015	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-16	0	12	74.28	-6.48	include	Yes	Include
HB15-35	12 - 24	6/25/2015	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-16	12	24	74.28	-6.48	include	Yes	Include
HB15-35	24 - 36	6/25/2015	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-16	24	36	74.28	-6.48	include	Yes	Include
HB15-35	36 - 48	6/25/2015	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-16	36	48	74.28	-6.48	include	Yes	Include
HB15-35	48 - 60	6/25/2015	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-16	48	60	74.28	-6.48	include	Yes	Include
HB15-35	60 - 72	6/25/2015	Area 1	NA	NA	Benzo(g,h,i)perylene	FC-16	60	72	74.28	-6.48	include	Yes	Include
HB15-36G	15 - 36	6/29/2015	Area 2	NA	NA	Benzo(g,h,i)perylene		15	36					Exclude
HB15-37	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-9	0	12	51.048			Yes	Include
HB15-37	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-9	12	24	51.048			Yes	Include
HB15-37	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-9	24	36	51.048			Yes	Include
HB15-37	36 - 48	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-9	36	48	51.048			Yes	Include
HB15-37	48 - 60	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-9	48	60	51.048			Yes	Include
HB15-37	60 - 74	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-9	60	74	51.048			No	Exclude
HB15-38	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-9	0	12	83.184			Yes	Include
HB15-38	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-9	12	24	83.184			Yes	Include
HB15-38	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-9	24	36	83.184			Yes	Include
HB15-38	36 - 48	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-9	36	48	83.184			Yes	Include
HB15-38	48 - 60	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-9	48	60	83.184			Yes	Include
HB15-38	60 - 72	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-9	60	72	83.184			Yes	Include
HB15-38	72 - 84	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-9	72	84	83.184			Yes	Include
HB15-38	84 - 96	6/25/2015	Area 2	NA	NA	Benzo(g,h,i)perylene	OC-9	84	96	83.184			No	Exclude
HB15-G28	0 - 6	6/25/2015	Hughitt Ave Slip	NA	NA	Benzo(g,h,i)perylene		0	6					Exclude
HB15-HC20A	0 - 6	6/25/2015	Area 1	NA	NA	Benzo(g,h,i)perylene	OC-13	0	6	6.003036			Yes	Include
HB2A_4	0 - 6	5/12/2007	Hughitt Ave Slip	0.21	0.21	Benzo(k)fluoranthene	HS-1	0	6	48.00432			Yes	Include
HB2A_4	6 - 24	5/12/2007	Hughitt Ave Slip	0.43 J-	0.43	Benzo(k)fluoranthene	HS-1	6	24	48.00432			Yes	Include
HB2A_4	24 - 48	5/12/2007	Hughitt Ave Slip	0.08	0.08	Benzo(k)fluoranthene	HS-1	24	48	48.00432			Yes	Include
HB2A_6	0 - 5	5/2/2007	Area 1	0.69	0.69	Benzo(k)fluoranthene		0	5					Exclude
HB2A_7	0 - 5	5/10/2007	Area 1	0.45	0.45	Benzo(k)fluoranthene	SND-1	0	5					Exclude
HB2A_8	0 - 5	5/10/2007	Area 1	0.21	0.21	Benzo(k)fluoranthene	FC-12/FC-13	0	5	4.9944804	79.824	exclude	Yes	Exclude
HB2A_11	0 - 5	5/10/2007	Area 1	0.36 J-	0.36	Benzo(k)fluoranthene		0	5					Exclude
HB2A_13	0 - 5	5/2/2007	Area 1	0.26 BL	0.26	Benzo(k)fluoranthene		0	5					Exclude
HB2A_16	0 - 5	5/2/2007	Area 1	0.094 J-BL	0.094	Benzo(k)fluoranthene		0	5					Exclude
HB2A_210	0 - 6	5/16/2007	Area 1	0.0080 U	0.008	Benzo(k)fluoranthene		0	6					Exclude
HB2A_210	6 - 24	5/16/2007	Area 1	0.0083 U	0.0083	Benzo(k)fluoranthene		6	24					Exclude
HB2A_210	24 - 48	5/16/2007	Area 1	0.0061 UJS-	0.0061	Benzo(k)fluoranthene		24	48					Exclude
HB2A_GENES	0 - 5	5/22/2007	Cummings Ave Slip	0.34	0.34	Benzo(k)fluoranthene		0	5					Exclude
HB2B_17	0 - 6	5/12/2007	Fraser Ave Slip	0.21	0.21	Benzo(k)fluoranthene	FS-2	0	6	24.005676			Yes	Include
HB2B_17	6 - 24	5/12/2007	Fraser Ave Slip	0.064	0.064	Benzo(k)fluoranthene	FS-2	6	24	24.005676			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB2B_18	0 - 6	5/7/2007	Area 2	0.22	0.22	Benzo(k)fluoranthene	FP-1	0	6	47.997552			Yes	Include
HB2B_18	6 - 24	5/7/2007	Area 2	0.13	0.13	Benzo(k)fluoranthene	FP-1	6	24	47.997552			Yes	Include
HB2B_18	24 - 48	5/7/2007	Area 2	0.16	0.16	Benzo(k)fluoranthene	FP-1	24	48	47.997552			Yes	Include
HB2B_19	0 - 6	5/2/2007	Area 2	0.068 J-M-	0.068	Benzo(k)fluoranthene	OC-1	0	6	6.001728			Yes	Include
HB2B_19	6 - 24	5/2/2007	Area 2	0.010 J-M-	0.01	Benzo(k)fluoranthene	OC-1	6	24	6.001728			Yes	Include
HB2B_20	0 - 6	5/2/2007	Area 2	0.13 J-M-	0.13	Benzo(k)fluoranthene	OC-9	0	6	23.997336			Yes	Include
HB2B_20	6 - 24	5/2/2007	Area 2	0.094 J-M-	0.094	Benzo(k)fluoranthene	OC-9	6	24	23.997336			Yes	Include
HB2B_20	24 - 48	5/2/2007	Area 2	0.027 J-M-	0.027	Benzo(k)fluoranthene	OC-9	24	48	23.997336			No	Exclude
HB2B_21	0 - 5	5/2/2007	Area 2	0.15 BL	0.15	Benzo(k)fluoranthene		0	5					Exclude
HB2B_22	0 - 5	5/2/2007	Area 2	0.22 BL	0.22	Benzo(k)fluoranthene	OC-5	0	5	5.0028204			Yes	Include
HB3A GENES	0 - 5	9/6/2007	Cummings Ave Slip	0.058	0.058	Benzo(k)fluoranthene		0	5					Exclude
HB10-1-01	0 - 6	10/16/2010	Area 1	0.049 J	0.049	Benzo(k)fluoranthene		0	6					Exclude
HB10-1-01	0 - 12	10/16/2010	Area 1	0.0071 U	0.0071	Benzo(k)fluoranthene		0	12					Exclude
HB10-1-01	36 - 40	10/16/2010	Area 1	0.0051 U	0.0051	Benzo(k)fluoranthene		36	40					Exclude
HB10-1-02	0 - 6	10/16/2010	Area 1	0.036	0.036	Benzo(k)fluoranthene		0	6	23.0027508			Yes	Include
HB10-1-02	12 - 23	10/16/2010	Area 1	0.034	0.034	Benzo(k)fluoranthene		12	23	23.0027508			Yes	Include
HB10-1-03	0 - 6	10/16/2010	Area 1	0.11 J	0.11	Benzo(k)fluoranthene	FC-17	0	6	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	0 - 12	10/16/2010	Area 1	0.037	0.037	Benzo(k)fluoranthene	FC-17	0	12	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	12 - 36	10/16/2010	Area 1	0.042	0.042	Benzo(k)fluoranthene	FC-17	12	36	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	36 - 60	10/16/2010	Area 1	0.097 J	0.097	Benzo(k)fluoranthene	FC-17	36	60	59.99475	49.872	include	Yes	Include
HB10-1-03	60 - 84	10/16/2010	Area 1	0.11 J	0.11	Benzo(k)fluoranthene	FC-17	60	84	59.99475	49.872	include	No	Exclude
HB10-1-04	0 - 6	10/17/2010	Area 1	0.042	0.042	Benzo(k)fluoranthene		0	6					Exclude
HB10-1-04	0 - 12	10/17/2010	Area 1	0.15 J	0.15	Benzo(k)fluoranthene		0	12					Exclude
HB10-1-04	12 - 36	10/17/2010	Area 1	0.064 J	0.064	Benzo(k)fluoranthene		12	36					Exclude
HB10-1-04	36 - 50	10/17/2010	Area 1	0.045	0.045	Benzo(k)fluoranthene		36	50					Exclude
HB10-1-05	0 - 6	10/16/2010	Area 1	0.2	0.2	Benzo(k)fluoranthene	OC-17	0	6	5.9987496			Yes	Include
HB10-1-07	0 - 6	10/17/2010	Area 1	1.1	1.1	Benzo(k)fluoranthene	OC-15	0	6	6.0057			Yes	Include
HB10-1-07	0 - 12	10/17/2010	Area 1	0.17	0.17	Benzo(k)fluoranthene	OC-15	0	12	6.0057			Yes	Include
HB10-1-07	12 - 36	10/17/2010	Area 1	0.18	0.18	Benzo(k)fluoranthene	OC-15	12	36	6.0057			No	Exclude
HB10-1-07	60 - 64	10/17/2010	Area 1	0.0040 UJ	0.004	Benzo(k)fluoranthene	OC-15	60	64	6.0057			No	Exclude
HB10-1-08	0 - 6	10/17/2010	Area 1	0.095	0.095	Benzo(k)fluoranthene		0	6	36.0057			Yes	Include
HB10-1-08	0 - 12	10/17/2010	Area 1	0.065	0.065	Benzo(k)fluoranthene		0	12	36.0057			Yes	Include
HB10-1-08	12 - 36	10/17/2010	Area 1	0.18	0.18	Benzo(k)fluoranthene		12	36	36.0057			Yes	Include
HB10-1-10	0 - 6	10/18/2010	Area 1	0.48	0.48	Benzo(k)fluoranthene	SND-1	0	6					Exclude
HB10-1-11	0 - 6	10/16/2010	Area 1	0.061	0.061	Benzo(k)fluoranthene		0	6	20.9987496			Yes	Include
HB10-1-11	12 - 21	10/16/2010	Area 1	0.075 J	0.075	Benzo(k)fluoranthene		12	21	20.9987496			Yes	Include
HB10-1-12	0 - 6	10/17/2010	Area 1	0.12	0.12	Benzo(k)fluoranthene		0	6					Exclude
HB10-1-12	0 - 12	10/17/2010	Area 1	0.15	0.15	Benzo(k)fluoranthene		0	12					Exclude
HB10-1-12	12 - 34	10/17/2010	Area 1	0.045 J	0.045	Benzo(k)fluoranthene		12	34					Exclude
HB10-1-13	0 - 6	10/18/2010	Area 1	0.16	0.16	Benzo(k)fluoranthene	FC-12/FC-13	0	6	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	0 - 12	10/18/2010	Area 1	0.33	0.33	Benzo(k)fluoranthene	FC-12/FC-13	0	12	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	12 - 36	10/18/2010	Area 1	0.31	0.31	Benzo(k)fluoranthene	FC-12/FC-13	12	36	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	60 - 67	10/18/2010	Area 1	0.43	0.43	Benzo(k)fluoranthene	FC-12/FC-13	60	67	36.0053004	42.816	include	No	Exclude
HB10-1-14	0 - 6	10/17/2010	Area 1	0.17	0.17	Benzo(k)fluoranthene		0	6	66.0057			Yes	Include
HB10-1-14	0 - 12	10/17/2010	Area 1	0.052	0.052	Benzo(k)fluoranthene		0	12	66.0057			Yes	Include
HB10-1-14	12 - 36	10/17/2010	Area 1	0.16	0.16	Benzo(k)fluoranthene		12	36	66.0057			Yes	Include
HB10-1-14	60 - 66	10/17/2010	Area 1	0.13	0.13	Benzo(k)fluoranthene		60	66	66.0057			Yes	Include
HB10-1-15	0 - 6	10/18/2010	Area 1	0.0056	0.0056	Benzo(k)fluoranthene	OC-13	0	6	16.0056996			Yes	Include
HB10-1-15	12 - 16	10/18/2010	Area 1	0.24	0.24	Benzo(k)fluoranthene	OC-13	12	16	16.0056996			Yes	Include
HB10-1-16	0 - 6	10/17/2010	Hughitt Ave Slip	0.2	0.2	Benzo(k)fluoranthene	HS-3	0	6	31.0056996			Yes	Include
HB10-1-16	0 - 12	10/17/2010	Hughitt Ave Slip	0.34 J	0.34	Benzo(k)fluoranthene	HS-3	0	12	31.0056996			Yes	Include
HB10-1-16	12 - 31	10/17/2010	Hughitt Ave Slip	0.19	0.19	Benzo(k)fluoranthene	HS-3	12	31	31.0056996			Yes	Include
HB10-1-17	0 - 6	10/17/2010	Area 1	0.091	0.091	Benzo(k)fluoranthene	OC-14	0	6	12			Yes	Include
HB10-1-20	0 - 6	10/17/2010	Hughitt Ave Slip	0.64	0.64	Benzo(k)fluoranthene		0	6	6.0057			Yes	Include
HB10-1-21	0 - 6	10/18/2010	Cummings Ave Slip	0.042 U	0.042	Benzo(k)fluoranthene		0	6	6.0012996			Yes	Include
HB10-1-21	12 - 23	10/18/2010	Cummings Ave Slip	0.13 J	0.13	Benzo(k)fluoranthene		12	23	6.0012996			No	Exclude
HB10-1-23	0 - 6	10/17/2010	Area 1	0.054 J	0.054	Benzo(k)fluoranthene		0	6	36.0057			Yes	Include
HB10-1-23	0 - 12	10/17/2010	Area 1	0.14	0.14	Benzo(k)fluoranthene		0	12	36.0057			Yes	Include
HB10-1-23	12 - 36	10/17/2010	Area 1	0.23	0.23	Benzo(k)fluoranthene		12	36	36.0057			Yes	Include
HB10-1-24	0 - 6	10/18/2010	Cummings Ave Slip	0.12	0.12	Benzo(k)fluoranthene	CS-4	0	6	36.0047496			Yes	Include
HB10-1-24	0 - 12	10/18/2010	Cummings Ave Slip	0.26	0.26	Benzo(k)fluoranthene	CS-4	0	12	36.0047496			Yes	Include
HB10-1-24	12 - 36	10/18/2010	Cummings Ave Slip	0.33	0.33	Benzo(k)fluoranthene	CS-4	12	36	36.0047496			Yes	Include
HB10-1-25	0 - 6	10/17/2010	Baxter Ave Embayment	0.05	0.05	Benzo(k)fluoranthene		0	6	6.0057			Yes	Include
HB10-1-27	0 - 6	10/18/2010	Area 1	0.057	0.057	Benzo(k)fluoranthene		0	6	-0.0027			No	Exclude
HB10-1-28	0 - 6	10/17/2010	Hughitt Ave Slip	0.31	0.31	Benzo(k)fluoranthene	HS-1	0	6	84.0057			Yes	Include
HB10-1-28	0 - 12	10/17/2010	Hughitt Ave Slip	0.25	0.25	Benzo(k)fluoranthene	HS-1	0	12	84.0057			Yes	Include
HB10-1-28	12 - 36	10/17/2010	Hughitt Ave Slip	0.35	0.35	Benzo(k)fluoranthene	HS-1	12	36	84.0057			Yes	Include
HB10-1-28	36 - 60	10/17/2010	Hughitt Ave Slip	0.23 J	0.23	Benzo(k)fluoranthene	HS-1	36	60	84.0057			Yes	Include
HB10-1-28	60 - 84	10/17/2010	Hughitt Ave Slip	0.41	0.41	Benzo(k)fluoranthene	HS-1	60	84	84.0057			Yes	Include
HB10-1-28	60 - 96	10/17/2010	Hughitt Ave Slip	0.053 J	0.053	Benzo(k)fluoranthene	HS-1	60	96	84.0057			Yes	Include
HB10-1-29	0 - 6	10/17/2010	Cummings Ave Slip	0.25	0.25	Benzo(k)fluoranthene	CS-1	0	6	83.9937			Yes	Include
HB10-1-29	0 - 12	10/17/2010	Cummings Ave Slip	0.61	0.61	Benzo(k)fluoranthene	CS-1	0	12	83.9937			Yes	Include
HB10-1-29	12 - 36	10/17/2010	Cummings Ave Slip	2.7	2.7	Benzo(k)fluoranthene	CS-1	12	36	83.9937			Yes	Include
HB10-1-29	36 - 60	10/17/2010	Cummings Ave Slip	1.4 U	1.4	Benzo(k)fluoranthene	CS-1	36	60	83.9937			Yes	Include
HB10-1-29	60 - 93	10/17/2010	Cummings Ave Slip	1.5 J	1.5	Benzo(k)fluoranthene	CS-1	60	93	83.9937			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB10-1-30	0 - 6	10/18/2010	Baxter Ave Embayment	0.46	0.46	Benzo(k)fluoranthene		0	6	60.0053004			Yes	Include
HB10-1-30	0 - 12	10/18/2010	Baxter Ave Embayment	1	1	Benzo(k)fluoranthene		0	12	60.0053004			Yes	Include
HB10-1-30	12 - 36	10/18/2010	Baxter Ave Embayment	0.72	0.72	Benzo(k)fluoranthene		12	36	60.0053004			Yes	Include
HB10-1-30	36 - 60	10/18/2010	Baxter Ave Embayment	0.31	0.31	Benzo(k)fluoranthene		36	60	60.0053004			Yes	Include
HB10-1-30	60 - 77	10/18/2010	Baxter Ave Embayment	0.3	0.3	Benzo(k)fluoranthene		60	77	60.0053004			Yes	Include
HB10-1-31	0 - 6	10/18/2010	Baxter Ave Embayment	0.37	0.37	Benzo(k)fluoranthene	OC-11	0	6	35.9973			Yes	Include
HB10-1-31	0 - 12	10/18/2010	Baxter Ave Embayment	0.45	0.45	Benzo(k)fluoranthene	OC-11	0	12	35.9973			Yes	Include
HB10-1-31	12 - 36	10/18/2010	Baxter Ave Embayment	0.29	0.29	Benzo(k)fluoranthene	OC-11	12	36	35.9973			Yes	Include
HB10-2-18	0 - 6	10/18/2010	Area 2	0.34 J	0.34	Benzo(k)fluoranthene	OC-2	0	6	6.0053004			Yes	Include
HB10-2-26	0 - 6	10/16/2010	Area 2	0.027	0.027	Benzo(k)fluoranthene		0	6					Exclude
HB10-2-26	12 - 17	10/16/2010	Area 2	0.063 J	0.063	Benzo(k)fluoranthene		12	17					Exclude
HB10-2-32	0 - 6	10/18/2010	Area 2	0.13	0.13	Benzo(k)fluoranthene		0	6					Exclude
HB10-2-33	0 - 6	10/18/2010	Area 2	0.034	0.034	Benzo(k)fluoranthene		0	6	6.0012996			Yes	Include
HB10-2-33	12 - 22	10/18/2010	Area 2	0.3	0.3	Benzo(k)fluoranthene		12	22	6.0012996			No	Exclude
HB10-2-34	0 - 6	10/18/2010	Area 2	0.21	0.21	Benzo(k)fluoranthene	FC-7	0	6	6.0053004	0.816	include	Yes	Include
HB10-2-35	0 - 6	10/18/2010	Area 2	0.027	0.027	Benzo(k)fluoranthene		0	6	30.0012996			Yes	Include
HB10-2-35	0 - 12	10/18/2010	Area 2	0.16	0.16	Benzo(k)fluoranthene		0	12	30.0012996			Yes	Include
HB10-2-35	12 - 30	10/18/2010	Area 2	0.18	0.18	Benzo(k)fluoranthene		12	30	30.0012996			Yes	Include
HB10-2-36	0 - 6	10/18/2010	Area 2	0.26 J	0.26	Benzo(k)fluoranthene	FC-5	0	6	6.0053004	-29.184	include	Yes	Include
HB10-2-37	0 - 6	10/18/2010	Area 2	0.21 U	0.21	Benzo(k)fluoranthene		0	6	23.0013			Yes	Include
HB10-2-37	12 - 23	10/18/2010	Area 2	0.096	0.096	Benzo(k)fluoranthene		12	23	23.0013			Yes	Include
HB10-2-38	0 - 6	10/18/2010	Area 2	0.052	0.052	Benzo(k)fluoranthene	OC-6	0	6	38.0013			Yes	Include
HB10-2-38	0 - 12	10/18/2010	Area 2	0.23	0.23	Benzo(k)fluoranthene	OC-6	0	12	38.0013			Yes	Include
HB10-2-38	36 - 38	10/18/2010	Area 2	0.94	0.94	Benzo(k)fluoranthene	OC-6	36	38	38.0013			Yes	Include
HB10-2-39	0 - 6	10/18/2010	Area 2	0.037 J	0.037	Benzo(k)fluoranthene		0	6	6.0012996			Yes	Include
HB10-2-39	0 - 12	10/18/2010	Area 2	0.25	0.25	Benzo(k)fluoranthene		0	12	6.0012996			Yes	Include
HB10-2-39	12 - 28	10/18/2010	Area 2	0.13	0.13	Benzo(k)fluoranthene		12	28	6.0012996			No	Exclude
HB10-2-40	0 - 6	10/18/2010	Area 2	0.13	0.13	Benzo(k)fluoranthene	OC-5	0	6	48.0053004			Yes	Include
HB10-2-40	0 - 12	10/18/2010	Area 2	0.049	0.049	Benzo(k)fluoranthene	OC-5	0	12	48.0053004			Yes	Include
HB10-2-40	12 - 36	10/18/2010	Area 2	0.0044 U	0.0044	Benzo(k)fluoranthene	OC-5	12	36	48.0053004			Yes	Include
HB10-2-40	36 - 48	10/18/2010	Area 2	0.0043 U	0.0043	Benzo(k)fluoranthene	OC-5	36	48	48.0053004			Yes	Include
HB10-2-41	0 - 6	10/18/2010	Area 2	0.61	0.61	Benzo(k)fluoranthene	FP-2	0	6	31.0012992			Yes	Include
HB10-2-41	0 - 12	10/18/2010	Area 2	0.044 J	0.044	Benzo(k)fluoranthene	FP-2	0	12	31.0012992			Yes	Include
HB10-2-41	12 - 31	10/18/2010	Area 2	0.045	0.045	Benzo(k)fluoranthene	FP-2	12	31	31.0012992			Yes	Include
HB10-2-42	0 - 6	10/18/2010	Area 2	0.17	0.17	Benzo(k)fluoranthene	FP-1	0	6	12.0012996			Yes	Include
HB10-2-42	0 - 12	10/18/2010	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	0	12	12.0012996			Yes	Include
HB10-2-42	12 - 30	10/18/2010	Area 2	0.26	0.26	Benzo(k)fluoranthene	FP-1	12	30	12.0012996			Yes	Include
HB10-2-43	0 - 6	10/17/2010	Area 2	0.019	0.019	Benzo(k)fluoranthene		0	6	22.0056996			Yes	Include
HB10-2-43	12 - 22	10/17/2010	Area 2	0.32	0.32	Benzo(k)fluoranthene		12	22	22.0056996			Yes	Include
HB10-2-44	0 - 6	10/18/2010	Area 2	0.49	0.49	Benzo(k)fluoranthene	FP-2	0	6	16.0012992			Yes	Include
HB10-2-44	12 - 16	10/18/2010	Area 2	0.58	0.58	Benzo(k)fluoranthene	FP-2	12	16	16.0012992			Yes	Include
HB10-2-45	0 - 6	10/18/2010	Area 2	0.14	0.14	Benzo(k)fluoranthene	FP-2	0	6	19.0012992			Yes	Include
HB10-2-45	12 - 19	10/18/2010	Area 2	0.29	0.29	Benzo(k)fluoranthene	FP-2	12	19	19.0012992			Yes	Include
HB13-01	0 - 6 *	9/11/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	0	6	48			Yes	Include
HB13-01	6 - 12 *	9/11/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	6	12	48			Yes	Include
HB13-01	12 - 18 *	9/11/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	12	18	48			Yes	Include
HB13-01	18 - 24 *	9/11/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	18	24	48			Yes	Include
HB13-01	24 - 30 *	9/11/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	24	30	48			Yes	Include
HB13-01	30 - 36 *	9/11/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	30	36	48			Yes	Include
HB13-01	36 - 42 *	9/11/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	36	42	48			Yes	Include
HB13-01	42 - 48 *	9/11/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	42	48	48			Yes	Include
HB13-01	48 - 54 *	9/11/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	48	54	48			No	Exclude
HB13-01	54 - 60 *	9/11/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	54	60	48			No	Exclude
HB13-01	60 - 66 *	9/11/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	60	66	48			No	Exclude
HB13-01	66 - 72 *	9/11/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	66	72	48			No	Exclude
HB13-01	72 - 74 *	9/11/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	72	74	48			No	Exclude
HB13-02	0 - 6 *	9/9/2013	Area 2	0.016 U	0.016	Benzo(k)fluoranthene		0	6	29.9960004			Yes	Include
HB13-02	6 - 12 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene		6	12	29.9960004			Yes	Include
HB13-02	12 - 18 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene		12	18	29.9960004			Yes	Include
HB13-02	18 - 24 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene		18	24	29.9960004			Yes	Include
HB13-02	24 - 30 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene		24	30	29.9960004			Yes	Include
HB13-02	30 - 36 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene		30	36	29.9960004			No	Exclude
HB13-02	36 - 42 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene		36	42	29.9960004			No	Exclude
HB13-02	42 - 48 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene		42	48	29.9960004			No	Exclude
HB13-03	0 - 6 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FP-2	0	6	46.0040004			Yes	Include
HB13-03	0 - 24	9/9/2013	Area 2	0.47	0.47	Benzo(k)fluoranthene	FP-2	0	24	46.0040004			Yes	Include
HB13-03	6 - 12 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FP-2	6	12	46.0040004			Yes	Include
HB13-03	12 - 18 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FP-2	12	18	46.0040004			Yes	Include
HB13-03	18 - 24 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FP-2	18	24	46.0040004			Yes	Include
HB13-03	24 - 30 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FP-2	24	30	46.0040004			Yes	Include
HB13-03	24 - 46	9/9/2013	Area 2	0.21	0.21	Benzo(k)fluoranthene	FP-2	24	46	46.0040004			Yes	Include
HB13-03	30 - 36 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FP-2	30	36	46.0040004			Yes	Include
HB13-03	36 - 42 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FP-2	36	42	46.0040004			Yes	Include
HB13-03	42 - 46 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FP-2	42	46	46.0040004			Yes	Include
HB13-03	46 - 51 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FP-2	46	51	46.0040004			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB13-04	0 - 6 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	OC-1	0	6	41.9960004			Yes	Include
HB13-04	6 - 12 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	OC-1	6	12	41.9960004			Yes	Include
HB13-04	12 - 18 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	OC-1	12	18	41.9960004			Yes	Include
HB13-04	18 - 24 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	OC-1	18	24	41.9960004			Yes	Include
HB13-04	24 - 30 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	OC-1	24	30	41.9960004			Yes	Include
HB13-04	30 - 36 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	OC-1	30	36	41.9960004			Yes	Include
HB13-04	36 - 42 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	OC-1	36	42	41.9960004			Yes	Include
HB13-04	42 - 44 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	OC-1	42	44	41.9960004			No	Exclude
HB13-05	0 - 32 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-1	0	32	43.8	33.156	exclude	Yes	Exclude
HB13-05	32 - 38 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-1	32	38	43.8	33.156	include	Yes	Include
HB13-05	38 - 44 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-1	38	44	43.8	33.156	include	Yes	Include
HB13-05	44 - 50 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-1	44	50	43.8	33.156	include	No	Exclude
HB13-05	50 - 56 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-1	50	56	43.8	33.156	include	No	Exclude
HB13-05	56 - 62	9/9/2013	Area 2	0.42	0.42	Benzo(k)fluoranthene	FC-1	56	62	43.8	33.156	include	No	Exclude
HB13-05	62 - 66	9/9/2013	Area 2	0.071	0.071	Benzo(k)fluoranthene	FC-1	62	66	43.8	33.156	include	No	Exclude
HB13-05	66 - 74 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-1	66	74	43.8	33.156	include	No	Exclude
HB13-05	74 - 77 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-1	74	77	43.8	33.156	include	No	Exclude
HB13-06	0 - 6 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	OC-2	0	6	48			Yes	Include
HB13-06	6 - 12 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	OC-2	6	12	48			Yes	Include
HB13-06	12 - 18 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	OC-2	12	18	48			Yes	Include
HB13-06	18 - 24 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	OC-2	18	24	48			Yes	Include
HB13-06	24 - 30 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	OC-2	24	30	48			Yes	Include
HB13-06	30 - 36 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	OC-2	30	36	48			Yes	Include
HB13-06	36 - 42 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	OC-2	36	42	48			Yes	Include
HB13-06	42 - 48 *	9/9/2013	Area 2	NA	NA	Benzo(k)fluoranthene	OC-2	42	48	48			Yes	Include
HB13-07	0 - 6 *	9/10/2013	Area 2	NA	NA	Benzo(k)fluoranthene		0	6					Exclude
HB13-07	6 - 12 *	9/10/2013	Area 2	NA	NA	Benzo(k)fluoranthene		6	12					Exclude
HB13-07	12 - 18 *	9/10/2013	Area 2	NA	NA	Benzo(k)fluoranthene		12	18					Exclude
HB13-07	18 - 24 *	9/10/2013	Area 2	NA	NA	Benzo(k)fluoranthene		18	24					Exclude
HB13-07	24 - 30 *	9/10/2013	Area 2	NA	NA	Benzo(k)fluoranthene		24	30					Exclude
HB13-07	30 - 36 *	9/10/2013	Area 2	NA	NA	Benzo(k)fluoranthene		30	36					Exclude
HB13-07	36 - 42 *	9/10/2013	Area 2	NA	NA	Benzo(k)fluoranthene		36	42					Exclude
HB13-07	42 - 48 *	9/10/2013	Area 2	NA	NA	Benzo(k)fluoranthene		42	48					Exclude
HB13-08	0 - 18	9/11/2013	Area 2	0.17	0.17	Benzo(k)fluoranthene	FC-2	0	18	38.28	21.756	exclude	Yes	Exclude
HB13-08	18 - 36	9/11/2013	Area 2	0.2	0.2	Benzo(k)fluoranthene	FC-2	18	36	38.28	21.756	include	Yes	Include
HB13-08	36 - 60	9/11/2013	Area 2	0.19	0.19	Benzo(k)fluoranthene	FC-2	36	60	38.28	21.756	include	Yes	Include
HB13-08	60 - 92	9/11/2013	Area 2	0.11	0.11	Benzo(k)fluoranthene	FC-2	60	92	38.28	21.756	include	No	Exclude
HB13-10	0 - 6 *	9/10/2013	Area 2	NA	NA	Benzo(k)fluoranthene		0	6	0.0039996			Yes	Include
HB13-11	0 - 18	9/11/2013	Area 2	0.21	0.21	Benzo(k)fluoranthene	FC-4	0	18	25.2	23.964	exclude	Yes	Exclude
HB13-11	18 - 24 *	9/11/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-4	18	24	25.2	23.964	include	Yes	Include
HB13-11	24 - 30 *	9/11/2013	Area 2	0.2	0.2	Benzo(k)fluoranthene	FC-4	18	24	25.2	23.964	include	Yes	Include
HB13-11	30 - 36 *	9/11/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-4	24	30	25.2	23.964	include	Yes	Include
HB13-11	36 - 42 *	9/11/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-4	30	36	25.2	23.964	include	No	Exclude
HB13-11	42 - 48 *	9/11/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-4	36	42	25.2	23.964	include	No	Exclude
HB13-11	48 - 54 *	9/11/2013	Area 2	0.049	0.049	Benzo(k)fluoranthene	FC-4	42	48	25.2	23.964	include	No	Exclude
HB13-11	54 - 60 *	9/11/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-4	48	54	25.2	23.964	include	No	Exclude
HB13-11	60 - 92	9/11/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-4	60	92	25.2	23.964	include	No	Exclude
HB13-12	0 - 6 *	9/10/2013	Area 2	NA	NA	Benzo(k)fluoranthene		0	6	5.9999996			Yes	Include
HB13-13	0 - 1 *	9/11/2013	Area 2	NA	NA	Benzo(k)fluoranthene	SND-5	0	1	0.9999996			Yes	Include
HB13-14	0 - 6 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-6	0	6	45.9999996	-5.316	include	Yes	Include
HB13-14	6 - 12 *	9/12/2013	Area 2	0.024	0.024	Benzo(k)fluoranthene	FC-6	0	6	45.9999996	-5.316	include	Yes	Include
HB13-14	12 - 18 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-6	6	12	45.9999996	-5.316	include	Yes	Include
HB13-14	18 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-6	12	18	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 30 *	9/12/2013	Area 2	0.018	0.018	Benzo(k)fluoranthene	FC-6	18	24	45.9999996	-5.316	include	Yes	Include
HB13-14	30 - 36 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-6	24	30	45.9999996	-5.316	include	Yes	Include
HB13-14	36 - 42 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-6	30	36	45.9999996	-5.316	include	Yes	Include
HB13-14	42 - 48 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-6	36	42	45.9999996	-5.316	include	Yes	Include
HB13-15	0 - 6 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-7	0	6	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	6 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-7	6	12	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	12 - 19 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-7	12	19	18.9999996	18.516	include	Yes	Include
HB13-16	0 - 6 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene		0	6	26.0000004			Yes	Include
HB13-16	6 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene		6	12	26.0000004			Yes	Include
HB13-16	12 - 18 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene		12	18	26.0000004			Yes	Include
HB13-16	18 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene		18	24	26.0000004			Yes	Include
HB13-16	24 - 27 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene		24	27	26.0000004			Yes	Include
HB13-17	0 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-7	0	12	24	16.2	exclude	Yes	Exclude
HB13-17	12 - 18 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-7	12	18	24	16.2	include	Yes	Include
HB13-17	18 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-7	18	24	24	16.2	include	Yes	Include
HB13-17	24 - 47 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-7	24	47	24	16.2	include	No	Exclude
HB13-18	0 - 6	9/12/2013	Area 2	0.18	0.18	Benzo(k)fluoranthene		0	6	9.9999996			Yes	Include
HB13-18	6 - 10	9/12/2013	Area 2	0.022	0.022	Benzo(k)fluoranthene		6	10	9.9999996			Yes	Include
HB13-18	10 - 16	9/12/2013	Area 2	0.0097 U	0.0097	Benzo(k)fluoranthene		10	16	9.9999996			No	Exclude
HB13-19	0 - 6 *	9/13/2013	Area 2	NA	NA	Benzo(k)fluoranthene		0	6					Exclude
HB13-19	6 - 24 *	9/13/2013	Area 2	NA	NA	Benzo(k)fluoranthene		6	24					Exclude
HB13-19	18 - 20 *	9/13/2013	Area 2	NA	NA	Benzo(k)fluoranthene		18	20					Exclude
HB13-19	24 - 42 *	9/13/2013	Area 2	NA	NA	Benzo(k)fluoranthene		24	42					Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-19	42 - 61 *	9/13/2013	Area 2	NA	NA	Benzo(k)fluoranthene		42	61					Exclude
HB13-19	61 - 67 *	9/13/2013	Area 2	NA	NA	Benzo(k)fluoranthene		61	67					Exclude
HB13-20	0 - 6 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene		0	6	24			Yes	Include
HB13-20	0 - 12	9/12/2013	Area 2	0.03	0.03	Benzo(k)fluoranthene		0	12	24			Yes	Include
HB13-20	6 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene		6	12	24			Yes	Include
HB13-20	12 - 18 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene		12	18	24			Yes	Include
HB13-20	12 - 24	9/12/2013	Area 2	0.032	0.032	Benzo(k)fluoranthene		12	24	24			Yes	Include
HB13-20	18 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene		18	24	24			Yes	Include
HB13-20	24 - 30 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene		24	30	24			No	Exclude
HB13-20	24 - 36	9/12/2013	Area 2	0.02	0.02	Benzo(k)fluoranthene		24	36	24			No	Exclude
HB13-20	30 - 36 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene		30	36	24			No	Exclude
HB13-20	36 - 42 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene		36	42	24			No	Exclude
HB13-20	36 - 48	9/12/2013	Area 2	0.026	0.026	Benzo(k)fluoranthene		36	48	24			No	Exclude
HB13-20	42 - 48 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene		42	48	24			No	Exclude
HB13-21	0 - 6 *	9/13/2013	Area 2	NA	NA	Benzo(k)fluoranthene	OC-10	0	6	24			Yes	Include
HB13-21	6 - 24 *	9/13/2013	Area 2	NA	NA	Benzo(k)fluoranthene	OC-10	6	24	24			Yes	Include
HB13-21	24 - 48 *	9/13/2013	Area 2	NA	NA	Benzo(k)fluoranthene	OC-10	24	48	24			No	Exclude
HB13-21	48 - 72 *	9/13/2013	Area 2	NA	NA	Benzo(k)fluoranthene	OC-10	48	72	24			No	Exclude
HB13-21	72 - 88 *	9/13/2013	Area 2	NA	NA	Benzo(k)fluoranthene	OC-10	72	88	24			No	Exclude
HB13-22	0 - 28 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-7	0	28	24	36.72	exclude	Yes	Exclude
HB13-22	28 - 31 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene	FC-7	28	31	24	36.72	exclude	No	Exclude
HB13-23	0 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene	SND-5	0	12	27			Yes	Include
HB13-23	12 - 18 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene	SND-5	12	18	27			Yes	Include
HB13-23	18 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene	SND-5	18	24	27			Yes	Include
HB13-23	24 - 32 *	9/12/2013	Area 2	NA	NA	Benzo(k)fluoranthene	SND-5	24	32	27			Yes	Include
HB13-24	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-3	0	6	6			Yes	Include
HB13-24	0 - 24 *	9/12/2013	HUGHITT AVE SLIP	0.42	0.42	Benzo(k)fluoranthene	HS-3	0	24	6			Yes	Include
HB13-24	6 - 24	9/12/2013	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-3	6	24	6			No	Exclude
HB13-25	0 - 6 *	9/12/2013	Area 1	NA	NA	Benzo(k)fluoranthene	OC-11	0	6	57			Yes	Include
HB13-25	0 - 18	9/12/2013	Area 1	0.038	0.038	Benzo(k)fluoranthene	OC-11	0	18	57			Yes	Include
HB13-25	6 - 18 *	9/12/2013	Area 1	NA	NA	Benzo(k)fluoranthene	OC-11	6	18	57			Yes	Include
HB13-25	18 - 36 *	9/12/2013	Area 1	NA	NA	Benzo(k)fluoranthene	OC-11	18	36	57			Yes	Include
HB13-25	18 - 57	9/12/2013	Area 1	0.014 U	0.014	Benzo(k)fluoranthene	OC-11	18	57	57			Yes	Include
HB13-25	36 - 57 *	9/12/2013	Area 1	NA	NA	Benzo(k)fluoranthene	OC-11	36	57	57			Yes	Include
HB13-26	0 - 12	9/13/2013	Area 1	0.026	0.026	Benzo(k)fluoranthene	FC-10	0	12	33	17.04	exclude	Yes	Exclude
HB13-26	12 - 18	9/13/2013	Area 1	0.045	0.045	Benzo(k)fluoranthene	FC-10	12	18	33	17.04	include	Yes	Include
HB13-26	18 - 33	9/13/2013	Area 1	0.03	0.03	Benzo(k)fluoranthene	FC-10	18	33	33	17.04	include	Yes	Include
HB13-27	0 - 6 *	9/13/2013	Area 1	NA	NA	Benzo(k)fluoranthene		0	6					Exclude
HB13-27	0 - 32	9/13/2013	Area 1	0.0097 U	0.0097	Benzo(k)fluoranthene		0	32					Exclude
HB13-28	0 - 8 *	9/13/2013	Area 1	NA	NA	Benzo(k)fluoranthene	FC-11	0	8	14.0000004	13.68	exclude	Yes	Exclude
HB13-28	8 - 14 *	9/13/2013	Area 1	NA	NA	Benzo(k)fluoranthene	FC-11	8	14	14.0000004	13.68	include	Yes	Include
HB13-28	14 - 26 *	9/13/2013	Area 1	NA	NA	Benzo(k)fluoranthene	FC-11	14	26	14.0000004	13.68	include	Yes	Include
HB13-28	26 - 40 *	9/13/2013	Area 1	NA	NA	Benzo(k)fluoranthene	FC-11	26	40	14.0000004	13.68	include	No	Exclude
HB13-29	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(k)fluoranthene	FC-12/FC-13	0	6	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 12 *	9/13/2013	Area 1	0.033	0.033	Benzo(k)fluoranthene	FC-12/FC-13	0	12	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 18 *	9/13/2013	Area 1	NA	NA	Benzo(k)fluoranthene	FC-12/FC-13	0	18	44.0000004	1.044	include	Yes	Include
HB13-29	6 - 12	9/13/2013	Area 1	NA	NA	Benzo(k)fluoranthene	FC-12/FC-13	6	12	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 24	9/13/2013	Area 1	NA	NA	Benzo(k)fluoranthene	FC-12/FC-13	12	24	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 44 *	9/13/2013	Area 1	0.072	0.072	Benzo(k)fluoranthene	FC-12/FC-13	12	44	44.0000004	1.044	include	Yes	Include
HB13-29	24 - 44	9/13/2013	Area 1	NA	NA	Benzo(k)fluoranthene	FC-12/FC-13	24	44	44.0000004	1.044	include	Yes	Include
HB13-30	0 - 6	9/10/2013	Area 1	NA	NA	Benzo(k)fluoranthene	SND-1	0	6	60			Yes	Include
HB13-30	6 - 24	9/10/2013	Area 1	NA	NA	Benzo(k)fluoranthene	SND-1	6	24	60			Yes	Include
HB13-30	24 - 42	9/10/2013	Area 1	NA	NA	Benzo(k)fluoranthene	SND-1	24	42	60			Yes	Include
HB13-30	42 - 60	9/10/2013	Area 1	NA	NA	Benzo(k)fluoranthene	SND-1	42	60	60			Yes	Include
HB13-30	60 - 78	9/10/2013	Area 1	NA	NA	Benzo(k)fluoranthene	SND-1	60	78	60			No	Exclude
HB13-31	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(k)fluoranthene	FC-16	0	6	27	2.76	include	Yes	Include
HB13-31	6 - 18	9/13/2013	Area 1	NA	NA	Benzo(k)fluoranthene	FC-16	6	18	27	2.76	include	Yes	Include
HB13-31	18 - 27	9/13/2013	Area 1	NA	NA	Benzo(k)fluoranthene	FC-16	18	27	27	2.76	include	Yes	Include
HB13-31	27 - 33	9/13/2013	Area 1	NA	NA	Benzo(k)fluoranthene	FC-16	27	33	27	2.76	include	No	Exclude
HB13-32	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(k)fluoranthene	FC-14	0	6	26.0000004	-2.52	include	Yes	Include
HB13-32	6 - 18	9/13/2013	Area 1	NA	NA	Benzo(k)fluoranthene	FC-14	6	18	26.0000004	-2.52	include	Yes	Include
HB13-32	18 - 26	9/13/2013	Area 1	NA	NA	Benzo(k)fluoranthene	FC-14	18	26	26.0000004	-2.52	include	Yes	Include
HB13-32	26 - 32	9/13/2013	Area 1	NA	NA	Benzo(k)fluoranthene	FC-14	26	32	26.0000004	-2.52	include	Yes	Include
HB13-33	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(k)fluoranthene		0	6	12			Yes	Include
HB13-33	6 - 12	9/13/2013	Area 1	NA	NA	Benzo(k)fluoranthene		6	12	12			Yes	Include
HB13-34	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(k)fluoranthene		0	6	0.5000004			Yes	Include
HB13-35	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene		0	6	3.9999996			Yes	Include
HB13-35	6 - 12	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene		6	12	3.9999996			No	Exclude
HB13-37	2 - 6	9/10/2013	Hughitt Ave Slip	1.5	1.5	Benzo(k)fluoranthene	HS-3	2	6	6			Yes	Include
HB13-38	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-3	0	6	6			Yes	Include
HB13-39	4 - 10	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-2	4	10	27.9999996			Yes	Include
HB13-39	10 - 28	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-2	10	28	27.9999996			Yes	Include
HB13-39	28 - 34	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-2	28	34	27.9999996			No	Exclude
HB13-40	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-2	0	6	86.0000004			Yes	Include
HB13-40	0 - 24 *	9/13/2013	Hughitt Ave Slip	0.069	0.069	Benzo(k)fluoranthene	HS-2	0	24	86.0000004			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-40	6 - 24	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-2	6	24	86.0000004			Yes	Include
HB13-40	24 - 48	9/13/2013	Hughitt Ave Slip	0.53	0.53	Benzo(k)fluoranthene	HS-2	24	48	86.0000004			Yes	Include
HB13-40	48 - 72	9/13/2013	Hughitt Ave Slip	0.042	0.042	Benzo(k)fluoranthene	HS-2	48	72	86.0000004			Yes	Include
HB13-40	72 - 86	9/13/2013	Hughitt Ave Slip	0.013 U	0.013	Benzo(k)fluoranthene	HS-2	72	86	86.0000004			Yes	Include
HB13-41	0 - 6	9/10/2013	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-2	0	6	29.0000004			Yes	Include
HB13-41	0 - 24 *	9/10/2013	Hughitt Ave Slip	0.55	0.55	Benzo(k)fluoranthene	HS-2	0	24	29.0000004			Yes	Include
HB13-41	6 - 24	9/10/2013	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-2	6	24	29.0000004			Yes	Include
HB13-41	24 - 29	9/10/2013	Hughitt Ave Slip	0.23	0.23	Benzo(k)fluoranthene	HS-2	24	29	29.0000004			Yes	Include
HB13-42	0 - 6	9/11/2013	Cummings Ave Slip	1.3	1.3	Benzo(k)fluoranthene	CS-3	0	6	33			Yes	Include
HB13-42	6 - 24	9/11/2013	Cummings Ave Slip	0.43	0.43	Benzo(k)fluoranthene	CS-3	6	24	33			Yes	Include
HB13-42	24 - 33	9/11/2013	Cummings Ave Slip	0.17	0.17	Benzo(k)fluoranthene	CS-3	24	33	33			Yes	Include
HB13-42	33 - 36	9/11/2013	Cummings Ave Slip	0.010 U	0.01	Benzo(k)fluoranthene	CS-3	33	36	33			No	Exclude
HB13-43	0 - 6	9/11/2013	Cummings Ave Slip	7.2	7.2	Benzo(k)fluoranthene	CS-2	0	6	24			Yes	Include
HB13-43	0 - 24 *	9/11/2013	Cummings Ave Slip	NA	NA	Benzo(k)fluoranthene	CS-2	0	24	24			Yes	Include
HB13-43	6 - 24	9/11/2013	Cummings Ave Slip	0.33	0.33	Benzo(k)fluoranthene	CS-2	6	24	24			Yes	Include
HB13-45	0 - 6	9/11/2013	Cummings Ave Slip	1.1	1.1	Benzo(k)fluoranthene	CS-2	0	6	21			Yes	Include
HB13-45	6 - 21	9/11/2013	Cummings Ave Slip	2.6	2.6	Benzo(k)fluoranthene	CS-2	6	21	21			Yes	Include
HB13-47	0 - 6	9/10/2013	Fraser Ave Slip	1.5	1.5	Benzo(k)fluoranthene	FS-1	0	6	30.996			Yes	Include
HB13-47	6 - 24	9/10/2013	Fraser Ave Slip	1.3	1.3	Benzo(k)fluoranthene	FS-1	6	24	30.996			Yes	Include
HB13-47	24 - 31	9/10/2013	Fraser Ave Slip	1.5	1.5	Benzo(k)fluoranthene	FS-1	24	31	30.996			Yes	Include
HB13-47	31 - 37 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(k)fluoranthene	FS-1	31	37	30.996			No	Exclude
HB13-48	0 - 6 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(k)fluoranthene	FS-2	0	6	45.9999996			Yes	Include
HB13-48	0 - 24	9/10/2013	FRASER AVE SLIP	1.1	1.1	Benzo(k)fluoranthene	FS-2	0	24	45.9999996			Yes	Include
HB13-48	6 - 24 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(k)fluoranthene	FS-2	6	24	45.9999996			Yes	Include
HB13-48	24 - 42 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(k)fluoranthene	FS-2	24	42	45.9999996			Yes	Include
HB13-48	24 - 46 *	9/10/2013	FRASER AVE SLIP	1.5	1.5	Benzo(k)fluoranthene	FS-2	24	46	45.9999996			Yes	Include
HB13-48	42 - 46 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(k)fluoranthene	FS-2	42	46	45.9999996			Yes	Include
HB13-49	0 - 6	9/11/2013	Fraser Ave Slip	0.55	0.55	Benzo(k)fluoranthene	FS-2	0	6	30			Yes	Include
HB13-49	6 - 24	9/11/2013	Fraser Ave Slip	0.44	0.44	Benzo(k)fluoranthene	FS-2	6	24	30			Yes	Include
HB13-49	24 - 30	9/11/2013	Fraser Ave Slip	0.57	0.57	Benzo(k)fluoranthene	FS-2	24	30	30			Yes	Include
HB13-50	0 - 12 *	9/13/2013	Area 1	NA	NA	Benzo(k)fluoranthene	OC-12	0	12	47.0000004			Yes	Include
HB13-50	12 - 24 *	9/13/2013	Area 1	NA	NA	Benzo(k)fluoranthene	OC-12	12	24	47.0000004			Yes	Include
HB13-50	24 - 36 *	9/13/2013	Area 1	NA	NA	Benzo(k)fluoranthene	OC-12	24	36	47.0000004			Yes	Include
HB13-50	36 - 47 *	9/13/2013	Area 1	NA	NA	Benzo(k)fluoranthene	OC-12	36	47	47.0000004			Yes	Include
HB13-51	0 - 6 *	9/11/2013	Area 2	NA	NA	Benzo(k)fluoranthene		0	6					Exclude
HB13-51	6 - 15 *	9/11/2013	Area 2	NA	NA	Benzo(k)fluoranthene		6	15					Exclude
HB13-52	0 - 6 *	9/11/2013	Area 2	NA	NA	Benzo(k)fluoranthene	OC-10	0	6	12			Yes	Include
HB13-52	6 - 12 *	9/11/2013	Area 2	NA	NA	Benzo(k)fluoranthene	OC-10	6	12	12			Yes	Include
HB13-52	12 - 17 *	9/11/2013	Area 2	NA	NA	Benzo(k)fluoranthene	OC-10	12	17	12			No	Exclude
HB14-01	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(k)fluoranthene	SND-1	0	6					Exclude
HB14-01	6 - 18	8/18/2014	Area 1	NA	NA	Benzo(k)fluoranthene	SND-1	6	18					Exclude
HB14-02	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(k)fluoranthene	FC-15	0	6	17.004	-12.996	include	Yes	Include
HB14-02	6 - 14	8/18/2014	Area 1	NA	NA	Benzo(k)fluoranthene	FC-15	6	14	17.004	-12.996	include	Yes	Include
HB14-03	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(k)fluoranthene	FC-15	0	6	29.997288	-2.472	include	Yes	Include
HB14-03	6 - 18	8/18/2014	Area 1	NA	NA	Benzo(k)fluoranthene	FC-15	6	18	29.997288	-2.472	include	Yes	Include
HB14-03	18 - 30	8/18/2014	Area 1	NA	NA	Benzo(k)fluoranthene	FC-15	18	30	29.997288	-2.472	include	Yes	Include
HB14-03	30 - 42	8/18/2014	Area 1	NA	NA	Benzo(k)fluoranthene	FC-15	30	42	29.997288	-2.472	include	No	Exclude
HB14-03	42 - 54	8/18/2014	Area 1	NA	NA	Benzo(k)fluoranthene	FC-15	42	54	29.997288	-2.472	include	No	Exclude
HB14-04	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(k)fluoranthene		0	6	29.904			Yes	Include
HB14-04	6 - 18	8/18/2014	Area 1	NA	NA	Benzo(k)fluoranthene		6	18	29.904			Yes	Include
HB14-04	18 - 30	8/18/2014	Area 1	NA	NA	Benzo(k)fluoranthene		18	30	29.904			Yes	Include
HB14-05 G		8/18/2014	Area 1	NA	NA	Benzo(k)fluoranthene				#VALUE!				Exclude
HB14-06	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(k)fluoranthene		0	6	30.588			Yes	Include
HB14-06	6 - 24	8/18/2014	Area 1	NA	NA	Benzo(k)fluoranthene		6	24	30.588			Yes	Include
HB14-07	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(k)fluoranthene		0	6	78.012			Yes	Include
HB14-07	6 - 24	8/18/2014	Area 1	NA	NA	Benzo(k)fluoranthene		6	24	78.012			Yes	Include
HB14-07	24 - 42	8/18/2014	Area 1	NA	NA	Benzo(k)fluoranthene		24	42	78.012			Yes	Include
HB14-08	0 - 6	8/19/2014	Area 1	NA	NA	Benzo(k)fluoranthene		0	6	34.416			Yes	Include
HB14-08	6 - 19	8/19/2014	Area 1	NA	NA	Benzo(k)fluoranthene		6	19	34.416			Yes	Include
HB14-09	0 - 12	8/19/2014	Area 1	NA	NA	Benzo(k)fluoranthene	OC-16	0	12	12.003804			Yes	Include
HB14-09	12 - 24	8/19/2014	Area 1	NA	NA	Benzo(k)fluoranthene	OC-16	12	24	12.003804			Yes	Include
HB14-09	24 - 36	8/19/2014	Area 1	NA	NA	Benzo(k)fluoranthene	OC-16	24	36	12.003804			No	Exclude
HB14-09	36 - 48	8/19/2014	Area 1	NA	NA	Benzo(k)fluoranthene	OC-16	36	48	12.003804			No	Exclude
HB14-09	48 - 60	8/19/2014	Area 1	NA	NA	Benzo(k)fluoranthene	OC-16	48	60	12.003804			No	Exclude
HB14-09	60 - 72	8/19/2014	Area 1	NA	NA	Benzo(k)fluoranthene	OC-16	60	72	12.003804			No	Exclude
HB14-10	0 - 6	8/20/2014	Area 1	0.087	0.087	Benzo(k)fluoranthene		0	6	54.005544			Yes	Include
HB14-10	6 - 18	8/20/2014	Area 1	0.08	0.08	Benzo(k)fluoranthene		6	18	54.005544			Yes	Include
HB14-10	18 - 30	8/20/2014	Area 1	0.17	0.17	Benzo(k)fluoranthene		18	30	54.005544			Yes	Include
HB14-10	30 - 42	8/20/2014	Area 1	0.26	0.26	Benzo(k)fluoranthene		30	42	54.005544			Yes	Include
HB14-10	42 - 54	8/20/2014	Area 1	0.17	0.17	Benzo(k)fluoranthene		42	54	54.005544			Yes	Include
HB14-10	54 - 66	8/20/2014	Area 1	NA	NA	Benzo(k)fluoranthene		54	66	54.005544			Yes	Include
HB14-11	0 - 6	8/19/2014	Area 1	NA	NA	Benzo(k)fluoranthene	SND-2	0	6					Exclude
HB14-11	6 - 18	8/19/2014	Area 1	NA	NA	Benzo(k)fluoranthene	SND-2	6	18					Exclude
HB14-11	18 - 20	8/19/2014	Area 1	NA	NA	Benzo(k)fluoranthene	SND-2	18	20					Exclude
HB14-12	0 - 6	8/19/2014	Area 1	NA	NA	Benzo(k)fluoranthene	SND-4	0	6	26.34			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than	Sample down	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft	573.6 ft (FC units)?	to target depth?	
HB14-12	6 - 18	8/19/2014	Area 1	NA	NA	Benzo(k)fluoranthene	SND-4	6	18	26.34			Yes	Include
HB14-12	18 - 32	8/19/2014	Area 1	NA	NA	Benzo(k)fluoranthene	SND-4	18	32	26.34			Yes	Include
HB14-13	0 - 6	8/19/2014	Area 2	NA	NA	Benzo(k)fluoranthene	SND-5	0	6	-0.648			No	Exclude
HB14-13	6 - 11	8/19/2014	Area 2	NA	NA	Benzo(k)fluoranthene	SND-5	6	11	-0.648			No	Exclude
HB14-14	0 - 6	8/20/2014	Area 2	0.092	0.092	Benzo(k)fluoranthene	OC-4	0	6	101.997672			Yes	Include
HB14-14	4 - 6	8/20/2014	Area 2	0.32	0.32	Benzo(k)fluoranthene	OC-4	4	6	101.997672			Yes	Include
HB14-14	6 - 18	8/20/2014	Area 2	NA	NA	Benzo(k)fluoranthene	OC-4	6	18	101.997672			Yes	Include
HB14-14	6 - 30	8/20/2014	Area 2	0.2	0.2	Benzo(k)fluoranthene	OC-4	6	30	101.997672			Yes	Include
HB14-14	18 - 30	8/20/2014	Area 2	NA	NA	Benzo(k)fluoranthene	OC-4	18	30	101.997672			Yes	Include
HB14-14	30 - 42	8/20/2014	Area 2	NA	NA	Benzo(k)fluoranthene	OC-4	30	42	101.997672			Yes	Include
HB14-14	30 - 54	8/20/2014	Area 2	0.29	0.29	Benzo(k)fluoranthene	OC-4	30	54	101.997672			Yes	Include
HB14-14	42 - 54	8/20/2014	Area 2	NA	NA	Benzo(k)fluoranthene	OC-4	42	54	101.997672			Yes	Include
HB14-14	54 - 66	8/20/2014	Area 2	NA	NA	Benzo(k)fluoranthene	OC-4	54	66	101.997672			Yes	Include
HB14-14	54 - 78	8/20/2014	Area 2	0.17	0.17	Benzo(k)fluoranthene	OC-4	54	78	101.997672			Yes	Include
HB14-14	66 - 78	8/20/2014	Area 2	NA	NA	Benzo(k)fluoranthene	OC-4	66	78	101.997672			Yes	Include
HB14-14	78 - 90	8/20/2014	Area 2	NA	NA	Benzo(k)fluoranthene	OC-4	78	90	101.997672			Yes	Include
HB14-14	78 - 102	8/20/2014	Area 2	0.34	0.34	Benzo(k)fluoranthene	OC-4	78	102	101.997672			Yes	Include
HB14-14	90 - 102	8/20/2014	Area 2	NA	NA	Benzo(k)fluoranthene	OC-4	90	102	101.997672			Yes	Include
HB14-14	102 - 111	8/20/2014	Area 2	NA	NA	Benzo(k)fluoranthene	OC-4	102	111	101.997672			No	Exclude
HB15-01	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	0	12	51.096			Yes	Include
HB15-01	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	12	24	51.096			Yes	Include
HB15-01	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	24	36	51.096			Yes	Include
HB15-01	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	36	48	51.096			Yes	Include
HB15-01	48 - 57	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	48	57	51.096			Yes	Include
HB15-02	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	0	12	48.000696			Yes	Include
HB15-02	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	12	24	48.000696			Yes	Include
HB15-02	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	24	36	48.000696			Yes	Include
HB15-02	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	36	48	48.000696			Yes	Include
HB15-03	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	0	12	67.9950564			Yes	Include
HB15-03	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	12	24	67.9950564			Yes	Include
HB15-03	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	24	36	67.9950564			Yes	Include
HB15-03	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	36	48	67.9950564			Yes	Include
HB15-03	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	48	60	67.9950564			Yes	Include
HB15-03	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	60	68	67.9950564			Yes	Include
HB15-03R	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	0	12	67.9950564			Yes	Include
HB15-03R	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	12	24	67.9950564			Yes	Include
HB15-03R	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	24	36	67.9950564			Yes	Include
HB15-03R	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	36	48	67.9950564			Yes	Include
HB15-03R	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	48	60	67.9950564			Yes	Include
HB15-03R	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	60	68	67.9950564			Yes	Include
HB15-04	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	0	12	63.84			Yes	Include
HB15-04	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	12	24	63.84			Yes	Include
HB15-04	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	24	36	63.84			Yes	Include
HB15-04	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	36	48	63.84			Yes	Include
HB15-04	48 - 59	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	48	59	63.84			Yes	Include
HB15-05	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	0	12	71.994852			Yes	Include
HB15-05	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	12	24	71.994852			Yes	Include
HB15-05	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	24	36	71.994852			Yes	Include
HB15-05	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	36	48	71.994852			Yes	Include
HB15-05	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	48	60	71.994852			Yes	Include
HB15-05	60 - 72	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	60	72	71.994852			Yes	Include
HB15-05	72 - 80	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-1	72	80	71.994852			No	Exclude
HB15-06	0 - 9	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene	HS-2	0	9	9.000636			Yes	Include
HB15-07	0 - 12	6/23/2015	Cummings Ave Slip	NA	NA	Benzo(k)fluoranthene	CS-1	0	12	90.9955116			Yes	Include
HB15-07	12 - 24	6/23/2015	Cummings Ave Slip	NA	NA	Benzo(k)fluoranthene	CS-1	12	24	90.9955116			Yes	Include
HB15-07	24 - 36	6/23/2015	Cummings Ave Slip	NA	NA	Benzo(k)fluoranthene	CS-1	24	36	90.9955116			Yes	Include
HB15-07	36 - 48	6/23/2015	Cummings Ave Slip	1.8	1.8	Benzo(k)fluoranthene	CS-1	36	48	90.9955116			Yes	Include
HB15-07	48 - 60	6/23/2015	Cummings Ave Slip	2.7	2.7	Benzo(k)fluoranthene	CS-1	48	60	90.9955116			Yes	Include
HB15-07	60 - 72	6/23/2015	Cummings Ave Slip	2.4	2.4	Benzo(k)fluoranthene	CS-1	60	72	90.9955116			Yes	Include
HB15-07	72 - 84	6/23/2015	Cummings Ave Slip	1.5	1.5	Benzo(k)fluoranthene	CS-1	72	84	90.9955116			Yes	Include
HB15-07	84 - 91	6/23/2015	Cummings Ave Slip	2.8	2.8	Benzo(k)fluoranthene	CS-1	84	91	90.9955116			Yes	Include
HB15-08	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(k)fluoranthene	CS-2	0	12	65.997804			Yes	Include
HB15-08	12 - 24	6/24/2015	Cummings Ave Slip	1.9	1.9	Benzo(k)fluoranthene	CS-2	12	24	65.997804			Yes	Include
HB15-08	24 - 36	6/24/2015	Cummings Ave Slip	1.5	1.5	Benzo(k)fluoranthene	CS-2	24	36	65.997804			Yes	Include
HB15-08	36 - 48	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(k)fluoranthene	CS-2	36	48	65.997804			Yes	Include
HB15-08	48 - 60	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(k)fluoranthene	CS-2	48	60	65.997804			Yes	Include
HB15-08	60 - 66	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(k)fluoranthene	CS-2	60	66	65.997804			Yes	Include
HB15-09	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(k)fluoranthene	CS-3	0	12	45.396			Yes	Include
HB15-09	12 - 17	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(k)fluoranthene	CS-3	12	17	45.396			Yes	Include
HB15-10	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(k)fluoranthene	CS-5	0	12	-0.936			No	Exclude
HB15-11	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(k)fluoranthene	CS-5	0	12	27.9944796			Yes	Include
HB15-11	12 - 24	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(k)fluoranthene	CS-5	12	24	27.9944796			Yes	Include
HB15-11	24 - 28	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(k)fluoranthene	CS-5	24	28	27.9944796			Yes	Include
HB15-12	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	0	12	29.994876			Yes	Include
HB15-12	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	12	24	29.994876			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB15-12	24 - 30	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	24	30	29.994876			Yes	Include
HB15-13	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	0	12	64.0033716			Yes	Include
HB15-13	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	12	24	64.0033716			Yes	Include
HB15-13	24 - 36	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	24	36	64.0033716			Yes	Include
HB15-13	36 - 48	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	36	48	64.0033716			Yes	Include
HB15-13	48 - 60	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	48	60	64.0033716			Yes	Include
HB15-13	60 - 64	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	60	64	64.0033716			Yes	Include
HB15-14	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	0	12	23.996196			Yes	Include
HB15-14	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	12	24	23.996196			Yes	Include
HB15-14	24 - 28	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	24	28	23.996196			No	Exclude
HB15-14	28 - 35	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	28	35	23.996196			No	Exclude
HB15-15	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-2	0	12	19.0051356			Yes	Include
HB15-15	12 - 19	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-2	12	19	19.0051356			Yes	Include
HB15-15R	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-2	0	12	18.9999996			Yes	Include
HB15-15R	12 - 19	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-2	12	19	18.9999996			Yes	Include
HB15-16	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	0	12	8.304			Yes	Include
HB15-16	12 - 19	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-1	12	19	8.304			No	Exclude
HB15-17	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-2	0	12	36.004608			Yes	Include
HB15-17	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-2	12	24	36.004608			Yes	Include
HB15-17	24 - 36	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-2	24	36	36.004608			Yes	Include
HB15-17	36 - 48	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-2	36	48	36.004608			Yes	Include
HB15-17	48 - 54	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-2	48	54	36.004608			No	Exclude
HB15-18	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-2	0	12	23.999508			Yes	Include
HB15-18	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FP-2	12	24	23.999508			Yes	Include
HB15-19	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene		0	12					Exclude
HB15-19	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene		12	24					Exclude
HB15-19	24 - 32	6/24/2015	Area 2	NA	NA	Benzo(k)fluoranthene		24	32					Exclude
HB15-20	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-3	0	12	33.864			Yes	Include
HB15-20	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-3	12	24	33.864			Yes	Include
HB15-20	24 - 28	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-3	24	28	33.864			Yes	Include
HB15-20B	0 - 6	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-13	0	6	11.996892			Yes	Include
HB15-20B	6 - 12	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-13	6	12	11.996892			Yes	Include
HB15-21G	15 - 21	6/29/2015	Fraser Ave Slip	NA	NA	Benzo(k)fluoranthene		15	21					Exclude
HB15-22G	0 - 6	6/29/2015	Fraser Ave Slip	0.1	0.1	Benzo(k)fluoranthene	OC-8	0	6	6			Yes	Include
HB15-23	0 - 12	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(k)fluoranthene	FS-1	0	12	55.02			Yes	Include
HB15-23	12 - 24	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(k)fluoranthene	FS-1	12	24	55.02			Yes	Include
HB15-23	24 - 36	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(k)fluoranthene	FS-1	24	36	55.02			Yes	Include
HB15-23	36 - 48	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(k)fluoranthene	FS-1	36	48	55.02			Yes	Include
HB15-23	48 - 56	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(k)fluoranthene	FS-1	48	56	55.02			Yes	Include
HB15-25	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-1	0	12	77.4			Yes	Include
HB15-25	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-1	12	24	77.4			Yes	Include
HB15-25	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-1	24	36	77.4			Yes	Include
HB15-25	36 - 48	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-1	36	48	77.4			Yes	Include
HB15-25	48 - 60	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-1	48	60	77.4			Yes	Include
HB15-25	60 - 72	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-1	60	72	77.4			Yes	Include
HB15-25	72 - 88	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-1	72	88	77.4			Yes	Include
HB15-26	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FC-2	0	12	38.28	6.36	include	Yes	Include
HB15-26	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FC-2	12	24	38.28	6.36	include	Yes	Include
HB15-26	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FC-2	24	36	38.28	6.36	include	Yes	Include
HB15-26	36 - 46	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FC-2	36	46	38.28	6.36	include	Yes	Include
HB15-27	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FC-3	0	12	33.6	14.64	exclude	Yes	Exclude
HB15-27	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FC-3	12	24	33.6	14.64	include	Yes	Include
HB15-27	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FC-3	24	36	33.6	14.64	include	Yes	Include
HB15-27	36 - 48	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FC-3	36	48	33.6	14.64	include	No	Exclude
HB15-27	48 - 60	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FC-3	48	60	33.6	14.64	include	No	Exclude
HB15-27	60 - 71	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	FC-3	60	71	33.6	14.64	include	No	Exclude
HB15-28	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-7	0	12	11.994072			Yes	Include
HB15-28	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-7	12	24	11.994072			No	Exclude
HB15-28	24 - 30	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-7	24	30	11.994072			No	Exclude
HB15-30	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene		0	12	43.776			Yes	Include
HB15-30	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene		12	24	43.776			Yes	Include
HB15-30	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene		24	36	43.776			Yes	Include
HB15-30	36 - 50	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene		36	50	43.776			Yes	Include
HB15-31	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene		0	12					Exclude
HB15-31	12 - 20	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene		12	20					Exclude
HB15-32	0 - 12	6/25/2015	Area 1	NA	NA	Benzo(k)fluoranthene	SND-4	0	12	11.995236			Yes	Include
HB15-32	12 - 26	6/25/2015	Area 1	NA	NA	Benzo(k)fluoranthene	SND-4	12	26	11.995236			No	Exclude
HB15-33	0 - 12	6/25/2015	Area 1	NA	NA	Benzo(k)fluoranthene		0	12	26.292			Yes	Include
HB15-33	12 - 24	6/25/2015	Area 1	NA	NA	Benzo(k)fluoranthene		12	24	26.292			Yes	Include
HB15-33	24 - 39	6/25/2015	Area 1	NA	NA	Benzo(k)fluoranthene		24	39	26.292			Yes	Include
HB15-34	0 - 12	6/25/2015	Area 1	NA	NA	Benzo(k)fluoranthene	FC-11	0	12		35.52	exclude		Exclude
HB15-34	12 - 24	6/25/2015	Area 1	NA	NA	Benzo(k)fluoranthene	FC-11	12	24		35.52	exclude		Exclude
HB15-34	24 - 32	6/25/2015	Area 1	NA	NA	Benzo(k)fluoranthene	FC-11	24	32		35.52	exclude		Exclude
HB15-35	0 - 12	6/25/2015	Area 1	NA	NA	Benzo(k)fluoranthene	FC-16	0	12	74.28	-6.48	include	Yes	Include
HB15-35	12 - 24	6/25/2015	Area 1	NA	NA	Benzo(k)fluoranthene	FC-16	12	24	74.28	-6.48	include	Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB15-35	24 - 36	6/25/2015	Area 1	NA	NA	Benzo(k)fluoranthene	FC-16	24	36	74.28	-6.48	include	Yes	Include
HB15-35	36 - 48	6/25/2015	Area 1	NA	NA	Benzo(k)fluoranthene	FC-16	36	48	74.28	-6.48	include	Yes	Include
HB15-35	48 - 60	6/25/2015	Area 1	NA	NA	Benzo(k)fluoranthene	FC-16	48	60	74.28	-6.48	include	Yes	Include
HB15-35	60 - 72	6/25/2015	Area 1	NA	NA	Benzo(k)fluoranthene	FC-16	60	72	74.28	-6.48	include	Yes	Include
HB15-36G	15 - 36	6/29/2015	Area 2	NA	NA	Benzo(k)fluoranthene		15	36					Exclude
HB15-37	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-9	0	12	51.048			Yes	Include
HB15-37	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-9	12	24	51.048			Yes	Include
HB15-37	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-9	24	36	51.048			Yes	Include
HB15-37	36 - 48	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-9	36	48	51.048			Yes	Include
HB15-37	48 - 60	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-9	48	60	51.048			Yes	Include
HB15-37	60 - 74	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-9	60	74	51.048			No	Exclude
HB15-38	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-9	0	12	83.184			Yes	Include
HB15-38	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-9	12	24	83.184			Yes	Include
HB15-38	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-9	24	36	83.184			Yes	Include
HB15-38	36 - 48	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-9	36	48	83.184			Yes	Include
HB15-38	48 - 60	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-9	48	60	83.184			Yes	Include
HB15-38	60 - 72	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-9	60	72	83.184			Yes	Include
HB15-38	72 - 84	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-9	72	84	83.184			Yes	Include
HB15-38	84 - 96	6/25/2015	Area 2	NA	NA	Benzo(k)fluoranthene	OC-9	84	96	83.184			No	Exclude
HB15-G28	0 - 6	6/25/2015	Hughitt Ave Slip	NA	NA	Benzo(k)fluoranthene		0	6					Exclude
HB15-HC20A	0 - 6	6/25/2015	Area 1	NA	NA	Benzo(k)fluoranthene	OC-13	0	6	6.003036			Yes	Include
HB2A_4	0 - 6	5/12/2007	Hughitt Ave Slip	0.28	0.28	Chrysene	HS-1	0	6	48.00432			Yes	Include
HB2A_4	6 - 24	5/12/2007	Hughitt Ave Slip	0.59 J-	0.59	Chrysene	HS-1	6	24	48.00432			Yes	Include
HB2A_4	24 - 48	5/12/2007	Hughitt Ave Slip	0.11	0.11	Chrysene	HS-1	24	48	48.00432			Yes	Include
HB2A_6	0 - 5	5/2/2007	Area 1	0.63	0.63	Chrysene		0	5					Exclude
HB2A_7	0 - 5	5/10/2007	Area 1	0.61	0.61	Chrysene	SND-1	0	5					Exclude
HB2A_8	0 - 5	5/10/2007	Area 1	0.25	0.25	Chrysene	FC-12/FC-13	0	5	4.9944804	79.824	exclude	Yes	Exclude
HB2A_11	0 - 5	5/10/2007	Area 1	0.35 J-BL	0.35	Chrysene		0	5					Exclude
HB2A_13	0 - 5	5/2/2007	Area 1	0.29 BL	0.29	Chrysene		0	5					Exclude
HB2A_16	0 - 5	5/2/2007	Area 1	0.10 JBL	0.1	Chrysene		0	5					Exclude
HB2A_210	0 - 6	5/16/2007	Area 1	0.0080 U	0.008	Chrysene		0	6					Exclude
HB2A_210	6 - 24	5/16/2007	Area 1	0.0083 U	0.0083	Chrysene		6	24					Exclude
HB2A_210	24 - 48	5/16/2007	Area 1	0.0061 UJS-	0.0061	Chrysene		24	48					Exclude
HB2A_GENES	0 - 5	5/22/2007	Cummings Ave Slip	0.38 J	0.38	Chrysene		0	5					Exclude
HB2B_17	0 - 6	5/12/2007	Fraser Ave Slip	0.3	0.3	Chrysene	FS-2	0	6	24.005676			Yes	Include
HB2B_17	6 - 24	5/12/2007	Fraser Ave Slip	0.095	0.095	Chrysene	FS-2	6	24	24.005676			Yes	Include
HB2B_18	0 - 6	5/7/2007	Area 2	0.29	0.29	Chrysene	FP-1	0	6	47.997552			Yes	Include
HB2B_18	6 - 24	5/7/2007	Area 2	0.17	0.17	Chrysene	FP-1	6	24	47.997552			Yes	Include
HB2B_18	24 - 48	5/7/2007	Area 2	0.19	0.19	Chrysene	FP-1	24	48	47.997552			Yes	Include
HB2B_19	0 - 6	5/2/2007	Area 2	0.083 J-M-	0.083	Chrysene	OC-1	0	6	6.001728			Yes	Include
HB2B_19	6 - 24	5/2/2007	Area 2	0.012 J-M-	0.012	Chrysene	OC-1	6	24	6.001728			Yes	Include
HB2B_20	0 - 6	5/2/2007	Area 2	0.16 J-M-	0.16	Chrysene	OC-9	0	6	23.997336			Yes	Include
HB2B_20	6 - 24	5/2/2007	Area 2	0.12 J-M-	0.12	Chrysene	OC-9	6	24	23.997336			Yes	Include
HB2B_20	24 - 48	5/2/2007	Area 2	0.039 J-M-	0.039	Chrysene	OC-9	24	48	23.997336			No	Exclude
HB2B_21	0 - 5	5/2/2007	Area 2	0.16 BL	0.16	Chrysene		0	5					Exclude
HB2B_22	0 - 5	5/2/2007	Area 2	0.28 BL	0.28	Chrysene	OC-5	0	5	5.0028204			Yes	Include
HB3A_GENES	0 - 5	9/6/2007	Cummings Ave Slip	0.066	0.066	Chrysene		0	5					Exclude
HB10-1-01	0 - 6	10/16/2010	Area 1	0.13	0.13	Chrysene		0	6					Exclude
HB10-1-01	0 - 12	10/16/2010	Area 1	0.0071 U	0.0071	Chrysene		0	12					Exclude
HB10-1-01	36 - 40	10/16/2010	Area 1	0.0051 U	0.0051	Chrysene		36	40					Exclude
HB10-1-02	0 - 6	10/16/2010	Area 1	0.12	0.12	Chrysene		0	6	23.0027508			Yes	Include
HB10-1-02	12 - 23	10/16/2010	Area 1	0.11	0.11	Chrysene		12	23	23.0027508			Yes	Include
HB10-1-03	0 - 6	10/16/2010	Area 1	0.24	0.24	Chrysene	FC-17	0	6	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	0 - 12	10/16/2010	Area 1	0.11	0.11	Chrysene	FC-17	0	12	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	12 - 36	10/16/2010	Area 1	0.1	0.1	Chrysene	FC-17	12	36	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	36 - 60	10/16/2010	Area 1	0.23	0.23	Chrysene	FC-17	36	60	59.99475	49.872	include	Yes	Include
HB10-1-03	60 - 84	10/16/2010	Area 1	0.24	0.24	Chrysene	FC-17	60	84	59.99475	49.872	include	No	Exclude
HB10-1-04	0 - 6	10/17/2010	Area 1	0.14	0.14	Chrysene		0	6					Exclude
HB10-1-04	0 - 12	10/17/2010	Area 1	0.26	0.26	Chrysene		0	12					Exclude
HB10-1-04	12 - 36	10/17/2010	Area 1	0.14	0.14	Chrysene		12	36					Exclude
HB10-1-04	36 - 50	10/17/2010	Area 1	0.16	0.16	Chrysene		36	50					Exclude
HB10-1-05	0 - 6	10/16/2010	Area 1	0.34	0.34	Chrysene	OC-17	0	6	5.9987496			Yes	Include
HB10-1-07	0 - 6	10/17/2010	Area 1	2.6	2.6	Chrysene	OC-15	0	6	6.0057			Yes	Include
HB10-1-07	0 - 12	10/17/2010	Area 1	0.3	0.3	Chrysene	OC-15	0	12	6.0057			Yes	Include
HB10-1-07	12 - 36	10/17/2010	Area 1	0.26	0.26	Chrysene	OC-15	12	36	6.0057			No	Exclude
HB10-1-07	60 - 64	10/17/2010	Area 1	0.004	0.004	Chrysene	OC-15	60	64	6.0057			No	Exclude
HB10-1-08	0 - 6	10/17/2010	Area 1	0.17	0.17	Chrysene		0	6	36.0057			Yes	Include
HB10-1-08	0 - 12	10/17/2010	Area 1	0.23	0.23	Chrysene		0	12	36.0057			Yes	Include
HB10-1-08	12 - 36	10/17/2010	Area 1	0.34	0.34	Chrysene		12	36	36.0057			Yes	Include
HB10-1-10	0 - 6	10/18/2010	Area 1	1.2	1.2	Chrysene	SND-1	0	6					Exclude
HB10-1-11	0 - 6	10/16/2010	Area 1	0.12 J	0.12	Chrysene		0	6	20.9987496			Yes	Include
HB10-1-11	12 - 21	10/16/2010	Area 1	0.17	0.17	Chrysene		12	21	20.9987496			Yes	Include
HB10-1-12	0 - 6	10/17/2010	Area 1	0.22	0.22	Chrysene		0	6					Exclude
HB10-1-12	0 - 12	10/17/2010	Area 1	0.26	0.26	Chrysene		0	12					Exclude
HB10-1-12	12 - 34	10/17/2010	Area 1	0.13	0.13	Chrysene		12	34					Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB10-1-13	0 - 6	10/18/2010	Area 1	0.3	0.3	Chrysene	FC-12/FC-13	0	6	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	0 - 12	10/18/2010	Area 1	0.43	0.43	Chrysene	FC-12/FC-13	0	12	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	12 - 36	10/18/2010	Area 1	0.27	0.27	Chrysene	FC-12/FC-13	12	36	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	60 - 67	10/18/2010	Area 1	0.44	0.44	Chrysene	FC-12/FC-13	60	67	36.0053004	42.816	include	No	Exclude
HB10-1-14	0 - 6	10/17/2010	Area 1	0.28	0.28	Chrysene		0	6	66.0057			Yes	Include
HB10-1-14	0 - 12	10/17/2010	Area 1	0.19	0.19	Chrysene		0	12	66.0057			Yes	Include
HB10-1-14	12 - 36	10/17/2010	Area 1	0.26	0.26	Chrysene		12	36	66.0057			Yes	Include
HB10-1-14	60 - 66	10/17/2010	Area 1	0.28	0.28	Chrysene		60	66	66.0057			Yes	Include
HB10-1-15	0 - 6	10/18/2010	Area 1	0.0099	0.0099	Chrysene	OC-13	0	6	16.0056996			Yes	Include
HB10-1-15	12 - 16	10/18/2010	Area 1	0.26	0.26	Chrysene	OC-13	12	16	16.0056996			Yes	Include
HB10-1-16	0 - 6	10/17/2010	Hughitt Ave Slip	0.4	0.4	Chrysene	HS-3	0	6	31.0056996			Yes	Include
HB10-1-16	0 - 12	10/17/2010	Hughitt Ave Slip	0.7	0.7	Chrysene	HS-3	0	12	31.0056996			Yes	Include
HB10-1-16	12 - 31	10/17/2010	Hughitt Ave Slip	0.32	0.32	Chrysene	HS-3	12	31	31.0056996			Yes	Include
HB10-1-17	0 - 6	10/17/2010	Area 1	0.15	0.15	Chrysene	OC-14	0	6	12			Yes	Include
HB10-1-20	0 - 6	10/17/2010	Hughitt Ave Slip	1.4	1.4	Chrysene		0	6	6.0057			Yes	Include
HB10-1-21	0 - 6	10/18/2010	Cummings Ave Slip	0.063	0.063	Chrysene		0	6	6.0012996			Yes	Include
HB10-1-21	12 - 23	10/18/2010	Cummings Ave Slip	0.18	0.18	Chrysene		12	23	6.0012996			No	Exclude
HB10-1-23	0 - 6	10/17/2010	Area 1	0.17	0.17	Chrysene		0	6	36.0057			Yes	Include
HB10-1-23	0 - 12	10/17/2010	Area 1	0.27	0.27	Chrysene		0	12	36.0057			Yes	Include
HB10-1-23	12 - 36	10/17/2010	Area 1	0.33	0.33	Chrysene		12	36	36.0057			Yes	Include
HB10-1-24	0 - 6	10/18/2010	Cummings Ave Slip	0.2	0.2	Chrysene	CS-4	0	6	36.0047496			Yes	Include
HB10-1-24	0 - 12	10/18/2010	Cummings Ave Slip	0.49	0.49	Chrysene	CS-4	0	12	36.0047496			Yes	Include
HB10-1-24	12 - 36	10/18/2010	Cummings Ave Slip	0.68	0.68	Chrysene	CS-4	12	36	36.0047496			Yes	Include
HB10-1-25	0 - 6	10/17/2010	Baxter Ave Embayment	0.14	0.14	Chrysene		0	6	6.0057			Yes	Include
HB10-1-27	0 - 6	10/18/2010	Area 1	0.079	0.079	Chrysene		0	6	-0.0027			No	Exclude
HB10-1-28	0 - 6	10/17/2010	Hughitt Ave Slip	0.54	0.54	Chrysene	HS-1	0	6	84.0057			Yes	Include
HB10-1-28	0 - 12	10/17/2010	Hughitt Ave Slip	0.43	0.43	Chrysene	HS-1	0	12	84.0057			Yes	Include
HB10-1-28	12 - 36	10/17/2010	Hughitt Ave Slip	0.65	0.65	Chrysene	HS-1	12	36	84.0057			Yes	Include
HB10-1-28	36 - 60	10/17/2010	Hughitt Ave Slip	0.27 J	0.27	Chrysene	HS-1	36	60	84.0057			Yes	Include
HB10-1-28	60 - 84	10/17/2010	Hughitt Ave Slip	0.49	0.49	Chrysene	HS-1	60	84	84.0057			Yes	Include
HB10-1-28	60 - 96	10/17/2010	Hughitt Ave Slip	0.090 J	0.09	Chrysene	HS-1	60	96	84.0057			Yes	Include
HB10-1-29	0 - 6	10/17/2010	Cummings Ave Slip	0.48	0.48	Chrysene	CS-1	0	6	83.9937			Yes	Include
HB10-1-29	0 - 12	10/17/2010	Cummings Ave Slip	1.4	1.4	Chrysene	CS-1	0	12	83.9937			Yes	Include
HB10-1-29	12 - 36	10/17/2010	Cummings Ave Slip	4.8	4.8	Chrysene	CS-1	12	36	83.9937			Yes	Include
HB10-1-29	36 - 60	10/17/2010	Cummings Ave Slip	2.6	2.6	Chrysene	CS-1	36	60	83.9937			Yes	Include
HB10-1-29	60 - 93	10/17/2010	Cummings Ave Slip	3.3	3.3	Chrysene	CS-1	60	93	83.9937			Yes	Include
HB10-1-30	0 - 6	10/18/2010	Baxter Ave Embayment	0.45	0.45	Chrysene		0	6	60.0053004			Yes	Include
HB10-1-30	0 - 12	10/18/2010	Baxter Ave Embayment	1.3	1.3	Chrysene		0	12	60.0053004			Yes	Include
HB10-1-30	12 - 36	10/18/2010	Baxter Ave Embayment	0.72	0.72	Chrysene		12	36	60.0053004			Yes	Include
HB10-1-30	36 - 60	10/18/2010	Baxter Ave Embayment	0.31	0.31	Chrysene		36	60	60.0053004			Yes	Include
HB10-1-30	60 - 77	10/18/2010	Baxter Ave Embayment	0.3	0.3	Chrysene		60	77	60.0053004			Yes	Include
HB10-1-31	0 - 6	10/18/2010	Baxter Ave Embayment	0.44	0.44	Chrysene	OC-11	0	6	35.9973			Yes	Include
HB10-1-31	0 - 12	10/18/2010	Baxter Ave Embayment	0.52	0.52	Chrysene	OC-11	0	12	35.9973			Yes	Include
HB10-1-31	12 - 36	10/18/2010	Baxter Ave Embayment	0.32	0.32	Chrysene	OC-11	12	36	35.9973			Yes	Include
HB10-2-18	0 - 6	10/18/2010	Area 2	0.33	0.33	Chrysene	OC-2	0	6	6.0053004			Yes	Include
HB10-2-26	0 - 6	10/16/2010	Area 2	0.069 J	0.069	Chrysene		0	6					Exclude
HB10-2-26	12 - 17	10/16/2010	Area 2	0.15	0.15	Chrysene		12	17					Exclude
HB10-2-32	0 - 6	10/18/2010	Area 2	0.17	0.17	Chrysene		0	6					Exclude
HB10-2-33	0 - 6	10/18/2010	Area 2	0.055 J	0.055	Chrysene		0	6	6.0012996			Yes	Include
HB10-2-33	12 - 22	10/18/2010	Area 2	0.33	0.33	Chrysene		12	22	6.0012996			No	Exclude
HB10-2-34	0 - 6	10/18/2010	Area 2	0.22	0.22	Chrysene	FC-7	0	6	6.0053004	0.816	include	Yes	Include
HB10-2-35	0 - 6	10/18/2010	Area 2	0.036 J	0.036	Chrysene		0	6	30.0012996			Yes	Include
HB10-2-35	0 - 12	10/18/2010	Area 2	0.17	0.17	Chrysene		0	12	30.0012996			Yes	Include
HB10-2-35	12 - 30	10/18/2010	Area 2	0.33	0.33	Chrysene		12	30	30.0012996			Yes	Include
HB10-2-36	0 - 6	10/18/2010	Area 2	0.35	0.35	Chrysene	FC-5	0	6	6.0053004	-29.184	include	Yes	Include
HB10-2-37	0 - 6	10/18/2010	Area 2	0.24	0.24	Chrysene		0	6	23.0013			Yes	Include
HB10-2-37	12 - 23	10/18/2010	Area 2	0.13	0.13	Chrysene		12	23	23.0013			Yes	Include
HB10-2-38	0 - 6	10/18/2010	Area 2	0.076	0.076	Chrysene	OC-6	0	6	38.0013			Yes	Include
HB10-2-38	0 - 12	10/18/2010	Area 2	0.28	0.28	Chrysene	OC-6	0	12	38.0013			Yes	Include
HB10-2-38	36 - 38	10/18/2010	Area 2	1.2	1.2	Chrysene	OC-6	36	38	38.0013			Yes	Include
HB10-2-39	0 - 6	10/18/2010	Area 2	0.057 J	0.057	Chrysene		0	6	6.0012996			Yes	Include
HB10-2-39	0 - 12	10/18/2010	Area 2	0.33	0.33	Chrysene		0	12	6.0012996			Yes	Include
HB10-2-39	12 - 28	10/18/2010	Area 2	0.2	0.2	Chrysene		12	28	6.0012996			No	Exclude
HB10-2-40	0 - 6	10/18/2010	Area 2	0.35	0.35	Chrysene	OC-5	0	6	48.0053004			Yes	Include
HB10-2-40	0 - 12	10/18/2010	Area 2	0.09	0.09	Chrysene	OC-5	0	12	48.0053004			Yes	Include
HB10-2-40	12 - 36	10/18/2010	Area 2	0.0044 U	0.0044	Chrysene	OC-5	12	36	48.0053004			Yes	Include
HB10-2-40	36 - 48	10/18/2010	Area 2	0.0043 U	0.0043	Chrysene	OC-5	36	48	48.0053004			Yes	Include
HB10-2-41	0 - 6	10/18/2010	Area 2	1.4	1.4	Chrysene	FP-2	0	6	31.0012992			Yes	Include
HB10-2-41	0 - 12	10/18/2010	Area 2	0.074	0.074	Chrysene	FP-2	0	12	31.0012992			Yes	Include
HB10-2-41	12 - 31	10/18/2010	Area 2	0.078 J	0.078	Chrysene	FP-2	12	31	31.0012992			Yes	Include
HB10-2-42	0 - 6	10/18/2010	Area 2	0.3	0.3	Chrysene	FP-1	0	6	12.0012996			Yes	Include
HB10-2-42	0 - 12	10/18/2010	Area 2	NA	NA	Chrysene	FP-1	0	12	12.0012996			Yes	Include
HB10-2-42	12 - 30	10/18/2010	Area 2	0.27	0.27	Chrysene	FP-1	12	30	12.0012996			Yes	Include
HB10-2-43	0 - 6	10/17/2010	Area 2	0.037	0.037	Chrysene		0	6	22.0056996			Yes	Include
HB10-2-43	12 - 22	10/17/2010	Area 2	0.62	0.62	Chrysene		12	22	22.0056996			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB10-2-44	0 - 6	10/18/2010	Area 2	0.53	0.53	Chrysene	FP-2	0	6	16.0012992			Yes	Include
HB10-2-44	12 - 16	10/18/2010	Area 2	0.63	0.63	Chrysene	FP-2	12	16	16.0012992			Yes	Include
HB10-2-45	0 - 6	10/18/2010	Area 2	0.16	0.16	Chrysene	FP-2	0	6	19.0012992			Yes	Include
HB10-2-45	12 - 19	10/18/2010	Area 2	0.46	0.46	Chrysene	FP-2	12	19	19.0012992			Yes	Include
HB13-01	0 - 6 *	9/11/2013	Area 2	NA	NA	Chrysene	FP-1	0	6	48			Yes	Include
HB13-01	6 - 12 *	9/11/2013	Area 2	NA	NA	Chrysene	FP-1	6	12	48			Yes	Include
HB13-01	12 - 18 *	9/11/2013	Area 2	NA	NA	Chrysene	FP-1	12	18	48			Yes	Include
HB13-01	18 - 24 *	9/11/2013	Area 2	NA	NA	Chrysene	FP-1	18	24	48			Yes	Include
HB13-01	24 - 30 *	9/11/2013	Area 2	NA	NA	Chrysene	FP-1	24	30	48			Yes	Include
HB13-01	30 - 36 *	9/11/2013	Area 2	NA	NA	Chrysene	FP-1	30	36	48			Yes	Include
HB13-01	36 - 42 *	9/11/2013	Area 2	NA	NA	Chrysene	FP-1	36	42	48			Yes	Include
HB13-01	42 - 48 *	9/11/2013	Area 2	NA	NA	Chrysene	FP-1	42	48	48			Yes	Include
HB13-01	48 - 54 *	9/11/2013	Area 2	NA	NA	Chrysene	FP-1	48	54	48			No	Exclude
HB13-01	54 - 60 *	9/11/2013	Area 2	NA	NA	Chrysene	FP-1	54	60	48			No	Exclude
HB13-01	60 - 66 *	9/11/2013	Area 2	NA	NA	Chrysene	FP-1	60	66	48			No	Exclude
HB13-01	66 - 72 *	9/11/2013	Area 2	NA	NA	Chrysene	FP-1	66	72	48			No	Exclude
HB13-01	72 - 74 *	9/11/2013	Area 2	NA	NA	Chrysene	FP-1	72	74	48			No	Exclude
HB13-02	0 - 6 *	9/9/2013	Area 2	0.016 U	0.016	Chrysene		0	6	29.9960004			Yes	Include
HB13-02	6 - 12 *	9/9/2013	Area 2	NA	NA	Chrysene		6	12	29.9960004			Yes	Include
HB13-02	12 - 18 *	9/9/2013	Area 2	NA	NA	Chrysene		12	18	29.9960004			Yes	Include
HB13-02	18 - 24 *	9/9/2013	Area 2	NA	NA	Chrysene		18	24	29.9960004			Yes	Include
HB13-02	24 - 30 *	9/9/2013	Area 2	NA	NA	Chrysene		24	30	29.9960004			Yes	Include
HB13-02	30 - 36 *	9/9/2013	Area 2	NA	NA	Chrysene		30	36	29.9960004			No	Exclude
HB13-02	36 - 42 *	9/9/2013	Area 2	NA	NA	Chrysene		36	42	29.9960004			No	Exclude
HB13-02	42 - 48 *	9/9/2013	Area 2	NA	NA	Chrysene		42	48	29.9960004			No	Exclude
HB13-03	0 - 6 *	9/9/2013	Area 2	NA	NA	Chrysene	FP-2	0	6	46.0040004			Yes	Include
HB13-03	0 - 24	9/9/2013	Area 2	1.2	1.2	Chrysene	FP-2	0	24	46.0040004			Yes	Include
HB13-03	6 - 12 *	9/9/2013	Area 2	NA	NA	Chrysene	FP-2	6	12	46.0040004			Yes	Include
HB13-03	12 - 18 *	9/9/2013	Area 2	NA	NA	Chrysene	FP-2	12	18	46.0040004			Yes	Include
HB13-03	18 - 24 *	9/9/2013	Area 2	NA	NA	Chrysene	FP-2	18	24	46.0040004			Yes	Include
HB13-03	24 - 30 *	9/9/2013	Area 2	NA	NA	Chrysene	FP-2	24	30	46.0040004			Yes	Include
HB13-03	24 - 46	9/9/2013	Area 2	0.42	0.42	Chrysene	FP-2	24	46	46.0040004			Yes	Include
HB13-03	30 - 36 *	9/9/2013	Area 2	NA	NA	Chrysene	FP-2	30	36	46.0040004			Yes	Include
HB13-03	36 - 42 *	9/9/2013	Area 2	NA	NA	Chrysene	FP-2	36	42	46.0040004			Yes	Include
HB13-03	42 - 46 *	9/9/2013	Area 2	NA	NA	Chrysene	FP-2	42	46	46.0040004			Yes	Include
HB13-03	46 - 51 *	9/9/2013	Area 2	NA	NA	Chrysene	FP-2	46	51	46.0040004			Yes	Include
HB13-04	0 - 6 *	9/9/2013	Area 2	NA	NA	Chrysene	OC-1	0	6	41.9960004			Yes	Include
HB13-04	6 - 12 *	9/9/2013	Area 2	NA	NA	Chrysene	OC-1	6	12	41.9960004			Yes	Include
HB13-04	12 - 18 *	9/9/2013	Area 2	NA	NA	Chrysene	OC-1	12	18	41.9960004			Yes	Include
HB13-04	18 - 24 *	9/9/2013	Area 2	NA	NA	Chrysene	OC-1	18	24	41.9960004			Yes	Include
HB13-04	24 - 30 *	9/9/2013	Area 2	NA	NA	Chrysene	OC-1	24	30	41.9960004			Yes	Include
HB13-04	30 - 36 *	9/9/2013	Area 2	NA	NA	Chrysene	OC-1	30	36	41.9960004			Yes	Include
HB13-04	36 - 42 *	9/9/2013	Area 2	NA	NA	Chrysene	OC-1	36	42	41.9960004			Yes	Include
HB13-04	42 - 44 *	9/9/2013	Area 2	NA	NA	Chrysene	OC-1	42	44	41.9960004			No	Exclude
HB13-05	0 - 32 *	9/9/2013	Area 2	NA	NA	Chrysene	FC-1	0	32	43.8	33.156	exclude	Yes	Exclude
HB13-05	32 - 38 *	9/9/2013	Area 2	NA	NA	Chrysene	FC-1	32	38	43.8	33.156	include	Yes	Include
HB13-05	38 - 44 *	9/9/2013	Area 2	NA	NA	Chrysene	FC-1	38	44	43.8	33.156	include	Yes	Include
HB13-05	44 - 50 *	9/9/2013	Area 2	NA	NA	Chrysene	FC-1	44	50	43.8	33.156	include	No	Exclude
HB13-05	50 - 56 *	9/9/2013	Area 2	NA	NA	Chrysene	FC-1	50	56	43.8	33.156	include	No	Exclude
HB13-05	56 - 62	9/9/2013	Area 2	0.52	0.52	Chrysene	FC-1	56	62	43.8	33.156	include	No	Exclude
HB13-05	62 - 66	9/9/2013	Area 2	0.13	0.13	Chrysene	FC-1	62	66	43.8	33.156	include	No	Exclude
HB13-05	68 - 74 *	9/9/2013	Area 2	NA	NA	Chrysene	FC-1	68	74	43.8	33.156	include	No	Exclude
HB13-05	74 - 77 *	9/9/2013	Area 2	NA	NA	Chrysene	FC-1	74	77	43.8	33.156	include	No	Exclude
HB13-06	0 - 6 *	9/9/2013	Area 2	NA	NA	Chrysene	OC-2	0	6	48			Yes	Include
HB13-06	6 - 12 *	9/9/2013	Area 2	NA	NA	Chrysene	OC-2	6	12	48			Yes	Include
HB13-06	12 - 18 *	9/9/2013	Area 2	NA	NA	Chrysene	OC-2	12	18	48			Yes	Include
HB13-06	18 - 24 *	9/9/2013	Area 2	NA	NA	Chrysene	OC-2	18	24	48			Yes	Include
HB13-06	24 - 30 *	9/9/2013	Area 2	NA	NA	Chrysene	OC-2	24	30	48			Yes	Include
HB13-06	30 - 36 *	9/9/2013	Area 2	NA	NA	Chrysene	OC-2	30	36	48			Yes	Include
HB13-06	36 - 42 *	9/9/2013	Area 2	NA	NA	Chrysene	OC-2	36	42	48			Yes	Include
HB13-06	42 - 48 *	9/9/2013	Area 2	NA	NA	Chrysene	OC-2	42	48	48			Yes	Include
HB13-07	0 - 6 *	9/10/2013	Area 2	NA	NA	Chrysene		0	6					Exclude
HB13-07	6 - 12 *	9/10/2013	Area 2	NA	NA	Chrysene		6	12					Exclude
HB13-07	12 - 18 *	9/10/2013	Area 2	NA	NA	Chrysene		12	18					Exclude
HB13-07	18 - 24 *	9/10/2013	Area 2	NA	NA	Chrysene		18	24					Exclude
HB13-07	24 - 30 *	9/10/2013	Area 2	NA	NA	Chrysene		24	30					Exclude
HB13-07	30 - 36 *	9/10/2013	Area 2	NA	NA	Chrysene		30	36					Exclude
HB13-07	36 - 42 *	9/10/2013	Area 2	NA	NA	Chrysene		36	42					Exclude
HB13-07	42 - 48 *	9/10/2013	Area 2	NA	NA	Chrysene		42	48					Exclude
HB13-08	0 - 18	9/11/2013	Area 2	0.39	0.39	Chrysene	FC-2	0	18	38.28	21.756	exclude	Yes	Exclude
HB13-08	18 - 36	9/11/2013	Area 2	0.6	0.6	Chrysene	FC-2	18	36	38.28	21.756	include	Yes	Include
HB13-08	36 - 60	9/11/2013	Area 2	0.77	0.77	Chrysene	FC-2	36	60	38.28	21.756	include	Yes	Include
HB13-08	60 - 92	9/11/2013	Area 2	0.36	0.36	Chrysene	FC-2	60	92	38.28	21.756	include	No	Exclude
HB13-10	0 - 6 *	9/10/2013	Area 2	NA	NA	Chrysene		0	6	0.0039996			Yes	Include
HB13-11	0 - 18	9/11/2013	Area 2	0.48	0.48	Chrysene	FC-4	0	18	25.2	23.964	exclude	Yes	Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-11	18 - 24 *	9/11/2013	Area 2	NA	NA	Chrysene	FC-4	18	24	25.2	23.964	include	Yes	Include
HB13-11	18 - 42	9/11/2013	Area 2	0.55	0.55	Chrysene	FC-4	18	42	25.2	23.964	include	Yes	Include
HB13-11	24 - 30 *	9/11/2013	Area 2	NA	NA	Chrysene	FC-4	24	30	25.2	23.964	include	Yes	Include
HB13-11	30 - 36 *	9/11/2013	Area 2	NA	NA	Chrysene	FC-4	30	36	25.2	23.964	include	No	Exclude
HB13-11	36 - 42 *	9/11/2013	Area 2	NA	NA	Chrysene	FC-4	36	42	25.2	23.964	include	No	Exclude
HB13-11	42 - 48 *	9/11/2013	Area 2	NA	NA	Chrysene	FC-4	42	48	25.2	23.964	include	No	Exclude
HB13-11	42 - 60	9/11/2013	Area 2	0.16	0.16	Chrysene	FC-4	42	60	25.2	23.964	include	No	Exclude
HB13-11	48 - 54 *	9/11/2013	Area 2	NA	NA	Chrysene	FC-4	48	54	25.2	23.964	include	No	Exclude
HB13-11	54 - 60 *	9/11/2013	Area 2	NA	NA	Chrysene	FC-4	54	60	25.2	23.964	include	No	Exclude
HB13-12	0 - 6 *	9/10/2013	Area 2	NA	NA	Chrysene		0	6	5.9960004			Yes	Include
HB13-13	0 - 1 *	9/11/2013	Area 2	NA	NA	Chrysene	SND-5	0	1	0.9999996			Yes	Include
HB13-14	0 - 6 *	9/12/2013	Area 2	NA	NA	Chrysene	FC-6	0	6	45.9999996	-5.316	include	Yes	Include
HB13-14	0 - 24	9/12/2013	Area 2	0.044	0.044	Chrysene	FC-6	0	24	45.9999996	-5.316	include	Yes	Include
HB13-14	6 - 24 *	9/12/2013	Area 2	NA	NA	Chrysene	FC-6	6	24	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 42 *	9/12/2013	Area 2	NA	NA	Chrysene	FC-6	24	42	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 46	9/12/2013	Area 2	0.066	0.066	Chrysene	FC-6	24	46	45.9999996	-5.316	include	Yes	Include
HB13-14	42 - 46 *	9/12/2013	Area 2	NA	NA	Chrysene	FC-6	42	46	45.9999996	-5.316	include	Yes	Include
HB13-15	0 - 6 *	9/12/2013	Area 2	NA	NA	Chrysene	FC-7	0	6	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	6 - 12 *	9/12/2013	Area 2	NA	NA	Chrysene	FC-7	6	12	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	12 - 19 *	9/12/2013	Area 2	NA	NA	Chrysene	FC-7	12	19	18.9999996	18.516	include	Yes	Include
HB13-16	0 - 6 *	9/12/2013	Area 2	NA	NA	Chrysene		0	6	26.0000004			Yes	Include
HB13-16	6 - 12 *	9/12/2013	Area 2	NA	NA	Chrysene		6	12	26.0000004			Yes	Include
HB13-16	12 - 18 *	9/12/2013	Area 2	NA	NA	Chrysene		12	18	26.0000004			Yes	Include
HB13-16	18 - 24 *	9/12/2013	Area 2	NA	NA	Chrysene		18	24	26.0000004			Yes	Include
HB13-16	24 - 27 *	9/12/2013	Area 2	NA	NA	Chrysene		24	27	26.0000004			Yes	Include
HB13-17	0 - 12 *	9/12/2013	Area 2	NA	NA	Chrysene	FC-7	0	12	24	16.2	exclude	Yes	Exclude
HB13-17	12 - 18 *	9/12/2013	Area 2	NA	NA	Chrysene	FC-7	12	18	24	16.2	include	Yes	Include
HB13-17	18 - 24 *	9/12/2013	Area 2	NA	NA	Chrysene	FC-7	18	24	24	16.2	include	Yes	Include
HB13-17	24 - 47 *	9/12/2013	Area 2	NA	NA	Chrysene	FC-7	24	47	24	16.2	include	No	Exclude
HB13-18	0 - 6	9/12/2013	Area 2	0.5	0.5	Chrysene		0	6	9.9999996			Yes	Include
HB13-18	6 - 10	9/12/2013	Area 2	0.097	0.097	Chrysene		6	10	9.9999996			Yes	Include
HB13-18	10 - 16	9/12/2013	Area 2	0.0097 U	0.0097	Chrysene		10	16	9.9999996			No	Exclude
HB13-19	0 - 6 *	9/13/2013	Area 2	NA	NA	Chrysene		0	6					Exclude
HB13-19	6 - 24 *	9/13/2013	Area 2	NA	NA	Chrysene		6	24					Exclude
HB13-19	18 - 20 *	9/13/2013	Area 2	NA	NA	Chrysene		18	20					Exclude
HB13-19	24 - 42 *	9/13/2013	Area 2	NA	NA	Chrysene		24	42					Exclude
HB13-19	42 - 61 *	9/13/2013	Area 2	NA	NA	Chrysene		42	61					Exclude
HB13-19	61 - 67 *	9/13/2013	Area 2	NA	NA	Chrysene		61	67					Exclude
HB13-20	0 - 6 *	9/12/2013	Area 2	NA	NA	Chrysene		0	6	24			Yes	Include
HB13-20	0 - 12	9/12/2013	Area 2	0.069	0.069	Chrysene		0	12	24			Yes	Include
HB13-20	6 - 12 *	9/12/2013	Area 2	NA	NA	Chrysene		6	12	24			Yes	Include
HB13-20	12 - 18 *	9/12/2013	Area 2	NA	NA	Chrysene		12	18	24			Yes	Include
HB13-20	12 - 24	9/12/2013	Area 2	0.095	0.095	Chrysene		12	24	24			Yes	Include
HB13-20	18 - 24 *	9/12/2013	Area 2	NA	NA	Chrysene		18	24	24			Yes	Include
HB13-20	24 - 30 *	9/12/2013	Area 2	NA	NA	Chrysene		24	30	24			No	Exclude
HB13-20	24 - 36	9/12/2013	Area 2	0.064	0.064	Chrysene		24	36	24			No	Exclude
HB13-20	30 - 36 *	9/12/2013	Area 2	NA	NA	Chrysene		30	36	24			No	Exclude
HB13-20	36 - 42 *	9/12/2013	Area 2	NA	NA	Chrysene		36	42	24			No	Exclude
HB13-20	36 - 48	9/12/2013	Area 2	0.096	0.096	Chrysene		36	48	24			No	Exclude
HB13-20	42 - 48 *	9/12/2013	Area 2	NA	NA	Chrysene		42	48	24			No	Exclude
HB13-21	0 - 6 *	9/13/2013	Area 2	NA	NA	Chrysene	OC-10	0	6	24			Yes	Include
HB13-21	6 - 24 *	9/13/2013	Area 2	NA	NA	Chrysene	OC-10	6	24	24			Yes	Include
HB13-21	24 - 48 *	9/13/2013	Area 2	NA	NA	Chrysene	OC-10	24	48	24			No	Exclude
HB13-21	48 - 72 *	9/13/2013	Area 2	NA	NA	Chrysene	OC-10	48	72	24			No	Exclude
HB13-21	72 - 88 *	9/13/2013	Area 2	NA	NA	Chrysene	OC-10	72	88	24			No	Exclude
HB13-22	0 - 28 *	9/12/2013	Area 2	NA	NA	Chrysene	FC-7	0	28	24	36.72	exclude	Yes	Exclude
HB13-22	28 - 31 *	9/12/2013	Area 2	NA	NA	Chrysene	FC-7	28	31	24	36.72	exclude	No	Exclude
HB13-23	0 - 12 *	9/12/2013	Area 2	NA	NA	Chrysene	SND-5	0	12	27			Yes	Include
HB13-23	12 - 18 *	9/12/2013	Area 2	NA	NA	Chrysene	SND-5	12	18	27			Yes	Include
HB13-23	18 - 24 *	9/12/2013	Area 2	NA	NA	Chrysene	SND-5	18	24	27			Yes	Include
HB13-23	24 - 32 *	9/12/2013	Area 2	NA	NA	Chrysene	SND-5	24	32	27			Yes	Include
HB13-24	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Chrysene	HS-3	0	6	6			Yes	Include
HB13-24	0 - 24 *	9/12/2013	HUGHITT AVE SLIP	1.2	1.2	Chrysene	HS-3	0	24	6			Yes	Include
HB13-24	6 - 24	9/12/2013	Hughitt Ave Slip	NA	NA	Chrysene	HS-3	6	24	6			No	Exclude
HB13-25	0 - 6 *	9/12/2013	Area 1	NA	NA	Chrysene	OC-11	0	6	57			Yes	Include
HB13-25	0 - 18	9/12/2013	Area 1	0.1	0.1	Chrysene	OC-11	0	18	57			Yes	Include
HB13-25	6 - 18 *	9/12/2013	Area 1	NA	NA	Chrysene	OC-11	6	18	57			Yes	Include
HB13-25	18 - 36 *	9/12/2013	Area 1	NA	NA	Chrysene	OC-11	18	36	57			Yes	Include
HB13-25	18 - 57	9/12/2013	Area 1	0.04	0.04	Chrysene	OC-11	18	57	57			Yes	Include
HB13-25	36 - 57 *	9/12/2013	Area 1	NA	NA	Chrysene	OC-11	36	57	57			Yes	Include
HB13-26	0 - 12	9/13/2013	Area 1	0.047	0.047	Chrysene	FC-10	0	12	33	17.04	exclude	Yes	Exclude
HB13-26	12 - 18	9/13/2013	Area 1	0.095	0.095	Chrysene	FC-10	12	18	33	17.04	include	Yes	Include
HB13-26	18 - 33	9/13/2013	Area 1	0.079	0.079	Chrysene	FC-10	18	33	33	17.04	include	Yes	Include
HB13-27	0 - 6 *	9/13/2013	Area 1	NA	NA	Chrysene		0	6					Exclude
HB13-27	0 - 32	9/13/2013	Area 1	0.011	0.011	Chrysene		0	32					Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than	Sample down	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft	573.6 ft (FC units)?	to target depth?	
HB13-28	0 - 8 *	9/13/2013	Area 1	NA	NA	Chrysene	FC-11	0	8	14.0000004	13.68	exclude	Yes	Exclude
HB13-28	8 - 14 *	9/13/2013	Area 1	NA	NA	Chrysene	FC-11	8	14	14.0000004	13.68	include	Yes	Include
HB13-28	14 - 26 *	9/13/2013	Area 1	NA	NA	Chrysene	FC-11	14	26	14.0000004	13.68	include	Yes	Include
HB13-28	26 - 40 *	9/13/2013	Area 1	NA	NA	Chrysene	FC-11	26	40	14.0000004	13.68	include	No	Exclude
HB13-29	0 - 6	9/13/2013	Area 1	NA	NA	Chrysene	FC-12/FC-13	0	6	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 12 *	9/13/2013	Area 1	0.085	0.085	Chrysene	FC-12/FC-13	0	12	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 18 *	9/13/2013	Area 1	NA	NA	Chrysene	FC-12/FC-13	0	18	44.0000004	1.044	include	Yes	Include
HB13-29	6 - 12	9/13/2013	Area 1	NA	NA	Chrysene	FC-12/FC-13	6	12	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 24	9/13/2013	Area 1	NA	NA	Chrysene	FC-12/FC-13	12	24	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 44 *	9/13/2013	Area 1	0.2	0.2	Chrysene	FC-12/FC-13	12	44	44.0000004	1.044	include	Yes	Include
HB13-29	24 - 44	9/13/2013	Area 1	NA	NA	Chrysene	FC-12/FC-13	24	44	44.0000004	1.044	include	Yes	Include
HB13-30	0 - 6	9/10/2013	Area 1	NA	NA	Chrysene	SND-1	0	6	60			Yes	Include
HB13-30	6 - 24	9/10/2013	Area 1	NA	NA	Chrysene	SND-1	6	24	60			Yes	Include
HB13-30	24 - 42	9/10/2013	Area 1	NA	NA	Chrysene	SND-1	24	42	60			Yes	Include
HB13-30	42 - 60	9/10/2013	Area 1	NA	NA	Chrysene	SND-1	42	60	60			Yes	Include
HB13-30	60 - 78	9/10/2013	Area 1	NA	NA	Chrysene	SND-1	60	78	60			No	Exclude
HB13-31	0 - 6	9/13/2013	Area 1	NA	NA	Chrysene	FC-16	0	6	27	2.76	include	Yes	Include
HB13-31	6 - 18	9/13/2013	Area 1	NA	NA	Chrysene	FC-16	6	18	27	2.76	include	Yes	Include
HB13-31	18 - 27	9/13/2013	Area 1	NA	NA	Chrysene	FC-16	18	27	27	2.76	include	Yes	Include
HB13-31	27 - 33	9/13/2013	Area 1	NA	NA	Chrysene	FC-16	27	33	27	2.76	include	No	Exclude
HB13-32	0 - 6	9/13/2013	Area 1	NA	NA	Chrysene	FC-14	0	6	26.0000004	-2.52	include	Yes	Include
HB13-32	6 - 18	9/13/2013	Area 1	NA	NA	Chrysene	FC-14	6	18	26.0000004	-2.52	include	Yes	Include
HB13-32	18 - 26	9/13/2013	Area 1	NA	NA	Chrysene	FC-14	18	26	26.0000004	-2.52	include	Yes	Include
HB13-32	26 - 32	9/13/2013	Area 1	NA	NA	Chrysene	FC-14	26	32	26.0000004	-2.52	include	Yes	Include
HB13-33	0 - 6	9/13/2013	Area 1	NA	NA	Chrysene		0	6	12			Yes	Include
HB13-33	6 - 12	9/13/2013	Area 1	NA	NA	Chrysene		6	12	12			Yes	Include
HB13-34	0 - 6	9/13/2013	Area 1	NA	NA	Chrysene		0	6	0.5000004			Yes	Include
HB13-35	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Chrysene		0	6	3.9999996			Yes	Include
HB13-35	6 - 12	9/13/2013	Hughitt Ave Slip	NA	NA	Chrysene		6	12	3.9999996			No	Exclude
HB13-37	2 - 6	9/10/2013	Hughitt Ave Slip	4	4	Chrysene	HS-3	2	6	6			Yes	Include
HB13-38	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Chrysene	HS-3	0	6	6			Yes	Include
HB13-39	4 - 10	9/13/2013	Hughitt Ave Slip	NA	NA	Chrysene	HS-2	4	10	27.9999996			Yes	Include
HB13-39	10 - 28	9/13/2013	Hughitt Ave Slip	NA	NA	Chrysene	HS-2	10	28	27.9999996			Yes	Include
HB13-39	28 - 34	9/13/2013	Hughitt Ave Slip	NA	NA	Chrysene	HS-2	28	34	27.9999996			No	Exclude
HB13-40	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Chrysene	HS-2	0	6	86.0000004			Yes	Include
HB13-40	0 - 24 *	9/13/2013	Hughitt Ave Slip	0.22	0.22	Chrysene	HS-2	0	24	86.0000004			Yes	Include
HB13-40	6 - 24	9/13/2013	Hughitt Ave Slip	NA	NA	Chrysene	HS-2	6	24	86.0000004			Yes	Include
HB13-40	24 - 48	9/13/2013	Hughitt Ave Slip	0.8	0.8	Chrysene	HS-2	24	48	86.0000004			Yes	Include
HB13-40	48 - 72	9/13/2013	Hughitt Ave Slip	0.11	0.11	Chrysene	HS-2	48	72	86.0000004			Yes	Include
HB13-40	72 - 86	9/13/2013	Hughitt Ave Slip	0.013 U	0.013	Chrysene	HS-2	72	86	86.0000004			Yes	Include
HB13-41	0 - 6	9/10/2013	Hughitt Ave Slip	NA	NA	Chrysene	HS-2	0	6	29.0000004			Yes	Include
HB13-41	0 - 24 *	9/10/2013	Hughitt Ave Slip	1.3	1.3	Chrysene	HS-2	0	24	29.0000004			Yes	Include
HB13-41	6 - 24	9/10/2013	Hughitt Ave Slip	NA	NA	Chrysene	HS-2	6	24	29.0000004			Yes	Include
HB13-41	24 - 29	9/10/2013	Hughitt Ave Slip	0.39	0.39	Chrysene	HS-2	24	29	29.0000004			Yes	Include
HB13-42	0 - 6	9/11/2013	Cummings Ave Slip	1.9	1.9	Chrysene	CS-3	0	6	33			Yes	Include
HB13-42	6 - 24	9/11/2013	Cummings Ave Slip	0.59	0.59	Chrysene	CS-3	6	24	33			Yes	Include
HB13-42	24 - 33	9/11/2013	Cummings Ave Slip	0.25	0.25	Chrysene	CS-3	24	33	33			Yes	Include
HB13-42	33 - 36	9/11/2013	Cummings Ave Slip	0.019	0.019	Chrysene	CS-3	33	36	33			No	Exclude
HB13-43	0 - 6	9/11/2013	Cummings Ave Slip	13	13	Chrysene	CS-2	0	6	24			Yes	Include
HB13-43	0 - 24 *	9/11/2013	Cummings Ave Slip	NA	NA	Chrysene	CS-2	0	24	24			Yes	Include
HB13-43	6 - 24	9/11/2013	Cummings Ave Slip	0.49	0.49	Chrysene	CS-2	6	24	24			Yes	Include
HB13-45	0 - 6	9/11/2013	Cummings Ave Slip	2.2	2.2	Chrysene	CS-2	0	6	21			Yes	Include
HB13-45	6 - 21	9/11/2013	Cummings Ave Slip	3.5	3.5	Chrysene	CS-2	6	21	21			Yes	Include
HB13-47	0 - 6	9/10/2013	Fraser Ave Slip	3.3	3.3	Chrysene	FS-1	0	6	30.996			Yes	Include
HB13-47	6 - 24	9/10/2013	Fraser Ave Slip	3.6	3.6	Chrysene	FS-1	6	24	30.996			Yes	Include
HB13-47	24 - 31	9/10/2013	Fraser Ave Slip	4.4	4.4	Chrysene	FS-1	24	31	30.996			Yes	Include
HB13-47	31 - 37 *	9/10/2013	Fraser Ave Slip	NA	NA	Chrysene	FS-1	31	37	30.996			No	Exclude
HB13-48	0 - 6 *	9/10/2013	Fraser Ave Slip	NA	NA	Chrysene	FS-2	0	6	45.9999996			Yes	Include
HB13-48	0 - 24	9/10/2013	FRASER AVE SLIP	2.9	2.9	Chrysene	FS-2	0	24	45.9999996			Yes	Include
HB13-48	6 - 24 *	9/10/2013	Fraser Ave Slip	NA	NA	Chrysene	FS-2	6	24	45.9999996			Yes	Include
HB13-48	24 - 42 *	9/10/2013	Fraser Ave Slip	NA	NA	Chrysene	FS-2	24	42	45.9999996			Yes	Include
HB13-48	24 - 46 *	9/10/2013	FRASER AVE SLIP	4	4	Chrysene	FS-2	24	46	45.9999996			Yes	Include
HB13-48	42 - 46 *	9/10/2013	Fraser Ave Slip	NA	NA	Chrysene	FS-2	42	46	45.9999996			Yes	Include
HB13-49	0 - 6	9/11/2013	Fraser Ave Slip	1.5	1.5	Chrysene	FS-2	0	6	30			Yes	Include
HB13-49	6 - 24	9/11/2013	Fraser Ave Slip	1.5	1.5	Chrysene	FS-2	6	24	30			Yes	Include
HB13-49	24 - 30	9/11/2013	Fraser Ave Slip	2	2	Chrysene	FS-2	24	30	30			Yes	Include
HB13-50	0 - 12 *	9/13/2013	Area 1	NA	NA	Chrysene	OC-12	0	12	47.0000004			Yes	Include
HB13-50	12 - 24 *	9/13/2013	Area 1	NA	NA	Chrysene	OC-12	12	24	47.0000004			Yes	Include
HB13-50	24 - 36 *	9/13/2013	Area 1	NA	NA	Chrysene	OC-12	24	36	47.0000004			Yes	Include
HB13-50	36 - 47 *	9/13/2013	Area 1	NA	NA	Chrysene	OC-12	36	47	47.0000004			Yes	Include
HB13-51	0 - 6 *	9/11/2013	Area 2	NA	NA	Chrysene		0	6					Exclude
HB13-51	6 - 15 *	9/11/2013	Area 2	NA	NA	Chrysene		6	15					Exclude
HB13-52	0 - 6 *	9/11/2013	Area 2	NA	NA	Chrysene	OC-10	0	6	12			Yes	Include
HB13-52	6 - 12 *	9/11/2013	Area 2	NA	NA	Chrysene	OC-10	6	12	12			Yes	Include
HB13-52	12 - 17 *	9/11/2013	Area 2	NA	NA	Chrysene	OC-10	12	17	12			No	Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB14-01	0 - 6	8/18/2014	Area 1	NA	NA	Chrysene	SND-1	0	6					Exclude
HB14-01	6 - 18	8/18/2014	Area 1	NA	NA	Chrysene	SND-1	6	18					Exclude
HB14-02	0 - 6	8/18/2014	Area 1	NA	NA	Chrysene	FC-15	0	6	17.004	-12.996	include	Yes	Include
HB14-02	6 - 14	8/18/2014	Area 1	NA	NA	Chrysene	FC-15	6	14	17.004	-12.996	include	Yes	Include
HB14-03	0 - 6	8/18/2014	Area 1	NA	NA	Chrysene	FC-15	0	6	29.997288	-2.472	include	Yes	Include
HB14-03	6 - 18	8/18/2014	Area 1	NA	NA	Chrysene	FC-15	6	18	29.997288	-2.472	include	Yes	Include
HB14-03	18 - 30	8/18/2014	Area 1	NA	NA	Chrysene	FC-15	18	30	29.997288	-2.472	include	Yes	Include
HB14-03	30 - 42	8/18/2014	Area 1	NA	NA	Chrysene	FC-15	30	42	29.997288	-2.472	include	No	Exclude
HB14-03	42 - 54	8/18/2014	Area 1	NA	NA	Chrysene	FC-15	42	54	29.997288	-2.472	include	No	Exclude
HB14-04	0 - 6	8/18/2014	Area 1	NA	NA	Chrysene		0	6	29.904			Yes	Include
HB14-04	6 - 18	8/18/2014	Area 1	NA	NA	Chrysene		6	18	29.904			Yes	Include
HB14-04	18 - 30	8/18/2014	Area 1	NA	NA	Chrysene		18	30	29.904			Yes	Include
HB14-05 G		8/18/2014	Area 1	NA	NA	Chrysene			#VALUE!					Exclude
HB14-06	0 - 6	8/18/2014	Area 1	NA	NA	Chrysene		0	6	30.588			Yes	Include
HB14-06	6 - 24	8/18/2014	Area 1	NA	NA	Chrysene		6	24	30.588			Yes	Include
HB14-07	0 - 6	8/18/2014	Area 1	NA	NA	Chrysene		0	6	78.012			Yes	Include
HB14-07	6 - 24	8/18/2014	Area 1	NA	NA	Chrysene		6	24	78.012			Yes	Include
HB14-07	24 - 42	8/18/2014	Area 1	NA	NA	Chrysene		24	42	78.012			Yes	Include
HB14-08	0 - 6	8/19/2014	Area 1	NA	NA	Chrysene		0	6	34.416			Yes	Include
HB14-08	6 - 19	8/19/2014	Area 1	NA	NA	Chrysene		6	19	34.416			Yes	Include
HB14-09	0 - 12	8/19/2014	Area 1	NA	NA	Chrysene	OC-16	0	12	12.003804			Yes	Include
HB14-09	12 - 24	8/19/2014	Area 1	NA	NA	Chrysene	OC-16	12	24	12.003804			Yes	Include
HB14-09	24 - 36	8/19/2014	Area 1	NA	NA	Chrysene	OC-16	24	36	12.003804			No	Exclude
HB14-09	36 - 48	8/19/2014	Area 1	NA	NA	Chrysene	OC-16	36	48	12.003804			No	Exclude
HB14-09	48 - 60	8/19/2014	Area 1	NA	NA	Chrysene	OC-16	48	60	12.003804			No	Exclude
HB14-09	60 - 72	8/19/2014	Area 1	NA	NA	Chrysene	OC-16	60	72	12.003804			No	Exclude
HB14-10	0 - 6	8/20/2014	Area 1	0.21	0.21	Chrysene		0	6	54.005544			Yes	Include
HB14-10	6 - 18	8/20/2014	Area 1	0.22	0.22	Chrysene		6	18	54.005544			Yes	Include
HB14-10	18 - 30	8/20/2014	Area 1	0.45	0.45	Chrysene		18	30	54.005544			Yes	Include
HB14-10	30 - 42	8/20/2014	Area 1	0.63	0.63	Chrysene		30	42	54.005544			Yes	Include
HB14-10	42 - 54	8/20/2014	Area 1	0.43	0.43	Chrysene		42	54	54.005544			Yes	Include
HB14-10	54 - 66	8/20/2014	Area 1	NA	NA	Chrysene		54	66	54.005544			Yes	Include
HB14-11	0 - 6	8/19/2014	Area 1	NA	NA	Chrysene	SND-2	0	6					Exclude
HB14-11	6 - 18	8/19/2014	Area 1	NA	NA	Chrysene	SND-2	6	18					Exclude
HB14-11	18 - 20	8/19/2014	Area 1	NA	NA	Chrysene	SND-2	18	20					Exclude
HB14-12	0 - 6	8/19/2014	Area 1	NA	NA	Chrysene	SND-4	0	6	26.34			Yes	Include
HB14-12	6 - 18	8/19/2014	Area 1	NA	NA	Chrysene	SND-4	6	18	26.34			Yes	Include
HB14-12	18 - 32	8/19/2014	Area 1	NA	NA	Chrysene	SND-4	18	32	26.34			Yes	Include
HB14-13	0 - 6	8/19/2014	Area 2	NA	NA	Chrysene	SND-5	0	6	-0.648			No	Exclude
HB14-13	6 - 11	8/19/2014	Area 2	NA	NA	Chrysene	SND-5	6	11	-0.648			No	Exclude
HB14-14	0 - 6	8/20/2014	Area 2	0.49	0.49	Chrysene	OC-4	0	6	101.997672			Yes	Include
HB14-14	4 - 6	8/20/2014	Area 2	5.2	5.2	Chrysene	OC-4	4	6	101.997672			Yes	Include
HB14-14	6 - 18	8/20/2014	Area 2	NA	NA	Chrysene	OC-4	6	18	101.997672			Yes	Include
HB14-14	6 - 30	8/20/2014	Area 2	0.48	0.48	Chrysene	OC-4	6	30	101.997672			Yes	Include
HB14-14	18 - 30	8/20/2014	Area 2	NA	NA	Chrysene	OC-4	18	30	101.997672			Yes	Include
HB14-14	30 - 42	8/20/2014	Area 2	NA	NA	Chrysene	OC-4	30	42	101.997672			Yes	Include
HB14-14	30 - 54	8/20/2014	Area 2	0.58	0.58	Chrysene	OC-4	30	54	101.997672			Yes	Include
HB14-14	42 - 54	8/20/2014	Area 2	NA	NA	Chrysene	OC-4	42	54	101.997672			Yes	Include
HB14-14	54 - 66	8/20/2014	Area 2	NA	NA	Chrysene	OC-4	54	66	101.997672			Yes	Include
HB14-14	54 - 78	8/20/2014	Area 2	0.46	0.46	Chrysene	OC-4	54	78	101.997672			Yes	Include
HB14-14	66 - 78	8/20/2014	Area 2	NA	NA	Chrysene	OC-4	66	78	101.997672			Yes	Include
HB14-14	78 - 90	8/20/2014	Area 2	NA	NA	Chrysene	OC-4	78	90	101.997672			Yes	Include
HB14-14	78 - 102	8/20/2014	Area 2	0.94	0.94	Chrysene	OC-4	78	102	101.997672			Yes	Include
HB14-14	90 - 102	8/20/2014	Area 2	NA	NA	Chrysene	OC-4	90	102	101.997672			Yes	Include
HB14-14	102 - 111	8/20/2014	Area 2	NA	NA	Chrysene	OC-4	102	111	101.997672			No	Exclude
HB15-01	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	0	12	51.096			Yes	Include
HB15-01	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	12	24	51.096			Yes	Include
HB15-01	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	24	36	51.096			Yes	Include
HB15-01	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	36	48	51.096			Yes	Include
HB15-01	48 - 57	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	48	57	51.096			Yes	Include
HB15-02	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	0	12	48.000696			Yes	Include
HB15-02	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	12	24	48.000696			Yes	Include
HB15-02	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	24	36	48.000696			Yes	Include
HB15-02	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	36	48	48.000696			Yes	Include
HB15-03	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	0	12	67.9950564			Yes	Include
HB15-03	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	12	24	67.9950564			Yes	Include
HB15-03	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	24	36	67.9950564			Yes	Include
HB15-03	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	36	48	67.9950564			Yes	Include
HB15-03	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	48	60	67.9950564			Yes	Include
HB15-03	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	60	68	67.9950564			Yes	Include
HB15-03R	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	0	12	67.9950564			Yes	Include
HB15-03R	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	12	24	67.9950564			Yes	Include
HB15-03R	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	24	36	67.9950564			Yes	Include
HB15-03R	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	36	48	67.9950564			Yes	Include
HB15-03R	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	48	60	67.9950564			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB15-03R	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	60	68	67.9950564			Yes	Include
HB15-04	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	0	12	63.84			Yes	Include
HB15-04	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	12	24	63.84			Yes	Include
HB15-04	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	24	36	63.84			Yes	Include
HB15-04	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	36	48	63.84			Yes	Include
HB15-04	48 - 59	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	48	59	63.84			Yes	Include
HB15-05	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	0	12	71.994852			Yes	Include
HB15-05	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	12	24	71.994852			Yes	Include
HB15-05	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	24	36	71.994852			Yes	Include
HB15-05	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	36	48	71.994852			Yes	Include
HB15-05	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	48	60	71.994852			Yes	Include
HB15-05	60 - 72	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	60	72	71.994852			Yes	Include
HB15-05	72 - 80	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-1	72	80	71.994852			No	Exclude
HB15-06	0 - 9	6/23/2015	Hughitt Ave Slip	NA	NA	Chrysene	HS-2	0	9	9.000636			Yes	Include
HB15-07	0 - 12	6/23/2015	Cummings Ave Slip	NA	NA	Chrysene	CS-1	0	12	90.9955116			Yes	Include
HB15-07	12 - 24	6/23/2015	Cummings Ave Slip	NA	NA	Chrysene	CS-1	12	24	90.9955116			Yes	Include
HB15-07	24 - 36	6/23/2015	Cummings Ave Slip	NA	NA	Chrysene	CS-1	24	36	90.9955116			Yes	Include
HB15-07	36 - 48	6/23/2015	Cummings Ave Slip	4.2	4.2	Chrysene	CS-1	36	48	90.9955116			Yes	Include
HB15-07	48 - 60	6/23/2015	Cummings Ave Slip	6.7	6.7	Chrysene	CS-1	48	60	90.9955116			Yes	Include
HB15-07	60 - 72	6/23/2015	Cummings Ave Slip	4.7	4.7	Chrysene	CS-1	60	72	90.9955116			Yes	Include
HB15-07	72 - 84	6/23/2015	Cummings Ave Slip	5	5	Chrysene	CS-1	72	84	90.9955116			Yes	Include
HB15-07	84 - 91	6/23/2015	Cummings Ave Slip	5.6	5.6	Chrysene	CS-1	84	91	90.9955116			Yes	Include
HB15-08	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Chrysene	CS-2	0	12	65.997804			Yes	Include
HB15-08	12 - 24	6/24/2015	Cummings Ave Slip	3.9	3.9	Chrysene	CS-2	12	24	65.997804			Yes	Include
HB15-08	24 - 36	6/24/2015	Cummings Ave Slip	3.6	3.6	Chrysene	CS-2	24	36	65.997804			Yes	Include
HB15-08	36 - 48	6/24/2015	Cummings Ave Slip	NA	NA	Chrysene	CS-2	36	48	65.997804			Yes	Include
HB15-08	48 - 60	6/24/2015	Cummings Ave Slip	NA	NA	Chrysene	CS-2	48	60	65.997804			Yes	Include
HB15-08	60 - 66	6/24/2015	Cummings Ave Slip	NA	NA	Chrysene	CS-2	60	66	65.997804			Yes	Include
HB15-09	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Chrysene	CS-3	0	12	45.396			Yes	Include
HB15-09	12 - 17	6/24/2015	Cummings Ave Slip	NA	NA	Chrysene	CS-3	12	17	45.396			Yes	Include
HB15-10	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Chrysene		0	12	-0.936			No	Exclude
HB15-11	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Chrysene	CS-5	0	12	27.9944796			Yes	Include
HB15-11	12 - 24	6/24/2015	Cummings Ave Slip	NA	NA	Chrysene	CS-5	12	24	27.9944796			Yes	Include
HB15-11	24 - 28	6/24/2015	Cummings Ave Slip	NA	NA	Chrysene	CS-5	24	28	27.9944796			Yes	Include
HB15-12	0 - 12	6/24/2015	Area 2	NA	NA	Chrysene	FP-1	0	12	29.994876			Yes	Include
HB15-12	12 - 24	6/24/2015	Area 2	NA	NA	Chrysene	FP-1	12	24	29.994876			Yes	Include
HB15-12	24 - 30	6/24/2015	Area 2	NA	NA	Chrysene	FP-1	24	30	29.994876			Yes	Include
HB15-13	0 - 12	6/24/2015	Area 2	NA	NA	Chrysene	FP-1	0	12	64.0033716			Yes	Include
HB15-13	12 - 24	6/24/2015	Area 2	NA	NA	Chrysene	FP-1	12	24	64.0033716			Yes	Include
HB15-13	24 - 36	6/24/2015	Area 2	NA	NA	Chrysene	FP-1	24	36	64.0033716			Yes	Include
HB15-13	36 - 48	6/24/2015	Area 2	NA	NA	Chrysene	FP-1	36	48	64.0033716			Yes	Include
HB15-13	48 - 60	6/24/2015	Area 2	NA	NA	Chrysene	FP-1	48	60	64.0033716			Yes	Include
HB15-13	60 - 64	6/24/2015	Area 2	NA	NA	Chrysene	FP-1	60	64	64.0033716			Yes	Include
HB15-14	0 - 12	6/24/2015	Area 2	NA	NA	Chrysene	FP-1	0	12	23.996196			Yes	Include
HB15-14	12 - 24	6/24/2015	Area 2	NA	NA	Chrysene	FP-1	12	24	23.996196			Yes	Include
HB15-14	24 - 28	6/24/2015	Area 2	NA	NA	Chrysene	FP-1	24	28	23.996196			No	Exclude
HB15-14	28 - 35	6/24/2015	Area 2	NA	NA	Chrysene	FP-1	28	35	23.996196			No	Exclude
HB15-15	0 - 12	6/24/2015	Area 2	NA	NA	Chrysene	FP-2	0	12	19.0051356			Yes	Include
HB15-15	12 - 19	6/24/2015	Area 2	NA	NA	Chrysene	FP-2	12	19	19.0051356			Yes	Include
HB15-15R	0 - 12	6/24/2015	Area 2	NA	NA	Chrysene	FP-2	0	12	18.9999996			Yes	Include
HB15-15R	12 - 19	6/24/2015	Area 2	NA	NA	Chrysene	FP-2	12	19	18.9999996			Yes	Include
HB15-16	0 - 12	6/24/2015	Area 2	NA	NA	Chrysene	FP-1	0	12	8.304			Yes	Include
HB15-16	12 - 19	6/24/2015	Area 2	NA	NA	Chrysene	FP-1	12	19	8.304			No	Exclude
HB15-17	0 - 12	6/24/2015	Area 2	NA	NA	Chrysene	FP-2	0	12	36.004608			Yes	Include
HB15-17	12 - 24	6/24/2015	Area 2	NA	NA	Chrysene	FP-2	12	24	36.004608			Yes	Include
HB15-17	24 - 36	6/24/2015	Area 2	NA	NA	Chrysene	FP-2	24	36	36.004608			Yes	Include
HB15-17	36 - 48	6/24/2015	Area 2	NA	NA	Chrysene	FP-2	36	48	36.004608			Yes	Include
HB15-17	48 - 54	6/24/2015	Area 2	NA	NA	Chrysene	FP-2	48	54	36.004608			No	Exclude
HB15-18	0 - 12	6/24/2015	Area 2	NA	NA	Chrysene	FP-2	0	12	23.999508			Yes	Include
HB15-18	12 - 24	6/24/2015	Area 2	NA	NA	Chrysene	FP-2	12	24	23.999508			Yes	Include
HB15-19	0 - 12	6/24/2015	Area 2	NA	NA	Chrysene		0	12					Exclude
HB15-19	12 - 24	6/24/2015	Area 2	NA	NA	Chrysene		12	24					Exclude
HB15-19	24 - 32	6/24/2015	Area 2	NA	NA	Chrysene		24	32					Exclude
HB15-20	0 - 12	6/25/2015	Area 2	NA	NA	Chrysene	OC-3	0	12	33.864			Yes	Include
HB15-20	12 - 24	6/25/2015	Area 2	NA	NA	Chrysene	OC-3	12	24	33.864			Yes	Include
HB15-20	24 - 28	6/25/2015	Area 2	NA	NA	Chrysene	OC-3	24	28	33.864			Yes	Include
HB15-20B	0 - 6	6/25/2015	Area 2	NA	NA	Chrysene	OC-13	0	6	11.996892			Yes	Include
HB15-20B	6 - 12	6/25/2015	Area 2	NA	NA	Chrysene	OC-13	6	12	11.996892			Yes	Include
HB15-21G	15 - 21	6/29/2015	Fraser Ave Slip	NA	NA	Chrysene		15	21					Exclude
HB15-22G	0 - 6	6/29/2015	Fraser Ave Slip	0.24	0.24	Chrysene	OC-8	0	6	6			Yes	Include
HB15-23	0 - 12	6/25/2015	Fraser Ave Slip	NA	NA	Chrysene	FS-1	0	12	55.02			Yes	Include
HB15-23	12 - 24	6/25/2015	Fraser Ave Slip	NA	NA	Chrysene	FS-1	12	24	55.02			Yes	Include
HB15-23	24 - 36	6/25/2015	Fraser Ave Slip	NA	NA	Chrysene	FS-1	24	36	55.02			Yes	Include
HB15-23	36 - 48	6/25/2015	Fraser Ave Slip	NA	NA	Chrysene	FS-1	36	48	55.02			Yes	Include
HB15-23	48 - 56	6/25/2015	Fraser Ave Slip	NA	NA	Chrysene	FS-1	48	56	55.02			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB15-25	0 - 12	6/25/2015	Area 2	NA	NA	Chrysene	OC-1	0	12	77.4			Yes	Include
HB15-25	12 - 24	6/25/2015	Area 2	NA	NA	Chrysene	OC-1	12	24	77.4			Yes	Include
HB15-25	24 - 36	6/25/2015	Area 2	NA	NA	Chrysene	OC-1	24	36	77.4			Yes	Include
HB15-25	36 - 48	6/25/2015	Area 2	NA	NA	Chrysene	OC-1	36	48	77.4			Yes	Include
HB15-25	48 - 60	6/25/2015	Area 2	NA	NA	Chrysene	OC-1	48	60	77.4			Yes	Include
HB15-25	60 - 72	6/25/2015	Area 2	NA	NA	Chrysene	OC-1	60	72	77.4			Yes	Include
HB15-25	72 - 88	6/25/2015	Area 2	NA	NA	Chrysene	OC-1	72	88	77.4			Yes	Include
HB15-26	0 - 12	6/25/2015	Area 2	NA	NA	Chrysene	FC-2	0	12	38.28	6.36	include	Yes	Include
HB15-26	12 - 24	6/25/2015	Area 2	NA	NA	Chrysene	FC-2	12	24	38.28	6.36	include	Yes	Include
HB15-26	24 - 36	6/25/2015	Area 2	NA	NA	Chrysene	FC-2	24	36	38.28	6.36	include	Yes	Include
HB15-26	36 - 46	6/25/2015	Area 2	NA	NA	Chrysene	FC-2	36	46	38.28	6.36	include	Yes	Include
HB15-27	0 - 12	6/25/2015	Area 2	NA	NA	Chrysene	FC-3	0	12	33.6	14.64	exclude	Yes	Exclude
HB15-27	12 - 24	6/25/2015	Area 2	NA	NA	Chrysene	FC-3	12	24	33.6	14.64	include	Yes	Include
HB15-27	24 - 36	6/25/2015	Area 2	NA	NA	Chrysene	FC-3	24	36	33.6	14.64	include	Yes	Include
HB15-27	36 - 48	6/25/2015	Area 2	NA	NA	Chrysene	FC-3	36	48	33.6	14.64	include	No	Exclude
HB15-27	48 - 60	6/25/2015	Area 2	NA	NA	Chrysene	FC-3	48	60	33.6	14.64	include	No	Exclude
HB15-27	60 - 71	6/25/2015	Area 2	NA	NA	Chrysene	FC-3	60	71	33.6	14.64	include	No	Exclude
HB15-28	0 - 12	6/25/2015	Area 2	NA	NA	Chrysene	OC-7	0	12	11.994072			Yes	Include
HB15-28	12 - 24	6/25/2015	Area 2	NA	NA	Chrysene	OC-7	12	24	11.994072			No	Exclude
HB15-28	24 - 30	6/25/2015	Area 2	NA	NA	Chrysene	OC-7	24	30	11.994072			No	Exclude
HB15-30	0 - 12	6/25/2015	Area 2	NA	NA	Chrysene		0	12	43.776			Yes	Include
HB15-30	12 - 24	6/25/2015	Area 2	NA	NA	Chrysene		12	24	43.776			Yes	Include
HB15-30	24 - 36	6/25/2015	Area 2	NA	NA	Chrysene		24	36	43.776			Yes	Include
HB15-30	36 - 50	6/25/2015	Area 2	NA	NA	Chrysene		36	50	43.776			Yes	Include
HB15-31	0 - 12	6/25/2015	Area 2	NA	NA	Chrysene		0	12					Exclude
HB15-31	12 - 20	6/25/2015	Area 2	NA	NA	Chrysene		12	20					Exclude
HB15-32	0 - 12	6/25/2015	Area 1	NA	NA	Chrysene	SND-4	0	12	11.995236			Yes	Include
HB15-32	12 - 26	6/25/2015	Area 1	NA	NA	Chrysene	SND-4	12	26	11.995236			No	Exclude
HB15-33	0 - 12	6/25/2015	Area 1	NA	NA	Chrysene		0	12	26.292			Yes	Include
HB15-33	12 - 24	6/25/2015	Area 1	NA	NA	Chrysene		12	24	26.292			Yes	Include
HB15-33	24 - 39	6/25/2015	Area 1	NA	NA	Chrysene		24	39	26.292			Yes	Include
HB15-34	0 - 12	6/25/2015	Area 1	NA	NA	Chrysene	FC-11	0	12		35.52	exclude		Exclude
HB15-34	12 - 24	6/25/2015	Area 1	NA	NA	Chrysene	FC-11	12	24		35.52	exclude		Exclude
HB15-34	24 - 32	6/25/2015	Area 1	NA	NA	Chrysene	FC-11	24	32		35.52	exclude		Exclude
HB15-35	0 - 12	6/25/2015	Area 1	NA	NA	Chrysene	FC-16	0	12	74.28	-6.48	include	Yes	Include
HB15-35	12 - 24	6/25/2015	Area 1	NA	NA	Chrysene	FC-16	12	24	74.28	-6.48	include	Yes	Include
HB15-35	24 - 36	6/25/2015	Area 1	NA	NA	Chrysene	FC-16	24	36	74.28	-6.48	include	Yes	Include
HB15-35	36 - 48	6/25/2015	Area 1	NA	NA	Chrysene	FC-16	36	48	74.28	-6.48	include	Yes	Include
HB15-35	48 - 60	6/25/2015	Area 1	NA	NA	Chrysene	FC-16	48	60	74.28	-6.48	include	Yes	Include
HB15-35	60 - 72	6/25/2015	Area 1	NA	NA	Chrysene	FC-16	60	72	74.28	-6.48	include	Yes	Include
HB15-36G	15 - 36	6/29/2015	Area 2	NA	NA	Chrysene		15	36					Exclude
HB15-37	0 - 12	6/25/2015	Area 2	NA	NA	Chrysene	OC-9	0	12	51.048			Yes	Include
HB15-37	12 - 24	6/25/2015	Area 2	NA	NA	Chrysene	OC-9	12	24	51.048			Yes	Include
HB15-37	24 - 36	6/25/2015	Area 2	NA	NA	Chrysene	OC-9	24	36	51.048			Yes	Include
HB15-37	36 - 48	6/25/2015	Area 2	NA	NA	Chrysene	OC-9	36	48	51.048			Yes	Include
HB15-37	48 - 60	6/25/2015	Area 2	NA	NA	Chrysene	OC-9	48	60	51.048			Yes	Include
HB15-37	60 - 74	6/25/2015	Area 2	NA	NA	Chrysene	OC-9	60	74	51.048			No	Exclude
HB15-38	0 - 12	6/25/2015	Area 2	NA	NA	Chrysene	OC-9	0	12	83.184			Yes	Include
HB15-38	12 - 24	6/25/2015	Area 2	NA	NA	Chrysene	OC-9	12	24	83.184			Yes	Include
HB15-38	24 - 36	6/25/2015	Area 2	NA	NA	Chrysene	OC-9	24	36	83.184			Yes	Include
HB15-38	36 - 48	6/25/2015	Area 2	NA	NA	Chrysene	OC-9	36	48	83.184			Yes	Include
HB15-38	48 - 60	6/25/2015	Area 2	NA	NA	Chrysene	OC-9	48	60	83.184			Yes	Include
HB15-38	60 - 72	6/25/2015	Area 2	NA	NA	Chrysene	OC-9	60	72	83.184			Yes	Include
HB15-38	72 - 84	6/25/2015	Area 2	NA	NA	Chrysene	OC-9	72	84	83.184			Yes	Include
HB15-38	84 - 96	6/25/2015	Area 2	NA	NA	Chrysene	OC-9	84	96	83.184			No	Exclude
HB15-G28	0 - 6	6/25/2015	Hughitt Ave Slip	NA	NA	Chrysene		0	6					Exclude
HB15-HC20A	0 - 6	6/25/2015	Area 1	NA	NA	Chrysene	OC-13	0	6	6.003036			Yes	Include
HB2A_4	0 - 6	5/12/2007	Hughitt Ave Slip	0.053	0.053	Benzo(a)anthracene	HS-1	0	6	48.00432			Yes	Include
HB2A_4	6 - 24	5/12/2007	Hughitt Ave Slip	0.10 J-	0.1	Benzo(a)anthracene	HS-1	6	24	48.00432			Yes	Include
HB2A_4	24 - 48	5/12/2007	Hughitt Ave Slip	0.019	0.019	Benzo(a)anthracene	HS-1	24	48	48.00432			Yes	Include
HB2A_6	0 - 5	5/2/2007	Area 1	0.14	0.14	Benzo(a)anthracene		0	5					Exclude
HB2A_7	0 - 5	5/10/2007	Area 1	0.076	0.076	Benzo(a)anthracene	SND-1	0	5					Exclude
HB2A_8	0 - 5	5/10/2007	Area 1	0.044	0.044	Benzo(a)anthracene	FC-12/FC-13	0	5	4.9944804	79.824	exclude	Yes	Exclude
HB2A_11	0 - 5	5/10/2007	Area 1	0.082 J-	0.082	Benzo(a)anthracene		0	5					Exclude
HB2A_13	0 - 5	5/2/2007	Area 1	0.051	0.051	Benzo(a)anthracene		0	5					Exclude
HB2A_16	0 - 5	5/2/2007	Area 1	0.022 J-	0.022	Benzo(a)anthracene		0	5					Exclude
HB2A_210	0 - 6	5/16/2007	Area 1	0.0080 U	0.008	Benzo(a)anthracene		0	6					Exclude
HB2A_210	6 - 24	5/16/2007	Area 1	0.0083 U	0.0083	Benzo(a)anthracene		6	24					Exclude
HB2A_210	24 - 48	5/16/2007	Area 1	0.0061 UJS-	0.0061	Benzo(a)anthracene		24	48					Exclude
HB2A_GENES	0 - 5	5/22/2007	Cummings Ave Slip	0.084	0.084	Benzo(a)anthracene		0	5					Exclude
HB2B_17	0 - 6	5/12/2007	Fraser Ave Slip	0.062	0.062	Benzo(a)anthracene	FS-2	0	6	24.005676			Yes	Include
HB2B_17	6 - 24	5/12/2007	Fraser Ave Slip	0.016	0.016	Benzo(a)anthracene	FS-2	6	24	24.005676			Yes	Include
HB2B_18	0 - 6	5/7/2007	Area 2	0.065	0.065	Benzo(a)anthracene	FP-1	0	6	47.997552			Yes	Include
HB2B_18	6 - 24	5/7/2007	Area 2	0.034	0.034	Benzo(a)anthracene	FP-1	6	24	47.997552			Yes	Include
HB2B_18	24 - 48	5/7/2007	Area 2	0.038	0.038	Benzo(a)anthracene	FP-1	24	48	47.997552			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB2B 19	0 - 6	5/2/2007	Area 2	0.02	0.02	Benzo(a)anthracene	OC-1	0	6	6.001728			Yes	Include
HB2B 19	6 - 24	5/2/2007	Area 2	0.0052 U	0.0052	Benzo(a)anthracene	OC-1	6	24	6.001728			Yes	Include
HB2B 20	0 - 6	5/2/2007	Area 2	0.033	0.033	Benzo(a)anthracene	OC-9	0	6	23.997336			Yes	Include
HB2B 20	6 - 24	5/2/2007	Area 2	0.026	0.026	Benzo(a)anthracene	OC-9	6	24	23.997336			Yes	Include
HB2B 20	24 - 48	5/2/2007	Area 2	0.0074	0.0074	Benzo(a)anthracene	OC-9	24	48	23.997336			No	Exclude
HB2B 21	0 - 5	5/2/2007	Area 2	0.03	0.03	Benzo(a)anthracene		0	5					Exclude
HB2B 22	0 - 5	5/2/2007	Area 2	0.045	0.045	Benzo(a)anthracene	OC-5	0	5	5.0028204			Yes	Include
HB3A GENES	0 - 5	9/6/2007	Cummings Ave Slip	0.011	0.011	Benzo(a)anthracene		0	5					Exclude
HB10-1-01	0 - 6	10/16/2010	Area 1	0.018	0.018	Benzo(a)anthracene		0	6					Exclude
HB10-1-01	0 - 12	10/16/2010	Area 1	0.0071 U	0.0071	Benzo(a)anthracene		0	12					Exclude
HB10-1-01	36 - 40	10/16/2010	Area 1	0.0051 U	0.0051	Benzo(a)anthracene		36	40					Exclude
HB10-1-02	0 - 6	10/16/2010	Area 1	0.011	0.011	Benzo(a)anthracene		0	6	23.0027508			Yes	Include
HB10-1-02	12 - 23	10/16/2010	Area 1	0.01	0.01	Benzo(a)anthracene		12	23	23.0027508			Yes	Include
HB10-1-03	0 - 6	10/16/2010	Area 1	0.026	0.026	Benzo(a)anthracene	FC-17	0	6	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	0 - 12	10/16/2010	Area 1	0.012	0.012	Benzo(a)anthracene	FC-17	0	12	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	12 - 36	10/16/2010	Area 1	0.011	0.011	Benzo(a)anthracene	FC-17	12	36	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	36 - 60	10/16/2010	Area 1	0.025	0.025	Benzo(a)anthracene	FC-17	36	60	59.99475	49.872	include	Yes	Include
HB10-1-03	60 - 84	10/16/2010	Area 1	0.023	0.023	Benzo(a)anthracene	FC-17	60	84	59.99475	49.872	include	No	Exclude
HB10-1-04	0 - 6	10/17/2010	Area 1	0.016	0.016	Benzo(a)anthracene		0	6					Exclude
HB10-1-04	0 - 12	10/17/2010	Area 1	0.026	0.026	Benzo(a)anthracene		0	12					Exclude
HB10-1-04	12 - 36	10/17/2010	Area 1	0.016	0.016	Benzo(a)anthracene		12	36					Exclude
HB10-1-04	36 - 50	10/17/2010	Area 1	0.014	0.014	Benzo(a)anthracene		36	50					Exclude
HB10-1-05	0 - 6	10/16/2010	Area 1	0.038	0.038	Benzo(a)anthracene	OC-17	0	6	5.9987496			Yes	Include
HB10-1-07	0 - 6	10/17/2010	Area 1	0.3	0.3	Benzo(a)anthracene	OC-15	0	6	6.0057			Yes	Include
HB10-1-07	0 - 12	10/17/2010	Area 1	0.033	0.033	Benzo(a)anthracene	OC-15	0	12	6.0057			Yes	Include
HB10-1-07	12 - 36	10/17/2010	Area 1	0.028	0.028	Benzo(a)anthracene	OC-15	12	36	6.0057			No	Exclude
HB10-1-07	60 - 64	10/17/2010	Area 1	0.0040 U	0.004	Benzo(a)anthracene	OC-15	60	64	6.0057			No	Exclude
HB10-1-08	0 - 6	10/17/2010	Area 1	0.043	0.043	Benzo(a)anthracene		0	6	36.0057			Yes	Include
HB10-1-08	0 - 12	10/17/2010	Area 1	0.025	0.025	Benzo(a)anthracene		0	12	36.0057			Yes	Include
HB10-1-08	12 - 36	10/17/2010	Area 1	0.033	0.033	Benzo(a)anthracene		12	36	36.0057			Yes	Include
HB10-1-10	0 - 6	10/18/2010	Area 1	0.1	0.1	Benzo(a)anthracene	SND-1	0	6					Exclude
HB10-1-11	0 - 6	10/16/2010	Area 1	0.02	0.02	Benzo(a)anthracene		0	6	20.9987496			Yes	Include
HB10-1-11	12 - 21	10/16/2010	Area 1	0.024	0.024	Benzo(a)anthracene		12	21	20.9987496			Yes	Include
HB10-1-12	0 - 6	10/17/2010	Area 1	0.038	0.038	Benzo(a)anthracene		0	6					Exclude
HB10-1-12	0 - 12	10/17/2010	Area 1	0.027	0.027	Benzo(a)anthracene		0	12					Exclude
HB10-1-12	12 - 34	10/17/2010	Area 1	0.035	0.035	Benzo(a)anthracene		12	34					Exclude
HB10-1-13	0 - 6	10/18/2010	Area 1	0.049	0.049	Benzo(a)anthracene	FC-12/FC-13	0	6	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	0 - 12	10/18/2010	Area 1	0.11	0.11	Benzo(a)anthracene	FC-12/FC-13	0	12	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	12 - 36	10/18/2010	Area 1	0.069	0.069	Benzo(a)anthracene	FC-12/FC-13	12	36	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	60 - 67	10/18/2010	Area 1	0.1	0.1	Benzo(a)anthracene	FC-12/FC-13	60	67	36.0053004	42.816	include	No	Exclude
HB10-1-14	0 - 6	10/17/2010	Area 1	0.034	0.034	Benzo(a)anthracene		0	6	66.0057			Yes	Include
HB10-1-14	0 - 12	10/17/2010	Area 1	0.018	0.018	Benzo(a)anthracene		0	12	66.0057			Yes	Include
HB10-1-14	12 - 36	10/17/2010	Area 1	0.033	0.033	Benzo(a)anthracene		12	36	66.0057			Yes	Include
HB10-1-14	60 - 66	10/17/2010	Area 1	0.027 J	0.027	Benzo(a)anthracene		60	66	66.0057			Yes	Include
HB10-1-15	0 - 6	10/18/2010	Area 1	0.0043 U	0.0043	Benzo(a)anthracene	OC-13	0	6	16.0056996			Yes	Include
HB10-1-15	12 - 16	10/18/2010	Area 1	0.037	0.037	Benzo(a)anthracene	OC-13	12	16	16.0056996			Yes	Include
HB10-1-16	0 - 6	10/17/2010	Hughitt Ave Slip	0.12 U	0.12	Benzo(a)anthracene	HS-3	0	6	31.0056996			Yes	Include
HB10-1-16	0 - 12	10/17/2010	Hughitt Ave Slip	0.34 U	0.34	Benzo(a)anthracene	HS-3	0	12	31.0056996			Yes	Include
HB10-1-16	12 - 31	10/17/2010	Hughitt Ave Slip	0.16 U	0.16	Benzo(a)anthracene	HS-3	12	31	31.0056996			Yes	Include
HB10-1-17	0 - 6	10/17/2010	Area 1	0.039	0.039	Benzo(a)anthracene	OC-14	0	6	12			Yes	Include
HB10-1-20	0 - 6	10/17/2010	Hughitt Ave Slip	0.16	0.16	Benzo(a)anthracene		0	6	6.0057			Yes	Include
HB10-1-21	0 - 6	10/18/2010	Cummings Ave Slip	0.014 J	0.014	Benzo(a)anthracene		0	6	6.0012996			Yes	Include
HB10-1-21	12 - 23	10/18/2010	Cummings Ave Slip	0.040 J	0.04	Benzo(a)anthracene		12	23	6.0012996			No	Exclude
HB10-1-23	0 - 6	10/17/2010	Area 1	0.019	0.019	Benzo(a)anthracene		0	6	36.0057			Yes	Include
HB10-1-23	0 - 12	10/17/2010	Area 1	0.029	0.029	Benzo(a)anthracene		0	12	36.0057			Yes	Include
HB10-1-23	12 - 36	10/17/2010	Area 1	0.033	0.033	Benzo(a)anthracene		12	36	36.0057			Yes	Include
HB10-1-24	0 - 6	10/18/2010	Cummings Ave Slip	0.038 J	0.038	Benzo(a)anthracene	CS-4	0	6	36.0047496			Yes	Include
HB10-1-24	0 - 12	10/18/2010	Cummings Ave Slip	0.084	0.084	Benzo(a)anthracene	CS-4	0	12	36.0047496			Yes	Include
HB10-1-24	12 - 36	10/18/2010	Cummings Ave Slip	0.12	0.12	Benzo(a)anthracene	CS-4	12	36	36.0047496			Yes	Include
HB10-1-25	0 - 6	10/17/2010	Baxter Ave Embayment	0.017	0.017	Benzo(a)anthracene		0	6	6.0057			Yes	Include
HB10-1-27	0 - 6	10/18/2010	Area 1	0.023	0.023	Benzo(a)anthracene		0	6	-0.0027			No	Exclude
HB10-1-28	0 - 6	10/17/2010	Hughitt Ave Slip	0.061	0.061	Benzo(a)anthracene	HS-1	0	6	84.0057			Yes	Include
HB10-1-28	0 - 12	10/17/2010	Hughitt Ave Slip	0.089 J	0.089	Benzo(a)anthracene	HS-1	0	12	84.0057			Yes	Include
HB10-1-28	12 - 36	10/17/2010	Hughitt Ave Slip	0.12 J	0.12	Benzo(a)anthracene	HS-1	12	36	84.0057			Yes	Include
HB10-1-28	36 - 60	10/17/2010	Hughitt Ave Slip	0.058 J	0.058	Benzo(a)anthracene	HS-1	36	60	84.0057			Yes	Include
HB10-1-28	60 - 84	10/17/2010	Hughitt Ave Slip	0.10 J	0.1	Benzo(a)anthracene	HS-1	60	84	84.0057			Yes	Include
HB10-1-28	60 - 96	10/17/2010	Hughitt Ave Slip	0.013	0.013	Benzo(a)anthracene	HS-1	60	96	84.0057			Yes	Include
HB10-1-29	0 - 6	10/17/2010	Cummings Ave Slip	0.072 U	0.072	Benzo(a)anthracene	CS-1	0	6	83.9937			Yes	Include
HB10-1-29	0 - 12	10/17/2010	Cummings Ave Slip	0.17	0.17	Benzo(a)anthracene	CS-1	0	12	83.9937			Yes	Include
HB10-1-29	12 - 36	10/17/2010	Cummings Ave Slip	0.63	0.63	Benzo(a)anthracene	CS-1	12	36	83.9937			Yes	Include
HB10-1-29	36 - 60	10/17/2010	Cummings Ave Slip	0.35	0.35	Benzo(a)anthracene	CS-1	36	60	83.9937			Yes	Include
HB10-1-29	60 - 93	10/17/2010	Cummings Ave Slip	0.37	0.37	Benzo(a)anthracene	CS-1	60	93	83.9937			Yes	Include
HB10-1-30	0 - 6	10/18/2010	Baxter Ave Embayment	0.12	0.12	Benzo(a)anthracene		0	6	60.0053004			Yes	Include
HB10-1-30	0 - 12	10/18/2010	Baxter Ave Embayment	0.32	0.32	Benzo(a)anthracene		0	12	60.0053004			Yes	Include
HB10-1-30	12 - 36	10/18/2010	Baxter Ave Embayment	0.17	0.17	Benzo(a)anthracene		12	36	60.0053004			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB10-1-30	36 - 60	10/18/2010	Baxter Ave Embayment	0.085 U	0.085	Benzo(a)anthracene		36	60	60.0053004			Yes	Include
HB10-1-30	60 - 77	10/18/2010	Baxter Ave Embayment	0.08	0.08	Benzo(a)anthracene		60	77	60.0053004			Yes	Include
HB10-1-31	0 - 6	10/18/2010	Baxter Ave Embayment	0.11	0.11	Benzo(a)anthracene	OC-11	0	6	35.9973			Yes	Include
HB10-1-31	0 - 12	10/18/2010	Baxter Ave Embayment	0.15	0.15	Benzo(a)anthracene	OC-11	0	12	35.9973			Yes	Include
HB10-1-31	12 - 36	10/18/2010	Baxter Ave Embayment	0.079	0.079	Benzo(a)anthracene	OC-11	12	36	35.9973			Yes	Include
HB10-2-18	0 - 6	10/18/2010	Area 2	0.063	0.063	Benzo(a)anthracene	OC-2	0	6	6.0053004			Yes	Include
HB10-2-26	0 - 6	10/16/2010	Area 2	0.01	0.01	Benzo(a)anthracene		0	6					Exclude
HB10-2-26	12 - 17	10/16/2010	Area 2	0.018	0.018	Benzo(a)anthracene		12	17					Exclude
HB10-2-32	0 - 6	10/18/2010	Area 2	0.058	0.058	Benzo(a)anthracene		0	6					Exclude
HB10-2-33	0 - 6	10/18/2010	Area 2	0.013	0.013	Benzo(a)anthracene		0	6	6.0012996			Yes	Include
HB10-2-33	12 - 22	10/18/2010	Area 2	0.08	0.08	Benzo(a)anthracene		12	22	6.0012996			No	Exclude
HB10-2-34	0 - 6	10/18/2010	Area 2	0.03	0.03	Benzo(a)anthracene	FC-7	0	6	6.0053004	0.816	include	Yes	Include
HB10-2-35	0 - 6	10/18/2010	Area 2	0.0097	0.0097	Benzo(a)anthracene		0	6	30.0012996			Yes	Include
HB10-2-35	0 - 12	10/18/2010	Area 2	0.029	0.029	Benzo(a)anthracene		0	12	30.0012996			Yes	Include
HB10-2-35	12 - 30	10/18/2010	Area 2	0.059 J	0.059	Benzo(a)anthracene		12	30	30.0012996			Yes	Include
HB10-2-36	0 - 6	10/18/2010	Area 2	0.1	0.1	Benzo(a)anthracene	FC-5	0	6	6.0053004	-29.184	include	Yes	Include
HB10-2-37	0 - 6	10/18/2010	Area 2	0.036 J	0.036	Benzo(a)anthracene		0	6	23.0013			Yes	Include
HB10-2-37	12 - 23	10/18/2010	Area 2	0.028	0.028	Benzo(a)anthracene		12	23	23.0013			Yes	Include
HB10-2-38	0 - 6	10/18/2010	Area 2	0.023	0.023	Benzo(a)anthracene	OC-6	0	6	38.0013			Yes	Include
HB10-2-38	0 - 12	10/18/2010	Area 2	0.065	0.065	Benzo(a)anthracene	OC-6	0	12	38.0013			Yes	Include
HB10-2-38	36 - 38	10/18/2010	Area 2	0.23	0.23	Benzo(a)anthracene	OC-6	36	38	38.0013			Yes	Include
HB10-2-39	0 - 6	10/18/2010	Area 2	0.012 J	0.012	Benzo(a)anthracene		0	6	6.0012996			Yes	Include
HB10-2-39	0 - 12	10/18/2010	Area 2	0.079	0.079	Benzo(a)anthracene		0	12	6.0012996			Yes	Include
HB10-2-39	12 - 28	10/18/2010	Area 2	0.045	0.045	Benzo(a)anthracene		12	28	6.0012996			No	Exclude
HB10-2-40	0 - 6	10/18/2010	Area 2	0.039	0.039	Benzo(a)anthracene	OC-5	0	6	48.0053004			Yes	Include
HB10-2-40	0 - 12	10/18/2010	Area 2	0.016	0.016	Benzo(a)anthracene	OC-5	0	12	48.0053004			Yes	Include
HB10-2-40	12 - 36	10/18/2010	Area 2	0.0044 U	0.0044	Benzo(a)anthracene	OC-5	12	36	48.0053004			Yes	Include
HB10-2-40	36 - 48	10/18/2010	Area 2	0.0043 U	0.0043	Benzo(a)anthracene	OC-5	36	48	48.0053004			Yes	Include
HB10-2-41	0 - 6	10/18/2010	Area 2	0.17	0.17	Benzo(a)anthracene	FP-2	0	6	31.0012992			Yes	Include
HB10-2-41	0 - 12	10/18/2010	Area 2	0.012	0.012	Benzo(a)anthracene	FP-2	0	12	31.0012992			Yes	Include
HB10-2-41	12 - 31	10/18/2010	Area 2	0.014	0.014	Benzo(a)anthracene	FP-2	12	31	31.0012992			Yes	Include
HB10-2-42	0 - 6	10/18/2010	Area 2	0.046	0.046	Benzo(a)anthracene	FP-1	0	6	12.0012996			Yes	Include
HB10-2-42	0 - 12	10/18/2010	Area 2	NA	NA	Benzo(a)anthracene	FP-1	0	12	12.0012996			Yes	Include
HB10-2-42	12 - 30	10/18/2010	Area 2	0.062	0.062	Benzo(a)anthracene	FP-1	12	30	12.0012996			Yes	Include
HB10-2-43	0 - 6	10/17/2010	Area 2	0.0086	0.0086	Benzo(a)anthracene		0	6	22.0056996			Yes	Include
HB10-2-43	12 - 22	10/17/2010	Area 2	0.1	0.1	Benzo(a)anthracene		12	22	22.0056996			Yes	Include
HB10-2-44	0 - 6	10/18/2010	Area 2	0.14	0.14	Benzo(a)anthracene	FP-2	0	6	16.0012992			Yes	Include
HB10-2-44	12 - 16	10/18/2010	Area 2	0.14	0.14	Benzo(a)anthracene	FP-2	12	16	16.0012992			Yes	Include
HB10-2-45	0 - 6	10/18/2010	Area 2	0.021	0.021	Benzo(a)anthracene	FP-2	0	6	19.0012992			Yes	Include
HB10-2-45	12 - 19	10/18/2010	Area 2	0.082	0.082	Benzo(a)anthracene	FP-2	12	19	19.0012992			Yes	Include
HB13-01	0 - 6 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	0	6	48			Yes	Include
HB13-01	6 - 12 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	6	12	48			Yes	Include
HB13-01	12 - 18 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	12	18	48			Yes	Include
HB13-01	18 - 24 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	18	24	48			Yes	Include
HB13-01	24 - 30 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	24	30	48			Yes	Include
HB13-01	30 - 36 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	30	36	48			Yes	Include
HB13-01	36 - 42 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	36	42	48			Yes	Include
HB13-01	42 - 48 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	42	48	48			Yes	Include
HB13-01	48 - 54 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	48	54	48			No	Exclude
HB13-01	54 - 60 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	54	60	48			No	Exclude
HB13-01	60 - 66 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	60	66	48			No	Exclude
HB13-01	66 - 72 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	66	72	48			No	Exclude
HB13-01	72 - 74 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-1	72	74	48			No	Exclude
HB13-02	0 - 6 *	9/9/2013	Area 2	0.016 U	0.016	Benzo(a)anthracene		0	6	29.9960004			Yes	Include
HB13-02	6 - 12 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene		6	12	29.9960004			Yes	Include
HB13-02	12 - 18 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene		12	18	29.9960004			Yes	Include
HB13-02	18 - 24 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene		18	24	29.9960004			Yes	Include
HB13-02	24 - 30 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene		24	30	29.9960004			Yes	Include
HB13-02	30 - 36 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene		30	36	29.9960004			No	Exclude
HB13-02	36 - 42 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene		36	42	29.9960004			No	Exclude
HB13-02	42 - 48 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene		42	48	29.9960004			No	Exclude
HB13-03	0 - 6 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-2	0	6	46.0040004			Yes	Include
HB13-03	0 - 24	9/9/2013	Area 2	0.12 U	0.12	Benzo(a)anthracene	FP-2	0	24	46.0040004			Yes	Include
HB13-03	6 - 12 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-2	6	12	46.0040004			Yes	Include
HB13-03	12 - 18 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-2	12	18	46.0040004			Yes	Include
HB13-03	18 - 24 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-2	18	24	46.0040004			Yes	Include
HB13-03	24 - 30 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-2	24	30	46.0040004			Yes	Include
HB13-03	24 - 46	9/9/2013	Area 2	0.047 U	0.047	Benzo(a)anthracene	FP-2	24	46	46.0040004			Yes	Include
HB13-03	30 - 36 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-2	30	36	46.0040004			Yes	Include
HB13-03	36 - 42 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-2	36	42	46.0040004			Yes	Include
HB13-03	42 - 46 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-2	42	46	46.0040004			Yes	Include
HB13-03	46 - 51 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FP-2	46	51	46.0040004			Yes	Include
HB13-04	0 - 6 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-1	0	6	41.9960004			Yes	Include
HB13-04	6 - 12 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-1	6	12	41.9960004			Yes	Include
HB13-04	12 - 18 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-1	12	18	41.9960004			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-04	18 - 24 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-1	18	24	41.9960004			Yes	Include
HB13-04	24 - 30 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-1	24	30	41.9960004			Yes	Include
HB13-04	30 - 36 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-1	30	36	41.9960004			Yes	Include
HB13-04	36 - 42 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-1	36	42	41.9960004			Yes	Include
HB13-04	42 - 44 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-1	42	44	41.9960004			No	Exclude
HB13-05	0 - 32 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-1	0	32	43.8	33.156	exclude	Yes	Exclude
HB13-05	32 - 38 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-1	32	38	43.8	33.156	include	Yes	Include
HB13-05	38 - 44 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-1	38	44	43.8	33.156	include	Yes	Include
HB13-05	44 - 50 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-1	44	50	43.8	33.156	include	No	Exclude
HB13-05	50 - 56 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-1	50	56	43.8	33.156	include	No	Exclude
HB13-05	56 - 62	9/9/2013	Area 2	0.21 U	0.21	Benzo(a)anthracene	FC-1	56	62	43.8	33.156	include	No	Exclude
HB13-05	62 - 66	9/9/2013	Area 2	0.011 U	0.011	Benzo(a)anthracene	FC-1	62	66	43.8	33.156	include	No	Exclude
HB13-05	68 - 74 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-1	68	74	43.8	33.156	include	No	Exclude
HB13-05	74 - 77 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-1	74	77	43.8	33.156	include	No	Exclude
HB13-06	0 - 6 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-2	0	6	48			Yes	Include
HB13-06	6 - 12 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-2	6	12	48			Yes	Include
HB13-06	12 - 18 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-2	12	18	48			Yes	Include
HB13-06	18 - 24 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-2	18	24	48			Yes	Include
HB13-06	24 - 30 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-2	24	30	48			Yes	Include
HB13-06	30 - 36 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-2	30	36	48			Yes	Include
HB13-06	36 - 42 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-2	36	42	48			Yes	Include
HB13-06	42 - 48 *	9/9/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-2	42	48	48			Yes	Include
HB13-07	0 - 6 *	9/10/2013	Area 2	NA	NA	Benzo(a)anthracene		0	6					Exclude
HB13-07	6 - 12 *	9/10/2013	Area 2	NA	NA	Benzo(a)anthracene		6	12					Exclude
HB13-07	12 - 18 *	9/10/2013	Area 2	NA	NA	Benzo(a)anthracene		12	18					Exclude
HB13-07	18 - 24 *	9/10/2013	Area 2	NA	NA	Benzo(a)anthracene		18	24					Exclude
HB13-07	24 - 30 *	9/10/2013	Area 2	NA	NA	Benzo(a)anthracene		24	30					Exclude
HB13-07	30 - 36 *	9/10/2013	Area 2	NA	NA	Benzo(a)anthracene		30	36					Exclude
HB13-07	36 - 42 *	9/10/2013	Area 2	NA	NA	Benzo(a)anthracene		36	42					Exclude
HB13-07	42 - 48 *	9/10/2013	Area 2	NA	NA	Benzo(a)anthracene		42	48					Exclude
HB13-08	0 - 18	9/11/2013	Area 2	0.049 U	0.049	Benzo(a)anthracene	FC-2	0	18	38.28	21.756	exclude	Yes	Exclude
HB13-08	18 - 36	9/11/2013	Area 2	0.046 U	0.046	Benzo(a)anthracene	FC-2	18	36	38.28	21.756	include	Yes	Include
HB13-08	36 - 60	9/11/2013	Area 2	0.046 U	0.046	Benzo(a)anthracene	FC-2	36	60	38.28	21.756	include	Yes	Include
HB13-08	60 - 92	9/11/2013	Area 2	0.0091 U	0.0091	Benzo(a)anthracene	FC-2	60	92	38.28	21.756	include	No	Exclude
HB13-10	0 - 6 *	9/10/2013	Area 2	NA	NA	Benzo(a)anthracene		0	6	0.0039996			Yes	Include
HB13-11	0 - 18	9/11/2013	Area 2	0.049 U	0.049	Benzo(a)anthracene	FC-4	0	18	25.2	23.964	exclude	Yes	Exclude
HB13-11	18 - 24 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-4	18	24	25.2	23.964	include	Yes	Include
HB13-11	18 - 42	9/11/2013	Area 2	0.044 U	0.044	Benzo(a)anthracene	FC-4	18	42	25.2	23.964	include	Yes	Include
HB13-11	24 - 30 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-4	24	30	25.2	23.964	include	Yes	Include
HB13-11	30 - 36 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-4	30	36	25.2	23.964	include	No	Exclude
HB13-11	36 - 42 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-4	36	42	25.2	23.964	include	No	Exclude
HB13-11	42 - 48 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-4	42	48	25.2	23.964	include	No	Exclude
HB13-11	42 - 60	9/11/2013	Area 2	0.0088 U	0.0088	Benzo(a)anthracene	FC-4	42	60	25.2	23.964	include	No	Exclude
HB13-11	48 - 54 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-4	48	54	25.2	23.964	include	No	Exclude
HB13-11	54 - 60 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-4	54	60	25.2	23.964	include	No	Exclude
HB13-12	0 - 6 *	9/10/2013	Area 2	NA	NA	Benzo(a)anthracene		0	6	5.9960004			Yes	Include
HB13-13	0 - 1 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	SND-5	0	1	0.9999996			Yes	Include
HB13-14	0 - 6 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-6	0	6	45.9999996	-5.316	include	Yes	Include
HB13-14	0 - 24	9/12/2013	Area 2	0.0094 U	0.0094	Benzo(a)anthracene	FC-6	0	24	45.9999996	-5.316	include	Yes	Include
HB13-14	6 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-6	6	24	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 42 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-6	24	42	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 46	9/12/2013	Area 2	0.0091 U	0.0091	Benzo(a)anthracene	FC-6	24	46	45.9999996	-5.316	include	Yes	Include
HB13-14	42 - 46 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-6	42	46	45.9999996	-5.316	include	Yes	Include
HB13-15	0 - 6 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-7	0	6	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	6 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-7	6	12	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	12 - 19 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-7	12	19	18.9999996	18.516	include	Yes	Include
HB13-16	0 - 6 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		0	6	26.0000004			Yes	Include
HB13-16	6 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		6	12	26.0000004			Yes	Include
HB13-16	12 - 18 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		12	18	26.0000004			Yes	Include
HB13-16	18 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		18	24	26.0000004			Yes	Include
HB13-16	24 - 27 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		24	27	26.0000004			Yes	Include
HB13-17	0 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-7	0	12	24	16.2	exclude	Yes	Exclude
HB13-17	12 - 18 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-7	12	18	24	16.2	include	Yes	Include
HB13-17	18 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-7	18	24	24	16.2	include	Yes	Include
HB13-17	24 - 47 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-7	24	47	24	16.2	include	No	Exclude
HB13-18	0 - 6	9/12/2013	Area 2	0.052 U	0.052	Benzo(a)anthracene		0	6	9.9999996			Yes	Include
HB13-18	6 - 10	9/12/2013	Area 2	0.013 U	0.013	Benzo(a)anthracene		6	10	9.9999996			Yes	Include
HB13-18	10 - 16	9/12/2013	Area 2	0.0097 U	0.0097	Benzo(a)anthracene		10	16	9.9999996			No	Exclude
HB13-19	0 - 6 *	9/13/2013	Area 2	NA	NA	Benzo(a)anthracene		0	6					Exclude
HB13-19	6 - 24 *	9/13/2013	Area 2	NA	NA	Benzo(a)anthracene		6	24					Exclude
HB13-19	18 - 20 *	9/13/2013	Area 2	NA	NA	Benzo(a)anthracene		18	20					Exclude
HB13-19	24 - 42 *	9/13/2013	Area 2	NA	NA	Benzo(a)anthracene		24	42					Exclude
HB13-19	42 - 61 *	9/13/2013	Area 2	NA	NA	Benzo(a)anthracene		42	61					Exclude
HB13-19	61 - 67 *	9/13/2013	Area 2	NA	NA	Benzo(a)anthracene		61	67					Exclude
HB13-20	0 - 6 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		0	6	24			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB13-20	0 - 12	9/12/2013	Area 2	0.016 U	0.016	Benzo(a)anthracene		0	12	24			Yes	Include
HB13-20	6 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		6	12	24			Yes	Include
HB13-20	12 - 18 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		12	18	24			Yes	Include
HB13-20	12 - 24	9/12/2013	Area 2	0.013 U	0.013	Benzo(a)anthracene		12	24	24			Yes	Include
HB13-20	18 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		18	24	24			Yes	Include
HB13-20	24 - 30 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		24	30	24			No	Exclude
HB13-20	24 - 36	9/12/2013	Area 2	0.012 U	0.012	Benzo(a)anthracene		24	36	24			No	Exclude
HB13-20	30 - 36 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		30	36	24			No	Exclude
HB13-20	36 - 42 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		36	42	24			No	Exclude
HB13-20	36 - 48	9/12/2013	Area 2	0.011 U	0.011	Benzo(a)anthracene		36	48	24			No	Exclude
HB13-20	42 - 48 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene		42	48	24			No	Exclude
HB13-21	0 - 6 *	9/13/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-10	0	6	24			Yes	Include
HB13-21	6 - 24 *	9/13/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-10	6	24	24			Yes	Include
HB13-21	24 - 48 *	9/13/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-10	24	48	24			No	Exclude
HB13-21	48 - 72 *	9/13/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-10	48	72	24			No	Exclude
HB13-21	72 - 88 *	9/13/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-10	72	88	24			No	Exclude
HB13-22	0 - 28 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-7	0	28	24	36.72	exclude	Yes	Exclude
HB13-22	28 - 31 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	FC-7	28	31	24	36.72	exclude	No	Exclude
HB13-23	0 - 12 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	SND-5	0	12	27			Yes	Include
HB13-23	12 - 18 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	SND-5	12	18	27			Yes	Include
HB13-23	18 - 24 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	SND-5	18	24	27			Yes	Include
HB13-23	24 - 32 *	9/12/2013	Area 2	NA	NA	Benzo(a)anthracene	SND-5	24	32	27			Yes	Include
HB13-24	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-3	0	6	6			Yes	Include
HB13-24	0 - 24 *	9/12/2013	HUGHITT AVE SLIP	0.026 U	0.026	Benzo(a)anthracene	HS-3	0	24	6			Yes	Include
HB13-24	6 - 24	9/12/2013	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-3	6	24	6			No	Exclude
HB13-25	0 - 6 *	9/12/2013	Area 1	NA	NA	Benzo(a)anthracene	OC-11	0	6	57			Yes	Include
HB13-25	0 - 18	9/12/2013	Area 1	0.012 U	0.012	Benzo(a)anthracene	OC-11	0	18	57			Yes	Include
HB13-25	6 - 18 *	9/12/2013	Area 1	NA	NA	Benzo(a)anthracene	OC-11	6	18	57			Yes	Include
HB13-25	18 - 36 *	9/12/2013	Area 1	NA	NA	Benzo(a)anthracene	OC-11	18	36	57			Yes	Include
HB13-25	18 - 57	9/12/2013	Area 1	0.014 U	0.014	Benzo(a)anthracene	OC-11	18	57	57			Yes	Include
HB13-25	36 - 57 *	9/12/2013	Area 1	NA	NA	Benzo(a)anthracene	OC-11	36	57	57			Yes	Include
HB13-26	0 - 12	9/13/2013	Area 1	0.013 U	0.013	Benzo(a)anthracene	FC-10	0	12	33	17.04	exclude	Yes	Exclude
HB13-26	12 - 18	9/13/2013	Area 1	0.013 U	0.013	Benzo(a)anthracene	FC-10	12	18	33	17.04	include	Yes	Include
HB13-26	18 - 33	9/13/2013	Area 1	0.012 U	0.012	Benzo(a)anthracene	FC-10	18	33	33	17.04	include	Yes	Include
HB13-27	0 - 6 *	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene		0	6					Exclude
HB13-27	0 - 32	9/13/2013	Area 1	0.0097 U	0.0097	Benzo(a)anthracene		0	32					Exclude
HB13-28	0 - 8 *	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-11	0	8	14.0000004	13.68	exclude	Yes	Exclude
HB13-28	8 - 14 *	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-11	8	14	14.0000004	13.68	include	Yes	Include
HB13-28	14 - 26 *	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-11	14	26	14.0000004	13.68	include	Yes	Include
HB13-28	26 - 40 *	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-11	26	40	14.0000004	13.68	include	No	Exclude
HB13-29	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-12/FC-13	0	6	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 12 *	9/13/2013	Area 1	0.012 U	0.012	Benzo(a)anthracene	FC-12/FC-13	0	12	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 18 *	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-12/FC-13	0	18	44.0000004	1.044	include	Yes	Include
HB13-29	6 - 12	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-12/FC-13	6	12	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 24	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-12/FC-13	12	24	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 44 *	9/13/2013	Area 1	0.011 U	0.011	Benzo(a)anthracene	FC-12/FC-13	12	44	44.0000004	1.044	include	Yes	Include
HB13-29	24 - 44	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-12/FC-13	24	44	44.0000004	1.044	include	Yes	Include
HB13-30	0 - 6	9/10/2013	Area 1	NA	NA	Benzo(a)anthracene	SND-1	0	6	60			Yes	Include
HB13-30	6 - 24	9/10/2013	Area 1	NA	NA	Benzo(a)anthracene	SND-1	6	24	60			Yes	Include
HB13-30	24 - 42	9/10/2013	Area 1	NA	NA	Benzo(a)anthracene	SND-1	24	42	60			Yes	Include
HB13-30	42 - 60	9/10/2013	Area 1	NA	NA	Benzo(a)anthracene	SND-1	42	60	60			Yes	Include
HB13-30	60 - 78	9/10/2013	Area 1	NA	NA	Benzo(a)anthracene	SND-1	60	78	60			No	Exclude
HB13-31	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-16	0	6	27	2.76	include	Yes	Include
HB13-31	6 - 18	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-16	6	18	27	2.76	include	Yes	Include
HB13-31	18 - 27	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-16	18	27	27	2.76	include	Yes	Include
HB13-31	27 - 33	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-16	27	33	27	2.76	include	No	Exclude
HB13-32	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-14	0	6	26.0000004	-2.52	include	Yes	Include
HB13-32	6 - 18	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-14	6	18	26.0000004	-2.52	include	Yes	Include
HB13-32	18 - 26	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-14	18	26	26.0000004	-2.52	include	Yes	Include
HB13-32	26 - 32	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	FC-14	26	32	26.0000004	-2.52	include	Yes	Include
HB13-33	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene		0	6	12			Yes	Include
HB13-33	6 - 12	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene		6	12	12			Yes	Include
HB13-34	0 - 6	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene		0	6	0.5000004			Yes	Include
HB13-35	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene		0	6	3.9999996			Yes	Include
HB13-35	6 - 12	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene		6	12	3.9999996			No	Exclude
HB13-37	2 - 6	9/10/2013	Hughitt Ave Slip	0.58	0.58	Benzo(a)anthracene	HS-3	2	6	6			Yes	Include
HB13-38	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-3	0	6	6			Yes	Include
HB13-39	4 - 10	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-2	4	10	27.9999996			Yes	Include
HB13-39	10 - 28	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-2	10	28	27.9999996			Yes	Include
HB13-39	28 - 34	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-2	28	34	27.9999996			No	Exclude
HB13-40	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-2	0	6	86.0000004			Yes	Include
HB13-40	0 - 24 *	9/13/2013	Hughitt Ave Slip	0.011 U	0.011	Benzo(a)anthracene	HS-2	0	24	86.0000004			Yes	Include
HB13-40	6 - 24	9/13/2013	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-2	6	24	86.0000004			Yes	Include
HB13-40	24 - 48	9/13/2013	Hughitt Ave Slip	0.047 U	0.047	Benzo(a)anthracene	HS-2	24	48	86.0000004			Yes	Include
HB13-40	48 - 72	9/13/2013	Hughitt Ave Slip	0.014 U	0.014	Benzo(a)anthracene	HS-2	48	72	86.0000004			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-40	72 - 86	9/13/2013	Hughitt Ave Slip	0.013 U	0.013	Benzo(a)anthracene	HS-2	72	86	86.0000004			Yes	Include
HB13-41	0 - 6	9/10/2013	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-2	0	6	29.0000004			Yes	Include
HB13-41	0 - 24 *	9/10/2013	Hughitt Ave Slip	0.17	0.17	Benzo(a)anthracene	HS-2	0	24	29.0000004			Yes	Include
HB13-41	6 - 24	9/10/2013	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-2	6	24	29.0000004			Yes	Include
HB13-41	24 - 29	9/10/2013	Hughitt Ave Slip	0.066	0.066	Benzo(a)anthracene	HS-2	24	29	29.0000004			Yes	Include
HB13-42	0 - 6	9/11/2013	Cummings Ave Slip	0.27	0.27	Benzo(a)anthracene	CS-3	0	6	33			Yes	Include
HB13-42	6 - 24	9/11/2013	Cummings Ave Slip	0.065	0.065	Benzo(a)anthracene	CS-3	6	24	33			Yes	Include
HB13-42	24 - 33	9/11/2013	Cummings Ave Slip	0.026	0.026	Benzo(a)anthracene	CS-3	24	33	33			Yes	Include
HB13-42	33 - 36	9/11/2013	Cummings Ave Slip	0.010 U	0.01	Benzo(a)anthracene	CS-3	33	36	33			No	Exclude
HB13-43	0 - 6	9/11/2013	Cummings Ave Slip	1.2	1.2	Benzo(a)anthracene	CS-2	0	6	24			Yes	Include
HB13-43	0 - 24 *	9/11/2013	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-2	0	24	24			Yes	Include
HB13-43	6 - 24	9/11/2013	Cummings Ave Slip	0.056	0.056	Benzo(a)anthracene	CS-2	6	24	24			Yes	Include
HB13-45	0 - 6	9/11/2013	Cummings Ave Slip	0.33	0.33	Benzo(a)anthracene	CS-2	0	6	21			Yes	Include
HB13-45	6 - 21	9/11/2013	Cummings Ave Slip	0.41	0.41	Benzo(a)anthracene	CS-2	6	21	21			Yes	Include
HB13-47	0 - 6	9/10/2013	Fraser Ave Slip	0.12 U	0.12	Benzo(a)anthracene	FS-1	0	6	30.996			Yes	Include
HB13-47	6 - 24	9/10/2013	Fraser Ave Slip	0.39	0.39	Benzo(a)anthracene	FS-1	6	24	30.996			Yes	Include
HB13-47	24 - 31	9/10/2013	Fraser Ave Slip	0.6	0.6	Benzo(a)anthracene	FS-1	24	31	30.996			Yes	Include
HB13-47	31 - 37 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(a)anthracene	FS-1	31	37	30.996			No	Exclude
HB13-48	0 - 6 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(a)anthracene	FS-2	0	6	45.9999996			Yes	Include
HB13-48	0 - 24	9/10/2013	FRASER AVE SLIP	0.38	0.38	Benzo(a)anthracene	FS-2	0	24	45.9999996			Yes	Include
HB13-48	6 - 24 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(a)anthracene	FS-2	6	24	45.9999996			Yes	Include
HB13-48	24 - 42 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(a)anthracene	FS-2	24	42	45.9999996			Yes	Include
HB13-48	24 - 46 *	9/10/2013	FRASER AVE SLIP	0.58	0.58	Benzo(a)anthracene	FS-2	24	46	45.9999996			Yes	Include
HB13-48	42 - 46 *	9/10/2013	Fraser Ave Slip	NA	NA	Benzo(a)anthracene	FS-2	42	46	45.9999996			Yes	Include
HB13-49	0 - 6	9/11/2013	Fraser Ave Slip	0.076 U	0.076	Benzo(a)anthracene	FS-2	0	6	30			Yes	Include
HB13-49	6 - 24	9/11/2013	Fraser Ave Slip	0.052 U	0.052	Benzo(a)anthracene	FS-2	6	24	30			Yes	Include
HB13-49	24 - 30	9/11/2013	Fraser Ave Slip	0.12 U	0.12	Benzo(a)anthracene	FS-2	24	30	30			Yes	Include
HB13-50	0 - 12 *	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	OC-12	0	12	47.0000004			Yes	Include
HB13-50	12 - 24 *	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	OC-12	12	24	47.0000004			Yes	Include
HB13-50	24 - 36 *	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	OC-12	24	36	47.0000004			Yes	Include
HB13-50	36 - 47 *	9/13/2013	Area 1	NA	NA	Benzo(a)anthracene	OC-12	36	47	47.0000004			Yes	Include
HB13-51	0 - 6 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene		0	6					Exclude
HB13-51	6 - 15 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene		6	15					Exclude
HB13-52	0 - 6 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-10	0	6	12			Yes	Include
HB13-52	6 - 12 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-10	6	12	12			Yes	Include
HB13-52	12 - 17 *	9/11/2013	Area 2	NA	NA	Benzo(a)anthracene	OC-10	12	17	12			No	Exclude
HB14-01	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene	SND-1	0	6					Exclude
HB14-01	6 - 18	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene	SND-1	6	18					Exclude
HB14-02	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene	FC-15	0	6	17.004	-12.996	include	Yes	Include
HB14-02	6 - 14	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene	FC-15	6	14	17.004	-12.996	include	Yes	Include
HB14-03	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene	FC-15	0	6	29.997288	-2.472	include	Yes	Include
HB14-03	6 - 18	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene	FC-15	6	18	29.997288	-2.472	include	Yes	Include
HB14-03	18 - 30	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene	FC-15	18	30	29.997288	-2.472	include	Yes	Include
HB14-03	30 - 42	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene	FC-15	30	42	29.997288	-2.472	include	No	Exclude
HB14-03	42 - 54	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene	FC-15	42	54	29.997288	-2.472	include	No	Exclude
HB14-04	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene		0	6	29.904			Yes	Include
HB14-04	6 - 18	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene		6	18	29.904			Yes	Include
HB14-04	18 - 30	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene		18	30	29.904			Yes	Include
HB14-05 G		8/18/2014	Area 1	NA	NA	Benzo(a)anthracene			#VALUE!					Exclude
HB14-06	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene		0	6	30.588			Yes	Include
HB14-06	6 - 24	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene		6	24	30.588			Yes	Include
HB14-07	0 - 6	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene		0	6	78.012			Yes	Include
HB14-07	6 - 24	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene		6	24	78.012			Yes	Include
HB14-07	24 - 42	8/18/2014	Area 1	NA	NA	Benzo(a)anthracene		24	42	78.012			Yes	Include
HB14-08	0 - 6	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene		0	6	34.416			Yes	Include
HB14-08	6 - 19	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene		6	19	34.416			Yes	Include
HB14-09	0 - 12	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene	OC-16	0	12	12.003804			Yes	Include
HB14-09	12 - 24	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene	OC-16	12	24	12.003804			Yes	Include
HB14-09	24 - 36	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene	OC-16	24	36	12.003804			No	Exclude
HB14-09	36 - 48	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene	OC-16	36	48	12.003804			No	Exclude
HB14-09	48 - 60	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene	OC-16	48	60	12.003804			No	Exclude
HB14-09	60 - 72	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene	OC-16	60	72	12.003804			No	Exclude
HB14-10	0 - 6	8/20/2014	Area 1	0.035	0.035	Benzo(a)anthracene		0	6	54.005544			Yes	Include
HB14-10	6 - 18	8/20/2014	Area 1	0.034	0.034	Benzo(a)anthracene		6	18	54.005544			Yes	Include
HB14-10	18 - 30	8/20/2014	Area 1	0.0285 U	0.0285	Benzo(a)anthracene		18	30	54.005544			Yes	Include
HB14-10	30 - 42	8/20/2014	Area 1	0.0295 U	0.0295	Benzo(a)anthracene		30	42	54.005544			Yes	Include
HB14-10	42 - 54	8/20/2014	Area 1	0.0265 U	0.0265	Benzo(a)anthracene		42	54	54.005544			Yes	Include
HB14-10	54 - 66	8/20/2014	Area 1	NA	NA	Benzo(a)anthracene		54	66	54.005544			Yes	Include
HB14-11	0 - 6	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene	SND-2	0	6					Exclude
HB14-11	6 - 18	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene	SND-2	6	18					Exclude
HB14-11	18 - 20	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene	SND-2	18	20					Exclude
HB14-12	0 - 6	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene	SND-4	0	6	26.34			Yes	Include
HB14-12	6 - 18	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene	SND-4	6	18	26.34			Yes	Include
HB14-12	18 - 32	8/19/2014	Area 1	NA	NA	Benzo(a)anthracene	SND-4	18	32	26.34			Yes	Include
HB14-13	0 - 6	8/19/2014	Area 2	NA	NA	Benzo(a)anthracene	SND-5	0	6	-0.648			No	Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB14-13	6 - 11	8/19/2014	Area 2	NA	NA	Benzo(a)anthracene	SND-5	6	11	-0.648			No	Exclude
HB14-14	0 - 6	8/20/2014	Area 2	0.0220 U	0.022	Benzo(a)anthracene	OC-4	0	6	101.997672			Yes	Include
HB14-14	4 - 6	8/20/2014	Area 2	0.130 U	0.13	Benzo(a)anthracene	OC-4	4	6	101.997672			Yes	Include
HB14-14	6 - 18	8/20/2014	Area 2	NA	NA	Benzo(a)anthracene	OC-4	6	18	101.997672			Yes	Include
HB14-14	6 - 30	8/20/2014	Area 2	0.0350 U	0.035	Benzo(a)anthracene	OC-4	6	30	101.997672			Yes	Include
HB14-14	18 - 30	8/20/2014	Area 2	NA	NA	Benzo(a)anthracene	OC-4	18	30	101.997672			Yes	Include
HB14-14	30 - 42	8/20/2014	Area 2	NA	NA	Benzo(a)anthracene	OC-4	30	42	101.997672			Yes	Include
HB14-14	30 - 54	8/20/2014	Area 2	0.0355 U	0.0355	Benzo(a)anthracene	OC-4	30	54	101.997672			Yes	Include
HB14-14	42 - 54	8/20/2014	Area 2	NA	NA	Benzo(a)anthracene	OC-4	42	54	101.997672			Yes	Include
HB14-14	54 - 66	8/20/2014	Area 2	NA	NA	Benzo(a)anthracene	OC-4	54	66	101.997672			Yes	Include
HB14-14	54 - 78	8/20/2014	Area 2	0.0195 U	0.0195	Benzo(a)anthracene	OC-4	54	78	101.997672			Yes	Include
HB14-14	66 - 78	8/20/2014	Area 2	NA	NA	Benzo(a)anthracene	OC-4	66	78	101.997672			Yes	Include
HB14-14	78 - 90	8/20/2014	Area 2	NA	NA	Benzo(a)anthracene	OC-4	78	90	101.997672			Yes	Include
HB14-14	78 - 102	8/20/2014	Area 2	0.1	0.1	Benzo(a)anthracene	OC-4	78	102	101.997672			Yes	Include
HB14-14	90 - 102	8/20/2014	Area 2	NA	NA	Benzo(a)anthracene	OC-4	90	102	101.997672			Yes	Include
HB14-14	102 - 111	8/20/2014	Area 2	NA	NA	Benzo(a)anthracene	OC-4	102	111	101.997672			No	Exclude
HB15-01	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	0	12	51.096			Yes	Include
HB15-01	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	12	24	51.096			Yes	Include
HB15-01	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	24	36	51.096			Yes	Include
HB15-01	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	36	48	51.096			Yes	Include
HB15-01	48 - 57	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	48	57	51.096			Yes	Include
HB15-02	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	0	12	48.000696			Yes	Include
HB15-02	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	12	24	48.000696			Yes	Include
HB15-02	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	24	36	48.000696			Yes	Include
HB15-02	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	36	48	48.000696			Yes	Include
HB15-03	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	0	12	67.9950564			Yes	Include
HB15-03	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	12	24	67.9950564			Yes	Include
HB15-03	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	24	36	67.9950564			Yes	Include
HB15-03	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	36	48	67.9950564			Yes	Include
HB15-03	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	48	60	67.9950564			Yes	Include
HB15-03	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	60	68	67.9950564			Yes	Include
HB15-03R	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	0	12	67.9950564			Yes	Include
HB15-03R	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	12	24	67.9950564			Yes	Include
HB15-03R	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	24	36	67.9950564			Yes	Include
HB15-03R	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	36	48	67.9950564			Yes	Include
HB15-03R	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	48	60	67.9950564			Yes	Include
HB15-03R	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	60	68	67.9950564			Yes	Include
HB15-04	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	0	12	63.84			Yes	Include
HB15-04	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	12	24	63.84			Yes	Include
HB15-04	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	24	36	63.84			Yes	Include
HB15-04	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	36	48	63.84			Yes	Include
HB15-04	48 - 59	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	48	59	63.84			Yes	Include
HB15-05	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	0	12	71.994852			Yes	Include
HB15-05	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	12	24	71.994852			Yes	Include
HB15-05	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	24	36	71.994852			Yes	Include
HB15-05	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	36	48	71.994852			Yes	Include
HB15-05	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	48	60	71.994852			Yes	Include
HB15-05	60 - 72	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	60	72	71.994852			Yes	Include
HB15-05	72 - 80	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-1	72	80	71.994852			No	Exclude
HB15-06	0 - 9	6/23/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene	HS-2	0	9	9.000636			Yes	Include
HB15-07	0 - 12	6/23/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-1	0	12	90.9955116			Yes	Include
HB15-07	12 - 24	6/23/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-1	12	24	90.9955116			Yes	Include
HB15-07	24 - 36	6/23/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-1	24	36	90.9955116			Yes	Include
HB15-07	36 - 48	6/23/2015	Cummings Ave Slip	0.0460 U	0.046	Benzo(a)anthracene	CS-1	36	48	90.9955116			Yes	Include
HB15-07	48 - 60	6/23/2015	Cummings Ave Slip	0.64	0.64	Benzo(a)anthracene	CS-1	48	60	90.9955116			Yes	Include
HB15-07	60 - 72	6/23/2015	Cummings Ave Slip	0.0500 U	0.05	Benzo(a)anthracene	CS-1	60	72	90.9955116			Yes	Include
HB15-07	72 - 84	6/23/2015	Cummings Ave Slip	0.48	0.48	Benzo(a)anthracene	CS-1	72	84	90.9955116			Yes	Include
HB15-07	84 - 91	6/23/2015	Cummings Ave Slip	0.0550 U	0.055	Benzo(a)anthracene	CS-1	84	91	90.9955116			Yes	Include
HB15-08	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-2	0	12	65.997804			Yes	Include
HB15-08	12 - 24	6/24/2015	Cummings Ave Slip	0.53	0.53	Benzo(a)anthracene	CS-2	12	24	65.997804			Yes	Include
HB15-08	24 - 36	6/24/2015	Cummings Ave Slip	0.37	0.37	Benzo(a)anthracene	CS-2	24	36	65.997804			Yes	Include
HB15-08	36 - 48	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-2	36	48	65.997804			Yes	Include
HB15-08	48 - 60	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-2	48	60	65.997804			Yes	Include
HB15-08	60 - 66	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-2	60	66	65.997804			Yes	Include
HB15-09	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-3	0	12	45.396			Yes	Include
HB15-09	12 - 17	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-3	12	17	45.396			Yes	Include
HB15-10	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-3	0	12	-0.936			No	Exclude
HB15-11	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-5	0	12	27.9944796			Yes	Include
HB15-11	12 - 24	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-5	12	24	27.9944796			Yes	Include
HB15-11	24 - 28	6/24/2015	Cummings Ave Slip	NA	NA	Benzo(a)anthracene	CS-5	24	28	27.9944796			Yes	Include
HB15-12	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	0	12	29.994876			Yes	Include
HB15-12	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	12	24	29.994876			Yes	Include
HB15-12	24 - 30	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	24	30	29.994876			Yes	Include
HB15-13	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	0	12	64.0033716			Yes	Include
HB15-13	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	12	24	64.0033716			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB15-13	24 - 36	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	24	36	64.0033716			Yes	Include
HB15-13	36 - 48	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	36	48	64.0033716			Yes	Include
HB15-13	48 - 60	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	48	60	64.0033716			Yes	Include
HB15-13	60 - 64	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	60	64	64.0033716			Yes	Include
HB15-14	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	0	12	23.996196			Yes	Include
HB15-14	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	12	24	23.996196			Yes	Include
HB15-14	24 - 28	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	24	28	23.996196			No	Exclude
HB15-14	28 - 35	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	28	35	23.996196			No	Exclude
HB15-15	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-2	0	12	19.0051356			Yes	Include
HB15-15	12 - 19	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-2	12	19	19.0051356			Yes	Include
HB15-15R	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-2	0	12	18.9999996			Yes	Include
HB15-15R	12 - 19	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-2	12	19	18.9999996			Yes	Include
HB15-16	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	0	12	8.304			Yes	Include
HB15-16	12 - 19	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-1	12	19	8.304			No	Exclude
HB15-17	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-2	0	12	36.004608			Yes	Include
HB15-17	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-2	12	24	36.004608			Yes	Include
HB15-17	24 - 36	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-2	24	36	36.004608			Yes	Include
HB15-17	36 - 48	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-2	36	48	36.004608			Yes	Include
HB15-17	48 - 54	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-2	48	54	36.004608			No	Exclude
HB15-18	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-2	0	12	23.999508			Yes	Include
HB15-18	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene	FP-2	12	24	23.999508			Yes	Include
HB15-19	0 - 12	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene		0	12					Exclude
HB15-19	12 - 24	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene		12	24					Exclude
HB15-19	24 - 32	6/24/2015	Area 2	NA	NA	Benzo(a)anthracene		24	32					Exclude
HB15-20	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-3	0	12	33.864			Yes	Include
HB15-20	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-3	12	24	33.864			Yes	Include
HB15-20	24 - 28	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-3	24	28	33.864			Yes	Include
HB15-20B	0 - 6	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-13	0	6	11.996892			Yes	Include
HB15-20B	6 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-13	6	12	11.996892			Yes	Include
HB15-21G	15 - 21	6/29/2015	Fraser Ave Slip	NA	NA	Benzo(a)anthracene		15	21					Exclude
HB15-22G	0 - 6	6/29/2015	Fraser Ave Slip	0.043	0.043	Benzo(a)anthracene	OC-8	0	6	6			Yes	Include
HB15-23	0 - 12	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(a)anthracene	FS-1	0	12	55.02			Yes	Include
HB15-23	12 - 24	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(a)anthracene	FS-1	12	24	55.02			Yes	Include
HB15-23	24 - 36	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(a)anthracene	FS-1	24	36	55.02			Yes	Include
HB15-23	36 - 48	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(a)anthracene	FS-1	36	48	55.02			Yes	Include
HB15-23	48 - 56	6/25/2015	Fraser Ave Slip	NA	NA	Benzo(a)anthracene	FS-1	48	56	55.02			Yes	Include
HB15-25	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-1	0	12	77.4			Yes	Include
HB15-25	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-1	12	24	77.4			Yes	Include
HB15-25	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-1	24	36	77.4			Yes	Include
HB15-25	36 - 48	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-1	36	48	77.4			Yes	Include
HB15-25	48 - 60	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-1	48	60	77.4			Yes	Include
HB15-25	60 - 72	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-1	60	72	77.4			Yes	Include
HB15-25	72 - 88	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-1	72	88	77.4			Yes	Include
HB15-26	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	FC-2	0	12	38.28	6.36	include	Yes	Include
HB15-26	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	FC-2	12	24	38.28	6.36	include	Yes	Include
HB15-26	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	FC-2	24	36	38.28	6.36	include	Yes	Include
HB15-26	36 - 46	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	FC-2	36	46	38.28	6.36	include	Yes	Include
HB15-27	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	FC-3	0	12	33.6	14.64	exclude	Yes	Exclude
HB15-27	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	FC-3	12	24	33.6	14.64	include	Yes	Include
HB15-27	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	FC-3	24	36	33.6	14.64	include	Yes	Include
HB15-27	36 - 48	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	FC-3	36	48	33.6	14.64	include	No	Exclude
HB15-27	48 - 60	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	FC-3	48	60	33.6	14.64	include	No	Exclude
HB15-27	60 - 71	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	FC-3	60	71	33.6	14.64	include	No	Exclude
HB15-28	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-7	0	12	11.994072			Yes	Include
HB15-28	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-7	12	24	11.994072			No	Exclude
HB15-28	24 - 30	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-7	24	30	11.994072			No	Exclude
HB15-30	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene		0	12	43.776			Yes	Include
HB15-30	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene		12	24	43.776			Yes	Include
HB15-30	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene		24	36	43.776			Yes	Include
HB15-30	36 - 50	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene		36	50	43.776			Yes	Include
HB15-31	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene		0	12					Exclude
HB15-31	12 - 20	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene		12	20					Exclude
HB15-32	0 - 12	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene	SND-4	0	12	11.995236			Yes	Include
HB15-32	12 - 26	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene	SND-4	12	26	11.995236			No	Exclude
HB15-33	0 - 12	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene		0	12	26.292			Yes	Include
HB15-33	12 - 24	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene		12	24	26.292			Yes	Include
HB15-33	24 - 39	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene		24	39	26.292			Yes	Include
HB15-34	0 - 12	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene	FC-11	0	12		35.52	exclude		Exclude
HB15-34	12 - 24	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene	FC-11	12	24		35.52	exclude		Exclude
HB15-34	24 - 32	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene	FC-11	24	32		35.52	exclude		Exclude
HB15-35	0 - 12	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene	FC-16	0	12	74.28	-6.48	include	Yes	Include
HB15-35	12 - 24	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene	FC-16	12	24	74.28	-6.48	include	Yes	Include
HB15-35	24 - 36	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene	FC-16	24	36	74.28	-6.48	include	Yes	Include
HB15-35	36 - 48	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene	FC-16	36	48	74.28	-6.48	include	Yes	Include
HB15-35	48 - 60	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene	FC-16	48	60	74.28	-6.48	include	Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB15-35	60 - 72	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene	FC-16	60	72	74.28	-6.48	include	Yes	Include
HB15-36G	15 - 36	6/29/2015	Area 2	NA	NA	Benzo(a)anthracene		15	36					Exclude
HB15-37	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	0	12	51.048			Yes	Include
HB15-37	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	12	24	51.048			Yes	Include
HB15-37	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	24	36	51.048			Yes	Include
HB15-37	36 - 48	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	36	48	51.048			Yes	Include
HB15-37	48 - 60	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	48	60	51.048			Yes	Include
HB15-37	60 - 74	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	60	74	51.048			No	Exclude
HB15-38	0 - 12	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	0	12	83.184			Yes	Include
HB15-38	12 - 24	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	12	24	83.184			Yes	Include
HB15-38	24 - 36	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	24	36	83.184			Yes	Include
HB15-38	36 - 48	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	36	48	83.184			Yes	Include
HB15-38	48 - 60	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	48	60	83.184			Yes	Include
HB15-38	60 - 72	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	60	72	83.184			Yes	Include
HB15-38	72 - 84	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	72	84	83.184			Yes	Include
HB15-38	84 - 96	6/25/2015	Area 2	NA	NA	Benzo(a)anthracene	OC-9	84	96	83.184			No	Exclude
HB15-G28	0 - 6	6/25/2015	Hughitt Ave Slip	NA	NA	Benzo(a)anthracene		0	6					Exclude
HB15-HC20A	0 - 6	6/25/2015	Area 1	NA	NA	Benzo(a)anthracene	OC-13	0	6	6.003036			Yes	Include
HB2A_4	0 - 6	5/12/2007	Hughitt Ave Slip	0.54 J-M-	0.54	Fluoranthene	HS-1	0	6	48.00432			Yes	Include
HB2A_4	6 - 24	5/12/2007	Hughitt Ave Slip	1.3 J-M-	1.3	Fluoranthene	HS-1	6	24	48.00432			Yes	Include
HB2A_4	24 - 48	5/12/2007	Hughitt Ave Slip	0.21 J-M-	0.21	Fluoranthene	HS-1	24	48	48.00432			Yes	Include
HB2A_6	0 - 5	5/2/2007	Area 1	1.2 J-	1.2	Fluoranthene		0	5					Exclude
HB2A_7	0 - 5	5/10/2007	Area 1	0.84 BL	0.84	Fluoranthene	SND-1	0	5					Exclude
HB2A_8	0 - 5	5/10/2007	Area 1	0.41 BL	0.41	Fluoranthene	FC-12/FC-13	0	5	4.9944804	79.824	exclude	Yes	Exclude
HB2A_11	0 - 5	5/10/2007	Area 1	0.62 J-BL	0.62	Fluoranthene		0	5					Exclude
HB2A_13	0 - 5	5/2/2007	Area 1	0.54 J-M-B	0.54	Fluoranthene		0	5					Exclude
HB2A_16	0 - 5	5/2/2007	Area 1	0.14 J-M-B	0.14	Fluoranthene		0	5					Exclude
HB2A_210	0 - 6	5/16/2007	Area 1	0.0080 U	0.008	Fluoranthene		0	6					Exclude
HB2A_210	6 - 24	5/16/2007	Area 1	0.0083 U	0.0083	Fluoranthene		6	24					Exclude
HB2A_210	24 - 48	5/16/2007	Area 1	0.0061 UJS-	0.0061	Fluoranthene		24	48					Exclude
HB2A_GENES	0 - 5	5/22/2007	Cummings Ave Slip	0.76 BL	0.76	Fluoranthene		0	5					Exclude
HB2B_17	0 - 6	5/12/2007	Fraser Ave Slip	0.59 J-M-	0.59	Fluoranthene	FS-2	0	6	24.005676			Yes	Include
HB2B_17	6 - 24	5/12/2007	Fraser Ave Slip	0.22 J-M-	0.22	Fluoranthene	FS-2	6	24	24.005676			Yes	Include
HB2B_18	0 - 6	5/7/2007	Area 2	0.49	0.49	Fluoranthene	FP-1	0	6	47.997552			Yes	Include
HB2B_18	6 - 24	5/7/2007	Area 2	0.3	0.3	Fluoranthene	FP-1	6	24	47.997552			Yes	Include
HB2B_18	24 - 48	5/7/2007	Area 2	0.47	0.47	Fluoranthene	FP-1	24	48	47.997552			Yes	Include
HB2B_19	0 - 6	5/2/2007	Area 2	0.16 J-M-	0.16	Fluoranthene	OC-1	0	6	6.001728			Yes	Include
HB2B_19	6 - 24	5/2/2007	Area 2	0.027 J-M-	0.027	Fluoranthene	OC-1	6	24	6.001728			Yes	Include
HB2B_20	0 - 6	5/2/2007	Area 2	0.31 J-M-	0.31	Fluoranthene	OC-9	0	6	23.997336			Yes	Include
HB2B_20	6 - 24	5/2/2007	Area 2	0.25 J-M-	0.25	Fluoranthene	OC-9	6	24	23.997336			Yes	Include
HB2B_20	24 - 48	5/2/2007	Area 2	0.083 J-M-	0.083	Fluoranthene	OC-9	24	48	23.997336			No	Exclude
HB2B_21	0 - 5	5/2/2007	Area 2	0.24 J-M-B	0.24	Fluoranthene		0	5					Exclude
HB2B_22	0 - 5	5/2/2007	Area 2	0.39 J-M-B	0.39	Fluoranthene	OC-5	0	5	5.0028204			Yes	Include
HB3A_GENES	0 - 5	9/6/2007	Cummings Ave Slip	0.15 BL	0.15	Fluoranthene		0	5					Exclude
HB10-1-01	0 - 6	10/16/2010	Area 1	0.35	0.35	Fluoranthene		0	6					Exclude
HB10-1-01	0 - 12	10/16/2010	Area 1	0.0071 U	0.0071	Fluoranthene		0	12					Exclude
HB10-1-01	36 - 40	10/16/2010	Area 1	0.0051 U	0.0051	Fluoranthene		36	40					Exclude
HB10-1-02	0 - 6	10/16/2010	Area 1	0.22	0.22	Fluoranthene		0	6	23.0027508			Yes	Include
HB10-1-02	12 - 23	10/16/2010	Area 1	0.22	0.22	Fluoranthene		12	23	23.0027508			Yes	Include
HB10-1-03	0 - 6	10/16/2010	Area 1	0.42	0.42	Fluoranthene	FC-17	0	6	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	0 - 12	10/16/2010	Area 1	0.23	0.23	Fluoranthene	FC-17	0	12	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	12 - 36	10/16/2010	Area 1	0.19	0.19	Fluoranthene	FC-17	12	36	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	36 - 60	10/16/2010	Area 1	0.46	0.46	Fluoranthene	FC-17	36	60	59.99475	49.872	include	Yes	Include
HB10-1-03	60 - 84	10/16/2010	Area 1	0.46	0.46	Fluoranthene	FC-17	60	84	59.99475	49.872	include	No	Exclude
HB10-1-04	0 - 6	10/17/2010	Area 1	0.33	0.33	Fluoranthene		0	6					Exclude
HB10-1-04	0 - 12	10/17/2010	Area 1	0.5	0.5	Fluoranthene		0	12					Exclude
HB10-1-04	12 - 36	10/17/2010	Area 1	0.29	0.29	Fluoranthene		12	36					Exclude
HB10-1-04	36 - 50	10/17/2010	Area 1	0.42	0.42	Fluoranthene		36	50					Exclude
HB10-1-05	0 - 6	10/16/2010	Area 1	0.97	0.97	Fluoranthene	OC-17	0	6	5.9987496			Yes	Include
HB10-1-07	0 - 6	10/17/2010	Area 1	7.3	7.3	Fluoranthene	OC-15	0	6	6.0057			Yes	Include
HB10-1-07	0 - 12	10/17/2010	Area 1	0.55	0.55	Fluoranthene	OC-15	0	12	6.0057			Yes	Include
HB10-1-07	12 - 36	10/17/2010	Area 1	0.54	0.54	Fluoranthene	OC-15	12	36	6.0057			No	Exclude
HB10-1-07	60 - 64	10/17/2010	Area 1	0.012	0.012	Fluoranthene	OC-15	60	64	6.0057			No	Exclude
HB10-1-08	0 - 6	10/17/2010	Area 1	0.46	0.46	Fluoranthene		0	6	36.0057			Yes	Include
HB10-1-08	0 - 12	10/17/2010	Area 1	0.41	0.41	Fluoranthene		0	12	36.0057			Yes	Include
HB10-1-08	12 - 36	10/17/2010	Area 1	0.56	0.56	Fluoranthene		12	36	36.0057			Yes	Include
HB10-1-10	0 - 6	10/18/2010	Area 1	3.9	3.9	Fluoranthene	SND-1	0	6					Exclude
HB10-1-11	0 - 6	10/16/2010	Area 1	0.25 J	0.25	Fluoranthene		0	6	20.9987496			Yes	Include
HB10-1-11	12 - 21	10/16/2010	Area 1	0.34	0.34	Fluoranthene		12	21	20.9987496			Yes	Include
HB10-1-12	0 - 6	10/17/2010	Area 1	0.52	0.52	Fluoranthene		0	6					Exclude
HB10-1-12	0 - 12	10/17/2010	Area 1	0.44	0.44	Fluoranthene		0	12					Exclude
HB10-1-12	12 - 34	10/17/2010	Area 1	0.27	0.27	Fluoranthene		12	34					Exclude
HB10-1-13	0 - 6	10/18/2010	Area 1	0.75	0.75	Fluoranthene	FC-12/FC-13	0	6	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	0 - 12	10/18/2010	Area 1	0.68	0.68	Fluoranthene	FC-12/FC-13	0	12	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	12 - 36	10/18/2010	Area 1	0.45	0.45	Fluoranthene	FC-12/FC-13	12	36	36.0053004	42.816	exclude	Yes	Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB10-1-13	60 - 67	10/18/2010	Area 1	0.76	0.76	Fluoranthene	FC-12/FC-13	60	67	36.0053004	42.816	include	No	Exclude
HB10-1-14	0 - 6	10/17/2010	Area 1	0.66	0.66	Fluoranthene		0	6	66.0057			Yes	Include
HB10-1-14	0 - 12	10/17/2010	Area 1	0.37	0.37	Fluoranthene		0	12	66.0057			Yes	Include
HB10-1-14	12 - 36	10/17/2010	Area 1	0.56	0.56	Fluoranthene		12	36	66.0057			Yes	Include
HB10-1-14	60 - 66	10/17/2010	Area 1	0.61	0.61	Fluoranthene		60	66	66.0057			Yes	Include
HB10-1-15	0 - 6	10/18/2010	Area 1	0.027	0.027	Fluoranthene	OC-13	0	6	16.0056996			Yes	Include
HB10-1-15	12 - 16	10/18/2010	Area 1	0.63	0.63	Fluoranthene	OC-13	12	16	16.0056996			Yes	Include
HB10-1-16	0 - 6	10/17/2010	Hughitt Ave Slip	1	1	Fluoranthene	HS-3	0	6	31.0056996			Yes	Include
HB10-1-16	0 - 12	10/17/2010	Hughitt Ave Slip	1.7	1.7	Fluoranthene	HS-3	0	12	31.0056996			Yes	Include
HB10-1-16	12 - 31	10/17/2010	Hughitt Ave Slip	0.87	0.87	Fluoranthene	HS-3	12	31	31.0056996			Yes	Include
HB10-1-17	0 - 6	10/17/2010	Area 1	0.35	0.35	Fluoranthene	OC-14	0	6	12			Yes	Include
HB10-1-20	0 - 6	10/17/2010	Hughitt Ave Slip	3.3	3.3	Fluoranthene		0	6	6.0057			Yes	Include
HB10-1-21	0 - 6	10/18/2010	Cummings Ave Slip	0.15	0.15	Fluoranthene		0	6	6.0012996			Yes	Include
HB10-1-21	12 - 23	10/18/2010	Cummings Ave Slip	0.47	0.47	Fluoranthene		12	23	6.0012996			No	Exclude
HB10-1-23	0 - 6	10/17/2010	Area 1	0.29	0.29	Fluoranthene		0	6	36.0057			Yes	Include
HB10-1-23	0 - 12	10/17/2010	Area 1	0.53	0.53	Fluoranthene		0	12	36.0057			Yes	Include
HB10-1-23	12 - 36	10/17/2010	Area 1	0.68	0.68	Fluoranthene		12	36	36.0057			Yes	Include
HB10-1-24	0 - 6	10/18/2010	Cummings Ave Slip	0.55	0.55	Fluoranthene	CS-4	0	6	36.0047496			Yes	Include
HB10-1-24	0 - 12	10/18/2010	Cummings Ave Slip	1.2	1.2	Fluoranthene	CS-4	0	12	36.0047496			Yes	Include
HB10-1-24	12 - 36	10/18/2010	Cummings Ave Slip	1.6	1.6	Fluoranthene	CS-4	12	36	36.0047496			Yes	Include
HB10-1-25	0 - 6	10/17/2010	Baxter Ave Embayment	0.26	0.26	Fluoranthene		0	6	6.0057			Yes	Include
HB10-1-27	0 - 6	10/18/2010	Area 1	0.15	0.15	Fluoranthene		0	6	-0.0027			No	Exclude
HB10-1-28	0 - 6	10/17/2010	Hughitt Ave Slip	0.92	0.92	Fluoranthene	HS-1	0	6	84.0057			Yes	Include
HB10-1-28	0 - 12	10/17/2010	Hughitt Ave Slip	0.72	0.72	Fluoranthene	HS-1	0	12	84.0057			Yes	Include
HB10-1-28	12 - 36	10/17/2010	Hughitt Ave Slip	1.3	1.3	Fluoranthene	HS-1	12	36	84.0057			Yes	Include
HB10-1-28	36 - 60	10/17/2010	Hughitt Ave Slip	0.48 J	0.48	Fluoranthene	HS-1	36	60	84.0057			Yes	Include
HB10-1-28	60 - 84	10/17/2010	Hughitt Ave Slip	0.92	0.92	Fluoranthene	HS-1	60	84	84.0057			Yes	Include
HB10-1-28	60 - 96	10/17/2010	Hughitt Ave Slip	0.18 J	0.18	Fluoranthene	HS-1	60	96	84.0057			Yes	Include
HB10-1-29	0 - 6	10/17/2010	Cummings Ave Slip	1.5	1.5	Fluoranthene	CS-1	0	6	83.9937			Yes	Include
HB10-1-29	0 - 12	10/17/2010	Cummings Ave Slip	3.8	3.8	Fluoranthene	CS-1	0	12	83.9937			Yes	Include
HB10-1-29	12 - 36	10/17/2010	Cummings Ave Slip	14	14	Fluoranthene	CS-1	12	36	83.9937			Yes	Include
HB10-1-29	36 - 60	10/17/2010	Cummings Ave Slip	6.5	6.5	Fluoranthene	CS-1	36	60	83.9937			Yes	Include
HB10-1-29	60 - 93	10/17/2010	Cummings Ave Slip	8.7	8.7	Fluoranthene	CS-1	60	93	83.9937			Yes	Include
HB10-1-30	0 - 6	10/18/2010	Baxter Ave Embayment	0.65	0.65	Fluoranthene		0	6	60.0053004			Yes	Include
HB10-1-30	0 - 12	10/18/2010	Baxter Ave Embayment	2.3	2.3	Fluoranthene		0	12	60.0053004			Yes	Include
HB10-1-30	12 - 36	10/18/2010	Baxter Ave Embayment	1.5	1.5	Fluoranthene		12	36	60.0053004			Yes	Include
HB10-1-30	36 - 60	10/18/2010	Baxter Ave Embayment	0.6	0.6	Fluoranthene		36	60	60.0053004			Yes	Include
HB10-1-30	60 - 77	10/18/2010	Baxter Ave Embayment	0.45	0.45	Fluoranthene		60	77	60.0053004			Yes	Include
HB10-1-31	0 - 6	10/18/2010	Baxter Ave Embayment	0.59	0.59	Fluoranthene	OC-11	0	6	35.9973			Yes	Include
HB10-1-31	0 - 12	10/18/2010	Baxter Ave Embayment	0.74	0.74	Fluoranthene	OC-11	0	12	35.9973			Yes	Include
HB10-1-31	12 - 36	10/18/2010	Baxter Ave Embayment	0.54	0.54	Fluoranthene	OC-11	12	36	35.9973			Yes	Include
HB10-2-18	0 - 6	10/18/2010	Area 2	0.45	0.45	Fluoranthene	OC-2	0	6	6.0053004			Yes	Include
HB10-2-26	0 - 6	10/16/2010	Area 2	0.17 J	0.17	Fluoranthene		0	6					Exclude
HB10-2-26	12 - 17	10/16/2010	Area 2	0.28	0.28	Fluoranthene		12	17					Exclude
HB10-2-32	0 - 6	10/18/2010	Area 2	0.35	0.35	Fluoranthene		0	6					Exclude
HB10-2-33	0 - 6	10/18/2010	Area 2	0.11 J	0.11	Fluoranthene		0	6	6.0012996			Yes	Include
HB10-2-33	12 - 22	10/18/2010	Area 2	0.5	0.5	Fluoranthene		12	22	6.0012996			No	Exclude
HB10-2-34	0 - 6	10/18/2010	Area 2	0.33	0.33	Fluoranthene	FC-7	0	6	6.0053004	0.816	include	Yes	Include
HB10-2-35	0 - 6	10/18/2010	Area 2	0.089 J	0.089	Fluoranthene		0	6	30.0012996			Yes	Include
HB10-2-35	0 - 12	10/18/2010	Area 2	0.24	0.24	Fluoranthene		0	12	30.0012996			Yes	Include
HB10-2-35	12 - 30	10/18/2010	Area 2	0.4	0.4	Fluoranthene		12	30	30.0012996			Yes	Include
HB10-2-36	0 - 6	10/18/2010	Area 2	0.5	0.5	Fluoranthene	FC-5	0	6	6.0053004	-29.184	include	Yes	Include
HB10-2-37	0 - 6	10/18/2010	Area 2	0.66	0.66	Fluoranthene		0	6	23.0013			Yes	Include
HB10-2-37	12 - 23	10/18/2010	Area 2	0.26	0.26	Fluoranthene		12	23	23.0013			Yes	Include
HB10-2-38	0 - 6	10/18/2010	Area 2	0.15	0.15	Fluoranthene	OC-6	0	6	38.0013			Yes	Include
HB10-2-38	0 - 12	10/18/2010	Area 2	0.47	0.47	Fluoranthene	OC-6	0	12	38.0013			Yes	Include
HB10-2-38	36 - 38	10/18/2010	Area 2	2.2	2.2	Fluoranthene	OC-6	36	38	38.0013			Yes	Include
HB10-2-39	0 - 6	10/18/2010	Area 2	0.13 J	0.13	Fluoranthene		0	6	6.0012996			Yes	Include
HB10-2-39	0 - 12	10/18/2010	Area 2	0.52	0.52	Fluoranthene		0	12	6.0012996			Yes	Include
HB10-2-39	12 - 28	10/18/2010	Area 2	0.33	0.33	Fluoranthene		12	28	6.0012996			No	Exclude
HB10-2-40	0 - 6	10/18/2010	Area 2	0.57	0.57	Fluoranthene	OC-5	0	6	48.0053004			Yes	Include
HB10-2-40	0 - 12	10/18/2010	Area 2	0.13	0.13	Fluoranthene	OC-5	0	12	48.0053004			Yes	Include
HB10-2-40	12 - 36	10/18/2010	Area 2	0.0044 U	0.0044	Fluoranthene	OC-5	12	36	48.0053004			Yes	Include
HB10-2-40	36 - 48	10/18/2010	Area 2	0.0043 U	0.0043	Fluoranthene	OC-5	36	48	48.0053004			Yes	Include
HB10-2-41	0 - 6	10/18/2010	Area 2	4.4	4.4	Fluoranthene	FP-2	0	6	31.0012992			Yes	Include
HB10-2-41	0 - 12	10/18/2010	Area 2	0.14	0.14	Fluoranthene	FP-2	0	12	31.0012992			Yes	Include
HB10-2-41	12 - 31	10/18/2010	Area 2	0.21 J	0.21	Fluoranthene	FP-2	12	31	31.0012992			Yes	Include
HB10-2-42	0 - 6	10/18/2010	Area 2	0.62	0.62	Fluoranthene	FP-1	0	6	12.0012996			Yes	Include
HB10-2-42	0 - 12	10/18/2010	Area 2	NA	NA	Fluoranthene	FP-1	0	12	12.0012996			Yes	Include
HB10-2-42	12 - 30	10/18/2010	Area 2	0.46	0.46	Fluoranthene	FP-1	12	30	12.0012996			Yes	Include
HB10-2-43	0 - 6	10/17/2010	Area 2	R	R	Fluoranthene		0	6	22.0056996			Yes	Include
HB10-2-43	12 - 22	10/17/2010	Area 2	1.4	1.4	Fluoranthene		12	22	22.0056996			Yes	Include
HB10-2-44	0 - 6	10/18/2010	Area 2	0.72	0.72	Fluoranthene	FP-2	0	6	16.0012992			Yes	Include
HB10-2-44	12 - 16	10/18/2010	Area 2	0.96	0.96	Fluoranthene	FP-2	12	16	16.0012992			Yes	Include
HB10-2-45	0 - 6	10/18/2010	Area 2	0.29	0.29	Fluoranthene	FP-2	0	6	19.0012992			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB10-2-45	12 - 19	10/18/2010	Area 2	1	1	Fluoranthene	FP-2	12	19	19.0012992			Yes	Include
HB13-01	0 - 6 *	9/11/2013	Area 2	NA	NA	Fluoranthene	FP-1	0	6	48			Yes	Include
HB13-01	6 - 12 *	9/11/2013	Area 2	NA	NA	Fluoranthene	FP-1	6	12	48			Yes	Include
HB13-01	12 - 18 *	9/11/2013	Area 2	NA	NA	Fluoranthene	FP-1	12	18	48			Yes	Include
HB13-01	18 - 24 *	9/11/2013	Area 2	NA	NA	Fluoranthene	FP-1	18	24	48			Yes	Include
HB13-01	24 - 30 *	9/11/2013	Area 2	NA	NA	Fluoranthene	FP-1	24	30	48			Yes	Include
HB13-01	30 - 36 *	9/11/2013	Area 2	NA	NA	Fluoranthene	FP-1	30	36	48			Yes	Include
HB13-01	36 - 42 *	9/11/2013	Area 2	NA	NA	Fluoranthene	FP-1	36	42	48			Yes	Include
HB13-01	42 - 48 *	9/11/2013	Area 2	NA	NA	Fluoranthene	FP-1	42	48	48			Yes	Include
HB13-01	48 - 54 *	9/11/2013	Area 2	NA	NA	Fluoranthene	FP-1	48	54	48			No	Exclude
HB13-01	54 - 60 *	9/11/2013	Area 2	NA	NA	Fluoranthene	FP-1	54	60	48			No	Exclude
HB13-01	60 - 66 *	9/11/2013	Area 2	NA	NA	Fluoranthene	FP-1	60	66	48			No	Exclude
HB13-01	66 - 72 *	9/11/2013	Area 2	NA	NA	Fluoranthene	FP-1	66	72	48			No	Exclude
HB13-01	72 - 74 *	9/11/2013	Area 2	NA	NA	Fluoranthene	FP-1	72	74	48			No	Exclude
HB13-02	0 - 6 *	9/9/2013	Area 2	0.016 U	0.016	Fluoranthene		0	6	29.9960004			Yes	Include
HB13-02	6 - 12 *	9/9/2013	Area 2	NA	NA	Fluoranthene		6	12	29.9960004			Yes	Include
HB13-02	12 - 18 *	9/9/2013	Area 2	NA	NA	Fluoranthene		12	18	29.9960004			Yes	Include
HB13-02	18 - 24 *	9/9/2013	Area 2	NA	NA	Fluoranthene		18	24	29.9960004			Yes	Include
HB13-02	24 - 30 *	9/9/2013	Area 2	NA	NA	Fluoranthene		24	30	29.9960004			Yes	Include
HB13-02	30 - 36 *	9/9/2013	Area 2	NA	NA	Fluoranthene		30	36	29.9960004			No	Exclude
HB13-02	36 - 42 *	9/9/2013	Area 2	NA	NA	Fluoranthene		36	42	29.9960004			No	Exclude
HB13-02	42 - 48 *	9/9/2013	Area 2	NA	NA	Fluoranthene		42	48	29.9960004			No	Exclude
HB13-03	0 - 6 *	9/9/2013	Area 2	NA	NA	Fluoranthene	FP-2	0	6	46.0040004			Yes	Include
HB13-03	0 - 24	9/9/2013	Area 2	2.3	2.3	Fluoranthene	FP-2	0	24	46.0040004			Yes	Include
HB13-03	6 - 12 *	9/9/2013	Area 2	NA	NA	Fluoranthene	FP-2	6	12	46.0040004			Yes	Include
HB13-03	12 - 18 *	9/9/2013	Area 2	NA	NA	Fluoranthene	FP-2	12	18	46.0040004			Yes	Include
HB13-03	18 - 24 *	9/9/2013	Area 2	NA	NA	Fluoranthene	FP-2	18	24	46.0040004			Yes	Include
HB13-03	24 - 30 *	9/9/2013	Area 2	NA	NA	Fluoranthene	FP-2	24	30	46.0040004			Yes	Include
HB13-03	24 - 46	9/9/2013	Area 2	0.67	0.67	Fluoranthene	FP-2	24	46	46.0040004			Yes	Include
HB13-03	30 - 36 *	9/9/2013	Area 2	NA	NA	Fluoranthene	FP-2	30	36	46.0040004			Yes	Include
HB13-03	36 - 42 *	9/9/2013	Area 2	NA	NA	Fluoranthene	FP-2	36	42	46.0040004			Yes	Include
HB13-03	42 - 46 *	9/9/2013	Area 2	NA	NA	Fluoranthene	FP-2	42	46	46.0040004			Yes	Include
HB13-03	46 - 51 *	9/9/2013	Area 2	NA	NA	Fluoranthene	FP-2	46	51	46.0040004			Yes	Include
HB13-04	0 - 6 *	9/9/2013	Area 2	NA	NA	Fluoranthene	OC-1	0	6	41.9960004			Yes	Include
HB13-04	6 - 12 *	9/9/2013	Area 2	NA	NA	Fluoranthene	OC-1	6	12	41.9960004			Yes	Include
HB13-04	12 - 18 *	9/9/2013	Area 2	NA	NA	Fluoranthene	OC-1	12	18	41.9960004			Yes	Include
HB13-04	18 - 24 *	9/9/2013	Area 2	NA	NA	Fluoranthene	OC-1	18	24	41.9960004			Yes	Include
HB13-04	24 - 30 *	9/9/2013	Area 2	NA	NA	Fluoranthene	OC-1	24	30	41.9960004			Yes	Include
HB13-04	30 - 36 *	9/9/2013	Area 2	NA	NA	Fluoranthene	OC-1	30	36	41.9960004			Yes	Include
HB13-04	36 - 42 *	9/9/2013	Area 2	NA	NA	Fluoranthene	OC-1	36	42	41.9960004			Yes	Include
HB13-04	42 - 44 *	9/9/2013	Area 2	NA	NA	Fluoranthene	OC-1	42	44	41.9960004			No	Exclude
HB13-05	0 - 32 *	9/9/2013	Area 2	NA	NA	Fluoranthene	FC-1	0	32	43.8	33.156	exclude	Yes	Exclude
HB13-05	32 - 38 *	9/9/2013	Area 2	NA	NA	Fluoranthene	FC-1	32	38	43.8	33.156	include	Yes	Include
HB13-05	38 - 44 *	9/9/2013	Area 2	NA	NA	Fluoranthene	FC-1	38	44	43.8	33.156	include	Yes	Include
HB13-05	44 - 50 *	9/9/2013	Area 2	NA	NA	Fluoranthene	FC-1	44	50	43.8	33.156	include	No	Exclude
HB13-05	50 - 56 *	9/9/2013	Area 2	NA	NA	Fluoranthene	FC-1	50	56	43.8	33.156	include	No	Exclude
HB13-05	56 - 62	9/9/2013	Area 2	0.87	0.87	Fluoranthene	FC-1	56	62	43.8	33.156	include	No	Exclude
HB13-05	62 - 66	9/9/2013	Area 2	0.23	0.23	Fluoranthene	FC-1	62	66	43.8	33.156	include	No	Exclude
HB13-05	68 - 74 *	9/9/2013	Area 2	NA	NA	Fluoranthene	FC-1	68	74	43.8	33.156	include	No	Exclude
HB13-05	74 - 77 *	9/9/2013	Area 2	NA	NA	Fluoranthene	FC-1	74	77	43.8	33.156	include	No	Exclude
HB13-06	0 - 6 *	9/9/2013	Area 2	NA	NA	Fluoranthene	OC-2	0	6	48			Yes	Include
HB13-06	6 - 12 *	9/9/2013	Area 2	NA	NA	Fluoranthene	OC-2	6	12	48			Yes	Include
HB13-06	12 - 18 *	9/9/2013	Area 2	NA	NA	Fluoranthene	OC-2	12	18	48			Yes	Include
HB13-06	18 - 24 *	9/9/2013	Area 2	NA	NA	Fluoranthene	OC-2	18	24	48			Yes	Include
HB13-06	24 - 30 *	9/9/2013	Area 2	NA	NA	Fluoranthene	OC-2	24	30	48			Yes	Include
HB13-06	30 - 36 *	9/9/2013	Area 2	NA	NA	Fluoranthene	OC-2	30	36	48			Yes	Include
HB13-06	36 - 42 *	9/9/2013	Area 2	NA	NA	Fluoranthene	OC-2	36	42	48			Yes	Include
HB13-06	42 - 48 *	9/9/2013	Area 2	NA	NA	Fluoranthene	OC-2	42	48	48			Yes	Include
HB13-07	0 - 6 *	9/10/2013	Area 2	NA	NA	Fluoranthene		0	6					Exclude
HB13-07	6 - 12 *	9/10/2013	Area 2	NA	NA	Fluoranthene		6	12					Exclude
HB13-07	12 - 18 *	9/10/2013	Area 2	NA	NA	Fluoranthene		12	18					Exclude
HB13-07	18 - 24 *	9/10/2013	Area 2	NA	NA	Fluoranthene		18	24					Exclude
HB13-07	24 - 30 *	9/10/2013	Area 2	NA	NA	Fluoranthene		24	30					Exclude
HB13-07	30 - 36 *	9/10/2013	Area 2	NA	NA	Fluoranthene		30	36					Exclude
HB13-07	36 - 42 *	9/10/2013	Area 2	NA	NA	Fluoranthene		36	42					Exclude
HB13-07	42 - 48 *	9/10/2013	Area 2	NA	NA	Fluoranthene		42	48					Exclude
HB13-08	0 - 18	9/11/2013	Area 2	0.71	0.71	Fluoranthene	FC-2	0	18	38.28	21.756	exclude	Yes	Exclude
HB13-08	18 - 36	9/11/2013	Area 2	0.93	0.93	Fluoranthene	FC-2	18	36	38.28	21.756	include	Yes	Include
HB13-08	36 - 60	9/11/2013	Area 2	1.3	1.3	Fluoranthene	FC-2	36	60	38.28	21.756	include	Yes	Include
HB13-08	60 - 92	9/11/2013	Area 2	0.57	0.57	Fluoranthene	FC-2	60	92	38.28	21.756	include	No	Exclude
HB13-10	0 - 6 *	9/10/2013	Area 2	NA	NA	Fluoranthene		0	6	0.0039996			Yes	Include
HB13-11	0 - 18	9/11/2013	Area 2	0.88	0.88	Fluoranthene	FC-4	0	18	25.2	23.964	exclude	Yes	Exclude
HB13-11	18 - 24 *	9/11/2013	Area 2	NA	NA	Fluoranthene	FC-4	18	24	25.2	23.964	include	Yes	Include
HB13-11	18 - 42	9/11/2013	Area 2	0.84	0.84	Fluoranthene	FC-4	18	42	25.2	23.964	include	Yes	Include
HB13-11	24 - 30 *	9/11/2013	Area 2	NA	NA	Fluoranthene	FC-4	24	30	25.2	23.964	include	Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-11	30 - 36 *	9/11/2013	Area 2	NA	NA	Fluoranthene	FC-4	30	36	25.2	23.964	include	No	Exclude
HB13-11	36 - 42 *	9/11/2013	Area 2	NA	NA	Fluoranthene	FC-4	36	42	25.2	23.964	include	No	Exclude
HB13-11	42 - 48 *	9/11/2013	Area 2	NA	NA	Fluoranthene	FC-4	42	48	25.2	23.964	include	No	Exclude
HB13-11	42 - 60	9/11/2013	Area 2	0.31	0.31	Fluoranthene	FC-4	42	60	25.2	23.964	include	No	Exclude
HB13-11	48 - 54 *	9/11/2013	Area 2	NA	NA	Fluoranthene	FC-4	48	54	25.2	23.964	include	No	Exclude
HB13-11	54 - 60 *	9/11/2013	Area 2	NA	NA	Fluoranthene	FC-4	54	60	25.2	23.964	include	No	Exclude
HB13-12	0 - 6 *	9/10/2013	Area 2	NA	NA	Fluoranthene		0	6	5.9960004			Yes	Include
HB13-13	0 - 1 *	9/11/2013	Area 2	NA	NA	Fluoranthene	SND-5	0	1	0.9999996			Yes	Include
HB13-14	0 - 6 *	9/12/2013	Area 2	NA	NA	Fluoranthene	FC-6	0	6	45.9999996	-5.316	include	Yes	Include
HB13-14	0 - 24	9/12/2013	Area 2	0.071	0.071	Fluoranthene	FC-6	0	24	45.9999996	-5.316	include	Yes	Include
HB13-14	6 - 24 *	9/12/2013	Area 2	NA	NA	Fluoranthene	FC-6	6	24	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 42 *	9/12/2013	Area 2	NA	NA	Fluoranthene	FC-6	24	42	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 46	9/12/2013	Area 2	0.11	0.11	Fluoranthene	FC-6	24	46	45.9999996	-5.316	include	Yes	Include
HB13-14	42 - 46 *	9/12/2013	Area 2	NA	NA	Fluoranthene	FC-6	42	46	45.9999996	-5.316	include	Yes	Include
HB13-15	0 - 6 *	9/12/2013	Area 2	NA	NA	Fluoranthene	FC-7	0	6	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	6 - 12 *	9/12/2013	Area 2	NA	NA	Fluoranthene	FC-7	6	12	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	12 - 19 *	9/12/2013	Area 2	NA	NA	Fluoranthene	FC-7	12	19	18.9999996	18.516	include	Yes	Include
HB13-16	0 - 6 *	9/12/2013	Area 2	NA	NA	Fluoranthene		0	6	26.0000004			Yes	Include
HB13-16	6 - 12 *	9/12/2013	Area 2	NA	NA	Fluoranthene		6	12	26.0000004			Yes	Include
HB13-16	12 - 18 *	9/12/2013	Area 2	NA	NA	Fluoranthene		12	18	26.0000004			Yes	Include
HB13-16	18 - 24 *	9/12/2013	Area 2	NA	NA	Fluoranthene		18	24	26.0000004			Yes	Include
HB13-16	24 - 27 *	9/12/2013	Area 2	NA	NA	Fluoranthene		24	27	26.0000004			Yes	Include
HB13-17	0 - 12 *	9/12/2013	Area 2	NA	NA	Fluoranthene	FC-7	0	12	24	16.2	exclude	Yes	Exclude
HB13-17	12 - 18 *	9/12/2013	Area 2	NA	NA	Fluoranthene	FC-7	12	18	24	16.2	include	Yes	Include
HB13-17	18 - 24 *	9/12/2013	Area 2	NA	NA	Fluoranthene	FC-7	18	24	24	16.2	include	Yes	Include
HB13-17	24 - 47 *	9/12/2013	Area 2	NA	NA	Fluoranthene	FC-7	24	47	24	16.2	include	No	Exclude
HB13-18	0 - 6	9/12/2013	Area 2	0.75	0.75	Fluoranthene		0	6	9.9999996			Yes	Include
HB13-18	6 - 10	9/12/2013	Area 2	0.17	0.17	Fluoranthene		6	10	9.9999996			Yes	Include
HB13-18	10 - 16	9/12/2013	Area 2	0.014	0.014	Fluoranthene		10	16	9.9999996			No	Exclude
HB13-19	0 - 6 *	9/13/2013	Area 2	NA	NA	Fluoranthene		0	6					Exclude
HB13-19	6 - 24 *	9/13/2013	Area 2	NA	NA	Fluoranthene		6	24					Exclude
HB13-19	18 - 20 *	9/13/2013	Area 2	NA	NA	Fluoranthene		18	20					Exclude
HB13-19	24 - 42 *	9/13/2013	Area 2	NA	NA	Fluoranthene		24	42					Exclude
HB13-19	42 - 61 *	9/13/2013	Area 2	NA	NA	Fluoranthene		42	61					Exclude
HB13-19	61 - 67 *	9/13/2013	Area 2	NA	NA	Fluoranthene		61	67					Exclude
HB13-20	0 - 6 *	9/12/2013	Area 2	NA	NA	Fluoranthene		0	6	24			Yes	Include
HB13-20	0 - 12	9/12/2013	Area 2	0.11	0.11	Fluoranthene		0	12	24			Yes	Include
HB13-20	6 - 12 *	9/12/2013	Area 2	NA	NA	Fluoranthene		6	12	24			Yes	Include
HB13-20	12 - 18 *	9/12/2013	Area 2	NA	NA	Fluoranthene		12	18	24			Yes	Include
HB13-20	12 - 24	9/12/2013	Area 2	0.15	0.15	Fluoranthene		12	24	24			Yes	Include
HB13-20	18 - 24 *	9/12/2013	Area 2	NA	NA	Fluoranthene		18	24	24			Yes	Include
HB13-20	24 - 30 *	9/12/2013	Area 2	NA	NA	Fluoranthene		24	30	24			No	Exclude
HB13-20	24 - 36	9/12/2013	Area 2	0.1	0.1	Fluoranthene		24	36	24			No	Exclude
HB13-20	30 - 36 *	9/12/2013	Area 2	NA	NA	Fluoranthene		30	36	24			No	Exclude
HB13-20	36 - 42 *	9/12/2013	Area 2	NA	NA	Fluoranthene		36	42	24			No	Exclude
HB13-20	36 - 48	9/12/2013	Area 2	0.2	0.2	Fluoranthene		36	48	24			No	Exclude
HB13-20	42 - 48 *	9/12/2013	Area 2	NA	NA	Fluoranthene		42	48	24			No	Exclude
HB13-21	0 - 6 *	9/13/2013	Area 2	NA	NA	Fluoranthene	OC-10	0	6	24			Yes	Include
HB13-21	6 - 24 *	9/13/2013	Area 2	NA	NA	Fluoranthene	OC-10	6	24	24			Yes	Include
HB13-21	24 - 48 *	9/13/2013	Area 2	NA	NA	Fluoranthene	OC-10	24	48	24			No	Exclude
HB13-21	48 - 72 *	9/13/2013	Area 2	NA	NA	Fluoranthene	OC-10	48	72	24			No	Exclude
HB13-21	72 - 88 *	9/13/2013	Area 2	NA	NA	Fluoranthene	OC-10	72	88	24			No	Exclude
HB13-22	0 - 28 *	9/12/2013	Area 2	NA	NA	Fluoranthene	FC-7	0	28	24	36.72	exclude	Yes	Exclude
HB13-22	28 - 31 *	9/12/2013	Area 2	NA	NA	Fluoranthene	FC-7	28	31	24	36.72	exclude	No	Exclude
HB13-23	0 - 12 *	9/12/2013	Area 2	NA	NA	Fluoranthene	SND-5	0	12	27			Yes	Include
HB13-23	12 - 18 *	9/12/2013	Area 2	NA	NA	Fluoranthene	SND-5	12	18	27			Yes	Include
HB13-23	18 - 24 *	9/12/2013	Area 2	NA	NA	Fluoranthene	SND-5	18	24	27			Yes	Include
HB13-23	24 - 32 *	9/12/2013	Area 2	NA	NA	Fluoranthene	SND-5	24	32	27			Yes	Include
HB13-24	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-3	0	6	6			Yes	Include
HB13-24	0 - 24 *	9/12/2013	HUGHITT AVE SLIP	2.8	2.8	Fluoranthene	HS-3	0	24	6			Yes	Include
HB13-24	6 - 24	9/12/2013	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-3	6	24	6			No	Exclude
HB13-25	0 - 6 *	9/12/2013	Area 1	NA	NA	Fluoranthene	OC-11	0	6	57			Yes	Include
HB13-25	0 - 18	9/12/2013	Area 1	0.17	0.17	Fluoranthene	OC-11	0	18	57			Yes	Include
HB13-25	6 - 18 *	9/12/2013	Area 1	NA	NA	Fluoranthene	OC-11	6	18	57			Yes	Include
HB13-25	18 - 36 *	9/12/2013	Area 1	NA	NA	Fluoranthene	OC-11	18	36	57			Yes	Include
HB13-25	18 - 57	9/12/2013	Area 1	0.076	0.076	Fluoranthene	OC-11	18	57	57			Yes	Include
HB13-25	36 - 57 *	9/12/2013	Area 1	NA	NA	Fluoranthene	OC-11	36	57	57			Yes	Include
HB13-26	0 - 12	9/13/2013	Area 1	0.096	0.096	Fluoranthene	FC-10	0	12	33	17.04	exclude	Yes	Exclude
HB13-26	12 - 18	9/13/2013	Area 1	0.15	0.15	Fluoranthene	FC-10	12	18	33	17.04	include	Yes	Include
HB13-26	18 - 33	9/13/2013	Area 1	0.14	0.14	Fluoranthene	FC-10	18	33	33	17.04	include	Yes	Include
HB13-27	0 - 6 *	9/13/2013	Area 1	NA	NA	Fluoranthene		0	6					Exclude
HB13-27	0 - 32	9/13/2013	Area 1	0.021	0.021	Fluoranthene		0	32					Exclude
HB13-28	0 - 8 *	9/13/2013	Area 1	NA	NA	Fluoranthene	FC-11	0	8	14.0000004	13.68	exclude	Yes	Exclude
HB13-28	8 - 14 *	9/13/2013	Area 1	NA	NA	Fluoranthene	FC-11	8	14	14.0000004	13.68	include	Yes	Include
HB13-28	14 - 26 *	9/13/2013	Area 1	NA	NA	Fluoranthene	FC-11	14	26	14.0000004	13.68	include	Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-28	26 - 40 *	9/13/2013	Area 1	NA	NA	Fluoranthene	FC-11	26	40	14.0000004	13.68	include	No	Exclude
HB13-29	0 - 6	9/13/2013	Area 1	NA	NA	Fluoranthene	FC-12/FC-13	0	6	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 12 *	9/13/2013	Area 1	0.17	0.17	Fluoranthene	FC-12/FC-13	0	12	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 18 *	9/13/2013	Area 1	NA	NA	Fluoranthene	FC-12/FC-13	0	18	44.0000004	1.044	include	Yes	Include
HB13-29	6 - 12	9/13/2013	Area 1	NA	NA	Fluoranthene	FC-12/FC-13	6	12	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 24	9/13/2013	Area 1	NA	NA	Fluoranthene	FC-12/FC-13	12	24	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 44 *	9/13/2013	Area 1	0.33	0.33	Fluoranthene	FC-12/FC-13	12	44	44.0000004	1.044	include	Yes	Include
HB13-29	24 - 44	9/13/2013	Area 1	NA	NA	Fluoranthene	FC-12/FC-13	24	44	44.0000004	1.044	include	Yes	Include
HB13-30	0 - 6	9/10/2013	Area 1	NA	NA	Fluoranthene	SND-1	0	6	60			Yes	Include
HB13-30	6 - 24	9/10/2013	Area 1	NA	NA	Fluoranthene	SND-1	6	24	60			Yes	Include
HB13-30	24 - 42	9/10/2013	Area 1	NA	NA	Fluoranthene	SND-1	24	42	60			Yes	Include
HB13-30	42 - 60	9/10/2013	Area 1	NA	NA	Fluoranthene	SND-1	42	60	60			Yes	Include
HB13-30	60 - 78	9/10/2013	Area 1	NA	NA	Fluoranthene	SND-1	60	78	60			No	Exclude
HB13-31	0 - 6	9/13/2013	Area 1	NA	NA	Fluoranthene	FC-16	0	6	27	2.76	include	Yes	Include
HB13-31	6 - 18	9/13/2013	Area 1	NA	NA	Fluoranthene	FC-16	6	18	27	2.76	include	Yes	Include
HB13-31	18 - 27	9/13/2013	Area 1	NA	NA	Fluoranthene	FC-16	18	27	27	2.76	include	Yes	Include
HB13-31	27 - 33	9/13/2013	Area 1	NA	NA	Fluoranthene	FC-16	27	33	27	2.76	include	No	Exclude
HB13-32	0 - 6	9/13/2013	Area 1	NA	NA	Fluoranthene	FC-14	0	6	26.0000004	-2.52	include	Yes	Include
HB13-32	6 - 18	9/13/2013	Area 1	NA	NA	Fluoranthene	FC-14	6	18	26.0000004	-2.52	include	Yes	Include
HB13-32	18 - 26	9/13/2013	Area 1	NA	NA	Fluoranthene	FC-14	18	26	26.0000004	-2.52	include	Yes	Include
HB13-32	26 - 32	9/13/2013	Area 1	NA	NA	Fluoranthene	FC-14	26	32	26.0000004	-2.52	include	Yes	Include
HB13-33	0 - 6	9/13/2013	Area 1	NA	NA	Fluoranthene		0	6	12			Yes	Include
HB13-33	6 - 12	9/13/2013	Area 1	NA	NA	Fluoranthene		6	12	12			Yes	Include
HB13-34	0 - 6	9/13/2013	Area 1	NA	NA	Fluoranthene		0	6	0.5000004			Yes	Include
HB13-35	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Fluoranthene		0	6	3.9999996			Yes	Include
HB13-35	6 - 12	9/13/2013	Hughitt Ave Slip	NA	NA	Fluoranthene		6	12	3.9999996			No	Exclude
HB13-37	2 - 6	9/10/2013	Hughitt Ave Slip	7.2	7.2	Fluoranthene	HS-3	2	6	6			Yes	Include
HB13-38	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-3	0	6	6			Yes	Include
HB13-39	4 - 10	9/13/2013	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-2	4	10	27.9999996			Yes	Include
HB13-39	10 - 28	9/13/2013	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-2	10	28	27.9999996			Yes	Include
HB13-39	28 - 34	9/13/2013	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-2	28	34	27.9999996			No	Exclude
HB13-40	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-2	0	6	86.0000004			Yes	Include
HB13-40	0 - 24 *	9/13/2013	Hughitt Ave Slip	0.41	0.41	Fluoranthene	HS-2	0	24	86.0000004			Yes	Include
HB13-40	6 - 24	9/13/2013	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-2	6	24	86.0000004			Yes	Include
HB13-40	24 - 48	9/13/2013	Hughitt Ave Slip	1.8	1.8	Fluoranthene	HS-2	24	48	86.0000004			Yes	Include
HB13-40	48 - 72	9/13/2013	Hughitt Ave Slip	0.28	0.28	Fluoranthene	HS-2	48	72	86.0000004			Yes	Include
HB13-40	72 - 86	9/13/2013	Hughitt Ave Slip	0.026	0.026	Fluoranthene	HS-2	72	86	86.0000004			Yes	Include
HB13-41	0 - 6	9/10/2013	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-2	0	6	29.0000004			Yes	Include
HB13-41	0 - 24 *	9/10/2013	Hughitt Ave Slip	2.4	2.4	Fluoranthene	HS-2	0	24	29.0000004			Yes	Include
HB13-41	6 - 24	9/10/2013	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-2	6	24	29.0000004			Yes	Include
HB13-41	24 - 29	9/10/2013	Hughitt Ave Slip	0.89	0.89	Fluoranthene	HS-2	24	29	29.0000004			Yes	Include
HB13-42	0 - 6	9/11/2013	Cummings Ave Slip	3.8	3.8	Fluoranthene	CS-3	0	6	33			Yes	Include
HB13-42	6 - 24	9/11/2013	Cummings Ave Slip	1.2	1.2	Fluoranthene	CS-3	6	24	33			Yes	Include
HB13-42	24 - 33	9/11/2013	Cummings Ave Slip	0.76	0.76	Fluoranthene	CS-3	24	33	33			Yes	Include
HB13-42	33 - 36	9/11/2013	Cummings Ave Slip	0.042	0.042	Fluoranthene	CS-3	33	36	33			No	Exclude
HB13-43	0 - 6	9/11/2013	Cummings Ave Slip	36	36	Fluoranthene	CS-2	0	6	24			Yes	Include
HB13-43	0 - 24 *	9/11/2013	Cummings Ave Slip	NA	NA	Fluoranthene	CS-2	0	24	24			Yes	Include
HB13-43	6 - 24	9/11/2013	Cummings Ave Slip	0.94	0.94	Fluoranthene	CS-2	6	24	24			Yes	Include
HB13-45	0 - 6	9/11/2013	Cummings Ave Slip	3.7	3.7	Fluoranthene	CS-2	0	6	21			Yes	Include
HB13-45	6 - 21	9/11/2013	Cummings Ave Slip	6.9	6.9	Fluoranthene	CS-2	6	21	21			Yes	Include
HB13-47	0 - 6	9/10/2013	Fraser Ave Slip	8	8	Fluoranthene	FS-1	0	6	30.996			Yes	Include
HB13-47	6 - 24	9/10/2013	Fraser Ave Slip	6.9	6.9	Fluoranthene	FS-1	6	24	30.996			Yes	Include
HB13-47	24 - 31	9/10/2013	Fraser Ave Slip	8.7	8.7	Fluoranthene	FS-1	24	31	30.996			Yes	Include
HB13-47	31 - 37 *	9/10/2013	Fraser Ave Slip	NA	NA	Fluoranthene	FS-1	31	37	30.996			No	Exclude
HB13-48	0 - 6 *	9/10/2013	Fraser Ave Slip	NA	NA	Fluoranthene	FS-2	0	6	45.9999996			Yes	Include
HB13-48	0 - 24	9/10/2013	FRASER AVE SLIP	5.3	5.3	Fluoranthene	FS-2	0	24	45.9999996			Yes	Include
HB13-48	6 - 24 *	9/10/2013	Fraser Ave Slip	NA	NA	Fluoranthene	FS-2	6	24	45.9999996			Yes	Include
HB13-48	24 - 42 *	9/10/2013	Fraser Ave Slip	NA	NA	Fluoranthene	FS-2	24	42	45.9999996			Yes	Include
HB13-48	24 - 46 *	9/10/2013	FRASER AVE SLIP	7.2	7.2	Fluoranthene	FS-2	24	46	45.9999996			Yes	Include
HB13-48	42 - 46 *	9/10/2013	Fraser Ave Slip	NA	NA	Fluoranthene	FS-2	42	46	45.9999996			Yes	Include
HB13-49	0 - 6	9/11/2013	Fraser Ave Slip	2.3	2.3	Fluoranthene	FS-2	0	6	30			Yes	Include
HB13-49	6 - 24	9/11/2013	Fraser Ave Slip	3.2	3.2	Fluoranthene	FS-2	6	24	30			Yes	Include
HB13-49	24 - 30	9/11/2013	Fraser Ave Slip	3.7	3.7	Fluoranthene	FS-2	24	30	30			Yes	Include
HB13-50	0 - 12 *	9/13/2013	Area 1	NA	NA	Fluoranthene	OC-12	0	12	47.0000004			Yes	Include
HB13-50	12 - 24 *	9/13/2013	Area 1	NA	NA	Fluoranthene	OC-12	12	24	47.0000004			Yes	Include
HB13-50	24 - 36 *	9/13/2013	Area 1	NA	NA	Fluoranthene	OC-12	24	36	47.0000004			Yes	Include
HB13-50	36 - 47 *	9/13/2013	Area 1	NA	NA	Fluoranthene	OC-12	36	47	47.0000004			Yes	Include
HB13-51	0 - 6 *	9/11/2013	Area 2	NA	NA	Fluoranthene		0	6					Exclude
HB13-51	6 - 15 *	9/11/2013	Area 2	NA	NA	Fluoranthene		6	15					Exclude
HB13-52	0 - 6 *	9/11/2013	Area 2	NA	NA	Fluoranthene	OC-10	0	6	12			Yes	Include
HB13-52	6 - 12 *	9/11/2013	Area 2	NA	NA	Fluoranthene	OC-10	6	12	12			Yes	Include
HB13-52	12 - 17 *	9/11/2013	Area 2	NA	NA	Fluoranthene	OC-10	12	17	12			No	Exclude
HB14-01	0 - 6	8/18/2014	Area 1	NA	NA	Fluoranthene	SND-1	0	6					Exclude
HB14-01	6 - 18	8/18/2014	Area 1	NA	NA	Fluoranthene	SND-1	6	18					Exclude
HB14-02	0 - 6	8/18/2014	Area 1	NA	NA	Fluoranthene	FC-15	0	6	17.004	-12.996	include	Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB14-02	6 - 14	8/18/2014	Area 1	NA	NA	Fluoranthene	FC-15	6	14	17.004	-12.996	include	Yes	Include
HB14-03	0 - 6	8/18/2014	Area 1	NA	NA	Fluoranthene	FC-15	0	6	29.997288	-2.472	include	Yes	Include
HB14-03	6 - 18	8/18/2014	Area 1	NA	NA	Fluoranthene	FC-15	6	18	29.997288	-2.472	include	Yes	Include
HB14-03	18 - 30	8/18/2014	Area 1	NA	NA	Fluoranthene	FC-15	18	30	29.997288	-2.472	include	Yes	Include
HB14-03	30 - 42	8/18/2014	Area 1	NA	NA	Fluoranthene	FC-15	30	42	29.997288	-2.472	include	No	Exclude
HB14-03	42 - 54	8/18/2014	Area 1	NA	NA	Fluoranthene	FC-15	42	54	29.997288	-2.472	include	No	Exclude
HB14-04	0 - 6	8/18/2014	Area 1	NA	NA	Fluoranthene		0	6	29.904			Yes	Include
HB14-04	6 - 18	8/18/2014	Area 1	NA	NA	Fluoranthene		6	18	29.904			Yes	Include
HB14-04	18 - 30	8/18/2014	Area 1	NA	NA	Fluoranthene		18	30	29.904			Yes	Include
HB14-05 G		8/18/2014	Area 1	NA	NA	Fluoranthene			#VALUE!					Exclude
HB14-06	0 - 6	8/18/2014	Area 1	NA	NA	Fluoranthene		0	6	30.588			Yes	Include
HB14-06	6 - 24	8/18/2014	Area 1	NA	NA	Fluoranthene		6	24	30.588			Yes	Include
HB14-07	0 - 6	8/18/2014	Area 1	NA	NA	Fluoranthene		0	6	78.012			Yes	Include
HB14-07	6 - 24	8/18/2014	Area 1	NA	NA	Fluoranthene		6	24	78.012			Yes	Include
HB14-07	24 - 42	8/18/2014	Area 1	NA	NA	Fluoranthene		24	42	78.012			Yes	Include
HB14-08	0 - 6	8/19/2014	Area 1	NA	NA	Fluoranthene		0	6	34.416			Yes	Include
HB14-08	6 - 19	8/19/2014	Area 1	NA	NA	Fluoranthene		6	19	34.416			Yes	Include
HB14-09	0 - 12	8/19/2014	Area 1	NA	NA	Fluoranthene	OC-16	0	12	12.003804			Yes	Include
HB14-09	12 - 24	8/19/2014	Area 1	NA	NA	Fluoranthene	OC-16	12	24	12.003804			Yes	Include
HB14-09	24 - 36	8/19/2014	Area 1	NA	NA	Fluoranthene	OC-16	24	36	12.003804			No	Exclude
HB14-09	36 - 48	8/19/2014	Area 1	NA	NA	Fluoranthene	OC-16	36	48	12.003804			No	Exclude
HB14-09	48 - 60	8/19/2014	Area 1	NA	NA	Fluoranthene	OC-16	48	60	12.003804			No	Exclude
HB14-09	60 - 72	8/19/2014	Area 1	NA	NA	Fluoranthene	OC-16	60	72	12.003804			No	Exclude
HB14-10	0 - 6	8/20/2014	Area 1	0.39	0.39	Fluoranthene		0	6	54.005544			Yes	Include
HB14-10	6 - 18	8/20/2014	Area 1	0.39	0.39	Fluoranthene		6	18	54.005544			Yes	Include
HB14-10	18 - 30	8/20/2014	Area 1	0.81	0.81	Fluoranthene		18	30	54.005544			Yes	Include
HB14-10	30 - 42	8/20/2014	Area 1	1.2	1.2	Fluoranthene		30	42	54.005544			Yes	Include
HB14-10	42 - 54	8/20/2014	Area 1	0.99	0.99	Fluoranthene		42	54	54.005544			Yes	Include
HB14-10	54 - 66	8/20/2014	Area 1	NA	NA	Fluoranthene		54	66	54.005544			Yes	Include
HB14-11	0 - 6	8/19/2014	Area 1	NA	NA	Fluoranthene	SND-2	0	6					Exclude
HB14-11	6 - 18	8/19/2014	Area 1	NA	NA	Fluoranthene	SND-2	6	18					Exclude
HB14-11	18 - 20	8/19/2014	Area 1	NA	NA	Fluoranthene	SND-2	18	20					Exclude
HB14-12	0 - 6	8/19/2014	Area 1	NA	NA	Fluoranthene	SND-4	0	6	26.34			Yes	Include
HB14-12	6 - 18	8/19/2014	Area 1	NA	NA	Fluoranthene	SND-4	6	18	26.34			Yes	Include
HB14-12	18 - 32	8/19/2014	Area 1	NA	NA	Fluoranthene	SND-4	18	32	26.34			Yes	Include
HB14-13	0 - 6	8/19/2014	Area 2	NA	NA	Fluoranthene	SND-5	0	6	-0.648			No	Exclude
HB14-13	6 - 11	8/19/2014	Area 2	NA	NA	Fluoranthene	SND-5	6	11	-0.648			No	Exclude
HB14-14	0 - 6	8/20/2014	Area 2	0.46	0.46	Fluoranthene	OC-4	0	6	101.997672			Yes	Include
HB14-14	4 - 6	8/20/2014	Area 2	2.4	2.4	Fluoranthene	OC-4	4	6	101.997672			Yes	Include
HB14-14	6 - 18	8/20/2014	Area 2	NA	NA	Fluoranthene	OC-4	6	18	101.997672			Yes	Include
HB14-14	6 - 30	8/20/2014	Area 2	0.85	0.85	Fluoranthene	OC-4	6	30	101.997672			Yes	Include
HB14-14	18 - 30	8/20/2014	Area 2	NA	NA	Fluoranthene	OC-4	18	30	101.997672			Yes	Include
HB14-14	30 - 42	8/20/2014	Area 2	NA	NA	Fluoranthene	OC-4	30	42	101.997672			Yes	Include
HB14-14	30 - 54	8/20/2014	Area 2	1.1	1.1	Fluoranthene	OC-4	30	54	101.997672			Yes	Include
HB14-14	42 - 54	8/20/2014	Area 2	NA	NA	Fluoranthene	OC-4	42	54	101.997672			Yes	Include
HB14-14	54 - 66	8/20/2014	Area 2	NA	NA	Fluoranthene	OC-4	54	66	101.997672			Yes	Include
HB14-14	54 - 78	8/20/2014	Area 2	0.88	0.88	Fluoranthene	OC-4	54	78	101.997672			Yes	Include
HB14-14	66 - 78	8/20/2014	Area 2	NA	NA	Fluoranthene	OC-4	66	78	101.997672			Yes	Include
HB14-14	78 - 90	8/20/2014	Area 2	NA	NA	Fluoranthene	OC-4	78	90	101.997672			Yes	Include
HB14-14	78 - 102	8/20/2014	Area 2	1.6	1.6	Fluoranthene	OC-4	78	102	101.997672			Yes	Include
HB14-14	90 - 102	8/20/2014	Area 2	NA	NA	Fluoranthene	OC-4	90	102	101.997672			Yes	Include
HB14-14	102 - 111	8/20/2014	Area 2	NA	NA	Fluoranthene	OC-4	102	111	101.997672			No	Exclude
HB15-01	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	0	12	51.096			Yes	Include
HB15-01	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	12	24	51.096			Yes	Include
HB15-01	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	24	36	51.096			Yes	Include
HB15-01	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	36	48	51.096			Yes	Include
HB15-01	48 - 57	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	48	57	51.096			Yes	Include
HB15-02	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	0	12	48.000696			Yes	Include
HB15-02	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	12	24	48.000696			Yes	Include
HB15-02	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	24	36	48.000696			Yes	Include
HB15-02	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	36	48	48.000696			Yes	Include
HB15-03	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	0	12	67.9950564			Yes	Include
HB15-03	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	12	24	67.9950564			Yes	Include
HB15-03	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	24	36	67.9950564			Yes	Include
HB15-03	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	36	48	67.9950564			Yes	Include
HB15-03	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	48	60	67.9950564			Yes	Include
HB15-03	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	60	68	67.9950564			Yes	Include
HB15-03R	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	0	12	67.9950564			Yes	Include
HB15-03R	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	12	24	67.9950564			Yes	Include
HB15-03R	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	24	36	67.9950564			Yes	Include
HB15-03R	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	36	48	67.9950564			Yes	Include
HB15-03R	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	48	60	67.9950564			Yes	Include
HB15-03R	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	60	68	67.9950564			Yes	Include
HB15-04	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	0	12	63.84			Yes	Include
HB15-04	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	12	24	63.84			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB15-04	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	24	36	63.84			Yes	Include
HB15-04	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	36	48	63.84			Yes	Include
HB15-04	48 - 59	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	48	59	63.84			Yes	Include
HB15-05	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	0	12	71.994852			Yes	Include
HB15-05	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	12	24	71.994852			Yes	Include
HB15-05	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	24	36	71.994852			Yes	Include
HB15-05	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	36	48	71.994852			Yes	Include
HB15-05	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	48	60	71.994852			Yes	Include
HB15-05	60 - 72	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	60	72	71.994852			Yes	Include
HB15-05	72 - 80	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-1	72	80	71.994852			No	Exclude
HB15-06	0 - 9	6/23/2015	Hughitt Ave Slip	NA	NA	Fluoranthene	HS-2	0	9	9.000636			Yes	Include
HB15-07	0 - 12	6/23/2015	Cummings Ave Slip	NA	NA	Fluoranthene	CS-1	0	12	90.9955116			Yes	Include
HB15-07	12 - 24	6/23/2015	Cummings Ave Slip	NA	NA	Fluoranthene	CS-1	12	24	90.9955116			Yes	Include
HB15-07	24 - 36	6/23/2015	Cummings Ave Slip	NA	NA	Fluoranthene	CS-1	24	36	90.9955116			Yes	Include
HB15-07	36 - 48	6/23/2015	Cummings Ave Slip	9.1	9.1	Fluoranthene	CS-1	36	48	90.9955116			Yes	Include
HB15-07	48 - 60	6/23/2015	Cummings Ave Slip	17	17	Fluoranthene	CS-1	48	60	90.9955116			Yes	Include
HB15-07	60 - 72	6/23/2015	Cummings Ave Slip	10	10	Fluoranthene	CS-1	60	72	90.9955116			Yes	Include
HB15-07	72 - 84	6/23/2015	Cummings Ave Slip	11	11	Fluoranthene	CS-1	72	84	90.9955116			Yes	Include
HB15-07	84 - 91	6/23/2015	Cummings Ave Slip	14	14	Fluoranthene	CS-1	84	91	90.9955116			Yes	Include
HB15-08	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Fluoranthene	CS-2	0	12	65.997804			Yes	Include
HB15-08	12 - 24	6/24/2015	Cummings Ave Slip	8.8	8.8	Fluoranthene	CS-2	12	24	65.997804			Yes	Include
HB15-08	24 - 36	6/24/2015	Cummings Ave Slip	8	8	Fluoranthene	CS-2	24	36	65.997804			Yes	Include
HB15-08	36 - 48	6/24/2015	Cummings Ave Slip	NA	NA	Fluoranthene	CS-2	36	48	65.997804			Yes	Include
HB15-08	48 - 60	6/24/2015	Cummings Ave Slip	NA	NA	Fluoranthene	CS-2	48	60	65.997804			Yes	Include
HB15-08	60 - 66	6/24/2015	Cummings Ave Slip	NA	NA	Fluoranthene	CS-2	60	66	65.997804			Yes	Include
HB15-09	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Fluoranthene	CS-3	0	12	45.396			Yes	Include
HB15-09	12 - 17	6/24/2015	Cummings Ave Slip	NA	NA	Fluoranthene	CS-3	12	17	45.396			Yes	Include
HB15-10	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Fluoranthene		0	12	-0.936			No	Exclude
HB15-11	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Fluoranthene	CS-5	0	12	27.9944796			Yes	Include
HB15-11	12 - 24	6/24/2015	Cummings Ave Slip	NA	NA	Fluoranthene	CS-5	12	24	27.9944796			Yes	Include
HB15-11	24 - 28	6/24/2015	Cummings Ave Slip	NA	NA	Fluoranthene	CS-5	24	28	27.9944796			Yes	Include
HB15-12	0 - 12	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-1	0	12	29.994876			Yes	Include
HB15-12	12 - 24	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-1	12	24	29.994876			Yes	Include
HB15-12	24 - 30	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-1	24	30	29.994876			Yes	Include
HB15-13	0 - 12	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-1	0	12	64.0033716			Yes	Include
HB15-13	12 - 24	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-1	12	24	64.0033716			Yes	Include
HB15-13	24 - 36	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-1	24	36	64.0033716			Yes	Include
HB15-13	36 - 48	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-1	36	48	64.0033716			Yes	Include
HB15-13	48 - 60	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-1	48	60	64.0033716			Yes	Include
HB15-13	60 - 64	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-1	60	64	64.0033716			Yes	Include
HB15-14	0 - 12	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-1	0	12	23.996196			Yes	Include
HB15-14	12 - 24	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-1	12	24	23.996196			Yes	Include
HB15-14	24 - 28	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-1	24	28	23.996196			No	Exclude
HB15-14	28 - 35	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-1	28	35	23.996196			No	Exclude
HB15-15	0 - 12	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-2	0	12	19.0051356			Yes	Include
HB15-15	12 - 19	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-2	12	19	19.0051356			Yes	Include
HB15-15R	0 - 12	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-2	0	12	18.9999996			Yes	Include
HB15-15R	12 - 19	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-2	12	19	18.9999996			Yes	Include
HB15-16	0 - 12	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-1	0	12	8.304			Yes	Include
HB15-16	12 - 19	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-1	12	19	8.304			No	Exclude
HB15-17	0 - 12	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-2	0	12	36.004608			Yes	Include
HB15-17	12 - 24	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-2	12	24	36.004608			Yes	Include
HB15-17	24 - 36	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-2	24	36	36.004608			Yes	Include
HB15-17	36 - 48	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-2	36	48	36.004608			Yes	Include
HB15-17	48 - 54	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-2	48	54	36.004608			No	Exclude
HB15-18	0 - 12	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-2	0	12	23.999508			Yes	Include
HB15-18	12 - 24	6/24/2015	Area 2	NA	NA	Fluoranthene	FP-2	12	24	23.999508			Yes	Include
HB15-19	0 - 12	6/24/2015	Area 2	NA	NA	Fluoranthene		0	12					Exclude
HB15-19	12 - 24	6/24/2015	Area 2	NA	NA	Fluoranthene		12	24					Exclude
HB15-19	24 - 32	6/24/2015	Area 2	NA	NA	Fluoranthene		24	32					Exclude
HB15-20	0 - 12	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-3	0	12	33.864			Yes	Include
HB15-20	12 - 24	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-3	12	24	33.864			Yes	Include
HB15-20	24 - 28	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-3	24	28	33.864			Yes	Include
HB15-20B	0 - 6	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-13	0	6	11.996892			Yes	Include
HB15-20B	6 - 12	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-13	6	12	11.996892			Yes	Include
HB15-21G	15 - 21	6/29/2015	Fraser Ave Slip	NA	NA	Fluoranthene		15	21					Exclude
HB15-22G	0 - 6	6/29/2015	Fraser Ave Slip	0.46	0.46	Fluoranthene	OC-8	0	6	6			Yes	Include
HB15-23	0 - 12	6/25/2015	Fraser Ave Slip	NA	NA	Fluoranthene	FS-1	0	12	55.02			Yes	Include
HB15-23	12 - 24	6/25/2015	Fraser Ave Slip	NA	NA	Fluoranthene	FS-1	12	24	55.02			Yes	Include
HB15-23	24 - 36	6/25/2015	Fraser Ave Slip	NA	NA	Fluoranthene	FS-1	24	36	55.02			Yes	Include
HB15-23	36 - 48	6/25/2015	Fraser Ave Slip	NA	NA	Fluoranthene	FS-1	36	48	55.02			Yes	Include
HB15-23	48 - 56	6/25/2015	Fraser Ave Slip	NA	NA	Fluoranthene	FS-1	48	56	55.02			Yes	Include
HB15-25	0 - 12	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-1	0	12	77.4			Yes	Include
HB15-25	12 - 24	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-1	12	24	77.4			Yes	Include
HB15-25	24 - 36	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-1	24	36	77.4			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB15-25	36 - 48	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-1	36	48	77.4			Yes	Include
HB15-25	48 - 60	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-1	48	60	77.4			Yes	Include
HB15-25	60 - 72	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-1	60	72	77.4			Yes	Include
HB15-25	72 - 88	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-1	72	88	77.4			Yes	Include
HB15-26	0 - 12	6/25/2015	Area 2	NA	NA	Fluoranthene	FC-2	0	12	38.28	6.36	include	Yes	Include
HB15-26	12 - 24	6/25/2015	Area 2	NA	NA	Fluoranthene	FC-2	12	24	38.28	6.36	include	Yes	Include
HB15-26	24 - 36	6/25/2015	Area 2	NA	NA	Fluoranthene	FC-2	24	36	38.28	6.36	include	Yes	Include
HB15-26	36 - 46	6/25/2015	Area 2	NA	NA	Fluoranthene	FC-2	36	46	38.28	6.36	include	Yes	Include
HB15-27	0 - 12	6/25/2015	Area 2	NA	NA	Fluoranthene	FC-3	0	12	33.6	14.64	exclude	Yes	Exclude
HB15-27	12 - 24	6/25/2015	Area 2	NA	NA	Fluoranthene	FC-3	12	24	33.6	14.64	include	Yes	Include
HB15-27	24 - 36	6/25/2015	Area 2	NA	NA	Fluoranthene	FC-3	24	36	33.6	14.64	include	Yes	Include
HB15-27	36 - 48	6/25/2015	Area 2	NA	NA	Fluoranthene	FC-3	36	48	33.6	14.64	include	No	Exclude
HB15-27	48 - 60	6/25/2015	Area 2	NA	NA	Fluoranthene	FC-3	48	60	33.6	14.64	include	No	Exclude
HB15-27	60 - 71	6/25/2015	Area 2	NA	NA	Fluoranthene	FC-3	60	71	33.6	14.64	include	No	Exclude
HB15-28	0 - 12	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-7	0	12	11.994072			Yes	Include
HB15-28	12 - 24	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-7	12	24	11.994072			No	Exclude
HB15-28	24 - 30	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-7	24	30	11.994072			No	Exclude
HB15-30	0 - 12	6/25/2015	Area 2	NA	NA	Fluoranthene		0	12	43.776			Yes	Include
HB15-30	12 - 24	6/25/2015	Area 2	NA	NA	Fluoranthene		12	24	43.776			Yes	Include
HB15-30	24 - 36	6/25/2015	Area 2	NA	NA	Fluoranthene		24	36	43.776			Yes	Include
HB15-30	36 - 50	6/25/2015	Area 2	NA	NA	Fluoranthene		36	50	43.776			Yes	Include
HB15-31	0 - 12	6/25/2015	Area 2	NA	NA	Fluoranthene		0	12					Exclude
HB15-31	12 - 20	6/25/2015	Area 2	NA	NA	Fluoranthene		12	20					Exclude
HB15-32	0 - 12	6/25/2015	Area 1	NA	NA	Fluoranthene	SND-4	0	12	11.995236			Yes	Include
HB15-32	12 - 26	6/25/2015	Area 1	NA	NA	Fluoranthene	SND-4	12	26	11.995236			No	Exclude
HB15-33	0 - 12	6/25/2015	Area 1	NA	NA	Fluoranthene		0	12	26.292			Yes	Include
HB15-33	12 - 24	6/25/2015	Area 1	NA	NA	Fluoranthene		12	24	26.292			Yes	Include
HB15-33	24 - 39	6/25/2015	Area 1	NA	NA	Fluoranthene		24	39	26.292			Yes	Include
HB15-34	0 - 12	6/25/2015	Area 1	NA	NA	Fluoranthene	FC-11	0	12		35.52	exclude		Exclude
HB15-34	12 - 24	6/25/2015	Area 1	NA	NA	Fluoranthene	FC-11	12	24		35.52	exclude		Exclude
HB15-34	24 - 32	6/25/2015	Area 1	NA	NA	Fluoranthene	FC-11	24	32		35.52	exclude		Exclude
HB15-35	0 - 12	6/25/2015	Area 1	NA	NA	Fluoranthene	FC-16	0	12	74.28	-6.48	include	Yes	Include
HB15-35	12 - 24	6/25/2015	Area 1	NA	NA	Fluoranthene	FC-16	12	24	74.28	-6.48	include	Yes	Include
HB15-35	24 - 36	6/25/2015	Area 1	NA	NA	Fluoranthene	FC-16	24	36	74.28	-6.48	include	Yes	Include
HB15-35	36 - 48	6/25/2015	Area 1	NA	NA	Fluoranthene	FC-16	36	48	74.28	-6.48	include	Yes	Include
HB15-35	48 - 60	6/25/2015	Area 1	NA	NA	Fluoranthene	FC-16	48	60	74.28	-6.48	include	Yes	Include
HB15-35	60 - 72	6/25/2015	Area 1	NA	NA	Fluoranthene	FC-16	60	72	74.28	-6.48	include	Yes	Include
HB15-36G	15 - 36	6/29/2015	Area 2	NA	NA	Fluoranthene		15	36					Exclude
HB15-37	0 - 12	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-9	0	12	51.048			Yes	Include
HB15-37	12 - 24	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-9	12	24	51.048			Yes	Include
HB15-37	24 - 36	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-9	24	36	51.048			Yes	Include
HB15-37	36 - 48	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-9	36	48	51.048			Yes	Include
HB15-37	48 - 60	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-9	48	60	51.048			Yes	Include
HB15-37	60 - 74	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-9	60	74	51.048			No	Exclude
HB15-38	0 - 12	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-9	0	12	83.184			Yes	Include
HB15-38	12 - 24	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-9	12	24	83.184			Yes	Include
HB15-38	24 - 36	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-9	24	36	83.184			Yes	Include
HB15-38	36 - 48	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-9	36	48	83.184			Yes	Include
HB15-38	48 - 60	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-9	48	60	83.184			Yes	Include
HB15-38	60 - 72	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-9	60	72	83.184			Yes	Include
HB15-38	72 - 84	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-9	72	84	83.184			Yes	Include
HB15-38	84 - 96	6/25/2015	Area 2	NA	NA	Fluoranthene	OC-9	84	96	83.184			No	Exclude
HB15-G28	0 - 6	6/25/2015	Hughitt Ave Slip	NA	NA	Fluoranthene		0	6					Exclude
HB15-HC20A	0 - 6	6/25/2015	Area 1	NA	NA	Fluoranthene	OC-13	0	6	6.003036			Yes	Include
HB2A_4	0 - 6	5/12/2007	Hughitt Ave Slip	0.026	0.026	Fluorene	HS-1	0	6	48.00432			Yes	Include
HB2A_4	6 - 24	5/12/2007	Hughitt Ave Slip	0.13 J-	0.13	Fluorene	HS-1	6	24	48.00432			Yes	Include
HB2A_4	24 - 48	5/12/2007	Hughitt Ave Slip	0.024	0.024	Fluorene	HS-1	24	48	48.00432			Yes	Include
HB2A_6	0 - 5	5/2/2007	Area 1	0.055	0.055	Fluorene		0	5					Exclude
HB2A_7	0 - 5	5/10/2007	Area 1	0.056	0.056	Fluorene	SND-1	0	5					Exclude
HB2A_8	0 - 5	5/10/2007	Area 1	0.037	0.037	Fluorene	FC-12/FC-13	0	5	4.9944804	79.824	exclude	Yes	Exclude
HB2A_11	0 - 5	5/10/2007	Area 1	0.068 J-	0.068	Fluorene		0	5					Exclude
HB2A_13	0 - 5	5/2/2007	Area 1	0.050 BL	0.05	Fluorene		0	5					Exclude
HB2A_16	0 - 5	5/2/2007	Area 1	0.017 J-BL	0.017	Fluorene		0	5					Exclude
HB2A_210	0 - 6	5/16/2007	Area 1	0.0080 U	0.008	Fluorene		0	6					Exclude
HB2A_210	6 - 24	5/16/2007	Area 1	0.0083 U	0.0083	Fluorene		6	24					Exclude
HB2A_210	24 - 48	5/16/2007	Area 1	0.0061 UJS-	0.0061	Fluorene		24	48					Exclude
HB2A_GENES	0 - 5	5/22/2007	Cummings Ave Slip	0.11	0.11	Fluorene		0	5					Exclude
HB2B_17	0 - 6	5/12/2007	Fraser Ave Slip	0.052	0.052	Fluorene	FS-2	0	6	24.005676			Yes	Include
HB2B_17	6 - 24	5/12/2007	Fraser Ave Slip	0.018	0.018	Fluorene	FS-2	6	24	24.005676			Yes	Include
HB2B_18	0 - 6	5/7/2007	Area 2	0.051	0.051	Fluorene	FP-1	0	6	47.997552			Yes	Include
HB2B_18	6 - 24	5/7/2007	Area 2	0.042	0.042	Fluorene	FP-1	6	24	47.997552			Yes	Include
HB2B_18	24 - 48	5/7/2007	Area 2	0.067	0.067	Fluorene	FP-1	24	48	47.997552			Yes	Include
HB2B_19	0 - 6	5/2/2007	Area 2	0.024	0.024	Fluorene	OC-1	0	6	6.001728			Yes	Include
HB2B_19	6 - 24	5/2/2007	Area 2	0.0052 U	0.0052	Fluorene	OC-1	6	24	6.001728			Yes	Include
HB2B_20	0 - 6	5/2/2007	Area 2	0.032	0.032	Fluorene	OC-9	0	6	23.997336			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB2B_20	6 - 24	5/2/2007	Area 2	0.026	0.026	Fluorene	OC-9	6	24	23.997336			Yes	Include
HB2B_20	24 - 48	5/2/2007	Area 2	0.0088	0.0088	Fluorene	OC-9	24	48	23.997336			No	Exclude
HB2B_21	0 - 5	5/2/2007	Area 2	0.024 BL	0.024	Fluorene		0	5					Exclude
HB2B_22	0 - 5	5/2/2007	Area 2	0.039 BL	0.039	Fluorene	OC-5	0	5	5.0028204			Yes	Include
HB3A_GENES	0 - 5	9/6/2007	Cummings Ave Slip	0.0096 BL	0.0096	Fluorene		0	5					Exclude
HB10-1-01	0 - 6	10/16/2010	Area 1	0.022	0.022	Fluorene		0	6					Exclude
HB10-1-01	0 - 12	10/16/2010	Area 1	0.0071 U	0.0071	Fluorene		0	12					Exclude
HB10-1-01	36 - 40	10/16/2010	Area 1	0.0051 U	0.0051	Fluorene		36	40					Exclude
HB10-1-02	0 - 6	10/16/2010	Area 1	0.01	0.01	Fluorene		0	6	23.0027508			Yes	Include
HB10-1-02	12 - 23	10/16/2010	Area 1	0.01	0.01	Fluorene		12	23	23.0027508			Yes	Include
HB10-1-03	0 - 6	10/16/2010	Area 1	0.023	0.023	Fluorene	FC-17	0	6	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	0 - 12	10/16/2010	Area 1	0.013	0.013	Fluorene	FC-17	0	12	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	12 - 36	10/16/2010	Area 1	0.012	0.012	Fluorene	FC-17	12	36	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	36 - 60	10/16/2010	Area 1	0.032	0.032	Fluorene	FC-17	36	60	59.99475	49.872	include	Yes	Include
HB10-1-03	60 - 84	10/16/2010	Area 1	0.026	0.026	Fluorene	FC-17	60	84	59.99475	49.872	include	No	Exclude
HB10-1-04	0 - 6	10/17/2010	Area 1	0.015	0.015	Fluorene		0	6					Exclude
HB10-1-04	0 - 12	10/17/2010	Area 1	0.031	0.031	Fluorene		0	12					Exclude
HB10-1-04	12 - 36	10/17/2010	Area 1	0.023	0.023	Fluorene		12	36					Exclude
HB10-1-04	36 - 50	10/17/2010	Area 1	0.022	0.022	Fluorene		36	50					Exclude
HB10-1-05	0 - 6	10/16/2010	Area 1	0.031	0.031	Fluorene	OC-17	0	6	5.9987496			Yes	Include
HB10-1-07	0 - 6	10/17/2010	Area 1	1.4	1.4	Fluorene	OC-15	0	6	6.0057			Yes	Include
HB10-1-07	0 - 12	10/17/2010	Area 1	0.026	0.026	Fluorene	OC-15	0	12	6.0057			Yes	Include
HB10-1-07	12 - 36	10/17/2010	Area 1	0.022	0.022	Fluorene	OC-15	12	36	6.0057			No	Exclude
HB10-1-07	60 - 64	10/17/2010	Area 1	0.0040 U	0.004	Fluorene	OC-15	60	64	6.0057			No	Exclude
HB10-1-08	0 - 6	10/17/2010	Area 1	0.035 J	0.035	Fluorene		0	6	36.0057			Yes	Include
HB10-1-08	0 - 12	10/17/2010	Area 1	0.02	0.02	Fluorene		0	12	36.0057			Yes	Include
HB10-1-08	12 - 36	10/17/2010	Area 1	0.042	0.042	Fluorene		12	36	36.0057			Yes	Include
HB10-1-10	0 - 6	10/18/2010	Area 1	0.2	0.2	Fluorene	SND-1	0	6					Exclude
HB10-1-11	0 - 6	10/16/2010	Area 1	0.016	0.016	Fluorene		0	6	20.9987496			Yes	Include
HB10-1-11	12 - 21	10/16/2010	Area 1	0.018 J	0.018	Fluorene		12	21	20.9987496			Yes	Include
HB10-1-12	0 - 6	10/17/2010	Area 1	0.024	0.024	Fluorene		0	6					Exclude
HB10-1-12	0 - 12	10/17/2010	Area 1	0.032	0.032	Fluorene		0	12					Exclude
HB10-1-12	12 - 34	10/17/2010	Area 1	0.014	0.014	Fluorene		12	34					Exclude
HB10-1-13	0 - 6	10/18/2010	Area 1	0.057	0.057	Fluorene	FC-12/FC-13	0	6	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	0 - 12	10/18/2010	Area 1	0.045	0.045	Fluorene	FC-12/FC-13	0	12	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	12 - 36	10/18/2010	Area 1	0.048	0.048	Fluorene	FC-12/FC-13	12	36	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	60 - 67	10/18/2010	Area 1	0.099	0.099	Fluorene	FC-12/FC-13	60	67	36.0053004	42.816	include	No	Exclude
HB10-1-14	0 - 6	10/17/2010	Area 1	0.027	0.027	Fluorene		0	6	66.0057			Yes	Include
HB10-1-14	0 - 12	10/17/2010	Area 1	0.018	0.018	Fluorene		0	12	66.0057			Yes	Include
HB10-1-14	12 - 36	10/17/2010	Area 1	0.028	0.028	Fluorene		12	36	66.0057			Yes	Include
HB10-1-14	60 - 66	10/17/2010	Area 1	0.034	0.034	Fluorene		60	66	66.0057			Yes	Include
HB10-1-15	0 - 6	10/18/2010	Area 1	0.0043 U	0.0043	Fluorene	OC-13	0	6	16.0056996			Yes	Include
HB10-1-15	12 - 16	10/18/2010	Area 1	0.041	0.041	Fluorene	OC-13	12	16	16.0056996			Yes	Include
HB10-1-16	0 - 6	10/17/2010	Hughitt Ave Slip	0.047	0.047	Fluorene	HS-3	0	6	31.0056996			Yes	Include
HB10-1-16	0 - 12	10/17/2010	Hughitt Ave Slip	0.34 U	0.34	Fluorene	HS-3	0	12	31.0056996			Yes	Include
HB10-1-16	12 - 31	10/17/2010	Hughitt Ave Slip	0.16 U	0.16	Fluorene	HS-3	12	31	31.0056996			Yes	Include
HB10-1-17	0 - 6	10/17/2010	Area 1	0.028 J	0.028	Fluorene	OC-14	0	6	12			Yes	Include
HB10-1-20	0 - 6	10/17/2010	Hughitt Ave Slip	0.16	0.16	Fluorene		0	6	6.0057			Yes	Include
HB10-1-21	0 - 6	10/18/2010	Cummings Ave Slip	0.011 J	0.011	Fluorene		0	6	6.0012996			Yes	Include
HB10-1-21	12 - 23	10/18/2010	Cummings Ave Slip	0.032 J	0.032	Fluorene		12	23	6.0012996			No	Exclude
HB10-1-23	0 - 6	10/17/2010	Area 1	0.013	0.013	Fluorene		0	6	36.0057			Yes	Include
HB10-1-23	0 - 12	10/17/2010	Area 1	0.026	0.026	Fluorene		0	12	36.0057			Yes	Include
HB10-1-23	12 - 36	10/17/2010	Area 1	0.044	0.044	Fluorene		12	36	36.0057			Yes	Include
HB10-1-24	0 - 6	10/18/2010	Cummings Ave Slip	0.046 J	0.046	Fluorene	CS-4	0	6	36.0047496			Yes	Include
HB10-1-24	0 - 12	10/18/2010	Cummings Ave Slip	0.054	0.054	Fluorene	CS-4	0	12	36.0047496			Yes	Include
HB10-1-24	12 - 36	10/18/2010	Cummings Ave Slip	0.082	0.082	Fluorene	CS-4	12	36	36.0047496			Yes	Include
HB10-1-25	0 - 6	10/17/2010	Baxter Ave Embayment	0.016	0.016	Fluorene		0	6	6.0057			Yes	Include
HB10-1-27	0 - 6	10/18/2010	Area 1	0.0089 U	0.0089	Fluorene		0	6	-0.0027			No	Exclude
HB10-1-28	0 - 6	10/17/2010	Hughitt Ave Slip	0.055	0.055	Fluorene	HS-1	0	6	84.0057			Yes	Include
HB10-1-28	0 - 12	10/17/2010	Hughitt Ave Slip	0.059	0.059	Fluorene	HS-1	0	12	84.0057			Yes	Include
HB10-1-28	12 - 36	10/17/2010	Hughitt Ave Slip	0.089	0.089	Fluorene	HS-1	12	36	84.0057			Yes	Include
HB10-1-28	36 - 60	10/17/2010	Hughitt Ave Slip	0.047	0.047	Fluorene	HS-1	36	60	84.0057			Yes	Include
HB10-1-28	60 - 84	10/17/2010	Hughitt Ave Slip	0.12	0.12	Fluorene	HS-1	60	84	84.0057			Yes	Include
HB10-1-28	60 - 96	10/17/2010	Hughitt Ave Slip	0.016	0.016	Fluorene	HS-1	60	96	84.0057			Yes	Include
HB10-1-29	0 - 6	10/17/2010	Cummings Ave Slip	0.096	0.096	Fluorene	CS-1	0	6	83.9937			Yes	Include
HB10-1-29	0 - 12	10/17/2010	Cummings Ave Slip	0.24	0.24	Fluorene	CS-1	0	12	83.9937			Yes	Include
HB10-1-29	12 - 36	10/17/2010	Cummings Ave Slip	1.8 U	1.8	Fluorene	CS-1	12	36	83.9937			Yes	Include
HB10-1-29	36 - 60	10/17/2010	Cummings Ave Slip	0.5	0.5	Fluorene	CS-1	36	60	83.9937			Yes	Include
HB10-1-29	60 - 93	10/17/2010	Cummings Ave Slip	0.74	0.74	Fluorene	CS-1	60	93	83.9937			Yes	Include
HB10-1-30	0 - 6	10/18/2010	Baxter Ave Embayment	0.042	0.042	Fluorene		0	6	60.0053004			Yes	Include
HB10-1-30	0 - 12	10/18/2010	Baxter Ave Embayment	0.2	0.2	Fluorene		0	12	60.0053004			Yes	Include
HB10-1-30	12 - 36	10/18/2010	Baxter Ave Embayment	0.11	0.11	Fluorene		12	36	60.0053004			Yes	Include
HB10-1-30	36 - 60	10/18/2010	Baxter Ave Embayment	0.035	0.035	Fluorene		36	60	60.0053004			Yes	Include
HB10-1-30	60 - 77	10/18/2010	Baxter Ave Embayment	0.035	0.035	Fluorene		60	77	60.0053004			Yes	Include
HB10-1-31	0 - 6	10/18/2010	Baxter Ave Embayment	0.039	0.039	Fluorene	OC-11	0	6	35.9973			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB10-1-31	0 - 12	10/18/2010	Baxter Ave Embayment	0.06	0.06	Fluorene	OC-11	0	12	35.9973			Yes	Include
HB10-1-31	12 - 36	10/18/2010	Baxter Ave Embayment	0.033	0.033	Fluorene	OC-11	12	36	35.9973			Yes	Include
HB10-2-18	0 - 6	10/18/2010	Area 2	0.031	0.031	Fluorene	OC-2	0	6	6.0053004			Yes	Include
HB10-2-26	0 - 6	10/16/2010	Area 2	0.011	0.011	Fluorene		0	6					Exclude
HB10-2-26	12 - 17	10/16/2010	Area 2	0.024	0.024	Fluorene		12	17					Exclude
HB10-2-32	0 - 6	10/18/2010	Area 2	0.037 J	0.037	Fluorene		0	6					Exclude
HB10-2-33	0 - 6	10/18/2010	Area 2	0.0082	0.0082	Fluorene		0	6	6.0012996			Yes	Include
HB10-2-33	12 - 22	10/18/2010	Area 2	0.027	0.027	Fluorene		12	22	6.0012996			No	Exclude
HB10-2-34	0 - 6	10/18/2010	Area 2	0.035	0.035	Fluorene	FC-7	0	6	6.0053004	0.816	include	Yes	Include
HB10-2-35	0 - 6	10/18/2010	Area 2	0.0099	0.0099	Fluorene		0	6	30.0012996			Yes	Include
HB10-2-35	0 - 12	10/18/2010	Area 2	0.016	0.016	Fluorene		0	12	30.0012996			Yes	Include
HB10-2-35	12 - 30	10/18/2010	Area 2	0.099	0.099	Fluorene		12	30	30.0012996			Yes	Include
HB10-2-36	0 - 6	10/18/2010	Area 2	0.046	0.046	Fluorene	FC-5	0	6	6.0053004	-29.184	include	Yes	Include
HB10-2-37	0 - 6	10/18/2010	Area 2	0.21 U	0.21	Fluorene		0	6	23.0013			Yes	Include
HB10-2-37	12 - 23	10/18/2010	Area 2	0.01	0.01	Fluorene		12	23	23.0013			Yes	Include
HB10-2-38	0 - 6	10/18/2010	Area 2	0.0076 U	0.0076	Fluorene	OC-6	0	6	38.0013			Yes	Include
HB10-2-38	0 - 12	10/18/2010	Area 2	0.033 J	0.033	Fluorene	OC-6	0	12	38.0013			Yes	Include
HB10-2-38	36 - 38	10/18/2010	Area 2	0.19	0.19	Fluorene	OC-6	36	38	38.0013			Yes	Include
HB10-2-39	0 - 6	10/18/2010	Area 2	0.010 J	0.01	Fluorene		0	6	6.0012996			Yes	Include
HB10-2-39	0 - 12	10/18/2010	Area 2	0.015	0.015	Fluorene		0	12	6.0012996			Yes	Include
HB10-2-39	12 - 28	10/18/2010	Area 2	0.0088 U	0.0088	Fluorene		12	28	6.0012996			No	Exclude
HB10-2-40	0 - 6	10/18/2010	Area 2	0.033	0.033	Fluorene	OC-5	0	6	48.0053004			Yes	Include
HB10-2-40	0 - 12	10/18/2010	Area 2	0.0099	0.0099	Fluorene	OC-5	0	12	48.0053004			Yes	Include
HB10-2-40	12 - 36	10/18/2010	Area 2	0.0044 U	0.0044	Fluorene	OC-5	12	36	48.0053004			Yes	Include
HB10-2-40	36 - 48	10/18/2010	Area 2	0.0043 U	0.0043	Fluorene	OC-5	36	48	48.0053004			Yes	Include
HB10-2-41	0 - 6	10/18/2010	Area 2	0.55	0.55	Fluorene	FP-2	0	6	31.0012992			Yes	Include
HB10-2-41	0 - 12	10/18/2010	Area 2	0.007	0.007	Fluorene	FP-2	0	12	31.0012992			Yes	Include
HB10-2-41	12 - 31	10/18/2010	Area 2	0.012	0.012	Fluorene	FP-2	12	31	31.0012992			Yes	Include
HB10-2-42	0 - 6	10/18/2010	Area 2	0.042	0.042	Fluorene	FP-1	0	6	12.0012996			Yes	Include
HB10-2-42	0 - 12	10/18/2010	Area 2	NA	NA	Fluorene	FP-1	0	12	12.0012996			Yes	Include
HB10-2-42	12 - 30	10/18/2010	Area 2	0.06	0.06	Fluorene	FP-1	12	30	12.0012996			Yes	Include
HB10-2-43	0 - 6	10/17/2010	Area 2	0.0082	0.0082	Fluorene		0	6	22.0056996			Yes	Include
HB10-2-43	12 - 22	10/17/2010	Area 2	0.12	0.12	Fluorene		12	22	22.0056996			Yes	Include
HB10-2-44	0 - 6	10/18/2010	Area 2	0.046	0.046	Fluorene	FP-2	0	6	16.0012992			Yes	Include
HB10-2-44	12 - 16	10/18/2010	Area 2	0.11	0.11	Fluorene	FP-2	12	16	16.0012992			Yes	Include
HB10-2-45	0 - 6	10/18/2010	Area 2	0.024	0.024	Fluorene	FP-2	0	6	19.0012992			Yes	Include
HB10-2-45	12 - 19	10/18/2010	Area 2	0.094	0.094	Fluorene	FP-2	12	19	19.0012992			Yes	Include
HB13-01	0 - 6 *	9/11/2013	Area 2	NA	NA	Fluorene	FP-1	0	6	48			Yes	Include
HB13-01	6 - 12 *	9/11/2013	Area 2	NA	NA	Fluorene	FP-1	6	12	48			Yes	Include
HB13-01	12 - 18 *	9/11/2013	Area 2	NA	NA	Fluorene	FP-1	12	18	48			Yes	Include
HB13-01	18 - 24 *	9/11/2013	Area 2	NA	NA	Fluorene	FP-1	18	24	48			Yes	Include
HB13-01	24 - 30 *	9/11/2013	Area 2	NA	NA	Fluorene	FP-1	24	30	48			Yes	Include
HB13-01	30 - 36 *	9/11/2013	Area 2	NA	NA	Fluorene	FP-1	30	36	48			Yes	Include
HB13-01	36 - 42 *	9/11/2013	Area 2	NA	NA	Fluorene	FP-1	36	42	48			Yes	Include
HB13-01	42 - 48 *	9/11/2013	Area 2	NA	NA	Fluorene	FP-1	42	48	48			Yes	Include
HB13-01	48 - 54 *	9/11/2013	Area 2	NA	NA	Fluorene	FP-1	48	54	48			No	Exclude
HB13-01	54 - 60 *	9/11/2013	Area 2	NA	NA	Fluorene	FP-1	54	60	48			No	Exclude
HB13-01	60 - 66 *	9/11/2013	Area 2	NA	NA	Fluorene	FP-1	60	66	48			No	Exclude
HB13-01	66 - 72 *	9/11/2013	Area 2	NA	NA	Fluorene	FP-1	66	72	48			No	Exclude
HB13-01	72 - 74 *	9/11/2013	Area 2	NA	NA	Fluorene	FP-1	72	74	48			No	Exclude
HB13-02	0 - 6 *	9/9/2013	Area 2	0.016 U	0.016	Fluorene		0	6	29.9960004			Yes	Include
HB13-02	6 - 12 *	9/9/2013	Area 2	NA	NA	Fluorene		6	12	29.9960004			Yes	Include
HB13-02	12 - 18 *	9/9/2013	Area 2	NA	NA	Fluorene		12	18	29.9960004			Yes	Include
HB13-02	18 - 24 *	9/9/2013	Area 2	NA	NA	Fluorene		18	24	29.9960004			Yes	Include
HB13-02	24 - 30 *	9/9/2013	Area 2	NA	NA	Fluorene		24	30	29.9960004			Yes	Include
HB13-02	30 - 36 *	9/9/2013	Area 2	NA	NA	Fluorene		30	36	29.9960004			No	Exclude
HB13-02	36 - 42 *	9/9/2013	Area 2	NA	NA	Fluorene		36	42	29.9960004			No	Exclude
HB13-02	42 - 48 *	9/9/2013	Area 2	NA	NA	Fluorene		42	48	29.9960004			No	Exclude
HB13-03	0 - 6 *	9/9/2013	Area 2	NA	NA	Fluorene	FP-2	0	6	46.0040004			Yes	Include
HB13-03	0 - 24	9/9/2013	Area 2	0.23	0.23	Fluorene	FP-2	0	24	46.0040004			Yes	Include
HB13-03	6 - 12 *	9/9/2013	Area 2	NA	NA	Fluorene	FP-2	6	12	46.0040004			Yes	Include
HB13-03	12 - 18 *	9/9/2013	Area 2	NA	NA	Fluorene	FP-2	12	18	46.0040004			Yes	Include
HB13-03	18 - 24 *	9/9/2013	Area 2	NA	NA	Fluorene	FP-2	18	24	46.0040004			Yes	Include
HB13-03	24 - 30 *	9/9/2013	Area 2	NA	NA	Fluorene	FP-2	24	30	46.0040004			Yes	Include
HB13-03	24 - 46	9/9/2013	Area 2	0.089	0.089	Fluorene	FP-2	24	46	46.0040004			Yes	Include
HB13-03	30 - 36 *	9/9/2013	Area 2	NA	NA	Fluorene	FP-2	30	36	46.0040004			Yes	Include
HB13-03	36 - 42 *	9/9/2013	Area 2	NA	NA	Fluorene	FP-2	36	42	46.0040004			Yes	Include
HB13-03	42 - 46 *	9/9/2013	Area 2	NA	NA	Fluorene	FP-2	42	46	46.0040004			Yes	Include
HB13-03	46 - 51 *	9/9/2013	Area 2	NA	NA	Fluorene	FP-2	46	51	46.0040004			Yes	Include
HB13-04	0 - 6 *	9/9/2013	Area 2	NA	NA	Fluorene	OC-1	0	6	41.9960004			Yes	Include
HB13-04	6 - 12 *	9/9/2013	Area 2	NA	NA	Fluorene	OC-1	6	12	41.9960004			Yes	Include
HB13-04	12 - 18 *	9/9/2013	Area 2	NA	NA	Fluorene	OC-1	12	18	41.9960004			Yes	Include
HB13-04	18 - 24 *	9/9/2013	Area 2	NA	NA	Fluorene	OC-1	18	24	41.9960004			Yes	Include
HB13-04	24 - 30 *	9/9/2013	Area 2	NA	NA	Fluorene	OC-1	24	30	41.9960004			Yes	Include
HB13-04	30 - 36 *	9/9/2013	Area 2	NA	NA	Fluorene	OC-1	30	36	41.9960004			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-04	36 - 42 *	9/9/2013	Area 2	NA	NA	Fluorene	OC-1	36	42	41.9960004			Yes	Include
HB13-04	42 - 44 *	9/9/2013	Area 2	NA	NA	Fluorene	OC-1	42	44	41.9960004			No	Exclude
HB13-05	0 - 32 *	9/9/2013	Area 2	NA	NA	Fluorene	FC-1	0	32	43.8	33.156	exclude	Yes	Exclude
HB13-05	32 - 38 *	9/9/2013	Area 2	NA	NA	Fluorene	FC-1	32	38	43.8	33.156	include	Yes	Include
HB13-05	38 - 44 *	9/9/2013	Area 2	NA	NA	Fluorene	FC-1	38	44	43.8	33.156	include	Yes	Include
HB13-05	44 - 50 *	9/9/2013	Area 2	NA	NA	Fluorene	FC-1	44	50	43.8	33.156	include	No	Exclude
HB13-05	50 - 56 *	9/9/2013	Area 2	NA	NA	Fluorene	FC-1	50	56	43.8	33.156	include	No	Exclude
HB13-05	56 - 62	9/9/2013	Area 2	0.62	0.62	Fluorene	FC-1	56	62	43.8	33.156	include	No	Exclude
HB13-05	62 - 66	9/9/2013	Area 2	0.032	0.032	Fluorene	FC-1	62	66	43.8	33.156	include	No	Exclude
HB13-05	68 - 74 *	9/9/2013	Area 2	NA	NA	Fluorene	FC-1	68	74	43.8	33.156	include	No	Exclude
HB13-05	74 - 77 *	9/9/2013	Area 2	NA	NA	Fluorene	FC-1	74	77	43.8	33.156	include	No	Exclude
HB13-06	0 - 6 *	9/9/2013	Area 2	NA	NA	Fluorene	OC-2	0	6	48			Yes	Include
HB13-06	6 - 12 *	9/9/2013	Area 2	NA	NA	Fluorene	OC-2	6	12	48			Yes	Include
HB13-06	12 - 18 *	9/9/2013	Area 2	NA	NA	Fluorene	OC-2	12	18	48			Yes	Include
HB13-06	18 - 24 *	9/9/2013	Area 2	NA	NA	Fluorene	OC-2	18	24	48			Yes	Include
HB13-06	24 - 30 *	9/9/2013	Area 2	NA	NA	Fluorene	OC-2	24	30	48			Yes	Include
HB13-06	30 - 36 *	9/9/2013	Area 2	NA	NA	Fluorene	OC-2	30	36	48			Yes	Include
HB13-06	36 - 42 *	9/9/2013	Area 2	NA	NA	Fluorene	OC-2	36	42	48			Yes	Include
HB13-06	42 - 48 *	9/9/2013	Area 2	NA	NA	Fluorene	OC-2	42	48	48			Yes	Include
HB13-07	0 - 6 *	9/10/2013	Area 2	NA	NA	Fluorene		0	6					Exclude
HB13-07	6 - 12 *	9/10/2013	Area 2	NA	NA	Fluorene		6	12					Exclude
HB13-07	12 - 18 *	9/10/2013	Area 2	NA	NA	Fluorene		12	18					Exclude
HB13-07	18 - 24 *	9/10/2013	Area 2	NA	NA	Fluorene		18	24					Exclude
HB13-07	24 - 30 *	9/10/2013	Area 2	NA	NA	Fluorene		24	30					Exclude
HB13-07	30 - 36 *	9/10/2013	Area 2	NA	NA	Fluorene		30	36					Exclude
HB13-07	36 - 42 *	9/10/2013	Area 2	NA	NA	Fluorene		36	42					Exclude
HB13-07	42 - 48 *	9/10/2013	Area 2	NA	NA	Fluorene		42	48					Exclude
HB13-08	0 - 18	9/11/2013	Area 2	0.12	0.12	Fluorene	FC-2	0	18	38.28	21.756	exclude	Yes	Exclude
HB13-08	18 - 36	9/11/2013	Area 2	0.14	0.14	Fluorene	FC-2	18	36	38.28	21.756	include	Yes	Include
HB13-08	36 - 60	9/11/2013	Area 2	0.19	0.19	Fluorene	FC-2	36	60	38.28	21.756	include	Yes	Include
HB13-08	60 - 92	9/11/2013	Area 2	0.07	0.07	Fluorene	FC-2	60	92	38.28	21.756	include	No	Exclude
HB13-10	0 - 6 *	9/10/2013	Area 2	NA	NA	Fluorene		0	6	0.0039996			Yes	Include
HB13-11	0 - 18	9/11/2013	Area 2	0.094	0.094	Fluorene	FC-4	0	18	25.2	23.964	exclude	Yes	Exclude
HB13-11	18 - 24 *	9/11/2013	Area 2	NA	NA	Fluorene	FC-4	18	24	25.2	23.964	include	Yes	Include
HB13-11	18 - 42	9/11/2013	Area 2	0.093	0.093	Fluorene	FC-4	18	42	25.2	23.964	include	Yes	Include
HB13-11	24 - 30 *	9/11/2013	Area 2	NA	NA	Fluorene	FC-4	24	30	25.2	23.964	include	Yes	Include
HB13-11	30 - 36 *	9/11/2013	Area 2	NA	NA	Fluorene	FC-4	30	36	25.2	23.964	include	No	Exclude
HB13-11	36 - 42 *	9/11/2013	Area 2	NA	NA	Fluorene	FC-4	36	42	25.2	23.964	include	No	Exclude
HB13-11	42 - 48 *	9/11/2013	Area 2	NA	NA	Fluorene	FC-4	42	48	25.2	23.964	include	No	Exclude
HB13-11	42 - 60	9/11/2013	Area 2	0.037	0.037	Fluorene	FC-4	42	60	25.2	23.964	include	No	Exclude
HB13-11	48 - 54 *	9/11/2013	Area 2	NA	NA	Fluorene	FC-4	48	54	25.2	23.964	include	No	Exclude
HB13-11	54 - 60 *	9/11/2013	Area 2	NA	NA	Fluorene	FC-4	54	60	25.2	23.964	include	No	Exclude
HB13-12	0 - 6 *	9/10/2013	Area 2	NA	NA	Fluorene		0	6	5.9960004			Yes	Include
HB13-13	0 - 1 *	9/11/2013	Area 2	NA	NA	Fluorene	SND-5	0	1	0.9999996			Yes	Include
HB13-14	0 - 6 *	9/12/2013	Area 2	NA	NA	Fluorene	FC-6	0	6	45.9999996	-5.316	include	Yes	Include
HB13-14	0 - 24	9/12/2013	Area 2	0.0095	0.0095	Fluorene	FC-6	0	24	45.9999996	-5.316	include	Yes	Include
HB13-14	6 - 24 *	9/12/2013	Area 2	NA	NA	Fluorene	FC-6	6	24	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 42 *	9/12/2013	Area 2	NA	NA	Fluorene	FC-6	24	42	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 46	9/12/2013	Area 2	0.013	0.013	Fluorene	FC-6	24	46	45.9999996	-5.316	include	Yes	Include
HB13-14	42 - 46 *	9/12/2013	Area 2	NA	NA	Fluorene	FC-6	42	46	45.9999996	-5.316	include	Yes	Include
HB13-15	0 - 6 *	9/12/2013	Area 2	NA	NA	Fluorene	FC-7	0	6	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	6 - 12 *	9/12/2013	Area 2	NA	NA	Fluorene	FC-7	6	12	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	12 - 19 *	9/12/2013	Area 2	NA	NA	Fluorene	FC-7	12	19	18.9999996	18.516	include	Yes	Include
HB13-16	0 - 6 *	9/12/2013	Area 2	NA	NA	Fluorene		0	6	26.0000004			Yes	Include
HB13-16	6 - 12 *	9/12/2013	Area 2	NA	NA	Fluorene		6	12	26.0000004			Yes	Include
HB13-16	12 - 18 *	9/12/2013	Area 2	NA	NA	Fluorene		12	18	26.0000004			Yes	Include
HB13-16	18 - 24 *	9/12/2013	Area 2	NA	NA	Fluorene		18	24	26.0000004			Yes	Include
HB13-16	24 - 27 *	9/12/2013	Area 2	NA	NA	Fluorene		24	27	26.0000004			Yes	Include
HB13-17	0 - 12 *	9/12/2013	Area 2	NA	NA	Fluorene	FC-7	0	12	24	16.2	exclude	Yes	Exclude
HB13-17	12 - 18 *	9/12/2013	Area 2	NA	NA	Fluorene	FC-7	12	18	24	16.2	include	Yes	Include
HB13-17	18 - 24 *	9/12/2013	Area 2	NA	NA	Fluorene	FC-7	18	24	24	16.2	include	Yes	Include
HB13-17	24 - 47 *	9/12/2013	Area 2	NA	NA	Fluorene	FC-7	24	47	24	16.2	include	No	Exclude
HB13-18	0 - 6	9/12/2013	Area 2	0.082	0.082	Fluorene		0	6	9.9999996			Yes	Include
HB13-18	6 - 10	9/12/2013	Area 2	0.02	0.02	Fluorene		6	10	9.9999996			Yes	Include
HB13-18	10 - 16	9/12/2013	Area 2	0.0097 U	0.0097	Fluorene		10	16	9.9999996			No	Exclude
HB13-19	0 - 6 *	9/13/2013	Area 2	NA	NA	Fluorene		0	6					Exclude
HB13-19	6 - 24 *	9/13/2013	Area 2	NA	NA	Fluorene		6	24					Exclude
HB13-19	18 - 20 *	9/13/2013	Area 2	NA	NA	Fluorene		18	20					Exclude
HB13-19	24 - 42 *	9/13/2013	Area 2	NA	NA	Fluorene		24	42					Exclude
HB13-19	42 - 61 *	9/13/2013	Area 2	NA	NA	Fluorene		42	61					Exclude
HB13-19	61 - 67 *	9/13/2013	Area 2	NA	NA	Fluorene		61	67					Exclude
HB13-20	0 - 6 *	9/12/2013	Area 2	NA	NA	Fluorene		0	6	24			Yes	Include
HB13-20	0 - 12	9/12/2013	Area 2	0.016 U	0.016	Fluorene		0	12	24			Yes	Include
HB13-20	6 - 12 *	9/12/2013	Area 2	NA	NA	Fluorene		6	12	24			Yes	Include
HB13-20	12 - 18 *	9/12/2013	Area 2	NA	NA	Fluorene		12	18	24			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB13-20	12 - 24	9/12/2013	Area 2	0.013 U	0.013	Fluorene		12	24	24			Yes	Include
HB13-20	18 - 24 *	9/12/2013	Area 2	NA	NA	Fluorene		18	24	24			Yes	Include
HB13-20	24 - 30 *	9/12/2013	Area 2	NA	NA	Fluorene		24	30	24			No	Exclude
HB13-20	24 - 36	9/12/2013	Area 2	0.013	0.013	Fluorene		24	36	24			No	Exclude
HB13-20	30 - 36 *	9/12/2013	Area 2	NA	NA	Fluorene		30	36	24			No	Exclude
HB13-20	36 - 42 *	9/12/2013	Area 2	NA	NA	Fluorene		36	42	24			No	Exclude
HB13-20	36 - 48	9/12/2013	Area 2	0.012	0.012	Fluorene		36	48	24			No	Exclude
HB13-20	42 - 48 *	9/12/2013	Area 2	NA	NA	Fluorene		42	48	24			No	Exclude
HB13-21	0 - 6 *	9/13/2013	Area 2	NA	NA	Fluorene	OC-10	0	6	24			Yes	Include
HB13-21	6 - 24 *	9/13/2013	Area 2	NA	NA	Fluorene	OC-10	6	24	24			Yes	Include
HB13-21	24 - 48 *	9/13/2013	Area 2	NA	NA	Fluorene	OC-10	24	48	24			No	Exclude
HB13-21	48 - 72 *	9/13/2013	Area 2	NA	NA	Fluorene	OC-10	48	72	24			No	Exclude
HB13-21	72 - 88 *	9/13/2013	Area 2	NA	NA	Fluorene	OC-10	72	88	24			No	Exclude
HB13-22	0 - 28 *	9/12/2013	Area 2	NA	NA	Fluorene	FC-7	0	28	24	36.72	exclude	Yes	Exclude
HB13-22	28 - 31 *	9/12/2013	Area 2	NA	NA	Fluorene	FC-7	28	31	24	36.72	exclude	No	Exclude
HB13-23	0 - 12 *	9/12/2013	Area 2	NA	NA	Fluorene	SND-5	0	12	27			Yes	Include
HB13-23	12 - 18 *	9/12/2013	Area 2	NA	NA	Fluorene	SND-5	12	18	27			Yes	Include
HB13-23	18 - 24 *	9/12/2013	Area 2	NA	NA	Fluorene	SND-5	18	24	27			Yes	Include
HB13-23	24 - 32 *	9/12/2013	Area 2	NA	NA	Fluorene	SND-5	24	32	27			Yes	Include
HB13-24	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Fluorene	HS-3	0	6	6			Yes	Include
HB13-24	0 - 24 *	9/12/2013	HUGHITT AVE SLIP	0.39	0.39	Fluorene	HS-3	0	24	6			Yes	Include
HB13-24	6 - 24	9/12/2013	Hughitt Ave Slip	NA	NA	Fluorene	HS-3	6	24	6			No	Exclude
HB13-25	0 - 6 *	9/12/2013	Area 1	NA	NA	Fluorene	OC-11	0	6	57			Yes	Include
HB13-25	0 - 18	9/12/2013	Area 1	0.02	0.02	Fluorene	OC-11	0	18	57			Yes	Include
HB13-25	6 - 18 *	9/12/2013	Area 1	NA	NA	Fluorene	OC-11	6	18	57			Yes	Include
HB13-25	18 - 36 *	9/12/2013	Area 1	NA	NA	Fluorene	OC-11	18	36	57			Yes	Include
HB13-25	18 - 57	9/12/2013	Area 1	0.014 U	0.014	Fluorene	OC-11	18	57	57			Yes	Include
HB13-25	36 - 57 *	9/12/2013	Area 1	NA	NA	Fluorene	OC-11	36	57	57			Yes	Include
HB13-26	0 - 12	9/13/2013	Area 1	0.013 U	0.013	Fluorene	FC-10	0	12	33	17.04	exclude	Yes	Exclude
HB13-26	12 - 18	9/13/2013	Area 1	0.014	0.014	Fluorene	FC-10	12	18	33	17.04	include	Yes	Include
HB13-26	18 - 33	9/13/2013	Area 1	0.015	0.015	Fluorene	FC-10	18	33	33	17.04	include	Yes	Include
HB13-27	0 - 6 *	9/13/2013	Area 1	NA	NA	Fluorene		0	6					Exclude
HB13-27	0 - 32	9/13/2013	Area 1	0.0097 U	0.0097	Fluorene		0	32					Exclude
HB13-28	0 - 8 *	9/13/2013	Area 1	NA	NA	Fluorene	FC-11	0	8	14.0000004	13.68	exclude	Yes	Exclude
HB13-28	8 - 14 *	9/13/2013	Area 1	NA	NA	Fluorene	FC-11	8	14	14.0000004	13.68	include	Yes	Include
HB13-28	14 - 26 *	9/13/2013	Area 1	NA	NA	Fluorene	FC-11	14	26	14.0000004	13.68	include	Yes	Include
HB13-28	26 - 40 *	9/13/2013	Area 1	NA	NA	Fluorene	FC-11	26	40	14.0000004	13.68	include	No	Exclude
HB13-29	0 - 6	9/13/2013	Area 1	NA	NA	Fluorene	FC-12/FC-13	0	6	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 12 *	9/13/2013	Area 1	0.023	0.023	Fluorene	FC-12/FC-13	0	12	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 18 *	9/13/2013	Area 1	NA	NA	Fluorene	FC-12/FC-13	0	18	44.0000004	1.044	include	Yes	Include
HB13-29	6 - 12	9/13/2013	Area 1	NA	NA	Fluorene	FC-12/FC-13	6	12	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 24	9/13/2013	Area 1	NA	NA	Fluorene	FC-12/FC-13	12	24	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 44 *	9/13/2013	Area 1	0.018	0.018	Fluorene	FC-12/FC-13	12	44	44.0000004	1.044	include	Yes	Include
HB13-29	24 - 44	9/13/2013	Area 1	NA	NA	Fluorene	FC-12/FC-13	24	44	44.0000004	1.044	include	Yes	Include
HB13-30	0 - 6	9/10/2013	Area 1	NA	NA	Fluorene	SND-1	0	6	60			Yes	Include
HB13-30	6 - 24	9/10/2013	Area 1	NA	NA	Fluorene	SND-1	6	24	60			Yes	Include
HB13-30	24 - 42	9/10/2013	Area 1	NA	NA	Fluorene	SND-1	24	42	60			Yes	Include
HB13-30	42 - 60	9/10/2013	Area 1	NA	NA	Fluorene	SND-1	42	60	60			Yes	Include
HB13-30	60 - 78	9/10/2013	Area 1	NA	NA	Fluorene	SND-1	60	78	60			No	Exclude
HB13-31	0 - 6	9/13/2013	Area 1	NA	NA	Fluorene	FC-16	0	6	27	2.76	include	Yes	Include
HB13-31	6 - 18	9/13/2013	Area 1	NA	NA	Fluorene	FC-16	6	18	27	2.76	include	Yes	Include
HB13-31	18 - 27	9/13/2013	Area 1	NA	NA	Fluorene	FC-16	18	27	27	2.76	include	Yes	Include
HB13-31	27 - 33	9/13/2013	Area 1	NA	NA	Fluorene	FC-16	27	33	27	2.76	include	No	Exclude
HB13-32	0 - 6	9/13/2013	Area 1	NA	NA	Fluorene	FC-14	0	6	26.0000004	-2.52	include	Yes	Include
HB13-32	6 - 18	9/13/2013	Area 1	NA	NA	Fluorene	FC-14	6	18	26.0000004	-2.52	include	Yes	Include
HB13-32	18 - 26	9/13/2013	Area 1	NA	NA	Fluorene	FC-14	18	26	26.0000004	-2.52	include	Yes	Include
HB13-32	26 - 32	9/13/2013	Area 1	NA	NA	Fluorene	FC-14	26	32	26.0000004	-2.52	include	Yes	Include
HB13-33	0 - 6	9/13/2013	Area 1	NA	NA	Fluorene		0	6	12			Yes	Include
HB13-33	6 - 12	9/13/2013	Area 1	NA	NA	Fluorene		6	12	12			Yes	Include
HB13-34	0 - 6	9/13/2013	Area 1	NA	NA	Fluorene		0	6	0.5000004			Yes	Include
HB13-35	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Fluorene		0	6	3.9999996			Yes	Include
HB13-35	6 - 12	9/13/2013	Hughitt Ave Slip	NA	NA	Fluorene		6	12	3.9999996			No	Exclude
HB13-37	2 - 6	9/10/2013	Hughitt Ave Slip	0.52	0.52	Fluorene	HS-3	2	6	6			Yes	Include
HB13-38	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Fluorene	HS-3	0	6	6			Yes	Include
HB13-39	4 - 10	9/13/2013	Hughitt Ave Slip	NA	NA	Fluorene	HS-2	4	10	27.9999996			Yes	Include
HB13-39	10 - 28	9/13/2013	Hughitt Ave Slip	NA	NA	Fluorene	HS-2	10	28	27.9999996			Yes	Include
HB13-39	28 - 34	9/13/2013	Hughitt Ave Slip	NA	NA	Fluorene	HS-2	28	34	27.9999996			No	Exclude
HB13-40	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Fluorene	HS-2	0	6	86.0000004			Yes	Include
HB13-40	0 - 24 *	9/13/2013	Hughitt Ave Slip	0.033	0.033	Fluorene	HS-2	0	24	86.0000004			Yes	Include
HB13-40	6 - 24	9/13/2013	Hughitt Ave Slip	NA	NA	Fluorene	HS-2	6	24	86.0000004			Yes	Include
HB13-40	24 - 48	9/13/2013	Hughitt Ave Slip	0.25	0.25	Fluorene	HS-2	24	48	86.0000004			Yes	Include
HB13-40	48 - 72	9/13/2013	Hughitt Ave Slip	0.054	0.054	Fluorene	HS-2	48	72	86.0000004			Yes	Include
HB13-40	72 - 86	9/13/2013	Hughitt Ave Slip	0.013 U	0.013	Fluorene	HS-2	72	86	86.0000004			Yes	Include
HB13-41	0 - 6	9/10/2013	Hughitt Ave Slip	NA	NA	Fluorene	HS-2	0	6	29.0000004			Yes	Include
HB13-41	0 - 24 *	9/10/2013	Hughitt Ave Slip	0.26	0.26	Fluorene	HS-2	0	24	29.0000004			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB13-41	6 - 24	9/10/2013	Hughitt Ave Slip	NA	NA	Fluorene	HS-2	6	24	29.0000004			Yes	Include
HB13-41	24 - 29	9/10/2013	Hughitt Ave Slip	0.11	0.11	Fluorene	HS-2	24	29	29.0000004			Yes	Include
HB13-42	0 - 6	9/11/2013	Cummings Ave Slip	0.32	0.32	Fluorene	CS-3	0	6	33			Yes	Include
HB13-42	6 - 24	9/11/2013	Cummings Ave Slip	0.076	0.076	Fluorene	CS-3	6	24	33			Yes	Include
HB13-42	24 - 33	9/11/2013	Cummings Ave Slip	0.075	0.075	Fluorene	CS-3	24	33	33			Yes	Include
HB13-42	33 - 36	9/11/2013	Cummings Ave Slip	0.010 U	0.01	Fluorene	CS-3	33	36	33			No	Exclude
HB13-43	0 - 6	9/11/2013	Cummings Ave Slip	1.9	1.9	Fluorene	CS-2	0	6	24			Yes	Include
HB13-43	0 - 24 *	9/11/2013	Cummings Ave Slip	NA	NA	Fluorene	CS-2	0	24	24			Yes	Include
HB13-43	6 - 24	9/11/2013	Cummings Ave Slip	0.079	0.079	Fluorene	CS-2	6	24	24			Yes	Include
HB13-45	0 - 6	9/11/2013	Cummings Ave Slip	0.33	0.33	Fluorene	CS-2	0	6	21			Yes	Include
HB13-45	6 - 21	9/11/2013	Cummings Ave Slip	0.56	0.56	Fluorene	CS-2	6	21	21			Yes	Include
HB13-47	0 - 6	9/10/2013	Fraser Ave Slip	0.57	0.57	Fluorene	FS-1	0	6	30.996			Yes	Include
HB13-47	6 - 24	9/10/2013	Fraser Ave Slip	0.61	0.61	Fluorene	FS-1	6	24	30.996			Yes	Include
HB13-47	24 - 31	9/10/2013	Fraser Ave Slip	0.98	0.98	Fluorene	FS-1	24	31	30.996			Yes	Include
HB13-47	31 - 37 *	9/10/2013	Fraser Ave Slip	NA	NA	Fluorene	FS-1	31	37	30.996			No	Exclude
HB13-48	0 - 6 *	9/10/2013	FRASER AVE SLIP	NA	NA	Fluorene	FS-2	0	6	45.9999996			Yes	Include
HB13-48	0 - 24	9/10/2013	FRASER AVE SLIP	0.6	0.6	Fluorene	FS-2	0	24	45.9999996			Yes	Include
HB13-48	6 - 24 *	9/10/2013	Fraser Ave Slip	NA	NA	Fluorene	FS-2	6	24	45.9999996			Yes	Include
HB13-48	24 - 42 *	9/10/2013	Fraser Ave Slip	NA	NA	Fluorene	FS-2	24	42	45.9999996			Yes	Include
HB13-48	24 - 46 *	9/10/2013	FRASER AVE SLIP	0.52	0.52	Fluorene	FS-2	24	46	45.9999996			Yes	Include
HB13-48	42 - 46 *	9/10/2013	Fraser Ave Slip	NA	NA	Fluorene	FS-2	42	46	45.9999996			Yes	Include
HB13-49	0 - 6	9/11/2013	Fraser Ave Slip	0.19	0.19	Fluorene	FS-2	0	6	30			Yes	Include
HB13-49	6 - 24	9/11/2013	Fraser Ave Slip	0.34	0.34	Fluorene	FS-2	6	24	30			Yes	Include
HB13-49	24 - 30	9/11/2013	Fraser Ave Slip	0.41	0.41	Fluorene	FS-2	24	30	30			Yes	Include
HB13-50	0 - 12 *	9/13/2013	Area 1	NA	NA	Fluorene	OC-12	0	12	47.0000004			Yes	Include
HB13-50	12 - 24 *	9/13/2013	Area 1	NA	NA	Fluorene	OC-12	12	24	47.0000004			Yes	Include
HB13-50	24 - 36 *	9/13/2013	Area 1	NA	NA	Fluorene	OC-12	24	36	47.0000004			Yes	Include
HB13-50	36 - 47 *	9/13/2013	Area 1	NA	NA	Fluorene	OC-12	36	47	47.0000004			Yes	Include
HB13-51	0 - 6 *	9/11/2013	Area 2	NA	NA	Fluorene		0	6					Exclude
HB13-51	6 - 15 *	9/11/2013	Area 2	NA	NA	Fluorene		6	15					Exclude
HB13-52	0 - 6 *	9/11/2013	Area 2	NA	NA	Fluorene	OC-10	0	6	12			Yes	Include
HB13-52	6 - 12 *	9/11/2013	Area 2	NA	NA	Fluorene	OC-10	6	12	12			Yes	Include
HB13-52	12 - 17 *	9/11/2013	Area 2	NA	NA	Fluorene	OC-10	12	17	12			No	Exclude
HB14-01	0 - 6	8/18/2014	Area 1	NA	NA	Fluorene	SND-1	0	6					Exclude
HB14-01	6 - 18	8/18/2014	Area 1	NA	NA	Fluorene	SND-1	6	18					Exclude
HB14-02	0 - 6	8/18/2014	Area 1	NA	NA	Fluorene	FC-15	0	6	17.004	-12.996	include	Yes	Include
HB14-02	6 - 14	8/18/2014	Area 1	NA	NA	Fluorene	FC-15	6	14	17.004	-12.996	include	Yes	Include
HB14-03	0 - 6	8/18/2014	Area 1	NA	NA	Fluorene	FC-15	0	6	29.997288	-2.472	include	Yes	Include
HB14-03	6 - 18	8/18/2014	Area 1	NA	NA	Fluorene	FC-15	6	18	29.997288	-2.472	include	Yes	Include
HB14-03	18 - 30	8/18/2014	Area 1	NA	NA	Fluorene	FC-15	18	30	29.997288	-2.472	include	Yes	Include
HB14-03	30 - 42	8/18/2014	Area 1	NA	NA	Fluorene	FC-15	30	42	29.997288	-2.472	include	No	Exclude
HB14-03	42 - 54	8/18/2014	Area 1	NA	NA	Fluorene	FC-15	42	54	29.997288	-2.472	include	No	Exclude
HB14-04	0 - 6	8/18/2014	Area 1	NA	NA	Fluorene		0	6	29.904			Yes	Include
HB14-04	6 - 18	8/18/2014	Area 1	NA	NA	Fluorene		6	18	29.904			Yes	Include
HB14-04	18 - 30	8/18/2014	Area 1	NA	NA	Fluorene		18	30	29.904			Yes	Include
HB14-05 G		8/18/2014	Area 1	NA	NA	Fluorene			#VALUE!					Exclude
HB14-06	0 - 6	8/18/2014	Area 1	NA	NA	Fluorene		0	6	30.588			Yes	Include
HB14-06	6 - 24	8/18/2014	Area 1	NA	NA	Fluorene		6	24	30.588			Yes	Include
HB14-07	0 - 6	8/18/2014	Area 1	NA	NA	Fluorene		0	6	78.012			Yes	Include
HB14-07	6 - 24	8/18/2014	Area 1	NA	NA	Fluorene		6	24	78.012			Yes	Include
HB14-07	24 - 42	8/18/2014	Area 1	NA	NA	Fluorene		24	42	78.012			Yes	Include
HB14-08	0 - 6	8/19/2014	Area 1	NA	NA	Fluorene		0	6	34.416			Yes	Include
HB14-08	6 - 19	8/19/2014	Area 1	NA	NA	Fluorene		6	19	34.416			Yes	Include
HB14-09	0 - 12	8/19/2014	Area 1	NA	NA	Fluorene	OC-16	0	12	12.003804			Yes	Include
HB14-09	12 - 24	8/19/2014	Area 1	NA	NA	Fluorene	OC-16	12	24	12.003804			Yes	Include
HB14-09	24 - 36	8/19/2014	Area 1	NA	NA	Fluorene	OC-16	24	36	12.003804			No	Exclude
HB14-09	36 - 48	8/19/2014	Area 1	NA	NA	Fluorene	OC-16	36	48	12.003804			No	Exclude
HB14-09	48 - 60	8/19/2014	Area 1	NA	NA	Fluorene	OC-16	48	60	12.003804			No	Exclude
HB14-09	60 - 72	8/19/2014	Area 1	NA	NA	Fluorene	OC-16	60	72	12.003804			No	Exclude
HB14-10	0 - 6	8/20/2014	Area 1	0.034	0.034	Fluorene		0	6	54.005544			Yes	Include
HB14-10	6 - 18	8/20/2014	Area 1	0.052	0.052	Fluorene		6	18	54.005544			Yes	Include
HB14-10	18 - 30	8/20/2014	Area 1	0.12	0.12	Fluorene		18	30	54.005544			Yes	Include
HB14-10	30 - 42	8/20/2014	Area 1	0.24	0.24	Fluorene		30	42	54.005544			Yes	Include
HB14-10	42 - 54	8/20/2014	Area 1	0.16	0.16	Fluorene		42	54	54.005544			Yes	Include
HB14-10	54 - 66	8/20/2014	Area 1	NA	NA	Fluorene		54	66	54.005544			Yes	Include
HB14-11	0 - 6	8/19/2014	Area 1	NA	NA	Fluorene	SND-2	0	6					Exclude
HB14-11	6 - 18	8/19/2014	Area 1	NA	NA	Fluorene	SND-2	6	18					Exclude
HB14-11	18 - 20	8/19/2014	Area 1	NA	NA	Fluorene	SND-2	18	20					Exclude
HB14-12	0 - 6	8/19/2014	Area 1	NA	NA	Fluorene	SND-4	0	6	26.34			Yes	Include
HB14-12	6 - 18	8/19/2014	Area 1	NA	NA	Fluorene	SND-4	6	18	26.34			Yes	Include
HB14-12	18 - 32	8/19/2014	Area 1	NA	NA	Fluorene	SND-4	18	32	26.34			Yes	Include
HB14-13	0 - 6	8/19/2014	Area 2	NA	NA	Fluorene	SND-5	0	6	-0.648			No	Exclude
HB14-13	6 - 11	8/19/2014	Area 2	NA	NA	Fluorene	SND-5	6	11	-0.648			No	Exclude
HB14-14	0 - 6	8/20/2014	Area 2	0.12	0.12	Fluorene	OC-4	0	6	101.997672			Yes	Include
HB14-14	4 - 6	8/20/2014	Area 2	1.4	1.4	Fluorene	OC-4	4	6	101.997672			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB14-14	6 - 18	8/20/2014	Area 2	NA	NA	Fluorene	OC-4	6	18	101.997672			Yes	Include
HB14-14	6 - 30	8/20/2014	Area 2	0.17	0.17	Fluorene	OC-4	6	30	101.997672			Yes	Include
HB14-14	18 - 30	8/20/2014	Area 2	NA	NA	Fluorene	OC-4	18	30	101.997672			Yes	Include
HB14-14	30 - 42	8/20/2014	Area 2	NA	NA	Fluorene	OC-4	30	42	101.997672			Yes	Include
HB14-14	30 - 54	8/20/2014	Area 2	0.18	0.18	Fluorene	OC-4	30	54	101.997672			Yes	Include
HB14-14	42 - 54	8/20/2014	Area 2	NA	NA	Fluorene	OC-4	42	54	101.997672			Yes	Include
HB14-14	54 - 66	8/20/2014	Area 2	NA	NA	Fluorene	OC-4	54	66	101.997672			Yes	Include
HB14-14	54 - 78	8/20/2014	Area 2	0.1	0.1	Fluorene	OC-4	54	78	101.997672			Yes	Include
HB14-14	66 - 78	8/20/2014	Area 2	NA	NA	Fluorene	OC-4	66	78	101.997672			Yes	Include
HB14-14	78 - 90	8/20/2014	Area 2	NA	NA	Fluorene	OC-4	78	90	101.997672			Yes	Include
HB14-14	78 - 102	8/20/2014	Area 2	0.18	0.18	Fluorene	OC-4	78	102	101.997672			Yes	Include
HB14-14	90 - 102	8/20/2014	Area 2	NA	NA	Fluorene	OC-4	90	102	101.997672			Yes	Include
HB14-14	102 - 111	8/20/2014	Area 2	NA	NA	Fluorene	OC-4	102	111	101.997672			No	Exclude
HB15-01	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	0	12	51.096			Yes	Include
HB15-01	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	12	24	51.096			Yes	Include
HB15-01	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	24	36	51.096			Yes	Include
HB15-01	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	36	48	51.096			Yes	Include
HB15-01	48 - 57	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	48	57	51.096			Yes	Include
HB15-02	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	0	12	48.000696			Yes	Include
HB15-02	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	12	24	48.000696			Yes	Include
HB15-02	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	24	36	48.000696			Yes	Include
HB15-02	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	36	48	48.000696			Yes	Include
HB15-03	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	0	12	67.9950564			Yes	Include
HB15-03	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	12	24	67.9950564			Yes	Include
HB15-03	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	24	36	67.9950564			Yes	Include
HB15-03	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	36	48	67.9950564			Yes	Include
HB15-03	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	48	60	67.9950564			Yes	Include
HB15-03	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	60	68	67.9950564			Yes	Include
HB15-03R	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	0	12	67.9950564			Yes	Include
HB15-03R	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	12	24	67.9950564			Yes	Include
HB15-03R	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	24	36	67.9950564			Yes	Include
HB15-03R	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	36	48	67.9950564			Yes	Include
HB15-03R	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	48	60	67.9950564			Yes	Include
HB15-03R	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	60	68	67.9950564			Yes	Include
HB15-04	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	0	12	63.84			Yes	Include
HB15-04	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	12	24	63.84			Yes	Include
HB15-04	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	24	36	63.84			Yes	Include
HB15-04	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	36	48	63.84			Yes	Include
HB15-04	48 - 59	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	48	59	63.84			Yes	Include
HB15-05	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	0	12	71.994852			Yes	Include
HB15-05	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	12	24	71.994852			Yes	Include
HB15-05	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	24	36	71.994852			Yes	Include
HB15-05	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	36	48	71.994852			Yes	Include
HB15-05	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	48	60	71.994852			Yes	Include
HB15-05	60 - 72	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	60	72	71.994852			Yes	Include
HB15-05	72 - 80	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-1	72	80	71.994852			No	Exclude
HB15-06	0 - 9	6/23/2015	Hughitt Ave Slip	NA	NA	Fluorene	HS-2	0	9	9.000636			Yes	Include
HB15-07	0 - 12	6/23/2015	Cummings Ave Slip	NA	NA	Fluorene	CS-1	0	12	90.9955116			Yes	Include
HB15-07	12 - 24	6/23/2015	Cummings Ave Slip	NA	NA	Fluorene	CS-1	12	24	90.9955116			Yes	Include
HB15-07	24 - 36	6/23/2015	Cummings Ave Slip	NA	NA	Fluorene	CS-1	24	36	90.9955116			Yes	Include
HB15-07	36 - 48	6/23/2015	Cummings Ave Slip	0.89	0.89	Fluorene	CS-1	36	48	90.9955116			Yes	Include
HB15-07	48 - 60	6/23/2015	Cummings Ave Slip	2	2	Fluorene	CS-1	48	60	90.9955116			Yes	Include
HB15-07	60 - 72	6/23/2015	Cummings Ave Slip	0.99	0.99	Fluorene	CS-1	60	72	90.9955116			Yes	Include
HB15-07	72 - 84	6/23/2015	Cummings Ave Slip	1.1	1.1	Fluorene	CS-1	72	84	90.9955116			Yes	Include
HB15-07	84 - 91	6/23/2015	Cummings Ave Slip	1.5	1.5	Fluorene	CS-1	84	91	90.9955116			Yes	Include
HB15-08	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Fluorene	CS-2	0	12	65.997804			Yes	Include
HB15-08	12 - 24	6/24/2015	Cummings Ave Slip	0.93	0.93	Fluorene	CS-2	12	24	65.997804			Yes	Include
HB15-08	24 - 36	6/24/2015	Cummings Ave Slip	0.76	0.76	Fluorene	CS-2	24	36	65.997804			Yes	Include
HB15-08	36 - 48	6/24/2015	Cummings Ave Slip	NA	NA	Fluorene	CS-2	36	48	65.997804			Yes	Include
HB15-08	48 - 60	6/24/2015	Cummings Ave Slip	NA	NA	Fluorene	CS-2	48	60	65.997804			Yes	Include
HB15-08	60 - 66	6/24/2015	Cummings Ave Slip	NA	NA	Fluorene	CS-2	60	66	65.997804			Yes	Include
HB15-09	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Fluorene	CS-3	0	12	45.396			Yes	Include
HB15-09	12 - 17	6/24/2015	Cummings Ave Slip	NA	NA	Fluorene	CS-3	12	17	45.396			Yes	Include
HB15-10	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Fluorene		0	12	-0.936			No	Exclude
HB15-11	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Fluorene	CS-5	0	12	27.9944796			Yes	Include
HB15-11	12 - 24	6/24/2015	Cummings Ave Slip	NA	NA	Fluorene	CS-5	12	24	27.9944796			Yes	Include
HB15-11	24 - 28	6/24/2015	Cummings Ave Slip	NA	NA	Fluorene	CS-5	24	28	27.9944796			Yes	Include
HB15-12	0 - 12	6/24/2015	Area 2	NA	NA	Fluorene	FP-1	0	12	29.994876			Yes	Include
HB15-12	12 - 24	6/24/2015	Area 2	NA	NA	Fluorene	FP-1	12	24	29.994876			Yes	Include
HB15-12	24 - 30	6/24/2015	Area 2	NA	NA	Fluorene	FP-1	24	30	29.994876			Yes	Include
HB15-13	0 - 12	6/24/2015	Area 2	NA	NA	Fluorene	FP-1	0	12	64.0033716			Yes	Include
HB15-13	12 - 24	6/24/2015	Area 2	NA	NA	Fluorene	FP-1	12	24	64.0033716			Yes	Include
HB15-13	24 - 36	6/24/2015	Area 2	NA	NA	Fluorene	FP-1	24	36	64.0033716			Yes	Include
HB15-13	36 - 48	6/24/2015	Area 2	NA	NA	Fluorene	FP-1	36	48	64.0033716			Yes	Include
HB15-13	48 - 60	6/24/2015	Area 2	NA	NA	Fluorene	FP-1	48	60	64.0033716			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB15-13	60 - 64	6/24/2015	Area 2	NA	NA	Fluorene	FP-1	60	64	64.0033716			Yes	Include
HB15-14	0 - 12	6/24/2015	Area 2	NA	NA	Fluorene	FP-1	0	12	23.996196			Yes	Include
HB15-14	12 - 24	6/24/2015	Area 2	NA	NA	Fluorene	FP-1	12	24	23.996196			Yes	Include
HB15-14	24 - 28	6/24/2015	Area 2	NA	NA	Fluorene	FP-1	24	28	23.996196			No	Exclude
HB15-14	28 - 35	6/24/2015	Area 2	NA	NA	Fluorene	FP-1	28	35	23.996196			No	Exclude
HB15-15	0 - 12	6/24/2015	Area 2	NA	NA	Fluorene	FP-2	0	12	19.0051356			Yes	Include
HB15-15	12 - 19	6/24/2015	Area 2	NA	NA	Fluorene	FP-2	12	19	19.0051356			Yes	Include
HB15-15R	0 - 12	6/24/2015	Area 2	NA	NA	Fluorene	FP-2	0	12	18.9999996			Yes	Include
HB15-15R	12 - 19	6/24/2015	Area 2	NA	NA	Fluorene	FP-2	12	19	18.9999996			Yes	Include
HB15-16	0 - 12	6/24/2015	Area 2	NA	NA	Fluorene	FP-1	0	12	8.304			Yes	Include
HB15-16	12 - 19	6/24/2015	Area 2	NA	NA	Fluorene	FP-1	12	19	8.304			No	Exclude
HB15-17	0 - 12	6/24/2015	Area 2	NA	NA	Fluorene	FP-2	0	12	36.004608			Yes	Include
HB15-17	12 - 24	6/24/2015	Area 2	NA	NA	Fluorene	FP-2	12	24	36.004608			Yes	Include
HB15-17	24 - 36	6/24/2015	Area 2	NA	NA	Fluorene	FP-2	24	36	36.004608			Yes	Include
HB15-17	36 - 48	6/24/2015	Area 2	NA	NA	Fluorene	FP-2	36	48	36.004608			Yes	Include
HB15-17	48 - 54	6/24/2015	Area 2	NA	NA	Fluorene	FP-2	48	54	36.004608			No	Exclude
HB15-18	0 - 12	6/24/2015	Area 2	NA	NA	Fluorene	FP-2	0	12	23.999508			Yes	Include
HB15-18	12 - 24	6/24/2015	Area 2	NA	NA	Fluorene	FP-2	12	24	23.999508			Yes	Include
HB15-19	0 - 12	6/24/2015	Area 2	NA	NA	Fluorene		0	12					Exclude
HB15-19	12 - 24	6/24/2015	Area 2	NA	NA	Fluorene		12	24					Exclude
HB15-19	24 - 32	6/24/2015	Area 2	NA	NA	Fluorene		24	32					Exclude
HB15-20	0 - 12	6/25/2015	Area 2	NA	NA	Fluorene	OC-3	0	12	33.864			Yes	Include
HB15-20	12 - 24	6/25/2015	Area 2	NA	NA	Fluorene	OC-3	12	24	33.864			Yes	Include
HB15-20	24 - 28	6/25/2015	Area 2	NA	NA	Fluorene	OC-3	24	28	33.864			Yes	Include
HB15-20B	0 - 6	6/25/2015	Area 2	NA	NA	Fluorene	OC-13	0	6	11.996892			Yes	Include
HB15-20B	6 - 12	6/25/2015	Area 2	NA	NA	Fluorene	OC-13	6	12	11.996892			Yes	Include
HB15-21G	15 - 21	6/29/2015	Fraser Ave Slip	NA	NA	Fluorene		15	21					Exclude
HB15-22G	0 - 6	6/29/2015	Fraser Ave Slip	0.063	0.063	Fluorene	OC-8	0	6	6			Yes	Include
HB15-23	0 - 12	6/25/2015	Fraser Ave Slip	NA	NA	Fluorene	FS-1	0	12	55.02			Yes	Include
HB15-23	12 - 24	6/25/2015	Fraser Ave Slip	NA	NA	Fluorene	FS-1	12	24	55.02			Yes	Include
HB15-23	24 - 36	6/25/2015	Fraser Ave Slip	NA	NA	Fluorene	FS-1	24	36	55.02			Yes	Include
HB15-23	36 - 48	6/25/2015	Fraser Ave Slip	NA	NA	Fluorene	FS-1	36	48	55.02			Yes	Include
HB15-23	48 - 56	6/25/2015	Fraser Ave Slip	NA	NA	Fluorene	FS-1	48	56	55.02			Yes	Include
HB15-25	0 - 12	6/25/2015	Area 2	NA	NA	Fluorene	OC-1	0	12	77.4			Yes	Include
HB15-25	12 - 24	6/25/2015	Area 2	NA	NA	Fluorene	OC-1	12	24	77.4			Yes	Include
HB15-25	24 - 36	6/25/2015	Area 2	NA	NA	Fluorene	OC-1	24	36	77.4			Yes	Include
HB15-25	36 - 48	6/25/2015	Area 2	NA	NA	Fluorene	OC-1	36	48	77.4			Yes	Include
HB15-25	48 - 60	6/25/2015	Area 2	NA	NA	Fluorene	OC-1	48	60	77.4			Yes	Include
HB15-25	60 - 72	6/25/2015	Area 2	NA	NA	Fluorene	OC-1	60	72	77.4			Yes	Include
HB15-25	72 - 88	6/25/2015	Area 2	NA	NA	Fluorene	OC-1	72	88	77.4			Yes	Include
HB15-26	0 - 12	6/25/2015	Area 2	NA	NA	Fluorene	FC-2	0	12	38.28	6.36	include	Yes	Include
HB15-26	12 - 24	6/25/2015	Area 2	NA	NA	Fluorene	FC-2	12	24	38.28	6.36	include	Yes	Include
HB15-26	24 - 36	6/25/2015	Area 2	NA	NA	Fluorene	FC-2	24	36	38.28	6.36	include	Yes	Include
HB15-26	36 - 46	6/25/2015	Area 2	NA	NA	Fluorene	FC-2	36	46	38.28	6.36	include	Yes	Include
HB15-27	0 - 12	6/25/2015	Area 2	NA	NA	Fluorene	FC-3	0	12	33.6	14.64	exclude	Yes	Exclude
HB15-27	12 - 24	6/25/2015	Area 2	NA	NA	Fluorene	FC-3	12	24	33.6	14.64	include	Yes	Include
HB15-27	24 - 36	6/25/2015	Area 2	NA	NA	Fluorene	FC-3	24	36	33.6	14.64	include	Yes	Include
HB15-27	36 - 48	6/25/2015	Area 2	NA	NA	Fluorene	FC-3	36	48	33.6	14.64	include	No	Exclude
HB15-27	48 - 60	6/25/2015	Area 2	NA	NA	Fluorene	FC-3	48	60	33.6	14.64	include	No	Exclude
HB15-27	60 - 71	6/25/2015	Area 2	NA	NA	Fluorene	FC-3	60	71	33.6	14.64	include	No	Exclude
HB15-28	0 - 12	6/25/2015	Area 2	NA	NA	Fluorene	OC-7	0	12	11.994072			Yes	Include
HB15-28	12 - 24	6/25/2015	Area 2	NA	NA	Fluorene	OC-7	12	24	11.994072			No	Exclude
HB15-28	24 - 30	6/25/2015	Area 2	NA	NA	Fluorene	OC-7	24	30	11.994072			No	Exclude
HB15-30	0 - 12	6/25/2015	Area 2	NA	NA	Fluorene		0	12	43.776			Yes	Include
HB15-30	12 - 24	6/25/2015	Area 2	NA	NA	Fluorene		12	24	43.776			Yes	Include
HB15-30	24 - 36	6/25/2015	Area 2	NA	NA	Fluorene		24	36	43.776			Yes	Include
HB15-30	36 - 50	6/25/2015	Area 2	NA	NA	Fluorene		36	50	43.776			Yes	Include
HB15-31	0 - 12	6/25/2015	Area 2	NA	NA	Fluorene		0	12					Exclude
HB15-31	12 - 20	6/25/2015	Area 2	NA	NA	Fluorene		12	20					Exclude
HB15-32	0 - 12	6/25/2015	Area 1	NA	NA	Fluorene	SND-4	0	12	11.995236			Yes	Include
HB15-32	12 - 26	6/25/2015	Area 1	NA	NA	Fluorene	SND-4	12	26	11.995236			No	Exclude
HB15-33	0 - 12	6/25/2015	Area 1	NA	NA	Fluorene		0	12	26.292			Yes	Include
HB15-33	12 - 24	6/25/2015	Area 1	NA	NA	Fluorene		12	24	26.292			Yes	Include
HB15-33	24 - 39	6/25/2015	Area 1	NA	NA	Fluorene		24	39	26.292			Yes	Include
HB15-34	0 - 12	6/25/2015	Area 1	NA	NA	Fluorene	FC-11	0	12		35.52	exclude		Exclude
HB15-34	12 - 24	6/25/2015	Area 1	NA	NA	Fluorene	FC-11	12	24		35.52	exclude		Exclude
HB15-34	24 - 32	6/25/2015	Area 1	NA	NA	Fluorene	FC-11	24	32		35.52	exclude		Exclude
HB15-35	0 - 12	6/25/2015	Area 1	NA	NA	Fluorene	FC-16	0	12	74.28	-6.48	include	Yes	Include
HB15-35	12 - 24	6/25/2015	Area 1	NA	NA	Fluorene	FC-16	12	24	74.28	-6.48	include	Yes	Include
HB15-35	24 - 36	6/25/2015	Area 1	NA	NA	Fluorene	FC-16	24	36	74.28	-6.48	include	Yes	Include
HB15-35	36 - 48	6/25/2015	Area 1	NA	NA	Fluorene	FC-16	36	48	74.28	-6.48	include	Yes	Include
HB15-35	48 - 60	6/25/2015	Area 1	NA	NA	Fluorene	FC-16	48	60	74.28	-6.48	include	Yes	Include
HB15-35	60 - 72	6/25/2015	Area 1	NA	NA	Fluorene	FC-16	60	72	74.28	-6.48	include	Yes	Include
HB15-36G	15 - 36	6/29/2015	Area 2	NA	NA	Fluorene		15	36					Exclude
HB15-37	0 - 12	6/25/2015	Area 2	NA	NA	Fluorene	OC-9	0	12	51.048			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
 Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB15-37	12 - 24	6/25/2015	Area 2	NA	NA	Fluorene	OC-9	12	24	51.048			Yes	Include
HB15-37	24 - 36	6/25/2015	Area 2	NA	NA	Fluorene	OC-9	24	36	51.048			Yes	Include
HB15-37	36 - 48	6/25/2015	Area 2	NA	NA	Fluorene	OC-9	36	48	51.048			Yes	Include
HB15-37	48 - 60	6/25/2015	Area 2	NA	NA	Fluorene	OC-9	48	60	51.048			Yes	Include
HB15-37	60 - 74	6/25/2015	Area 2	NA	NA	Fluorene	OC-9	60	74	51.048			No	Exclude
HB15-38	0 - 12	6/25/2015	Area 2	NA	NA	Fluorene	OC-9	0	12	83.184			Yes	Include
HB15-38	12 - 24	6/25/2015	Area 2	NA	NA	Fluorene	OC-9	12	24	83.184			Yes	Include
HB15-38	24 - 36	6/25/2015	Area 2	NA	NA	Fluorene	OC-9	24	36	83.184			Yes	Include
HB15-38	36 - 48	6/25/2015	Area 2	NA	NA	Fluorene	OC-9	36	48	83.184			Yes	Include
HB15-38	48 - 60	6/25/2015	Area 2	NA	NA	Fluorene	OC-9	48	60	83.184			Yes	Include
HB15-38	60 - 72	6/25/2015	Area 2	NA	NA	Fluorene	OC-9	60	72	83.184			Yes	Include
HB15-38	72 - 84	6/25/2015	Area 2	NA	NA	Fluorene	OC-9	72	84	83.184			Yes	Include
HB15-38	84 - 96	6/25/2015	Area 2	NA	NA	Fluorene	OC-9	84	96	83.184			No	Exclude
HB15-G28	0 - 6	6/25/2015	Hughitt Ave Slip	NA	NA	Fluorene		0	6					Exclude
HB15-HC20A	0 - 6	6/25/2015	Area 1	NA	NA	Fluorene	OC-13	0	6	6.003036			Yes	Include
HB2A_4	0 - 6	5/12/2007	Hughitt Ave Slip	0.14	0.14	Indeno(1,2,3-cd)pyrene	HS-1	0	6	48.00432			Yes	Include
HB2A_4	6 - 24	5/12/2007	Hughitt Ave Slip	0.27 J-	0.27	Indeno(1,2,3-cd)pyrene	HS-1	6	24	48.00432			Yes	Include
HB2A_4	24 - 48	5/12/2007	Hughitt Ave Slip	0.045	0.045	Indeno(1,2,3-cd)pyrene	HS-1	24	48	48.00432			Yes	Include
HB2A_6	0 - 5	5/2/2007	Area 1	0.46	0.46	Indeno(1,2,3-cd)pyrene		0	5					Exclude
HB2A_7	0 - 5	5/10/2007	Area 1	0.27	0.27	Indeno(1,2,3-cd)pyrene	SND-1	0	5					Exclude
HB2A_8	0 - 5	5/10/2007	Area 1	0.16	0.16	Indeno(1,2,3-cd)pyrene	FC-12/FC-13	0	5	4.9944804	79.824	exclude	Yes	Exclude
HB2A_11	0 - 5	5/10/2007	Area 1	0.32 J-	0.32	Indeno(1,2,3-cd)pyrene		0	5					Exclude
HB2A_13	0 - 5	5/2/2007	Area 1	0.19	0.19	Indeno(1,2,3-cd)pyrene		0	5					Exclude
HB2A_16	0 - 5	5/2/2007	Area 1	0.087 J-	0.087	Indeno(1,2,3-cd)pyrene		0	5					Exclude
HB2A_210	0 - 6	5/16/2007	Area 1	0.0080 U	0.008	Indeno(1,2,3-cd)pyrene		0	6					Exclude
HB2A_210	6 - 24	5/16/2007	Area 1	0.0083 U	0.0083	Indeno(1,2,3-cd)pyrene		6	24					Exclude
HB2A_210	24 - 48	5/16/2007	Area 1	0.0061 UJS-	0.0061	Indeno(1,2,3-cd)pyrene		24	48					Exclude
HB2A_GENES	0 - 5	5/22/2007	Cummings Ave Slip	0.31	0.31	Indeno(1,2,3-cd)pyrene		0	5					Exclude
HB2B_17	0 - 6	5/12/2007	Fraser Ave Slip	0.16	0.16	Indeno(1,2,3-cd)pyrene	FS-2	0	6	24.005676			Yes	Include
HB2B_17	6 - 24	5/12/2007	Fraser Ave Slip	0.038	0.038	Indeno(1,2,3-cd)pyrene	FS-2	6	24	24.005676			Yes	Include
HB2B_18	0 - 6	5/7/2007	Area 2	0.15	0.15	Indeno(1,2,3-cd)pyrene	FP-1	0	6	47.997552			Yes	Include
HB2B_18	6 - 24	5/7/2007	Area 2	0.078	0.078	Indeno(1,2,3-cd)pyrene	FP-1	6	24	47.997552			Yes	Include
HB2B_18	24 - 48	5/7/2007	Area 2	0.093	0.093	Indeno(1,2,3-cd)pyrene	FP-1	24	48	47.997552			Yes	Include
HB2B_19	0 - 6	5/2/2007	Area 2	0.047	0.047	Indeno(1,2,3-cd)pyrene	OC-1	0	6	6.001728			Yes	Include
HB2B_19	6 - 24	5/2/2007	Area 2	0.0064	0.0064	Indeno(1,2,3-cd)pyrene	OC-1	6	24	6.001728			Yes	Include
HB2B_20	0 - 6	5/2/2007	Area 2	0.084	0.084	Indeno(1,2,3-cd)pyrene	OC-9	0	6	23.997336			Yes	Include
HB2B_20	6 - 24	5/2/2007	Area 2	0.07	0.07	Indeno(1,2,3-cd)pyrene	OC-9	6	24	23.997336			Yes	Include
HB2B_20	24 - 48	5/2/2007	Area 2	0.018	0.018	Indeno(1,2,3-cd)pyrene	OC-9	24	48	23.997336			No	Exclude
HB2B_21	0 - 5	5/2/2007	Area 2	0.12	0.12	Indeno(1,2,3-cd)pyrene		0	5					Exclude
HB2B_22	0 - 5	5/2/2007	Area 2	0.17	0.17	Indeno(1,2,3-cd)pyrene	OC-5	0	5	5.0028204			Yes	Include
HB3A_GENES	0 - 5	9/6/2007	Cummings Ave Slip	0.041	0.041	Indeno(1,2,3-cd)pyrene		0	5					Exclude
HB10-1-01	0 - 6	10/16/2010	Area 1	0.063	0.063	Indeno(1,2,3-cd)pyrene		0	6					Exclude
HB10-1-01	0 - 12	10/16/2010	Area 1	0.0071 U	0.0071	Indeno(1,2,3-cd)pyrene		0	12					Exclude
HB10-1-01	36 - 40	10/16/2010	Area 1	0.0051 U	0.0051	Indeno(1,2,3-cd)pyrene		36	40					Exclude
HB10-1-02	0 - 6	10/16/2010	Area 1	0.039	0.039	Indeno(1,2,3-cd)pyrene		0	6	23.0027508			Yes	Include
HB10-1-02	12 - 23	10/16/2010	Area 1	0.037	0.037	Indeno(1,2,3-cd)pyrene		12	23	23.0027508			Yes	Include
HB10-1-03	0 - 6	10/16/2010	Area 1	0.15	0.15	Indeno(1,2,3-cd)pyrene	FC-17	0	6	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	0 - 12	10/16/2010	Area 1	0.043	0.043	Indeno(1,2,3-cd)pyrene	FC-17	0	12	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	12 - 36	10/16/2010	Area 1	0.037	0.037	Indeno(1,2,3-cd)pyrene	FC-17	12	36	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	36 - 60	10/16/2010	Area 1	0.13	0.13	Indeno(1,2,3-cd)pyrene	FC-17	36	60	59.99475	49.872	include	Yes	Include
HB10-1-03	60 - 84	10/16/2010	Area 1	0.13	0.13	Indeno(1,2,3-cd)pyrene	FC-17	60	84	59.99475	49.872	include	No	Exclude
HB10-1-04	0 - 6	10/17/2010	Area 1	0.077	0.077	Indeno(1,2,3-cd)pyrene		0	6					Exclude
HB10-1-04	0 - 12	10/17/2010	Area 1	0.12	0.12	Indeno(1,2,3-cd)pyrene		0	12					Exclude
HB10-1-04	12 - 36	10/17/2010	Area 1	0.053	0.053	Indeno(1,2,3-cd)pyrene		12	36					Exclude
HB10-1-04	36 - 50	10/17/2010	Area 1	0.051	0.051	Indeno(1,2,3-cd)pyrene		36	50					Exclude
HB10-1-05	0 - 6	10/16/2010	Area 1	0.19	0.19	Indeno(1,2,3-cd)pyrene	OC-17	0	6	5.9987496			Yes	Include
HB10-1-07	0 - 6	10/17/2010	Area 1	0.92	0.92	Indeno(1,2,3-cd)pyrene	OC-15	0	6	6.0057			Yes	Include
HB10-1-07	0 - 12	10/17/2010	Area 1	0.16	0.16	Indeno(1,2,3-cd)pyrene	OC-15	0	12	6.0057			Yes	Include
HB10-1-07	12 - 36	10/17/2010	Area 1	0.16	0.16	Indeno(1,2,3-cd)pyrene	OC-15	12	36	6.0057			No	Exclude
HB10-1-07	60 - 64	10/17/2010	Area 1	0.0040 U	0.004	Indeno(1,2,3-cd)pyrene	OC-15	60	64	6.0057			No	Exclude
HB10-1-08	0 - 6	10/17/2010	Area 1	0.12	0.12	Indeno(1,2,3-cd)pyrene		0	6	36.0057			Yes	Include
HB10-1-08	0 - 12	10/17/2010	Area 1	0.12	0.12	Indeno(1,2,3-cd)pyrene		0	12	36.0057			Yes	Include
HB10-1-08	12 - 36	10/17/2010	Area 1	0.17	0.17	Indeno(1,2,3-cd)pyrene		12	36	36.0057			Yes	Include
HB10-1-10	0 - 6	10/18/2010	Area 1	0.42	0.42	Indeno(1,2,3-cd)pyrene	SND-1	0	6					Exclude
HB10-1-11	0 - 6	10/16/2010	Area 1	0.080 J	0.08	Indeno(1,2,3-cd)pyrene		0	6	20.9987496			Yes	Include
HB10-1-11	12 - 21	10/16/2010	Area 1	0.093	0.093	Indeno(1,2,3-cd)pyrene		12	21	20.9987496			Yes	Include
HB10-1-12	0 - 6	10/17/2010	Area 1	0.12	0.12	Indeno(1,2,3-cd)pyrene		0	6					Exclude
HB10-1-12	0 - 12	10/17/2010	Area 1	0.15	0.15	Indeno(1,2,3-cd)pyrene		0	12					Exclude
HB10-1-12	12 - 34	10/17/2010	Area 1	0.069	0.069	Indeno(1,2,3-cd)pyrene		12	34					Exclude
HB10-1-13	0 - 6	10/18/2010	Area 1	0.2	0.2	Indeno(1,2,3-cd)pyrene	FC-12/FC-13	0	6	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	0 - 12	10/18/2010	Area 1	0.33	0.33	Indeno(1,2,3-cd)pyrene	FC-12/FC-13	0	12	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	12 - 36	10/18/2010	Area 1	0.2	0.2	Indeno(1,2,3-cd)pyrene	FC-12/FC-13	12	36	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	60 - 67	10/18/2010	Area 1	0.3	0.3	Indeno(1,2,3-cd)pyrene	FC-12/FC-13	60	67	36.0053004	42.816	include	No	Exclude
HB10-1-14	0 - 6	10/17/2010	Area 1	0.16	0.16	Indeno(1,2,3-cd)pyrene		0	6	66.0057			Yes	Include
HB10-1-14	0 - 12	10/17/2010	Area 1	0.12	0.12	Indeno(1,2,3-cd)pyrene		0	12	66.0057			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB10-1-14	12 - 36	10/17/2010	Area 1	0.2	0.2	Indeno(1,2,3-cd)pyrene		12	36	66.0057			Yes	Include
HB10-1-14	60 - 66	10/17/2010	Area 1	0.16	0.16	Indeno(1,2,3-cd)pyrene		60	66	66.0057			Yes	Include
HB10-1-15	0 - 6	10/18/2010	Area 1	0.0061	0.0061	Indeno(1,2,3-cd)pyrene	OC-13	0	6	16.0056996			Yes	Include
HB10-1-15	12 - 16	10/18/2010	Area 1	0.17	0.17	Indeno(1,2,3-cd)pyrene	OC-13	12	16	16.0056996			Yes	Include
HB10-1-16	0 - 6	10/17/2010	Hughitt Ave Slip	0.22	0.22	Indeno(1,2,3-cd)pyrene	HS-3	0	6	31.0056996			Yes	Include
HB10-1-16	0 - 12	10/17/2010	Hughitt Ave Slip	0.35	0.35	Indeno(1,2,3-cd)pyrene	HS-3	0	12	31.0056996			Yes	Include
HB10-1-16	12 - 31	10/17/2010	Hughitt Ave Slip	0.19	0.19	Indeno(1,2,3-cd)pyrene	HS-3	12	31	31.0056996			Yes	Include
HB10-1-17	0 - 6	10/17/2010	Area 1	0.1	0.1	Indeno(1,2,3-cd)pyrene	OC-14	0	6	12			Yes	Include
HB10-1-20	0 - 6	10/17/2010	Hughitt Ave Slip	0.74	0.74	Indeno(1,2,3-cd)pyrene		0	6	6.0057			Yes	Include
HB10-1-21	0 - 6	10/18/2010	Cummings Ave Slip	0.042 U	0.042	Indeno(1,2,3-cd)pyrene		0	6	6.0012996			Yes	Include
HB10-1-21	12 - 23	10/18/2010	Cummings Ave Slip	0.15 J	0.15	Indeno(1,2,3-cd)pyrene		12	23	6.0012996			No	Exclude
HB10-1-23	0 - 6	10/17/2010	Area 1	0.065	0.065	Indeno(1,2,3-cd)pyrene		0	6	36.0057			Yes	Include
HB10-1-23	0 - 12	10/17/2010	Area 1	0.14	0.14	Indeno(1,2,3-cd)pyrene		0	12	36.0057			Yes	Include
HB10-1-23	12 - 36	10/17/2010	Area 1	0.21	0.21	Indeno(1,2,3-cd)pyrene		12	36	36.0057			Yes	Include
HB10-1-24	0 - 6	10/18/2010	Cummings Ave Slip	0.11	0.11	Indeno(1,2,3-cd)pyrene	CS-4	0	6	36.0047496			Yes	Include
HB10-1-24	0 - 12	10/18/2010	Cummings Ave Slip	0.34	0.34	Indeno(1,2,3-cd)pyrene	CS-4	0	12	36.0047496			Yes	Include
HB10-1-24	12 - 36	10/18/2010	Cummings Ave Slip	0.41	0.41	Indeno(1,2,3-cd)pyrene	CS-4	12	36	36.0047496			Yes	Include
HB10-1-25	0 - 6	10/17/2010	Baxter Ave Embayment	0.06	0.06	Indeno(1,2,3-cd)pyrene		0	6	6.0057			Yes	Include
HB10-1-27	0 - 6	10/18/2010	Area 1	0.062	0.062	Indeno(1,2,3-cd)pyrene		0	6	-0.0027			No	Exclude
HB10-1-28	0 - 6	10/17/2010	Hughitt Ave Slip	0.33 J	0.33	Indeno(1,2,3-cd)pyrene	HS-1	0	6	84.0057			Yes	Include
HB10-1-28	0 - 12	10/17/2010	Hughitt Ave Slip	0.28 J	0.28	Indeno(1,2,3-cd)pyrene	HS-1	0	12	84.0057			Yes	Include
HB10-1-28	12 - 36	10/17/2010	Hughitt Ave Slip	0.37 J	0.37	Indeno(1,2,3-cd)pyrene	HS-1	12	36	84.0057			Yes	Include
HB10-1-28	36 - 60	10/17/2010	Hughitt Ave Slip	0.16 J	0.16	Indeno(1,2,3-cd)pyrene	HS-1	36	60	84.0057			Yes	Include
HB10-1-28	60 - 84	10/17/2010	Hughitt Ave Slip	0.31 J	0.31	Indeno(1,2,3-cd)pyrene	HS-1	60	84	84.0057			Yes	Include
HB10-1-28	60 - 96	10/17/2010	Hughitt Ave Slip	0.041	0.041	Indeno(1,2,3-cd)pyrene	HS-1	60	96	84.0057			Yes	Include
HB10-1-29	0 - 6	10/17/2010	Cummings Ave Slip	0.24	0.24	Indeno(1,2,3-cd)pyrene	CS-1	0	6	83.9937			Yes	Include
HB10-1-29	0 - 12	10/17/2010	Cummings Ave Slip	0.64	0.64	Indeno(1,2,3-cd)pyrene	CS-1	0	12	83.9937			Yes	Include
HB10-1-29	12 - 36	10/17/2010	Cummings Ave Slip	2.5	2.5	Indeno(1,2,3-cd)pyrene	CS-1	12	36	83.9937			Yes	Include
HB10-1-29	36 - 60	10/17/2010	Cummings Ave Slip	1.4 J	1.4	Indeno(1,2,3-cd)pyrene	CS-1	36	60	83.9937			Yes	Include
HB10-1-29	60 - 93	10/17/2010	Cummings Ave Slip	1.5 J	1.5	Indeno(1,2,3-cd)pyrene	CS-1	60	93	83.9937			Yes	Include
HB10-1-30	0 - 6	10/18/2010	Baxter Ave Embayment	0.35	0.35	Indeno(1,2,3-cd)pyrene		0	6	60.0053004			Yes	Include
HB10-1-30	0 - 12	10/18/2010	Baxter Ave Embayment	0.99	0.99	Indeno(1,2,3-cd)pyrene		0	12	60.0053004			Yes	Include
HB10-1-30	12 - 36	10/18/2010	Baxter Ave Embayment	0.52	0.52	Indeno(1,2,3-cd)pyrene		12	36	60.0053004			Yes	Include
HB10-1-30	36 - 60	10/18/2010	Baxter Ave Embayment	0.25	0.25	Indeno(1,2,3-cd)pyrene		36	60	60.0053004			Yes	Include
HB10-1-30	60 - 77	10/18/2010	Baxter Ave Embayment	0.25	0.25	Indeno(1,2,3-cd)pyrene		60	77	60.0053004			Yes	Include
HB10-1-31	0 - 6	10/18/2010	Baxter Ave Embayment	0.34	0.34	Indeno(1,2,3-cd)pyrene	OC-11	0	6	35.9973			Yes	Include
HB10-1-31	0 - 12	10/18/2010	Baxter Ave Embayment	0.43	0.43	Indeno(1,2,3-cd)pyrene	OC-11	0	12	35.9973			Yes	Include
HB10-1-31	12 - 36	10/18/2010	Baxter Ave Embayment	0.24	0.24	Indeno(1,2,3-cd)pyrene	OC-11	12	36	35.9973			Yes	Include
HB10-2-18	0 - 6	10/18/2010	Area 2	0.28	0.28	Indeno(1,2,3-cd)pyrene	OC-2	0	6	6.0053004			Yes	Include
HB10-2-26	0 - 6	10/16/2010	Area 2	0.038	0.038	Indeno(1,2,3-cd)pyrene		0	6					Exclude
HB10-2-26	12 - 17	10/16/2010	Area 2	0.075	0.075	Indeno(1,2,3-cd)pyrene		12	17					Exclude
HB10-2-32	0 - 6	10/18/2010	Area 2	0.14	0.14	Indeno(1,2,3-cd)pyrene		0	6					Exclude
HB10-2-33	0 - 6	10/18/2010	Area 2	0.038 J	0.038	Indeno(1,2,3-cd)pyrene		0	6	6.0012996			Yes	Include
HB10-2-33	12 - 22	10/18/2010	Area 2	0.26	0.26	Indeno(1,2,3-cd)pyrene		12	22	6.0012996			No	Exclude
HB10-2-34	0 - 6	10/18/2010	Area 2	0.16 J	0.16	Indeno(1,2,3-cd)pyrene	FC-7	0	6	6.0053004	0.816	include	Yes	Include
HB10-2-35	0 - 6	10/18/2010	Area 2	0.041	0.041	Indeno(1,2,3-cd)pyrene		0	6	30.0012996			Yes	Include
HB10-2-35	0 - 12	10/18/2010	Area 2	0.14 J	0.14	Indeno(1,2,3-cd)pyrene		0	12	30.0012996			Yes	Include
HB10-2-35	12 - 30	10/18/2010	Area 2	0.15 J	0.15	Indeno(1,2,3-cd)pyrene		12	30	30.0012996			Yes	Include
HB10-2-36	0 - 6	10/18/2010	Area 2	0.25	0.25	Indeno(1,2,3-cd)pyrene	FC-5	0	6	6.0053004	-29.184	include	Yes	Include
HB10-2-37	0 - 6	10/18/2010	Area 2	0.21 U	0.21	Indeno(1,2,3-cd)pyrene		0	6	23.0013			Yes	Include
HB10-2-37	12 - 23	10/18/2010	Area 2	0.088 J	0.088	Indeno(1,2,3-cd)pyrene		12	23	23.0013			Yes	Include
HB10-2-38	0 - 6	10/18/2010	Area 2	0.072	0.072	Indeno(1,2,3-cd)pyrene	OC-6	0	6	38.0013			Yes	Include
HB10-2-38	0 - 12	10/18/2010	Area 2	0.2	0.2	Indeno(1,2,3-cd)pyrene	OC-6	0	12	38.0013			Yes	Include
HB10-2-38	36 - 38	10/18/2010	Area 2	0.68	0.68	Indeno(1,2,3-cd)pyrene	OC-6	36	38	38.0013			Yes	Include
HB10-2-39	0 - 6	10/18/2010	Area 2	0.039 J	0.039	Indeno(1,2,3-cd)pyrene		0	6	6.0012996			Yes	Include
HB10-2-39	0 - 12	10/18/2010	Area 2	0.25	0.25	Indeno(1,2,3-cd)pyrene		0	12	6.0012996			Yes	Include
HB10-2-39	12 - 28	10/18/2010	Area 2	0.15	0.15	Indeno(1,2,3-cd)pyrene		12	28	6.0012996			No	Exclude
HB10-2-40	0 - 6	10/18/2010	Area 2	0.15 U	0.15	Indeno(1,2,3-cd)pyrene	OC-5	0	6	48.0053004			Yes	Include
HB10-2-40	0 - 12	10/18/2010	Area 2	0.049	0.049	Indeno(1,2,3-cd)pyrene	OC-5	0	12	48.0053004			Yes	Include
HB10-2-40	12 - 36	10/18/2010	Area 2	0.0044 U	0.0044	Indeno(1,2,3-cd)pyrene	OC-5	12	36	48.0053004			Yes	Include
HB10-2-40	36 - 48	10/18/2010	Area 2	0.0043 U	0.0043	Indeno(1,2,3-cd)pyrene	OC-5	36	48	48.0053004			Yes	Include
HB10-2-41	0 - 6	10/18/2010	Area 2	0.67	0.67	Indeno(1,2,3-cd)pyrene	FP-2	0	6	31.0012992			Yes	Include
HB10-2-41	0 - 12	10/18/2010	Area 2	0.043	0.043	Indeno(1,2,3-cd)pyrene	FP-2	0	12	31.0012992			Yes	Include
HB10-2-41	12 - 31	10/18/2010	Area 2	0.049	0.049	Indeno(1,2,3-cd)pyrene	FP-2	12	31	31.0012992			Yes	Include
HB10-2-42	0 - 6	10/18/2010	Area 2	0.22	0.22	Indeno(1,2,3-cd)pyrene	FP-1	0	6	12.0012996			Yes	Include
HB10-2-42	0 - 12	10/18/2010	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	0	12	12.0012996			Yes	Include
HB10-2-42	12 - 30	10/18/2010	Area 2	0.19	0.19	Indeno(1,2,3-cd)pyrene	FP-1	12	30	12.0012996			Yes	Include
HB10-2-43	0 - 6	10/17/2010	Area 2	0.028	0.028	Indeno(1,2,3-cd)pyrene		0	6	22.0056996			Yes	Include
HB10-2-43	12 - 22	10/17/2010	Area 2	0.37	0.37	Indeno(1,2,3-cd)pyrene		12	22	22.0056996			Yes	Include
HB10-2-44	0 - 6	10/18/2010	Area 2	0.42	0.42	Indeno(1,2,3-cd)pyrene	FP-2	0	6	16.0012992			Yes	Include
HB10-2-44	12 - 16	10/18/2010	Area 2	0.41	0.41	Indeno(1,2,3-cd)pyrene	FP-2	12	16	16.0012992			Yes	Include
HB10-2-45	0 - 6	10/18/2010	Area 2	0.13 J	0.13	Indeno(1,2,3-cd)pyrene	FP-2	0	6	19.0012992			Yes	Include
HB10-2-45	12 - 19	10/18/2010	Area 2	0.25	0.25	Indeno(1,2,3-cd)pyrene	FP-2	12	19	19.0012992			Yes	Include
HB13-01	0 - 6 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	0	6	48			Yes	Include
HB13-01	6 - 12 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	6	12	48			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-01	12 - 18 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	12	18	48			Yes	Include
HB13-01	18 - 24 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	18	24	48			Yes	Include
HB13-01	24 - 30 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	24	30	48			Yes	Include
HB13-01	30 - 36 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	30	36	48			Yes	Include
HB13-01	36 - 42 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	36	42	48			Yes	Include
HB13-01	42 - 48 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	42	48	48			Yes	Include
HB13-01	48 - 54 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	48	54	48			No	Exclude
HB13-01	54 - 60 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	54	60	48			No	Exclude
HB13-01	60 - 66 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	60	66	48			No	Exclude
HB13-01	66 - 72 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	66	72	48			No	Exclude
HB13-01	72 - 74 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	72	74	48			No	Exclude
HB13-02	0 - 6 *	9/9/2013	Area 2	0.016 U	0.016	Indeno(1,2,3-cd)pyrene		0	6	29.9960004			Yes	Include
HB13-02	6 - 12 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		6	12	29.9960004			Yes	Include
HB13-02	12 - 18 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		12	18	29.9960004			Yes	Include
HB13-02	18 - 24 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		18	24	29.9960004			Yes	Include
HB13-02	24 - 30 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		24	30	29.9960004			Yes	Include
HB13-02	30 - 36 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		30	36	29.9960004			No	Exclude
HB13-02	36 - 42 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		36	42	29.9960004			No	Exclude
HB13-02	42 - 48 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		42	48	29.9960004			No	Exclude
HB13-03	0 - 6 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-2	0	6	46.0040004			Yes	Include
HB13-03	0 - 24	9/9/2013	Area 2	0.48	0.48	Indeno(1,2,3-cd)pyrene	FP-2	0	24	46.0040004			Yes	Include
HB13-03	6 - 12 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-2	6	12	46.0040004			Yes	Include
HB13-03	12 - 18 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-2	12	18	46.0040004			Yes	Include
HB13-03	18 - 24 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-2	18	24	46.0040004			Yes	Include
HB13-03	24 - 30 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-2	24	30	46.0040004			Yes	Include
HB13-03	24 - 46	9/9/2013	Area 2	0.19	0.19	Indeno(1,2,3-cd)pyrene	FP-2	24	46	46.0040004			Yes	Include
HB13-03	30 - 36 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-2	30	36	46.0040004			Yes	Include
HB13-03	36 - 42 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-2	36	42	46.0040004			Yes	Include
HB13-03	42 - 46 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-2	42	46	46.0040004			Yes	Include
HB13-03	46 - 51 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-2	46	51	46.0040004			Yes	Include
HB13-04	0 - 6 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-1	0	6	41.9960004			Yes	Include
HB13-04	6 - 12 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-1	6	12	41.9960004			Yes	Include
HB13-04	12 - 18 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-1	12	18	41.9960004			Yes	Include
HB13-04	18 - 24 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-1	18	24	41.9960004			Yes	Include
HB13-04	24 - 30 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-1	24	30	41.9960004			Yes	Include
HB13-04	30 - 36 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-1	30	36	41.9960004			Yes	Include
HB13-04	36 - 42 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-1	36	42	41.9960004			Yes	Include
HB13-04	42 - 44 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-1	42	44	41.9960004			No	Exclude
HB13-05	0 - 32 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-1	0	32	43.8	33.156	exclude	Yes	Exclude
HB13-05	32 - 38 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-1	32	38	43.8	33.156	include	Yes	Include
HB13-05	38 - 44 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-1	38	44	43.8	33.156	include	Yes	Include
HB13-05	44 - 50 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-1	44	50	43.8	33.156	include	No	Exclude
HB13-05	50 - 56 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-1	50	56	43.8	33.156	include	No	Exclude
HB13-05	56 - 62	9/9/2013	Area 2	0.21 U	0.21	Indeno(1,2,3-cd)pyrene	FC-1	56	62	43.8	33.156	include	No	Exclude
HB13-05	62 - 66	9/9/2013	Area 2	0.055	0.055	Indeno(1,2,3-cd)pyrene	FC-1	62	66	43.8	33.156	include	No	Exclude
HB13-05	68 - 74 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-1	68	74	43.8	33.156	include	No	Exclude
HB13-05	74 - 77 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-1	74	77	43.8	33.156	include	No	Exclude
HB13-06	0 - 6 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-2	0	6	48			Yes	Include
HB13-06	6 - 12 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-2	6	12	48			Yes	Include
HB13-06	12 - 18 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-2	12	18	48			Yes	Include
HB13-06	18 - 24 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-2	18	24	48			Yes	Include
HB13-06	24 - 30 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-2	24	30	48			Yes	Include
HB13-06	30 - 36 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-2	30	36	48			Yes	Include
HB13-06	36 - 42 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-2	36	42	48			Yes	Include
HB13-06	42 - 48 *	9/9/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-2	42	48	48			Yes	Include
HB13-07	0 - 6 *	9/10/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		0	6					Exclude
HB13-07	6 - 12 *	9/10/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		6	12					Exclude
HB13-07	12 - 18 *	9/10/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		12	18					Exclude
HB13-07	18 - 24 *	9/10/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		18	24					Exclude
HB13-07	24 - 30 *	9/10/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		24	30					Exclude
HB13-07	30 - 36 *	9/10/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		30	36					Exclude
HB13-07	36 - 42 *	9/10/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		36	42					Exclude
HB13-07	42 - 48 *	9/10/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		42	48					Exclude
HB13-08	0 - 18	9/11/2013	Area 2	0.17	0.17	Indeno(1,2,3-cd)pyrene	FC-2	0	18	38.28	21.756	exclude	Yes	Exclude
HB13-08	18 - 36	9/11/2013	Area 2	0.23	0.23	Indeno(1,2,3-cd)pyrene	FC-2	18	36	38.28	21.756	include	Yes	Include
HB13-08	36 - 60	9/11/2013	Area 2	0.24	0.24	Indeno(1,2,3-cd)pyrene	FC-2	36	60	38.28	21.756	include	Yes	Include
HB13-08	60 - 92	9/11/2013	Area 2	0.11	0.11	Indeno(1,2,3-cd)pyrene	FC-2	60	92	38.28	21.756	include	No	Exclude
HB13-10	0 - 6 *	9/10/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		0	6	0.0039996			Yes	Include
HB13-11	0 - 18	9/11/2013	Area 2	0.21	0.21	Indeno(1,2,3-cd)pyrene	FC-4	0	18	25.2	23.964	exclude	Yes	Exclude
HB13-11	18 - 24 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-4	18	24	25.2	23.964	include	Yes	Include
HB13-11	18 - 42	9/11/2013	Area 2	0.19	0.19	Indeno(1,2,3-cd)pyrene	FC-4	18	42	25.2	23.964	include	Yes	Include
HB13-11	24 - 30 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-4	24	30	25.2	23.964	include	Yes	Include
HB13-11	30 - 36 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-4	30	36	25.2	23.964	include	No	Exclude
HB13-11	36 - 42 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-4	36	42	25.2	23.964	include	No	Exclude
HB13-11	42 - 48 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-4	42	48	25.2	23.964	include	No	Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-11	42 - 60	9/11/2013	Area 2	0.061	0.061	Indeno(1,2,3-cd)pyrene	FC-4	42	60	25.2	23.964	include	No	Exclude
HB13-11	48 - 54 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-4	48	54	25.2	23.964	include	No	Exclude
HB13-11	54 - 60 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-4	54	60	25.2	23.964	include	No	Exclude
HB13-12	0 - 6 *	9/10/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		0	6	5.9960004			Yes	Include
HB13-13	0 - 1 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	SND-5	0	1	0.9999996			Yes	Include
HB13-14	0 - 6 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-6	0	6	45.9999996	-5.316	include	Yes	Include
HB13-14	0 - 24	9/12/2013	Area 2	0.021	0.021	Indeno(1,2,3-cd)pyrene	FC-6	0	24	45.9999996	-5.316	include	Yes	Include
HB13-14	6 - 24 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-6	6	24	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 42 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-6	24	42	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 46	9/12/2013	Area 2	0.022	0.022	Indeno(1,2,3-cd)pyrene	FC-6	24	46	45.9999996	-5.316	include	Yes	Include
HB13-14	42 - 46 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-6	42	46	45.9999996	-5.316	include	Yes	Include
HB13-15	0 - 6 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-7	0	6	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	6 - 12 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-7	6	12	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	12 - 19 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-7	12	19	18.9999996	18.516	include	Yes	Include
HB13-16	0 - 6 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		0	6	26.0000004			Yes	Include
HB13-16	6 - 12 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		6	12	26.0000004			Yes	Include
HB13-16	12 - 18 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		12	18	26.0000004			Yes	Include
HB13-16	18 - 24 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		18	24	26.0000004			Yes	Include
HB13-16	24 - 27 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		24	27	26.0000004			Yes	Include
HB13-17	0 - 12 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-7	0	12	24	16.2	exclude	Yes	Exclude
HB13-17	12 - 18 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-7	12	18	24	16.2	include	Yes	Include
HB13-17	18 - 24 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-7	18	24	24	16.2	include	Yes	Include
HB13-17	24 - 47 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-7	24	47	24	16.2	include	No	Exclude
HB13-18	0 - 6	9/12/2013	Area 2	0.21	0.21	Indeno(1,2,3-cd)pyrene		0	6	9.9999996			Yes	Include
HB13-18	6 - 10	9/12/2013	Area 2	0.047	0.047	Indeno(1,2,3-cd)pyrene		6	10	9.9999996			Yes	Include
HB13-18	10 - 16	9/12/2013	Area 2	0.0097 U	0.0097	Indeno(1,2,3-cd)pyrene		10	16	9.9999996			No	Exclude
HB13-19	0 - 6 *	9/13/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		0	6					Exclude
HB13-19	6 - 24 *	9/13/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		6	24					Exclude
HB13-19	18 - 20 *	9/13/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		18	20					Exclude
HB13-19	24 - 42 *	9/13/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		24	42					Exclude
HB13-19	42 - 61 *	9/13/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		42	61					Exclude
HB13-19	61 - 67 *	9/13/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		61	67					Exclude
HB13-20	0 - 6 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		0	6	24			Yes	Include
HB13-20	0 - 12	9/12/2013	Area 2	0.029	0.029	Indeno(1,2,3-cd)pyrene		0	12	24			Yes	Include
HB13-20	6 - 12 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		6	12	24			Yes	Include
HB13-20	12 - 18 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		12	18	24			Yes	Include
HB13-20	12 - 24	9/12/2013	Area 2	0.041	0.041	Indeno(1,2,3-cd)pyrene		12	24	24			Yes	Include
HB13-20	18 - 24 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		18	24	24			Yes	Include
HB13-20	24 - 30 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		24	30	24			No	Exclude
HB13-20	24 - 36	9/12/2013	Area 2	0.026	0.026	Indeno(1,2,3-cd)pyrene		24	36	24			No	Exclude
HB13-20	30 - 36 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		30	36	24			No	Exclude
HB13-20	36 - 42 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		36	42	24			No	Exclude
HB13-20	36 - 48	9/12/2013	Area 2	0.043	0.043	Indeno(1,2,3-cd)pyrene		36	48	24			No	Exclude
HB13-20	42 - 48 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		42	48	24			No	Exclude
HB13-21	0 - 6 *	9/13/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-10	0	6	24			Yes	Include
HB13-21	6 - 24 *	9/13/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-10	6	24	24			Yes	Include
HB13-21	24 - 48 *	9/13/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-10	24	48	24			No	Exclude
HB13-21	48 - 72 *	9/13/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-10	48	72	24			No	Exclude
HB13-21	72 - 88 *	9/13/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-10	72	88	24			No	Exclude
HB13-22	0 - 28 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-7	0	28	24	36.72	exclude	Yes	Exclude
HB13-22	28 - 31 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-7	28	31	24	36.72	exclude	No	Exclude
HB13-23	0 - 12 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	SND-5	0	12	27			Yes	Include
HB13-23	12 - 18 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	SND-5	12	18	27			Yes	Include
HB13-23	18 - 24 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	SND-5	18	24	27			Yes	Include
HB13-23	24 - 32 *	9/12/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	SND-5	24	32	27			Yes	Include
HB13-24	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-3	0	6	6			Yes	Include
HB13-24	0 - 24 *	9/12/2013	HUGHITT AVE SLIP	0.37	0.37	Indeno(1,2,3-cd)pyrene	HS-3	0	24	6			Yes	Include
HB13-24	6 - 24	9/12/2013	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-3	6	24	6			No	Exclude
HB13-25	0 - 6 *	9/12/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	OC-11	0	6	57			Yes	Include
HB13-25	0 - 18	9/12/2013	Area 1	0.041	0.041	Indeno(1,2,3-cd)pyrene	OC-11	0	18	57			Yes	Include
HB13-25	6 - 18 *	9/12/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	OC-11	6	18	57			Yes	Include
HB13-25	18 - 36 *	9/12/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	OC-11	18	36	57			Yes	Include
HB13-25	18 - 57	9/12/2013	Area 1	0.014	0.014	Indeno(1,2,3-cd)pyrene	OC-11	18	57	57			Yes	Include
HB13-25	36 - 57 *	9/12/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	OC-11	36	57	57			Yes	Include
HB13-26	0 - 12	9/13/2013	Area 1	0.019	0.019	Indeno(1,2,3-cd)pyrene	FC-10	0	12	33	17.04	exclude	Yes	Exclude
HB13-26	12 - 18	9/13/2013	Area 1	0.037	0.037	Indeno(1,2,3-cd)pyrene	FC-10	12	18	33	17.04	include	Yes	Include
HB13-26	18 - 33	9/13/2013	Area 1	0.034	0.034	Indeno(1,2,3-cd)pyrene	FC-10	18	33	33	17.04	include	Yes	Include
HB13-27	0 - 6 *	9/13/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene		0	6					Exclude
HB13-27	0 - 32	9/13/2013	Area 1	0.0097 U	0.0097	Indeno(1,2,3-cd)pyrene		0	32					Exclude
HB13-28	0 - 8 *	9/13/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-11	0	8	14.0000004	13.68	exclude	Yes	Exclude
HB13-28	8 - 14 *	9/13/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-11	8	14	14.0000004	13.68	include	Yes	Include
HB13-28	14 - 26 *	9/13/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-11	14	26	14.0000004	13.68	include	Yes	Include
HB13-28	26 - 40 *	9/13/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-11	26	40	14.0000004	13.68	include	No	Exclude
HB13-29	0 - 6	9/13/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-12/FC-13	0	6	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 12 *	9/13/2013	Area 1	0.034	0.034	Indeno(1,2,3-cd)pyrene	FC-12/FC-13	0	12	44.0000004	1.044	include	Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB13-29	0 - 18 *	9/13/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-12/FC-13	0	18	44.0000004	1.044	include	Yes	Include
HB13-29	6 - 12	9/13/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-12/FC-13	6	12	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 24	9/13/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-12/FC-13	12	24	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 44 *	9/13/2013	Area 1	0.056	0.056	Indeno(1,2,3-cd)pyrene	FC-12/FC-13	12	44	44.0000004	1.044	include	Yes	Include
HB13-29	24 - 44	9/13/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-12/FC-13	24	44	44.0000004	1.044	include	Yes	Include
HB13-30	0 - 6	9/10/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	SND-1	0	6	60			Yes	Include
HB13-30	6 - 24	9/10/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	SND-1	6	24	60			Yes	Include
HB13-30	24 - 42	9/10/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	SND-1	24	42	60			Yes	Include
HB13-30	42 - 60	9/10/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	SND-1	42	60	60			Yes	Include
HB13-30	60 - 78	9/10/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	SND-1	60	78	60			No	Exclude
HB13-31	0 - 6	9/13/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-16	0	6	27	2.76	include	Yes	Include
HB13-31	6 - 18	9/13/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-16	6	18	27	2.76	include	Yes	Include
HB13-31	18 - 27	9/13/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-16	18	27	27	2.76	include	Yes	Include
HB13-31	27 - 33	9/13/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-16	27	33	27	2.76	include	No	Exclude
HB13-32	0 - 6	9/13/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-14	0	6	26.0000004	-2.52	include	Yes	Include
HB13-32	6 - 18	9/13/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-14	6	18	26.0000004	-2.52	include	Yes	Include
HB13-32	18 - 26	9/13/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-14	18	26	26.0000004	-2.52	include	Yes	Include
HB13-32	26 - 32	9/13/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-14	26	32	26.0000004	-2.52	include	Yes	Include
HB13-33	0 - 6	9/13/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene		0	6	12			Yes	Include
HB13-33	6 - 12	9/13/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene		6	12	12			Yes	Include
HB13-34	0 - 6	9/13/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene		0	6	0.5000004			Yes	Include
HB13-35	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene		0	6	3.9999996			Yes	Include
HB13-35	6 - 12	9/13/2013	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene		6	12	3.9999996			No	Exclude
HB13-37	2 - 6	9/10/2013	Hughitt Ave Slip	1.6	1.6	Indeno(1,2,3-cd)pyrene	HS-3	2	6	6			Yes	Include
HB13-38	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-3	0	6	6			Yes	Include
HB13-39	4 - 10	9/13/2013	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-2	4	10	27.9999996			Yes	Include
HB13-39	10 - 28	9/13/2013	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-2	10	28	27.9999996			Yes	Include
HB13-39	28 - 34	9/13/2013	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-2	28	34	27.9999996			No	Exclude
HB13-40	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-2	0	6	86.0000004			Yes	Include
HB13-40	0 - 24 *	9/13/2013	Hughitt Ave Slip	0.079	0.079	Indeno(1,2,3-cd)pyrene	HS-2	0	24	86.0000004			Yes	Include
HB13-40	6 - 24	9/13/2013	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-2	6	24	86.0000004			Yes	Include
HB13-40	24 - 48	9/13/2013	Hughitt Ave Slip	0.22	0.22	Indeno(1,2,3-cd)pyrene	HS-2	24	48	86.0000004			Yes	Include
HB13-40	48 - 72	9/13/2013	Hughitt Ave Slip	0.033	0.033	Indeno(1,2,3-cd)pyrene	HS-2	48	72	86.0000004			Yes	Include
HB13-40	72 - 86	9/13/2013	Hughitt Ave Slip	0.013 U	0.013	Indeno(1,2,3-cd)pyrene	HS-2	72	86	86.0000004			Yes	Include
HB13-41	0 - 6	9/10/2013	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-2	0	6	29.0000004			Yes	Include
HB13-41	0 - 24 *	9/10/2013	Hughitt Ave Slip	0.57	0.57	Indeno(1,2,3-cd)pyrene	HS-2	0	24	29.0000004			Yes	Include
HB13-41	6 - 24	9/10/2013	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-2	6	24	29.0000004			Yes	Include
HB13-41	24 - 29	9/10/2013	Hughitt Ave Slip	0.24	0.24	Indeno(1,2,3-cd)pyrene	HS-2	24	29	29.0000004			Yes	Include
HB13-42	0 - 6	9/11/2013	Cummings Ave Slip	1	1	Indeno(1,2,3-cd)pyrene	CS-3	0	6	33			Yes	Include
HB13-42	6 - 24	9/11/2013	Cummings Ave Slip	0.26	0.26	Indeno(1,2,3-cd)pyrene	CS-3	6	24	33			Yes	Include
HB13-42	24 - 33	9/11/2013	Cummings Ave Slip	0.1	0.1	Indeno(1,2,3-cd)pyrene	CS-3	24	33	33			Yes	Include
HB13-42	33 - 36	9/11/2013	Cummings Ave Slip	0.010 U	0.01	Indeno(1,2,3-cd)pyrene	CS-3	33	36	33			No	Exclude
HB13-43	0 - 6	9/11/2013	Cummings Ave Slip	4.9	4.9	Indeno(1,2,3-cd)pyrene	CS-2	0	6	24			Yes	Include
HB13-43	0 - 24 *	9/11/2013	Cummings Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	CS-2	0	24	24			Yes	Include
HB13-43	6 - 24	9/11/2013	Cummings Ave Slip	0.21	0.21	Indeno(1,2,3-cd)pyrene	CS-2	6	24	24			Yes	Include
HB13-45	0 - 6	9/11/2013	Cummings Ave Slip	0.97	0.97	Indeno(1,2,3-cd)pyrene	CS-2	0	6	21			Yes	Include
HB13-45	6 - 21	9/11/2013	Cummings Ave Slip	1.8	1.8	Indeno(1,2,3-cd)pyrene	CS-2	6	21	21			Yes	Include
HB13-47	0 - 6	9/10/2013	Fraser Ave Slip	0.83	0.83	Indeno(1,2,3-cd)pyrene	FS-1	0	6	30.996			Yes	Include
HB13-47	6 - 24	9/10/2013	Fraser Ave Slip	1	1	Indeno(1,2,3-cd)pyrene	FS-1	6	24	30.996			Yes	Include
HB13-47	24 - 31	9/10/2013	Fraser Ave Slip	1.8	1.8	Indeno(1,2,3-cd)pyrene	FS-1	24	31	30.996			Yes	Include
HB13-47	31 - 37 *	9/10/2013	Fraser Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	FS-1	31	37	30.996			No	Exclude
HB13-48	0 - 6 *	9/10/2013	Fraser Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	FS-2	0	6	45.9999996			Yes	Include
HB13-48	0 - 24	9/10/2013	FRASER AVE SLIP	1.3	1.3	Indeno(1,2,3-cd)pyrene	FS-2	0	24	45.9999996			Yes	Include
HB13-48	6 - 24 *	9/10/2013	Fraser Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	FS-2	6	24	45.9999996			Yes	Include
HB13-48	24 - 42 *	9/10/2013	Fraser Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	FS-2	24	42	45.9999996			Yes	Include
HB13-48	24 - 46 *	9/10/2013	FRASER AVE SLIP	1.6	1.6	Indeno(1,2,3-cd)pyrene	FS-2	24	46	45.9999996			Yes	Include
HB13-48	42 - 46 *	9/10/2013	Fraser Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	FS-2	42	46	45.9999996			Yes	Include
HB13-49	0 - 6	9/11/2013	Fraser Ave Slip	0.51	0.51	Indeno(1,2,3-cd)pyrene	FS-2	0	6	30			Yes	Include
HB13-49	6 - 24	9/11/2013	Fraser Ave Slip	0.49	0.49	Indeno(1,2,3-cd)pyrene	FS-2	6	24	30			Yes	Include
HB13-49	24 - 30	9/11/2013	Fraser Ave Slip	0.61	0.61	Indeno(1,2,3-cd)pyrene	FS-2	24	30	30			Yes	Include
HB13-50	0 - 12 *	9/13/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	OC-12	0	12	47.0000004			Yes	Include
HB13-50	12 - 24 *	9/13/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	OC-12	12	24	47.0000004			Yes	Include
HB13-50	24 - 36 *	9/13/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	OC-12	24	36	47.0000004			Yes	Include
HB13-50	36 - 47 *	9/13/2013	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	OC-12	36	47	47.0000004			Yes	Include
HB13-51	0 - 6 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		0	6					Exclude
HB13-51	6 - 15 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		6	15					Exclude
HB13-52	0 - 6 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-10	0	6	12			Yes	Include
HB13-52	6 - 12 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-10	6	12	12			Yes	Include
HB13-52	12 - 17 *	9/11/2013	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-10	12	17	12			No	Exclude
HB14-01	0 - 6	8/18/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	SND-1	0	6					Exclude
HB14-01	6 - 18	8/18/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	SND-1	6	18					Exclude
HB14-02	0 - 6	8/18/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-15	0	6	17.004	-12.996	include	Yes	Include
HB14-02	6 - 14	8/18/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-15	6	14	17.004	-12.996	include	Yes	Include
HB14-03	0 - 6	8/18/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-15	0	6	29.997288	-2.472	include	Yes	Include
HB14-03	6 - 18	8/18/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-15	6	18	29.997288	-2.472	include	Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB14-03	18 - 30	8/18/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-15	18	30	29.997288	-2.472	include	Yes	Include
HB14-03	30 - 42	8/18/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-15	30	42	29.997288	-2.472	include	No	Exclude
HB14-03	42 - 54	8/18/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-15	42	54	29.997288	-2.472	include	No	Exclude
HB14-04	0 - 6	8/18/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene		0	6	29.904			Yes	Include
HB14-04	6 - 18	8/18/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene		6	18	29.904			Yes	Include
HB14-04	18 - 30	8/18/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene		18	30	29.904			Yes	Include
HB14-05 G		8/18/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene			#VALUE!					Exclude
HB14-06	0 - 6	8/18/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene		0	6	30.588			Yes	Include
HB14-06	6 - 24	8/18/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene		6	24	30.588			Yes	Include
HB14-07	0 - 6	8/18/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene		0	6	78.012			Yes	Include
HB14-07	6 - 24	8/18/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene		6	24	78.012			Yes	Include
HB14-07	24 - 42	8/18/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene		24	42	78.012			Yes	Include
HB14-08	0 - 6	8/19/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene		0	6	34.416			Yes	Include
HB14-08	6 - 19	8/19/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene		6	19	34.416			Yes	Include
HB14-09	0 - 12	8/19/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	OC-16	0	12	12.003804			Yes	Include
HB14-09	12 - 24	8/19/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	OC-16	12	24	12.003804			Yes	Include
HB14-09	24 - 36	8/19/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	OC-16	24	36	12.003804			No	Exclude
HB14-09	36 - 48	8/19/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	OC-16	36	48	12.003804			No	Exclude
HB14-09	48 - 60	8/19/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	OC-16	48	60	12.003804			No	Exclude
HB14-09	60 - 72	8/19/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	OC-16	60	72	12.003804			No	Exclude
HB14-10	0 - 6	8/20/2014	Area 1	0.12	0.12	Indeno(1,2,3-cd)pyrene		0	6	54.005544			Yes	Include
HB14-10	6 - 18	8/20/2014	Area 1	0.1	0.1	Indeno(1,2,3-cd)pyrene		6	18	54.005544			Yes	Include
HB14-10	18 - 30	8/20/2014	Area 1	0.15	0.15	Indeno(1,2,3-cd)pyrene		18	30	54.005544			Yes	Include
HB14-10	30 - 42	8/20/2014	Area 1	0.15	0.15	Indeno(1,2,3-cd)pyrene		30	42	54.005544			Yes	Include
HB14-10	42 - 54	8/20/2014	Area 1	0.14	0.14	Indeno(1,2,3-cd)pyrene		42	54	54.005544			Yes	Include
HB14-10	54 - 66	8/20/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene		54	66	54.005544			Yes	Include
HB14-11	0 - 6	8/19/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	SND-2	0	6					Exclude
HB14-11	6 - 18	8/19/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	SND-2	6	18					Exclude
HB14-11	18 - 20	8/19/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	SND-2	18	20					Exclude
HB14-12	0 - 6	8/19/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	SND-4	0	6	26.34			Yes	Include
HB14-12	6 - 18	8/19/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	SND-4	6	18	26.34			Yes	Include
HB14-12	18 - 32	8/19/2014	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	SND-4	18	32	26.34			Yes	Include
HB14-13	0 - 6	8/19/2014	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	SND-5	0	6	-0.648			No	Exclude
HB14-13	6 - 11	8/19/2014	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	SND-5	6	11	-0.648			No	Exclude
HB14-14	0 - 6	8/20/2014	Area 2	0.074	0.074	Indeno(1,2,3-cd)pyrene	OC-4	0	6	101.997672			Yes	Include
HB14-14	4 - 6	8/20/2014	Area 2	0.27	0.27	Indeno(1,2,3-cd)pyrene	OC-4	4	6	101.997672			Yes	Include
HB14-14	6 - 18	8/20/2014	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-4	6	18	101.997672			Yes	Include
HB14-14	6 - 30	8/20/2014	Area 2	0.0350 U	0.035	Indeno(1,2,3-cd)pyrene	OC-4	6	30	101.997672			Yes	Include
HB14-14	18 - 30	8/20/2014	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-4	18	30	101.997672			Yes	Include
HB14-14	30 - 42	8/20/2014	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-4	30	42	101.997672			Yes	Include
HB14-14	30 - 54	8/20/2014	Area 2	0.19	0.19	Indeno(1,2,3-cd)pyrene	OC-4	30	54	101.997672			Yes	Include
HB14-14	42 - 54	8/20/2014	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-4	42	54	101.997672			Yes	Include
HB14-14	54 - 66	8/20/2014	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-4	54	66	101.997672			Yes	Include
HB14-14	54 - 78	8/20/2014	Area 2	0.16	0.16	Indeno(1,2,3-cd)pyrene	OC-4	54	78	101.997672			Yes	Include
HB14-14	66 - 78	8/20/2014	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-4	66	78	101.997672			Yes	Include
HB14-14	78 - 90	8/20/2014	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-4	78	90	101.997672			Yes	Include
HB14-14	78 - 102	8/20/2014	Area 2	0.32	0.32	Indeno(1,2,3-cd)pyrene	OC-4	78	102	101.997672			Yes	Include
HB14-14	90 - 102	8/20/2014	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-4	90	102	101.997672			Yes	Include
HB14-14	102 - 111	8/20/2014	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-4	102	111	101.997672			No	Exclude
HB15-01	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	0	12	51.096			Yes	Include
HB15-01	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	12	24	51.096			Yes	Include
HB15-01	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	24	36	51.096			Yes	Include
HB15-01	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	36	48	51.096			Yes	Include
HB15-01	48 - 57	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	48	57	51.096			Yes	Include
HB15-02	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	0	12	48.000696			Yes	Include
HB15-02	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	12	24	48.000696			Yes	Include
HB15-02	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	24	36	48.000696			Yes	Include
HB15-02	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	36	48	48.000696			Yes	Include
HB15-03	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	0	12	67.9950564			Yes	Include
HB15-03	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	12	24	67.9950564			Yes	Include
HB15-03	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	24	36	67.9950564			Yes	Include
HB15-03	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	36	48	67.9950564			Yes	Include
HB15-03	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	48	60	67.9950564			Yes	Include
HB15-03	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	60	68	67.9950564			Yes	Include
HB15-03R	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	0	12	67.9950564			Yes	Include
HB15-03R	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	12	24	67.9950564			Yes	Include
HB15-03R	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	24	36	67.9950564			Yes	Include
HB15-03R	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	36	48	67.9950564			Yes	Include
HB15-03R	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	48	60	67.9950564			Yes	Include
HB15-03R	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	60	68	67.9950564			Yes	Include
HB15-04	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	0	12	63.84			Yes	Include
HB15-04	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	12	24	63.84			Yes	Include
HB15-04	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	24	36	63.84			Yes	Include
HB15-04	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	36	48	63.84			Yes	Include
HB15-04	48 - 59	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	48	59	63.84			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB15-05	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	0	12	71.994852			Yes	Include
HB15-05	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	12	24	71.994852			Yes	Include
HB15-05	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	24	36	71.994852			Yes	Include
HB15-05	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	36	48	71.994852			Yes	Include
HB15-05	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	48	60	71.994852			Yes	Include
HB15-05	60 - 72	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	60	72	71.994852			Yes	Include
HB15-05	72 - 80	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-1	72	80	71.994852			No	Exclude
HB15-06	0 - 9	6/23/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	HS-2	0	9	9.000636			Yes	Include
HB15-07	0 - 12	6/23/2015	Cummings Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	CS-1	0	12	90.9955116			Yes	Include
HB15-07	12 - 24	6/23/2015	Cummings Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	CS-1	12	24	90.9955116			Yes	Include
HB15-07	24 - 36	6/23/2015	Cummings Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	CS-1	24	36	90.9955116			Yes	Include
HB15-07	36 - 48	6/23/2015	Cummings Ave Slip	1.3	1.3	Indeno(1,2,3-cd)pyrene	CS-1	36	48	90.9955116			Yes	Include
HB15-07	48 - 60	6/23/2015	Cummings Ave Slip	1.9	1.9	Indeno(1,2,3-cd)pyrene	CS-1	48	60	90.9955116			Yes	Include
HB15-07	60 - 72	6/23/2015	Cummings Ave Slip	1.5	1.5	Indeno(1,2,3-cd)pyrene	CS-1	60	72	90.9955116			Yes	Include
HB15-07	72 - 84	6/23/2015	Cummings Ave Slip	1.3	1.3	Indeno(1,2,3-cd)pyrene	CS-1	72	84	90.9955116			Yes	Include
HB15-07	84 - 91	6/23/2015	Cummings Ave Slip	1.8	1.8	Indeno(1,2,3-cd)pyrene	CS-1	84	91	90.9955116			Yes	Include
HB15-08	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	CS-2	0	12	65.997804			Yes	Include
HB15-08	12 - 24	6/24/2015	Cummings Ave Slip	1.1	1.1	Indeno(1,2,3-cd)pyrene	CS-2	12	24	65.997804			Yes	Include
HB15-08	24 - 36	6/24/2015	Cummings Ave Slip	0.91	0.91	Indeno(1,2,3-cd)pyrene	CS-2	24	36	65.997804			Yes	Include
HB15-08	36 - 48	6/24/2015	Cummings Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	CS-2	36	48	65.997804			Yes	Include
HB15-08	48 - 60	6/24/2015	Cummings Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	CS-2	48	60	65.997804			Yes	Include
HB15-08	60 - 66	6/24/2015	Cummings Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	CS-2	60	66	65.997804			Yes	Include
HB15-09	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	CS-3	0	12	45.396			Yes	Include
HB15-09	12 - 17	6/24/2015	Cummings Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	CS-3	12	17	45.396			Yes	Include
HB15-10	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene		0	12	-0.936			No	Exclude
HB15-11	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	CS-5	0	12	27.9944796			Yes	Include
HB15-11	12 - 24	6/24/2015	Cummings Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	CS-5	12	24	27.9944796			Yes	Include
HB15-11	24 - 28	6/24/2015	Cummings Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	CS-5	24	28	27.9944796			Yes	Include
HB15-12	0 - 12	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	0	12	29.994876			Yes	Include
HB15-12	12 - 24	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	12	24	29.994876			Yes	Include
HB15-12	24 - 30	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	24	30	29.994876			Yes	Include
HB15-13	0 - 12	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	0	12	64.0033716			Yes	Include
HB15-13	12 - 24	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	12	24	64.0033716			Yes	Include
HB15-13	24 - 36	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	24	36	64.0033716			Yes	Include
HB15-13	36 - 48	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	36	48	64.0033716			Yes	Include
HB15-13	48 - 60	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	48	60	64.0033716			Yes	Include
HB15-13	60 - 64	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	60	64	64.0033716			Yes	Include
HB15-14	0 - 12	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	0	12	23.996196			Yes	Include
HB15-14	12 - 24	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	12	24	23.996196			Yes	Include
HB15-14	24 - 28	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	24	28	23.996196			No	Exclude
HB15-14	28 - 35	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	28	35	23.996196			No	Exclude
HB15-15	0 - 12	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-2	0	12	19.0051356			Yes	Include
HB15-15	12 - 19	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-2	12	19	19.0051356			Yes	Include
HB15-15R	0 - 12	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-2	0	12	18.9999996			Yes	Include
HB15-15R	12 - 19	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-2	12	19	18.9999996			Yes	Include
HB15-16	0 - 12	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	0	12	8.304			Yes	Include
HB15-16	12 - 19	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-1	12	19	8.304			No	Exclude
HB15-17	0 - 12	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-2	0	12	36.004608			Yes	Include
HB15-17	12 - 24	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-2	12	24	36.004608			Yes	Include
HB15-17	24 - 36	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-2	24	36	36.004608			Yes	Include
HB15-17	36 - 48	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-2	36	48	36.004608			Yes	Include
HB15-17	48 - 54	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-2	48	54	36.004608			No	Exclude
HB15-18	0 - 12	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-2	0	12	23.999508			Yes	Include
HB15-18	12 - 24	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FP-2	12	24	23.999508			Yes	Include
HB15-19	0 - 12	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		0	12					Exclude
HB15-19	12 - 24	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		12	24					Exclude
HB15-19	24 - 32	6/24/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		24	32					Exclude
HB15-20	0 - 12	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-3	0	12	33.864			Yes	Include
HB15-20	12 - 24	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-3	12	24	33.864			Yes	Include
HB15-20	24 - 28	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-3	24	28	33.864			Yes	Include
HB15-20B	0 - 6	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-13	0	6	11.996892			Yes	Include
HB15-20B	6 - 12	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-13	6	12	11.996892			Yes	Include
HB15-21G	15 - 21	6/29/2015	Fraser Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene		15	21					Exclude
HB15-22G	0 - 6	6/29/2015	Fraser Ave Slip	0.1	0.1	Indeno(1,2,3-cd)pyrene	OC-8	0	6	6			Yes	Include
HB15-23	0 - 12	6/25/2015	Fraser Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	FS-1	0	12	55.02			Yes	Include
HB15-23	12 - 24	6/25/2015	Fraser Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	FS-1	12	24	55.02			Yes	Include
HB15-23	24 - 36	6/25/2015	Fraser Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	FS-1	24	36	55.02			Yes	Include
HB15-23	36 - 48	6/25/2015	Fraser Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	FS-1	36	48	55.02			Yes	Include
HB15-23	48 - 56	6/25/2015	Fraser Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene	FS-1	48	56	55.02			Yes	Include
HB15-25	0 - 12	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-1	0	12	77.4			Yes	Include
HB15-25	12 - 24	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-1	12	24	77.4			Yes	Include
HB15-25	24 - 36	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-1	24	36	77.4			Yes	Include
HB15-25	36 - 48	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-1	36	48	77.4			Yes	Include
HB15-25	48 - 60	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-1	48	60	77.4			Yes	Include
HB15-25	60 - 72	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-1	60	72	77.4			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB15-25	72 - 88	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-1	72	88	77.4			Yes	Include
HB15-26	0 - 12	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-2	0	12	38.28	6.36	include	Yes	Include
HB15-26	12 - 24	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-2	12	24	38.28	6.36	include	Yes	Include
HB15-26	24 - 36	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-2	24	36	38.28	6.36	include	Yes	Include
HB15-26	36 - 46	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-2	36	46	38.28	6.36	include	Yes	Include
HB15-27	0 - 12	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-3	0	12	33.6	14.64	exclude	Yes	Exclude
HB15-27	12 - 24	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-3	12	24	33.6	14.64	include	Yes	Include
HB15-27	24 - 36	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-3	24	36	33.6	14.64	include	Yes	Include
HB15-27	36 - 48	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-3	36	48	33.6	14.64	include	No	Exclude
HB15-27	48 - 60	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-3	48	60	33.6	14.64	include	No	Exclude
HB15-27	60 - 71	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	FC-3	60	71	33.6	14.64	include	No	Exclude
HB15-28	0 - 12	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-7	0	12	11.994072			Yes	Include
HB15-28	12 - 24	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-7	12	24	11.994072			No	Exclude
HB15-28	24 - 30	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-7	24	30	11.994072			No	Exclude
HB15-30	0 - 12	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		0	12	43.776			Yes	Include
HB15-30	12 - 24	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		12	24	43.776			Yes	Include
HB15-30	24 - 36	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		24	36	43.776			Yes	Include
HB15-30	36 - 50	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		36	50	43.776			Yes	Include
HB15-31	0 - 12	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		0	12					Exclude
HB15-31	12 - 20	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		12	20					Exclude
HB15-32	0 - 12	6/25/2015	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	SND-4	0	12	11.995236			Yes	Include
HB15-32	12 - 26	6/25/2015	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	SND-4	12	26	11.995236			No	Exclude
HB15-33	0 - 12	6/25/2015	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene		0	12	26.292			Yes	Include
HB15-33	12 - 24	6/25/2015	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene		12	24	26.292			Yes	Include
HB15-33	24 - 39	6/25/2015	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene		24	39	26.292			Yes	Include
HB15-34	0 - 12	6/25/2015	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-11	0	12		35.52	exclude		Exclude
HB15-34	12 - 24	6/25/2015	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-11	12	24		35.52	exclude		Exclude
HB15-34	24 - 32	6/25/2015	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-11	24	32		35.52	exclude		Exclude
HB15-35	0 - 12	6/25/2015	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-16	0	12	74.28	-6.48	include	Yes	Include
HB15-35	12 - 24	6/25/2015	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-16	12	24	74.28	-6.48	include	Yes	Include
HB15-35	24 - 36	6/25/2015	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-16	24	36	74.28	-6.48	include	Yes	Include
HB15-35	36 - 48	6/25/2015	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-16	36	48	74.28	-6.48	include	Yes	Include
HB15-35	48 - 60	6/25/2015	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-16	48	60	74.28	-6.48	include	Yes	Include
HB15-35	60 - 72	6/25/2015	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	FC-16	60	72	74.28	-6.48	include	Yes	Include
HB15-36G	15 - 36	6/29/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene		15	36					Exclude
HB15-37	0 - 12	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-9	0	12	51.048			Yes	Include
HB15-37	12 - 24	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-9	12	24	51.048			Yes	Include
HB15-37	24 - 36	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-9	24	36	51.048			Yes	Include
HB15-37	36 - 48	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-9	36	48	51.048			Yes	Include
HB15-37	48 - 60	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-9	48	60	51.048			Yes	Include
HB15-37	60 - 74	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-9	60	74	51.048			No	Exclude
HB15-38	0 - 12	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-9	0	12	83.184			Yes	Include
HB15-38	12 - 24	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-9	12	24	83.184			Yes	Include
HB15-38	24 - 36	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-9	24	36	83.184			Yes	Include
HB15-38	36 - 48	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-9	36	48	83.184			Yes	Include
HB15-38	48 - 60	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-9	48	60	83.184			Yes	Include
HB15-38	60 - 72	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-9	60	72	83.184			Yes	Include
HB15-38	72 - 84	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-9	72	84	83.184			Yes	Include
HB15-38	84 - 96	6/25/2015	Area 2	NA	NA	Indeno(1,2,3-cd)pyrene	OC-9	84	96	83.184			No	Exclude
HB15-G28	0 - 6	6/25/2015	Hughitt Ave Slip	NA	NA	Indeno(1,2,3-cd)pyrene		0	6					Exclude
HB15-HC20A	0 - 6	6/25/2015	Area 1	NA	NA	Indeno(1,2,3-cd)pyrene	OC-13	0	6	6.003036			Yes	Include
HB2A_4	0 - 6	5/12/2007	Hughitt Ave Slip	0.024	0.024	Naphthalene	HS-1	0	6	48.00432			Yes	Include
HB2A_4	6 - 24	5/12/2007	Hughitt Ave Slip	0.048 J-	0.048	Naphthalene	HS-1	6	24	48.00432			Yes	Include
HB2A_4	24 - 48	5/12/2007	Hughitt Ave Slip	0.051	0.051	Naphthalene	HS-1	24	48	48.00432			Yes	Include
HB2A_6	0 - 5	5/2/2007	Area 1	0.084	0.084	Naphthalene		0	5					Exclude
HB2A_7	0 - 5	5/10/2007	Area 1	0.068 J+BLM	0.068	Naphthalene	SND-1	0	5					Exclude
HB2A_8	0 - 5	5/10/2007	Area 1	0.075 J+BLM	0.075	Naphthalene	FC-12/FC-13	0	5	4.9944804	79.824	exclude	Yes	Exclude
HB2A_11	0 - 5	5/10/2007	Area 1	0.21 J-M-B	0.21	Naphthalene		0	5					Exclude
HB2A_13	0 - 5	5/2/2007	Area 1	0.068 BL	0.068	Naphthalene		0	5					Exclude
HB2A_16	0 - 5	5/2/2007	Area 1	0.035 J-BL	0.035	Naphthalene		0	5					Exclude
HB2A_210	0 - 6	5/16/2007	Area 1	0.022	0.022	Naphthalene		0	6					Exclude
HB2A_210	6 - 24	5/16/2007	Area 1	0.0045 J	0.0045	Naphthalene		6	24					Exclude
HB2A_210	24 - 48	5/16/2007	Area 1	0.0061 UJS-	0.0061	Naphthalene		24	48					Exclude
HB2A_GENES	0 - 5	5/22/2007	Cummings Ave Slip	0.14 BL	0.14	Naphthalene		0	5					Exclude
HB2B_17	0 - 6	5/12/2007	Fraser Ave Slip	0.074	0.074	Naphthalene	FS-2	0	6	24.005676			Yes	Include
HB2B_17	6 - 24	5/12/2007	Fraser Ave Slip	0.027	0.027	Naphthalene	FS-2	6	24	24.005676			Yes	Include
HB2B_18	0 - 6	5/7/2007	Area 2	0.12	0.12	Naphthalene	FP-1	0	6	47.997552			Yes	Include
HB2B_18	6 - 24	5/7/2007	Area 2	0.072	0.072	Naphthalene	FP-1	6	24	47.997552			Yes	Include
HB2B_18	24 - 48	5/7/2007	Area 2	0.053	0.053	Naphthalene	FP-1	24	48	47.997552			Yes	Include
HB2B_19	0 - 6	5/2/2007	Area 2	0.039 J-M-	0.039	Naphthalene	OC-1	0	6	6.001728			Yes	Include
HB2B_19	6 - 24	5/2/2007	Area 2	0.0062 J-M-	0.0062	Naphthalene	OC-1	6	24	6.001728			Yes	Include
HB2B_20	0 - 6	5/2/2007	Area 2	0.058 J-M-	0.058	Naphthalene	OC-9	0	6	23.997336			Yes	Include
HB2B_20	6 - 24	5/2/2007	Area 2	0.049 J-M-	0.049	Naphthalene	OC-9	6	24	23.997336			Yes	Include
HB2B_20	24 - 48	5/2/2007	Area 2	0.016 J-M-	0.016	Naphthalene	OC-9	24	48	23.997336			No	Exclude
HB2B_21	0 - 5	5/2/2007	Area 2	0.046 BL	0.046	Naphthalene		0	5					Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB2B_22	0 - 5	5/2/2007	Area 2	0.079 BL	0.079	Naphthalene	OC-5	0	5	5.0028204			Yes	Include
HB3A_GENES	0 - 5	9/6/2007	Cummings Ave Slip	0.015 BL	0.015	Naphthalene		0	5					Exclude
HB10-1-01	0 - 6	10/16/2010	Area 1	0.029	0.029	Naphthalene		0	6					Exclude
HB10-1-01	0 - 12	10/16/2010	Area 1	0.0071 U	0.0071	Naphthalene		0	12					Exclude
HB10-1-01	36 - 40	10/16/2010	Area 1	0.0051 U	0.0051	Naphthalene		36	40					Exclude
HB10-1-02	0 - 6	10/16/2010	Area 1	0.016 J	0.016	Naphthalene		0	6	23.0027508			Yes	Include
HB10-1-02	12 - 23	10/16/2010	Area 1	0.012 J	0.012	Naphthalene		12	23	23.0027508			Yes	Include
HB10-1-03	0 - 6	10/16/2010	Area 1	0.049	0.049	Naphthalene	FC-17	0	6	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	0 - 12	10/16/2010	Area 1	0.012	0.012	Naphthalene	FC-17	0	12	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	12 - 36	10/16/2010	Area 1	0.016	0.016	Naphthalene	FC-17	12	36	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	36 - 60	10/16/2010	Area 1	0.043	0.043	Naphthalene	FC-17	36	60	59.99475	49.872	include	Yes	Include
HB10-1-03	60 - 84	10/16/2010	Area 1	0.036	0.036	Naphthalene	FC-17	60	84	59.99475	49.872	include	No	Exclude
HB10-1-04	0 - 6	10/17/2010	Area 1	0.0096	0.0096	Naphthalene		0	6					Exclude
HB10-1-04	0 - 12	10/17/2010	Area 1	0.085	0.085	Naphthalene		0	12					Exclude
HB10-1-04	12 - 36	10/17/2010	Area 1	0.029	0.029	Naphthalene		12	36					Exclude
HB10-1-04	36 - 50	10/17/2010	Area 1	0.15	0.15	Naphthalene		36	50					Exclude
HB10-1-05	0 - 6	10/16/2010	Area 1	0.021	0.021	Naphthalene	OC-17	0	6	5.9987496			Yes	Include
HB10-1-07	0 - 6	10/17/2010	Area 1	0.57	0.57	Naphthalene	OC-15	0	6	6.0057			Yes	Include
HB10-1-07	0 - 12	10/17/2010	Area 1	0.045	0.045	Naphthalene	OC-15	0	12	6.0057			Yes	Include
HB10-1-07	12 - 36	10/17/2010	Area 1	0.028	0.028	Naphthalene	OC-15	12	36	6.0057			No	Exclude
HB10-1-07	60 - 64	10/17/2010	Area 1	0.0040 U	0.004	Naphthalene	OC-15	60	64	6.0057			No	Exclude
HB10-1-08	0 - 6	10/17/2010	Area 1	0.025	0.025	Naphthalene		0	6	36.0057			Yes	Include
HB10-1-08	0 - 12	10/17/2010	Area 1	0.037	0.037	Naphthalene		0	12	36.0057			Yes	Include
HB10-1-08	12 - 36	10/17/2010	Area 1	0.11	0.11	Naphthalene		12	36	36.0057			Yes	Include
HB10-1-10	0 - 6	10/18/2010	Area 1	0.063 U	0.063	Naphthalene	SND-1	0	6					Exclude
HB10-1-11	0 - 6	10/16/2010	Area 1	0.02	0.02	Naphthalene		0	6	20.9987496			Yes	Include
HB10-1-11	12 - 21	10/16/2010	Area 1	0.028 J	0.028	Naphthalene		12	21	20.9987496			Yes	Include
HB10-1-12	0 - 6	10/17/2010	Area 1	0.023	0.023	Naphthalene		0	6					Exclude
HB10-1-12	0 - 12	10/17/2010	Area 1	0.096	0.096	Naphthalene		0	12					Exclude
HB10-1-12	12 - 34	10/17/2010	Area 1	0.02	0.02	Naphthalene		12	34					Exclude
HB10-1-13	0 - 6	10/18/2010	Area 1	0.053	0.053	Naphthalene	FC-12/FC-13	0	6	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	0 - 12	10/18/2010	Area 1	0.04	0.04	Naphthalene	FC-12/FC-13	0	12	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	12 - 36	10/18/2010	Area 1	0.024	0.024	Naphthalene	FC-12/FC-13	12	36	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	60 - 67	10/18/2010	Area 1	0.042	0.042	Naphthalene	FC-12/FC-13	60	67	36.0053004	42.816	include	No	Exclude
HB10-1-14	0 - 6	10/17/2010	Area 1	0.018	0.018	Naphthalene		0	6	66.0057			Yes	Include
HB10-1-14	0 - 12	10/17/2010	Area 1	0.035	0.035	Naphthalene		0	12	66.0057			Yes	Include
HB10-1-14	12 - 36	10/17/2010	Area 1	0.036	0.036	Naphthalene		12	36	66.0057			Yes	Include
HB10-1-14	60 - 66	10/17/2010	Area 1	0.05	0.05	Naphthalene		60	66	66.0057			Yes	Include
HB10-1-15	0 - 6	10/18/2010	Area 1	0.0043 U	0.0043	Naphthalene	OC-13	0	6	16.0056996			Yes	Include
HB10-1-15	12 - 16	10/18/2010	Area 1	0.033	0.033	Naphthalene	OC-13	12	16	16.0056996			Yes	Include
HB10-1-16	0 - 6	10/17/2010	Hughitt Ave Slip	0.015	0.015	Naphthalene	HS-3	0	6	31.0056996			Yes	Include
HB10-1-16	0 - 12	10/17/2010	Hughitt Ave Slip	0.34 U	0.34	Naphthalene	HS-3	0	12	31.0056996			Yes	Include
HB10-1-16	12 - 31	10/17/2010	Hughitt Ave Slip	0.056	0.056	Naphthalene	HS-3	12	31	31.0056996			Yes	Include
HB10-1-17	0 - 6	10/17/2010	Area 1	0.026	0.026	Naphthalene	OC-14	0	6	12			Yes	Include
HB10-1-20	0 - 6	10/17/2010	Hughitt Ave Slip	0.068	0.068	Naphthalene		0	6	6.0057			Yes	Include
HB10-1-21	0 - 6	10/18/2010	Cummings Ave Slip	0.0066 J	0.0066	Naphthalene		0	6	6.0012996			Yes	Include
HB10-1-21	12 - 23	10/18/2010	Cummings Ave Slip	R	R	Naphthalene		12	23	6.0012996			No	Exclude
HB10-1-23	0 - 6	10/17/2010	Area 1	0.018	0.018	Naphthalene		0	6	36.0057			Yes	Include
HB10-1-23	0 - 12	10/17/2010	Area 1	0.041	0.041	Naphthalene		0	12	36.0057			Yes	Include
HB10-1-23	12 - 36	10/17/2010	Area 1	0.14	0.14	Naphthalene		12	36	36.0057			Yes	Include
HB10-1-24	0 - 6	10/18/2010	Cummings Ave Slip	0.028	0.028	Naphthalene	CS-4	0	6	36.0047496			Yes	Include
HB10-1-24	0 - 12	10/18/2010	Cummings Ave Slip	0.092	0.092	Naphthalene	CS-4	0	12	36.0047496			Yes	Include
HB10-1-24	12 - 36	10/18/2010	Cummings Ave Slip	0.082	0.082	Naphthalene	CS-4	12	36	36.0047496			Yes	Include
HB10-1-25	0 - 6	10/17/2010	Baxter Ave Embayment	0.031	0.031	Naphthalene		0	6	6.0057			Yes	Include
HB10-1-27	0 - 6	10/18/2010	Area 1	0.0089 U	0.0089	Naphthalene		0	6	-0.0027			No	Exclude
HB10-1-28	0 - 6	10/17/2010	Hughitt Ave Slip	0.042	0.042	Naphthalene	HS-1	0	6	84.0057			Yes	Include
HB10-1-28	0 - 12	10/17/2010	Hughitt Ave Slip	0.036	0.036	Naphthalene	HS-1	0	12	84.0057			Yes	Include
HB10-1-28	12 - 36	10/17/2010	Hughitt Ave Slip	0.036	0.036	Naphthalene	HS-1	12	36	84.0057			Yes	Include
HB10-1-28	36 - 60	10/17/2010	Hughitt Ave Slip	0.053	0.053	Naphthalene	HS-1	36	60	84.0057			Yes	Include
HB10-1-28	60 - 84	10/17/2010	Hughitt Ave Slip	0.11	0.11	Naphthalene	HS-1	60	84	84.0057			Yes	Include
HB10-1-28	60 - 96	10/17/2010	Hughitt Ave Slip	0.024	0.024	Naphthalene	HS-1	60	96	84.0057			Yes	Include
HB10-1-29	0 - 6	10/17/2010	Cummings Ave Slip	0.098	0.098	Naphthalene	CS-1	0	6	83.9937			Yes	Include
HB10-1-29	0 - 12	10/17/2010	Cummings Ave Slip	0.074	0.074	Naphthalene	CS-1	0	12	83.9937			Yes	Include
HB10-1-29	12 - 36	10/17/2010	Cummings Ave Slip	0.57	0.57	Naphthalene	CS-1	12	36	83.9937			Yes	Include
HB10-1-29	36 - 60	10/17/2010	Cummings Ave Slip	0.26	0.26	Naphthalene	CS-1	36	60	83.9937			Yes	Include
HB10-1-29	60 - 93	10/17/2010	Cummings Ave Slip	0.35	0.35	Naphthalene	CS-1	60	93	83.9937			Yes	Include
HB10-1-30	0 - 6	10/18/2010	Baxter Ave Embayment	0.043	0.043	Naphthalene		0	6	60.0053004			Yes	Include
HB10-1-30	0 - 12	10/18/2010	Baxter Ave Embayment	0.11	0.11	Naphthalene		0	12	60.0053004			Yes	Include
HB10-1-30	12 - 36	10/18/2010	Baxter Ave Embayment	0.074	0.074	Naphthalene		12	36	60.0053004			Yes	Include
HB10-1-30	36 - 60	10/18/2010	Baxter Ave Embayment	0.037	0.037	Naphthalene		36	60	60.0053004			Yes	Include
HB10-1-30	60 - 77	10/18/2010	Baxter Ave Embayment	0.04	0.04	Naphthalene		60	77	60.0053004			Yes	Include
HB10-1-31	0 - 6	10/18/2010	Baxter Ave Embayment	0.044	0.044	Naphthalene	OC-11	0	6	35.9973			Yes	Include
HB10-1-31	0 - 12	10/18/2010	Baxter Ave Embayment	0.06	0.06	Naphthalene	OC-11	0	12	35.9973			Yes	Include
HB10-1-31	12 - 36	10/18/2010	Baxter Ave Embayment	0.031	0.031	Naphthalene	OC-11	12	36	35.9973			Yes	Include
HB10-2-18	0 - 6	10/18/2010	Area 2	0.041	0.041	Naphthalene	OC-2	0	6	6.0053004			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB10-2-26	0 - 6	10/16/2010	Area 2	0.01	0.01	Naphthalene		0	6					Exclude
HB10-2-26	12 - 17	10/16/2010	Area 2	0.023 J	0.023	Naphthalene		12	17					Exclude
HB10-2-32	0 - 6	10/18/2010	Area 2	4.3	4.3	Naphthalene		0	6					Exclude
HB10-2-33	0 - 6	10/18/2010	Area 2	0.0094	0.0094	Naphthalene		0	6	6.0012996			Yes	Include
HB10-2-33	12 - 22	10/18/2010	Area 2	0.028	0.028	Naphthalene		12	22	6.0012996			No	Exclude
HB10-2-34	0 - 6	10/18/2010	Area 2	0.032	0.032	Naphthalene	FC-7	0	6	6.0053004	0.816	include	Yes	Include
HB10-2-35	0 - 6	10/18/2010	Area 2	0.0093	0.0093	Naphthalene		0	6	30.0012996			Yes	Include
HB10-2-35	0 - 12	10/18/2010	Area 2	0.013	0.013	Naphthalene		0	12	30.0012996			Yes	Include
HB10-2-35	12 - 30	10/18/2010	Area 2	0.045	0.045	Naphthalene		12	30	30.0012996			Yes	Include
HB10-2-36	0 - 6	10/18/2010	Area 2	0.037	0.037	Naphthalene	FC-5	0	6	6.0053004	-29.184	include	Yes	Include
HB10-2-37	0 - 6	10/18/2010	Area 2	0.021	0.021	Naphthalene		0	6	23.0013			Yes	Include
HB10-2-37	12 - 23	10/18/2010	Area 2	0.013	0.013	Naphthalene		12	23	23.0013			Yes	Include
HB10-2-38	0 - 6	10/18/2010	Area 2	0.0076 U	0.0076	Naphthalene	OC-6	0	6	38.0013			Yes	Include
HB10-2-38	0 - 12	10/18/2010	Area 2	0.029	0.029	Naphthalene	OC-6	0	12	38.0013			Yes	Include
HB10-2-38	36 - 38	10/18/2010	Area 2	0.14	0.14	Naphthalene	OC-6	36	38	38.0013			Yes	Include
HB10-2-39	0 - 6	10/18/2010	Area 2	0.0063 J	0.0063	Naphthalene		0	6	6.0012996			Yes	Include
HB10-2-39	0 - 12	10/18/2010	Area 2	0.012	0.012	Naphthalene		0	12	6.0012996			Yes	Include
HB10-2-39	12 - 28	10/18/2010	Area 2	0.012	0.012	Naphthalene		12	28	6.0012996			No	Exclude
HB10-2-40	0 - 6	10/18/2010	Area 2	0.03	0.03	Naphthalene	OC-5	0	6	48.0053004			Yes	Include
HB10-2-40	0 - 12	10/18/2010	Area 2	0.0099	0.0099	Naphthalene	OC-5	0	12	48.0053004			Yes	Include
HB10-2-40	12 - 36	10/18/2010	Area 2	0.0044 U	0.0044	Naphthalene	OC-5	12	36	48.0053004			Yes	Include
HB10-2-40	36 - 48	10/18/2010	Area 2	0.0043 U	0.0043	Naphthalene	OC-5	36	48	48.0053004			Yes	Include
HB10-2-41	0 - 6	10/18/2010	Area 2	0.21	0.21	Naphthalene	FP-2	0	6	31.0012992			Yes	Include
HB10-2-41	0 - 12	10/18/2010	Area 2	0.008	0.008	Naphthalene	FP-2	0	12	31.0012992			Yes	Include
HB10-2-41	12 - 31	10/18/2010	Area 2	0.0080 U	0.008	Naphthalene	FP-2	12	31	31.0012992			Yes	Include
HB10-2-42	0 - 6	10/18/2010	Area 2	0.024	0.024	Naphthalene	FP-1	0	6	12.0012996			Yes	Include
HB10-2-42	0 - 12	10/18/2010	Area 2	NA	NA	Naphthalene	FP-1	0	12	12.0012996			Yes	Include
HB10-2-42	12 - 30	10/18/2010	Area 2	0.045	0.045	Naphthalene	FP-1	12	30	12.0012996			Yes	Include
HB10-2-43	0 - 6	10/17/2010	Area 2	0.0071	0.0071	Naphthalene		0	6	22.0056996			Yes	Include
HB10-2-43	12 - 22	10/17/2010	Area 2	0.11	0.11	Naphthalene		12	22	22.0056996			Yes	Include
HB10-2-44	0 - 6	10/18/2010	Area 2	0.046	0.046	Naphthalene	FP-2	0	6	16.0012992			Yes	Include
HB10-2-44	12 - 16	10/18/2010	Area 2	0.062	0.062	Naphthalene	FP-2	12	16	16.0012992			Yes	Include
HB10-2-45	0 - 6	10/18/2010	Area 2	0.018	0.018	Naphthalene	FP-2	0	6	19.0012992			Yes	Include
HB10-2-45	12 - 19	10/18/2010	Area 2	0.059	0.059	Naphthalene	FP-2	12	19	19.0012992			Yes	Include
HB13-01	0 - 6 *	9/11/2013	Area 2	NA	NA	Naphthalene	FP-1	0	6	48			Yes	Include
HB13-01	6 - 12 *	9/11/2013	Area 2	NA	NA	Naphthalene	FP-1	6	12	48			Yes	Include
HB13-01	12 - 18 *	9/11/2013	Area 2	NA	NA	Naphthalene	FP-1	12	18	48			Yes	Include
HB13-01	18 - 24 *	9/11/2013	Area 2	NA	NA	Naphthalene	FP-1	18	24	48			Yes	Include
HB13-01	24 - 30 *	9/11/2013	Area 2	NA	NA	Naphthalene	FP-1	24	30	48			Yes	Include
HB13-01	30 - 36 *	9/11/2013	Area 2	NA	NA	Naphthalene	FP-1	30	36	48			Yes	Include
HB13-01	36 - 42 *	9/11/2013	Area 2	NA	NA	Naphthalene	FP-1	36	42	48			Yes	Include
HB13-01	42 - 48 *	9/11/2013	Area 2	NA	NA	Naphthalene	FP-1	42	48	48			Yes	Include
HB13-01	48 - 54 *	9/11/2013	Area 2	NA	NA	Naphthalene	FP-1	48	54	48			No	Exclude
HB13-01	54 - 60 *	9/11/2013	Area 2	NA	NA	Naphthalene	FP-1	54	60	48			No	Exclude
HB13-01	60 - 66 *	9/11/2013	Area 2	NA	NA	Naphthalene	FP-1	60	66	48			No	Exclude
HB13-01	66 - 72 *	9/11/2013	Area 2	NA	NA	Naphthalene	FP-1	66	72	48			No	Exclude
HB13-01	72 - 74 *	9/11/2013	Area 2	NA	NA	Naphthalene	FP-1	72	74	48			No	Exclude
HB13-02	0 - 6 *	9/9/2013	Area 2	0.016 U	0.016	Naphthalene		0	6	29.9960004			Yes	Include
HB13-02	6 - 12 *	9/9/2013	Area 2	NA	NA	Naphthalene		6	12	29.9960004			Yes	Include
HB13-02	12 - 18 *	9/9/2013	Area 2	NA	NA	Naphthalene		12	18	29.9960004			Yes	Include
HB13-02	18 - 24 *	9/9/2013	Area 2	NA	NA	Naphthalene		18	24	29.9960004			Yes	Include
HB13-02	24 - 30 *	9/9/2013	Area 2	NA	NA	Naphthalene		24	30	29.9960004			Yes	Include
HB13-02	30 - 36 *	9/9/2013	Area 2	NA	NA	Naphthalene		30	36	29.9960004			No	Exclude
HB13-02	36 - 42 *	9/9/2013	Area 2	NA	NA	Naphthalene		36	42	29.9960004			No	Exclude
HB13-02	42 - 48 *	9/9/2013	Area 2	NA	NA	Naphthalene		42	48	29.9960004			No	Exclude
HB13-03	0 - 6 *	9/9/2013	Area 2	NA	NA	Naphthalene	FP-2	0	6	46.0040004			Yes	Include
HB13-03	0 - 24	9/9/2013	Area 2	0.45	0.45	Naphthalene	FP-2	0	24	46.0040004			Yes	Include
HB13-03	6 - 12 *	9/9/2013	Area 2	NA	NA	Naphthalene	FP-2	6	12	46.0040004			Yes	Include
HB13-03	12 - 18 *	9/9/2013	Area 2	NA	NA	Naphthalene	FP-2	12	18	46.0040004			Yes	Include
HB13-03	18 - 24 *	9/9/2013	Area 2	NA	NA	Naphthalene	FP-2	18	24	46.0040004			Yes	Include
HB13-03	24 - 30 *	9/9/2013	Area 2	NA	NA	Naphthalene	FP-2	24	30	46.0040004			Yes	Include
HB13-03	24 - 46	9/9/2013	Area 2	0.21	0.21	Naphthalene	FP-2	24	46	46.0040004			Yes	Include
HB13-03	30 - 36 *	9/9/2013	Area 2	NA	NA	Naphthalene	FP-2	30	36	46.0040004			Yes	Include
HB13-03	36 - 42 *	9/9/2013	Area 2	NA	NA	Naphthalene	FP-2	36	42	46.0040004			Yes	Include
HB13-03	42 - 46 *	9/9/2013	Area 2	NA	NA	Naphthalene	FP-2	42	46	46.0040004			Yes	Include
HB13-03	46 - 51 *	9/9/2013	Area 2	NA	NA	Naphthalene	FP-2	46	51	46.0040004			Yes	Include
HB13-04	0 - 6 *	9/9/2013	Area 2	NA	NA	Naphthalene	OC-1	0	6	41.9960004			Yes	Include
HB13-04	6 - 12 *	9/9/2013	Area 2	NA	NA	Naphthalene	OC-1	6	12	41.9960004			Yes	Include
HB13-04	12 - 18 *	9/9/2013	Area 2	NA	NA	Naphthalene	OC-1	12	18	41.9960004			Yes	Include
HB13-04	18 - 24 *	9/9/2013	Area 2	NA	NA	Naphthalene	OC-1	18	24	41.9960004			Yes	Include
HB13-04	24 - 30 *	9/9/2013	Area 2	NA	NA	Naphthalene	OC-1	24	30	41.9960004			Yes	Include
HB13-04	30 - 36 *	9/9/2013	Area 2	NA	NA	Naphthalene	OC-1	30	36	41.9960004			Yes	Include
HB13-04	36 - 42 *	9/9/2013	Area 2	NA	NA	Naphthalene	OC-1	36	42	41.9960004			Yes	Include
HB13-04	42 - 44 *	9/9/2013	Area 2	NA	NA	Naphthalene	OC-1	42	44	41.9960004			No	Exclude
HB13-05	0 - 32 *	9/9/2013	Area 2	NA	NA	Naphthalene	FC-1	0	32	43.8	33.156	exclude	Yes	Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-05	32 - 38 *	9/9/2013	Area 2	NA	NA	Naphthalene	FC-1	32	38	43.8	33.156	include	Yes	Include
HB13-05	38 - 44 *	9/9/2013	Area 2	NA	NA	Naphthalene	FC-1	38	44	43.8	33.156	include	Yes	Include
HB13-05	44 - 50 *	9/9/2013	Area 2	NA	NA	Naphthalene	FC-1	44	50	43.8	33.156	include	No	Exclude
HB13-05	50 - 56 *	9/9/2013	Area 2	NA	NA	Naphthalene	FC-1	50	56	43.8	33.156	include	No	Exclude
HB13-05	56 - 62	9/9/2013	Area 2	0.68	0.68	Naphthalene	FC-1	56	62	43.8	33.156	include	No	Exclude
HB13-05	62 - 66	9/9/2013	Area 2	0.11	0.11	Naphthalene	FC-1	62	66	43.8	33.156	include	No	Exclude
HB13-05	68 - 74 *	9/9/2013	Area 2	NA	NA	Naphthalene	FC-1	68	74	43.8	33.156	include	No	Exclude
HB13-05	74 - 77 *	9/9/2013	Area 2	NA	NA	Naphthalene	FC-1	74	77	43.8	33.156	include	No	Exclude
HB13-06	0 - 6 *	9/9/2013	Area 2	NA	NA	Naphthalene	OC-2	0	6	48			Yes	Include
HB13-06	6 - 12 *	9/9/2013	Area 2	NA	NA	Naphthalene	OC-2	6	12	48			Yes	Include
HB13-06	12 - 18 *	9/9/2013	Area 2	NA	NA	Naphthalene	OC-2	12	18	48			Yes	Include
HB13-06	18 - 24 *	9/9/2013	Area 2	NA	NA	Naphthalene	OC-2	18	24	48			Yes	Include
HB13-06	24 - 30 *	9/9/2013	Area 2	NA	NA	Naphthalene	OC-2	24	30	48			Yes	Include
HB13-06	30 - 36 *	9/9/2013	Area 2	NA	NA	Naphthalene	OC-2	30	36	48			Yes	Include
HB13-06	36 - 42 *	9/9/2013	Area 2	NA	NA	Naphthalene	OC-2	36	42	48			Yes	Include
HB13-06	42 - 48 *	9/9/2013	Area 2	NA	NA	Naphthalene	OC-2	42	48	48			Yes	Include
HB13-07	0 - 6 *	9/10/2013	Area 2	NA	NA	Naphthalene		0	6					Exclude
HB13-07	6 - 12 *	9/10/2013	Area 2	NA	NA	Naphthalene		6	12					Exclude
HB13-07	12 - 18 *	9/10/2013	Area 2	NA	NA	Naphthalene		12	18					Exclude
HB13-07	18 - 24 *	9/10/2013	Area 2	NA	NA	Naphthalene		18	24					Exclude
HB13-07	24 - 30 *	9/10/2013	Area 2	NA	NA	Naphthalene		24	30					Exclude
HB13-07	30 - 36 *	9/10/2013	Area 2	NA	NA	Naphthalene		30	36					Exclude
HB13-07	36 - 42 *	9/10/2013	Area 2	NA	NA	Naphthalene		36	42					Exclude
HB13-07	42 - 48 *	9/10/2013	Area 2	NA	NA	Naphthalene		42	48					Exclude
HB13-08	0 - 18	9/11/2013	Area 2	0.13	0.13	Naphthalene	FC-2	0	18	38.28	21.756	exclude	Yes	Exclude
HB13-08	18 - 36	9/11/2013	Area 2	0.23	0.23	Naphthalene	FC-2	18	36	38.28	21.756	include	Yes	Include
HB13-08	36 - 60	9/11/2013	Area 2	0.28	0.28	Naphthalene	FC-2	36	60	38.28	21.756	include	Yes	Include
HB13-08	60 - 92	9/11/2013	Area 2	0.17	0.17	Naphthalene	FC-2	60	92	38.28	21.756	include	No	Exclude
HB13-10	0 - 6 *	9/10/2013	Area 2	NA	NA	Naphthalene		0	6	0.0039996			Yes	Include
HB13-11	0 - 18	9/11/2013	Area 2	0.15	0.15	Naphthalene	FC-4	0	18	25.2	23.964	exclude	Yes	Exclude
HB13-11	18 - 24 *	9/11/2013	Area 2	NA	NA	Naphthalene	FC-4	18	24	25.2	23.964	include	Yes	Include
HB13-11	18 - 42	9/11/2013	Area 2	0.18	0.18	Naphthalene	FC-4	18	42	25.2	23.964	include	Yes	Include
HB13-11	24 - 30 *	9/11/2013	Area 2	NA	NA	Naphthalene	FC-4	24	30	25.2	23.964	include	Yes	Include
HB13-11	30 - 36 *	9/11/2013	Area 2	NA	NA	Naphthalene	FC-4	30	36	25.2	23.964	include	No	Exclude
HB13-11	36 - 42 *	9/11/2013	Area 2	NA	NA	Naphthalene	FC-4	36	42	25.2	23.964	include	No	Exclude
HB13-11	42 - 48 *	9/11/2013	Area 2	NA	NA	Naphthalene	FC-4	42	48	25.2	23.964	include	No	Exclude
HB13-11	42 - 60	9/11/2013	Area 2	0.085	0.085	Naphthalene	FC-4	42	60	25.2	23.964	include	No	Exclude
HB13-11	48 - 54 *	9/11/2013	Area 2	NA	NA	Naphthalene	FC-4	48	54	25.2	23.964	include	No	Exclude
HB13-11	54 - 60 *	9/11/2013	Area 2	NA	NA	Naphthalene	FC-4	54	60	25.2	23.964	include	No	Exclude
HB13-12	0 - 6 *	9/10/2013	Area 2	NA	NA	Naphthalene		0	6	5.9960004			Yes	Include
HB13-13	0 - 1 *	9/11/2013	Area 2	NA	NA	Naphthalene	SND-5	0	1	0.9999996			Yes	Include
HB13-14	0 - 6 *	9/12/2013	Area 2	NA	NA	Naphthalene	FC-6	0	6	45.9999996	-5.316	include	Yes	Include
HB13-14	0 - 24	9/12/2013	Area 2	0.028	0.028	Naphthalene	FC-6	0	24	45.9999996	-5.316	include	Yes	Include
HB13-14	6 - 24 *	9/12/2013	Area 2	NA	NA	Naphthalene	FC-6	6	24	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 42 *	9/12/2013	Area 2	NA	NA	Naphthalene	FC-6	24	42	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 46	9/12/2013	Area 2	0.033	0.033	Naphthalene	FC-6	24	46	45.9999996	-5.316	include	Yes	Include
HB13-14	42 - 46 *	9/12/2013	Area 2	NA	NA	Naphthalene	FC-6	42	46	45.9999996	-5.316	include	Yes	Include
HB13-15	0 - 6 *	9/12/2013	Area 2	NA	NA	Naphthalene	FC-7	0	6	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	6 - 12 *	9/12/2013	Area 2	NA	NA	Naphthalene	FC-7	6	12	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	12 - 19 *	9/12/2013	Area 2	NA	NA	Naphthalene	FC-7	12	19	18.9999996	18.516	include	Yes	Include
HB13-16	0 - 6 *	9/12/2013	Area 2	NA	NA	Naphthalene		0	6	26.0000004			Yes	Include
HB13-16	6 - 12 *	9/12/2013	Area 2	NA	NA	Naphthalene		6	12	26.0000004			Yes	Include
HB13-16	12 - 18 *	9/12/2013	Area 2	NA	NA	Naphthalene		12	18	26.0000004			Yes	Include
HB13-16	18 - 24 *	9/12/2013	Area 2	NA	NA	Naphthalene		18	24	26.0000004			Yes	Include
HB13-16	24 - 27 *	9/12/2013	Area 2	NA	NA	Naphthalene		24	27	26.0000004			Yes	Include
HB13-17	0 - 12 *	9/12/2013	Area 2	NA	NA	Naphthalene	FC-7	0	12	24	16.2	exclude	Yes	Exclude
HB13-17	12 - 18 *	9/12/2013	Area 2	NA	NA	Naphthalene	FC-7	12	18	24	16.2	include	Yes	Include
HB13-17	18 - 24 *	9/12/2013	Area 2	NA	NA	Naphthalene	FC-7	18	24	24	16.2	include	Yes	Include
HB13-17	24 - 47 *	9/12/2013	Area 2	NA	NA	Naphthalene	FC-7	24	47	24	16.2	include	No	Exclude
HB13-18	0 - 6	9/12/2013	Area 2	0.16	0.16	Naphthalene		0	6	9.9999996			Yes	Include
HB13-18	6 - 10	9/12/2013	Area 2	0.038	0.038	Naphthalene		6	10	9.9999996			Yes	Include
HB13-18	10 - 16	9/12/2013	Area 2	0.0097 U	0.0097	Naphthalene		10	16	9.9999996			No	Exclude
HB13-19	0 - 6 *	9/13/2013	Area 2	NA	NA	Naphthalene		0	6					Exclude
HB13-19	6 - 24 *	9/13/2013	Area 2	NA	NA	Naphthalene		6	24					Exclude
HB13-19	18 - 20 *	9/13/2013	Area 2	NA	NA	Naphthalene		18	20					Exclude
HB13-19	24 - 42 *	9/13/2013	Area 2	NA	NA	Naphthalene		24	42					Exclude
HB13-19	42 - 61 *	9/13/2013	Area 2	NA	NA	Naphthalene		42	61					Exclude
HB13-19	61 - 67 *	9/13/2013	Area 2	NA	NA	Naphthalene		61	67					Exclude
HB13-20	0 - 6 *	9/12/2013	Area 2	NA	NA	Naphthalene		0	6	24			Yes	Include
HB13-20	0 - 12	9/12/2013	Area 2	0.028	0.028	Naphthalene		0	12	24			Yes	Include
HB13-20	6 - 12 *	9/12/2013	Area 2	NA	NA	Naphthalene		6	12	24			Yes	Include
HB13-20	12 - 18 *	9/12/2013	Area 2	NA	NA	Naphthalene		12	18	24			Yes	Include
HB13-20	12 - 24	9/12/2013	Area 2	0.037	0.037	Naphthalene		12	24	24			Yes	Include
HB13-20	18 - 24 *	9/12/2013	Area 2	NA	NA	Naphthalene		18	24	24			Yes	Include
HB13-20	24 - 30 *	9/12/2013	Area 2	NA	NA	Naphthalene		24	30	24			No	Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-20	24 - 36	9/12/2013	Area 2	0.033	0.033	Naphthalene		24	36	24			No	Exclude
HB13-20	30 - 36 *	9/12/2013	Area 2	NA	NA	Naphthalene		30	36	24			No	Exclude
HB13-20	36 - 42 *	9/12/2013	Area 2	NA	NA	Naphthalene		36	42	24			No	Exclude
HB13-20	36 - 48	9/12/2013	Area 2	0.018	0.018	Naphthalene		36	48	24			No	Exclude
HB13-20	42 - 48 *	9/12/2013	Area 2	NA	NA	Naphthalene		42	48	24			No	Exclude
HB13-21	0 - 6 *	9/13/2013	Area 2	NA	NA	Naphthalene	OC-10	0	6	24			Yes	Include
HB13-21	6 - 24 *	9/13/2013	Area 2	NA	NA	Naphthalene	OC-10	6	24	24			Yes	Include
HB13-21	24 - 48 *	9/13/2013	Area 2	NA	NA	Naphthalene	OC-10	24	48	24			No	Exclude
HB13-21	48 - 72 *	9/13/2013	Area 2	NA	NA	Naphthalene	OC-10	48	72	24			No	Exclude
HB13-21	72 - 88 *	9/13/2013	Area 2	NA	NA	Naphthalene	OC-10	72	88	24			No	Exclude
HB13-22	0 - 28 *	9/12/2013	Area 2	NA	NA	Naphthalene	FC-7	0	28	24	36.72	exclude	Yes	Exclude
HB13-22	28 - 31 *	9/12/2013	Area 2	NA	NA	Naphthalene	FC-7	28	31	24	36.72	exclude	No	Exclude
HB13-23	0 - 12 *	9/12/2013	Area 2	NA	NA	Naphthalene	SND-5	0	12	27			Yes	Include
HB13-23	12 - 18 *	9/12/2013	Area 2	NA	NA	Naphthalene	SND-5	12	18	27			Yes	Include
HB13-23	18 - 24 *	9/12/2013	Area 2	NA	NA	Naphthalene	SND-5	18	24	27			Yes	Include
HB13-23	24 - 32 *	9/12/2013	Area 2	NA	NA	Naphthalene	SND-5	24	32	27			Yes	Include
HB13-24	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Naphthalene	HS-3	0	6	6			Yes	Include
HB13-24	0 - 24 *	9/12/2013	HUGHITT AVE SLIP	0.22	0.22	Naphthalene	HS-3	0	24	6			Yes	Include
HB13-24	6 - 24	9/12/2013	Hughitt Ave Slip	NA	NA	Naphthalene	HS-3	6	24	6			No	Exclude
HB13-25	0 - 6 *	9/12/2013	Area 1	NA	NA	Naphthalene	OC-11	0	6	57			Yes	Include
HB13-25	0 - 18	9/12/2013	Area 1	0.058	0.058	Naphthalene	OC-11	0	18	57			Yes	Include
HB13-25	6 - 18 *	9/12/2013	Area 1	NA	NA	Naphthalene	OC-11	6	18	57			Yes	Include
HB13-25	18 - 36 *	9/12/2013	Area 1	NA	NA	Naphthalene	OC-11	18	36	57			Yes	Include
HB13-25	18 - 57	9/12/2013	Area 1	0.031	0.031	Naphthalene	OC-11	18	57	57			Yes	Include
HB13-25	36 - 57 *	9/12/2013	Area 1	NA	NA	Naphthalene	OC-11	36	57	57			Yes	Include
HB13-26	0 - 12	9/13/2013	Area 1	0.014	0.014	Naphthalene	FC-10	0	12	33	17.04	exclude	Yes	Exclude
HB13-26	12 - 18	9/13/2013	Area 1	0.045	0.045	Naphthalene	FC-10	12	18	33	17.04	include	Yes	Include
HB13-26	18 - 33	9/13/2013	Area 1	0.039	0.039	Naphthalene	FC-10	18	33	33	17.04	include	Yes	Include
HB13-27	0 - 6 *	9/13/2013	Area 1	NA	NA	Naphthalene		0	6					Exclude
HB13-27	0 - 32	9/13/2013	Area 1	0.0097 U	0.0097	Naphthalene		0	32					Exclude
HB13-28	0 - 8 *	9/13/2013	Area 1	NA	NA	Naphthalene	FC-11	0	8	14.0000004	13.68	exclude	Yes	Exclude
HB13-28	8 - 14 *	9/13/2013	Area 1	NA	NA	Naphthalene	FC-11	8	14	14.0000004	13.68	include	Yes	Include
HB13-28	14 - 26 *	9/13/2013	Area 1	NA	NA	Naphthalene	FC-11	14	26	14.0000004	13.68	include	Yes	Include
HB13-28	26 - 40 *	9/13/2013	Area 1	NA	NA	Naphthalene	FC-11	26	40	14.0000004	13.68	include	No	Exclude
HB13-29	0 - 6	9/13/2013	Area 1	NA	NA	Naphthalene	FC-12/FC-13	0	6	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 12 *	9/13/2013	Area 1	0.049	0.049	Naphthalene	FC-12/FC-13	0	12	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 18 *	9/13/2013	Area 1	NA	NA	Naphthalene	FC-12/FC-13	0	18	44.0000004	1.044	include	Yes	Include
HB13-29	6 - 12	9/13/2013	Area 1	NA	NA	Naphthalene	FC-12/FC-13	6	12	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 24	9/13/2013	Area 1	NA	NA	Naphthalene	FC-12/FC-13	12	24	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 44 *	9/13/2013	Area 1	0.035	0.035	Naphthalene	FC-12/FC-13	12	44	44.0000004	1.044	include	Yes	Include
HB13-29	24 - 44	9/13/2013	Area 1	NA	NA	Naphthalene	FC-12/FC-13	24	44	44.0000004	1.044	include	Yes	Include
HB13-30	0 - 6	9/10/2013	Area 1	NA	NA	Naphthalene	SND-1	0	6	60			Yes	Include
HB13-30	6 - 24	9/10/2013	Area 1	NA	NA	Naphthalene	SND-1	6	24	60			Yes	Include
HB13-30	24 - 42	9/10/2013	Area 1	NA	NA	Naphthalene	SND-1	24	42	60			Yes	Include
HB13-30	42 - 60	9/10/2013	Area 1	NA	NA	Naphthalene	SND-1	42	60	60			Yes	Include
HB13-30	60 - 78	9/10/2013	Area 1	NA	NA	Naphthalene	SND-1	60	78	60			No	Exclude
HB13-31	0 - 6	9/13/2013	Area 1	NA	NA	Naphthalene	FC-16	0	6	27	2.76	include	Yes	Include
HB13-31	6 - 18	9/13/2013	Area 1	NA	NA	Naphthalene	FC-16	6	18	27	2.76	include	Yes	Include
HB13-31	18 - 27	9/13/2013	Area 1	NA	NA	Naphthalene	FC-16	18	27	27	2.76	include	Yes	Include
HB13-31	27 - 33	9/13/2013	Area 1	NA	NA	Naphthalene	FC-16	27	33	27	2.76	include	No	Exclude
HB13-32	0 - 6	9/13/2013	Area 1	NA	NA	Naphthalene	FC-14	0	6	26.0000004	-2.52	include	Yes	Include
HB13-32	6 - 18	9/13/2013	Area 1	NA	NA	Naphthalene	FC-14	6	18	26.0000004	-2.52	include	Yes	Include
HB13-32	18 - 26	9/13/2013	Area 1	NA	NA	Naphthalene	FC-14	18	26	26.0000004	-2.52	include	Yes	Include
HB13-32	26 - 32	9/13/2013	Area 1	NA	NA	Naphthalene	FC-14	26	32	26.0000004	-2.52	include	Yes	Include
HB13-33	0 - 6	9/13/2013	Area 1	NA	NA	Naphthalene		0	6	12			Yes	Include
HB13-33	6 - 12	9/13/2013	Area 1	NA	NA	Naphthalene		6	12	12			Yes	Include
HB13-34	0 - 6	9/13/2013	Area 1	NA	NA	Naphthalene		0	6	0.5000004			Yes	Include
HB13-35	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Naphthalene		0	6	3.9999996			Yes	Include
HB13-35	6 - 12	9/13/2013	Hughitt Ave Slip	NA	NA	Naphthalene		6	12	3.9999996			No	Exclude
HB13-37	2 - 6	9/10/2013	Hughitt Ave Slip	0.51	0.51	Naphthalene	HS-3	2	6	6			Yes	Include
HB13-38	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Naphthalene	HS-3	0	6	6			Yes	Include
HB13-39	4 - 10	9/13/2013	Hughitt Ave Slip	NA	NA	Naphthalene	HS-2	4	10	27.9999996			Yes	Include
HB13-39	10 - 28	9/13/2013	Hughitt Ave Slip	NA	NA	Naphthalene	HS-2	10	28	27.9999996			Yes	Include
HB13-39	28 - 34	9/13/2013	Hughitt Ave Slip	NA	NA	Naphthalene	HS-2	28	34	27.9999996			No	Exclude
HB13-40	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Naphthalene	HS-2	0	6	86.0000004			Yes	Include
HB13-40	0 - 24 *	9/13/2013	Hughitt Ave Slip	0.037	0.037	Naphthalene	HS-2	0	24	86.0000004			Yes	Include
HB13-40	6 - 24	9/13/2013	Hughitt Ave Slip	NA	NA	Naphthalene	HS-2	6	24	86.0000004			Yes	Include
HB13-40	24 - 48	9/13/2013	Hughitt Ave Slip	0.31	0.31	Naphthalene	HS-2	24	48	86.0000004			Yes	Include
HB13-40	48 - 72	9/13/2013	Hughitt Ave Slip	0.095	0.095	Naphthalene	HS-2	48	72	86.0000004			Yes	Include
HB13-40	72 - 86	9/13/2013	Hughitt Ave Slip	0.014	0.014	Naphthalene	HS-2	72	86	86.0000004			Yes	Include
HB13-41	0 - 6	9/10/2013	Hughitt Ave Slip	NA	NA	Naphthalene	HS-2	0	6	29.0000004			Yes	Include
HB13-41	0 - 24 *	9/10/2013	Hughitt Ave Slip	0.33	0.33	Naphthalene	HS-2	0	24	29.0000004			Yes	Include
HB13-41	6 - 24	9/10/2013	Hughitt Ave Slip	NA	NA	Naphthalene	HS-2	6	24	29.0000004			Yes	Include
HB13-41	24 - 29	9/10/2013	Hughitt Ave Slip	0.24	0.24	Naphthalene	HS-2	24	29	29.0000004			Yes	Include
HB13-42	0 - 6	9/11/2013	Cummings Ave Slip	0.57	0.57	Naphthalene	CS-3	0	6	33			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-42	6 - 24	9/11/2013	Cummings Ave Slip	0.1	0.1	Naphthalene	CS-3	6	24	33			Yes	Include
HB13-42	24 - 33	9/11/2013	Cummings Ave Slip	0.098	0.098	Naphthalene	CS-3	24	33	33			Yes	Include
HB13-42	33 - 36	9/11/2013	Cummings Ave Slip	0.010 U	0.01	Naphthalene	CS-3	33	36	33			No	Exclude
HB13-43	0 - 6	9/11/2013	Cummings Ave Slip	0.5	0.5	Naphthalene	CS-2	0	6	24			Yes	Include
HB13-43	0 - 24 *	9/11/2013	Cummings Ave Slip	NA	NA	Naphthalene	CS-2	0	24	24			Yes	Include
HB13-43	6 - 24	9/11/2013	Cummings Ave Slip	0.24	0.24	Naphthalene	CS-2	6	24	24			Yes	Include
HB13-45	0 - 6	9/11/2013	Cummings Ave Slip	0.53	0.53	Naphthalene	CS-2	0	6	21			Yes	Include
HB13-45	6 - 21	9/11/2013	Cummings Ave Slip	0.73	0.73	Naphthalene	CS-2	6	21	21			Yes	Include
HB13-47	0 - 6	9/10/2013	Fraser Ave Slip	0.66	0.66	Naphthalene	FS-1	0	6	30.996			Yes	Include
HB13-47	6 - 24	9/10/2013	Fraser Ave Slip	0.5	0.5	Naphthalene	FS-1	6	24	30.996			Yes	Include
HB13-47	24 - 31	9/10/2013	Fraser Ave Slip	0.91	0.91	Naphthalene	FS-1	24	31	30.996			Yes	Include
HB13-47	31 - 37 *	9/10/2013	Fraser Ave Slip	NA	NA	Naphthalene	FS-1	31	37	30.996			No	Exclude
HB13-48	0 - 6 *	9/10/2013	Fraser Ave Slip	NA	NA	Naphthalene	FS-2	0	6	45.9999996			Yes	Include
HB13-48	0 - 24	9/10/2013	FRASER AVE SLIP	0.72	0.72	Naphthalene	FS-2	0	24	45.9999996			Yes	Include
HB13-48	6 - 24 *	9/10/2013	Fraser Ave Slip	NA	NA	Naphthalene	FS-2	6	24	45.9999996			Yes	Include
HB13-48	24 - 42 *	9/10/2013	Fraser Ave Slip	NA	NA	Naphthalene	FS-2	24	42	45.9999996			Yes	Include
HB13-48	24 - 46 *	9/10/2013	FRASER AVE SLIP	0.51	0.51	Naphthalene	FS-2	24	46	45.9999996			Yes	Include
HB13-48	42 - 46 *	9/10/2013	Fraser Ave Slip	NA	NA	Naphthalene	FS-2	42	46	45.9999996			Yes	Include
HB13-49	0 - 6	9/11/2013	Fraser Ave Slip	0.37	0.37	Naphthalene	FS-2	0	6	30			Yes	Include
HB13-49	6 - 24	9/11/2013	Fraser Ave Slip	0.36	0.36	Naphthalene	FS-2	6	24	30			Yes	Include
HB13-49	24 - 30	9/11/2013	Fraser Ave Slip	0.71	0.71	Naphthalene	FS-2	24	30	30			Yes	Include
HB13-50	0 - 12 *	9/13/2013	Area 1	NA	NA	Naphthalene	OC-12	0	12	47.0000004			Yes	Include
HB13-50	12 - 24 *	9/13/2013	Area 1	NA	NA	Naphthalene	OC-12	12	24	47.0000004			Yes	Include
HB13-50	24 - 36 *	9/13/2013	Area 1	NA	NA	Naphthalene	OC-12	24	36	47.0000004			Yes	Include
HB13-50	36 - 47 *	9/13/2013	Area 1	NA	NA	Naphthalene	OC-12	36	47	47.0000004			Yes	Include
HB13-51	0 - 6 *	9/11/2013	Area 2	NA	NA	Naphthalene		0	6					Exclude
HB13-51	6 - 15 *	9/11/2013	Area 2	NA	NA	Naphthalene		6	15					Exclude
HB13-52	0 - 6 *	9/11/2013	Area 2	NA	NA	Naphthalene	OC-10	0	6	12			Yes	Include
HB13-52	6 - 12 *	9/11/2013	Area 2	NA	NA	Naphthalene	OC-10	6	12	12			Yes	Include
HB13-52	12 - 17 *	9/11/2013	Area 2	NA	NA	Naphthalene	OC-10	12	17	12			No	Exclude
HB14-01	0 - 6	8/18/2014	Area 1	NA	NA	Naphthalene	SND-1	0	6					Exclude
HB14-01	6 - 18	8/18/2014	Area 1	NA	NA	Naphthalene	SND-1	6	18					Exclude
HB14-02	0 - 6	8/18/2014	Area 1	NA	NA	Naphthalene	FC-15	0	6	17.004	-12.996	include	Yes	Include
HB14-02	6 - 14	8/18/2014	Area 1	NA	NA	Naphthalene	FC-15	6	14	17.004	-12.996	include	Yes	Include
HB14-03	0 - 6	8/18/2014	Area 1	NA	NA	Naphthalene	FC-15	0	6	29.997288	-2.472	include	Yes	Include
HB14-03	6 - 18	8/18/2014	Area 1	NA	NA	Naphthalene	FC-15	6	18	29.997288	-2.472	include	Yes	Include
HB14-03	18 - 30	8/18/2014	Area 1	NA	NA	Naphthalene	FC-15	18	30	29.997288	-2.472	include	Yes	Include
HB14-03	30 - 42	8/18/2014	Area 1	NA	NA	Naphthalene	FC-15	30	42	29.997288	-2.472	include	No	Exclude
HB14-03	42 - 54	8/18/2014	Area 1	NA	NA	Naphthalene	FC-15	42	54	29.997288	-2.472	include	No	Exclude
HB14-04	0 - 6	8/18/2014	Area 1	NA	NA	Naphthalene		0	6	29.904			Yes	Include
HB14-04	6 - 18	8/18/2014	Area 1	NA	NA	Naphthalene		6	18	29.904			Yes	Include
HB14-04	18 - 30	8/18/2014	Area 1	NA	NA	Naphthalene		18	30	29.904			Yes	Include
HB14-05 G		8/18/2014	Area 1	NA	NA	Naphthalene			#VALUE!					Exclude
HB14-06	0 - 6	8/18/2014	Area 1	NA	NA	Naphthalene		0	6	30.588			Yes	Include
HB14-06	6 - 24	8/18/2014	Area 1	NA	NA	Naphthalene		6	24	30.588			Yes	Include
HB14-07	0 - 6	8/18/2014	Area 1	NA	NA	Naphthalene		0	6	78.012			Yes	Include
HB14-07	6 - 24	8/18/2014	Area 1	NA	NA	Naphthalene		6	24	78.012			Yes	Include
HB14-07	24 - 42	8/18/2014	Area 1	NA	NA	Naphthalene		24	42	78.012			Yes	Include
HB14-08	0 - 6	8/19/2014	Area 1	NA	NA	Naphthalene		0	6	34.416			Yes	Include
HB14-08	6 - 19	8/19/2014	Area 1	NA	NA	Naphthalene		6	19	34.416			Yes	Include
HB14-09	0 - 12	8/19/2014	Area 1	NA	NA	Naphthalene	OC-16	0	12	12.003804			Yes	Include
HB14-09	12 - 24	8/19/2014	Area 1	NA	NA	Naphthalene	OC-16	12	24	12.003804			Yes	Include
HB14-09	24 - 36	8/19/2014	Area 1	NA	NA	Naphthalene	OC-16	24	36	12.003804			No	Exclude
HB14-09	36 - 48	8/19/2014	Area 1	NA	NA	Naphthalene	OC-16	36	48	12.003804			No	Exclude
HB14-09	48 - 60	8/19/2014	Area 1	NA	NA	Naphthalene	OC-16	48	60	12.003804			No	Exclude
HB14-09	60 - 72	8/19/2014	Area 1	NA	NA	Naphthalene	OC-16	60	72	12.003804			No	Exclude
HB14-10	0 - 6	8/20/2014	Area 1	0.098	0.098	Naphthalene		0	6	54.005544			Yes	Include
HB14-10	6 - 18	8/20/2014	Area 1	0.14	0.14	Naphthalene		6	18	54.005544			Yes	Include
HB14-10	18 - 30	8/20/2014	Area 1	0.33	0.33	Naphthalene		18	30	54.005544			Yes	Include
HB14-10	30 - 42	8/20/2014	Area 1	0.59	0.59	Naphthalene		30	42	54.005544			Yes	Include
HB14-10	42 - 54	8/20/2014	Area 1	0.41	0.41	Naphthalene		42	54	54.005544			Yes	Include
HB14-10	54 - 66	8/20/2014	Area 1	NA	NA	Naphthalene		54	66	54.005544			Yes	Include
HB14-11	0 - 6	8/19/2014	Area 1	NA	NA	Naphthalene	SND-2	0	6					Exclude
HB14-11	6 - 18	8/19/2014	Area 1	NA	NA	Naphthalene	SND-2	6	18					Exclude
HB14-11	18 - 20	8/19/2014	Area 1	NA	NA	Naphthalene	SND-2	18	20					Exclude
HB14-12	0 - 6	8/19/2014	Area 1	NA	NA	Naphthalene	SND-4	0	6	26.34			Yes	Include
HB14-12	6 - 18	8/19/2014	Area 1	NA	NA	Naphthalene	SND-4	6	18	26.34			Yes	Include
HB14-12	18 - 32	8/19/2014	Area 1	NA	NA	Naphthalene	SND-4	18	32	26.34			Yes	Include
HB14-13	0 - 6	8/19/2014	Area 2	NA	NA	Naphthalene	SND-5	0	6	-0.648			No	Exclude
HB14-13	6 - 11	8/19/2014	Area 2	NA	NA	Naphthalene	SND-5	6	11	-0.648			No	Exclude
HB14-14	0 - 6	8/20/2014	Area 2	0.12	0.12	Naphthalene	OC-4	0	6	101.997672			Yes	Include
HB14-14	4 - 6	8/20/2014	Area 2	0.43	0.43	Naphthalene	OC-4	4	6	101.997672			Yes	Include
HB14-14	6 - 18	8/20/2014	Area 2	NA	NA	Naphthalene	OC-4	6	18	101.997672			Yes	Include
HB14-14	6 - 30	8/20/2014	Area 2	0.5	0.5	Naphthalene	OC-4	6	30	101.997672			Yes	Include
HB14-14	18 - 30	8/20/2014	Area 2	NA	NA	Naphthalene	OC-4	18	30	101.997672			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB14-14	30 - 42	8/20/2014	Area 2	NA	NA	Naphthalene	OC-4	30	42	101.997672			Yes	Include
HB14-14	30 - 54	8/20/2014	Area 2	0.49	0.49	Naphthalene	OC-4	30	54	101.997672			Yes	Include
HB14-14	42 - 54	8/20/2014	Area 2	NA	NA	Naphthalene	OC-4	42	54	101.997672			Yes	Include
HB14-14	54 - 66	8/20/2014	Area 2	NA	NA	Naphthalene	OC-4	54	66	101.997672			Yes	Include
HB14-14	54 - 78	8/20/2014	Area 2	0.26	0.26	Naphthalene	OC-4	54	78	101.997672			Yes	Include
HB14-14	66 - 78	8/20/2014	Area 2	NA	NA	Naphthalene	OC-4	66	78	101.997672			Yes	Include
HB14-14	78 - 90	8/20/2014	Area 2	NA	NA	Naphthalene	OC-4	78	90	101.997672			Yes	Include
HB14-14	78 - 102	8/20/2014	Area 2	0.37	0.37	Naphthalene	OC-4	78	102	101.997672			Yes	Include
HB14-14	90 - 102	8/20/2014	Area 2	NA	NA	Naphthalene	OC-4	90	102	101.997672			Yes	Include
HB14-14	102 - 111	8/20/2014	Area 2	NA	NA	Naphthalene	OC-4	102	111	101.997672			No	Exclude
HB15-01	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	0	12	51.096			Yes	Include
HB15-01	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	12	24	51.096			Yes	Include
HB15-01	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	24	36	51.096			Yes	Include
HB15-01	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	36	48	51.096			Yes	Include
HB15-01	48 - 57	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	48	57	51.096			Yes	Include
HB15-02	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	0	12	48.000696			Yes	Include
HB15-02	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	12	24	48.000696			Yes	Include
HB15-02	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	24	36	48.000696			Yes	Include
HB15-02	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	36	48	48.000696			Yes	Include
HB15-03	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	0	12	67.9950564			Yes	Include
HB15-03	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	12	24	67.9950564			Yes	Include
HB15-03	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	24	36	67.9950564			Yes	Include
HB15-03	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	36	48	67.9950564			Yes	Include
HB15-03	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	48	60	67.9950564			Yes	Include
HB15-03	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	60	68	67.9950564			Yes	Include
HB15-03R	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	0	12	67.9950564			Yes	Include
HB15-03R	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	12	24	67.9950564			Yes	Include
HB15-03R	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	24	36	67.9950564			Yes	Include
HB15-03R	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	36	48	67.9950564			Yes	Include
HB15-03R	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	48	60	67.9950564			Yes	Include
HB15-03R	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	60	68	67.9950564			Yes	Include
HB15-04	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	0	12	63.84			Yes	Include
HB15-04	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	12	24	63.84			Yes	Include
HB15-04	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	24	36	63.84			Yes	Include
HB15-04	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	36	48	63.84			Yes	Include
HB15-04	48 - 59	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	48	59	63.84			Yes	Include
HB15-05	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	0	12	71.994852			Yes	Include
HB15-05	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	12	24	71.994852			Yes	Include
HB15-05	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	24	36	71.994852			Yes	Include
HB15-05	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	36	48	71.994852			Yes	Include
HB15-05	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	48	60	71.994852			Yes	Include
HB15-05	60 - 72	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	60	72	71.994852			Yes	Include
HB15-05	72 - 80	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-1	72	80	71.994852			No	Exclude
HB15-06	0 - 9	6/23/2015	Hughitt Ave Slip	NA	NA	Naphthalene	HS-2	0	9	9.000636			Yes	Include
HB15-07	0 - 12	6/23/2015	Cummings Ave Slip	NA	NA	Naphthalene	CS-1	0	12	90.9955116			Yes	Include
HB15-07	12 - 24	6/23/2015	Cummings Ave Slip	NA	NA	Naphthalene	CS-1	12	24	90.9955116			Yes	Include
HB15-07	24 - 36	6/23/2015	Cummings Ave Slip	NA	NA	Naphthalene	CS-1	24	36	90.9955116			Yes	Include
HB15-07	36 - 48	6/23/2015	Cummings Ave Slip	1.2	1.2	Naphthalene	CS-1	36	48	90.9955116			Yes	Include
HB15-07	48 - 60	6/23/2015	Cummings Ave Slip	2.2	2.2	Naphthalene	CS-1	48	60	90.9955116			Yes	Include
HB15-07	60 - 72	6/23/2015	Cummings Ave Slip	1.2	1.2	Naphthalene	CS-1	60	72	90.9955116			Yes	Include
HB15-07	72 - 84	6/23/2015	Cummings Ave Slip	1.4	1.4	Naphthalene	CS-1	72	84	90.9955116			Yes	Include
HB15-07	84 - 91	6/23/2015	Cummings Ave Slip	1.4	1.4	Naphthalene	CS-1	84	91	90.9955116			Yes	Include
HB15-08	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Naphthalene	CS-2	0	12	65.997804			Yes	Include
HB15-08	12 - 24	6/24/2015	Cummings Ave Slip	1.1	1.1	Naphthalene	CS-2	12	24	65.997804			Yes	Include
HB15-08	24 - 36	6/24/2015	Cummings Ave Slip	1.1	1.1	Naphthalene	CS-2	24	36	65.997804			Yes	Include
HB15-08	36 - 48	6/24/2015	Cummings Ave Slip	NA	NA	Naphthalene	CS-2	36	48	65.997804			Yes	Include
HB15-08	48 - 60	6/24/2015	Cummings Ave Slip	NA	NA	Naphthalene	CS-2	48	60	65.997804			Yes	Include
HB15-08	60 - 66	6/24/2015	Cummings Ave Slip	NA	NA	Naphthalene	CS-2	60	66	65.997804			Yes	Include
HB15-09	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Naphthalene	CS-3	0	12	45.396			Yes	Include
HB15-09	12 - 17	6/24/2015	Cummings Ave Slip	NA	NA	Naphthalene	CS-3	12	17	45.396			Yes	Include
HB15-10	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Naphthalene		0	12	-0.936			No	Exclude
HB15-11	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Naphthalene	CS-5	0	12	27.9944796			Yes	Include
HB15-11	12 - 24	6/24/2015	Cummings Ave Slip	NA	NA	Naphthalene	CS-5	12	24	27.9944796			Yes	Include
HB15-11	24 - 28	6/24/2015	Cummings Ave Slip	NA	NA	Naphthalene	CS-5	24	28	27.9944796			Yes	Include
HB15-12	0 - 12	6/24/2015	Area 2	NA	NA	Naphthalene	FP-1	0	12	29.994876			Yes	Include
HB15-12	12 - 24	6/24/2015	Area 2	NA	NA	Naphthalene	FP-1	12	24	29.994876			Yes	Include
HB15-12	24 - 30	6/24/2015	Area 2	NA	NA	Naphthalene	FP-1	24	30	29.994876			Yes	Include
HB15-13	0 - 12	6/24/2015	Area 2	NA	NA	Naphthalene	FP-1	0	12	64.0033716			Yes	Include
HB15-13	12 - 24	6/24/2015	Area 2	NA	NA	Naphthalene	FP-1	12	24	64.0033716			Yes	Include
HB15-13	24 - 36	6/24/2015	Area 2	NA	NA	Naphthalene	FP-1	24	36	64.0033716			Yes	Include
HB15-13	36 - 48	6/24/2015	Area 2	NA	NA	Naphthalene	FP-1	36	48	64.0033716			Yes	Include
HB15-13	48 - 60	6/24/2015	Area 2	NA	NA	Naphthalene	FP-1	48	60	64.0033716			Yes	Include
HB15-13	60 - 64	6/24/2015	Area 2	NA	NA	Naphthalene	FP-1	60	64	64.0033716			Yes	Include
HB15-14	0 - 12	6/24/2015	Area 2	NA	NA	Naphthalene	FP-1	0	12	23.996196			Yes	Include
HB15-14	12 - 24	6/24/2015	Area 2	NA	NA	Naphthalene	FP-1	12	24	23.996196			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB15-14	24 - 28	6/24/2015	Area 2	NA	NA	Naphthalene	FP-1	24	28	23.996196			No	Exclude
HB15-14	28 - 35	6/24/2015	Area 2	NA	NA	Naphthalene	FP-1	28	35	23.996196			No	Exclude
HB15-15	0 - 12	6/24/2015	Area 2	NA	NA	Naphthalene	FP-2	0	12	19.0051356			Yes	Include
HB15-15	12 - 19	6/24/2015	Area 2	NA	NA	Naphthalene	FP-2	12	19	19.0051356			Yes	Include
HB15-15R	0 - 12	6/24/2015	Area 2	NA	NA	Naphthalene	FP-2	0	12	18.9999996			Yes	Include
HB15-15R	12 - 19	6/24/2015	Area 2	NA	NA	Naphthalene	FP-2	12	19	18.9999996			Yes	Include
HB15-16	0 - 12	6/24/2015	Area 2	NA	NA	Naphthalene	FP-1	0	12	8.304			Yes	Include
HB15-16	12 - 19	6/24/2015	Area 2	NA	NA	Naphthalene	FP-1	12	19	8.304			No	Exclude
HB15-17	0 - 12	6/24/2015	Area 2	NA	NA	Naphthalene	FP-2	0	12	36.004608			Yes	Include
HB15-17	12 - 24	6/24/2015	Area 2	NA	NA	Naphthalene	FP-2	12	24	36.004608			Yes	Include
HB15-17	24 - 36	6/24/2015	Area 2	NA	NA	Naphthalene	FP-2	24	36	36.004608			Yes	Include
HB15-17	36 - 48	6/24/2015	Area 2	NA	NA	Naphthalene	FP-2	36	48	36.004608			Yes	Include
HB15-17	48 - 54	6/24/2015	Area 2	NA	NA	Naphthalene	FP-2	48	54	36.004608			No	Exclude
HB15-18	0 - 12	6/24/2015	Area 2	NA	NA	Naphthalene	FP-2	0	12	23.999508			Yes	Include
HB15-18	12 - 24	6/24/2015	Area 2	NA	NA	Naphthalene	FP-2	12	24	23.999508			Yes	Include
HB15-19	0 - 12	6/24/2015	Area 2	NA	NA	Naphthalene		0	12					Exclude
HB15-19	12 - 24	6/24/2015	Area 2	NA	NA	Naphthalene		12	24					Exclude
HB15-19	24 - 32	6/24/2015	Area 2	NA	NA	Naphthalene		24	32					Exclude
HB15-20	0 - 12	6/25/2015	Area 2	NA	NA	Naphthalene	OC-3	0	12	33.864			Yes	Include
HB15-20	12 - 24	6/25/2015	Area 2	NA	NA	Naphthalene	OC-3	12	24	33.864			Yes	Include
HB15-20	24 - 28	6/25/2015	Area 2	NA	NA	Naphthalene	OC-3	24	28	33.864			Yes	Include
HB15-20B	0 - 6	6/25/2015	Area 2	NA	NA	Naphthalene	OC-13	0	6	11.996892			Yes	Include
HB15-20B	6 - 12	6/25/2015	Area 2	NA	NA	Naphthalene	OC-13	6	12	11.996892			Yes	Include
HB15-21G	15 - 21	6/29/2015	Fraser Ave Slip	NA	NA	Naphthalene		15	21					Exclude
HB15-22G	0 - 6	6/29/2015	Fraser Ave Slip	0.15	0.15	Naphthalene	OC-8	0	6	6			Yes	Include
HB15-23	0 - 12	6/25/2015	Fraser Ave Slip	NA	NA	Naphthalene	FS-1	0	12	55.02			Yes	Include
HB15-23	12 - 24	6/25/2015	Fraser Ave Slip	NA	NA	Naphthalene	FS-1	12	24	55.02			Yes	Include
HB15-23	24 - 36	6/25/2015	Fraser Ave Slip	NA	NA	Naphthalene	FS-1	24	36	55.02			Yes	Include
HB15-23	36 - 48	6/25/2015	Fraser Ave Slip	NA	NA	Naphthalene	FS-1	36	48	55.02			Yes	Include
HB15-23	48 - 56	6/25/2015	Fraser Ave Slip	NA	NA	Naphthalene	FS-1	48	56	55.02			Yes	Include
HB15-25	0 - 12	6/25/2015	Area 2	NA	NA	Naphthalene	OC-1	0	12	77.4			Yes	Include
HB15-25	12 - 24	6/25/2015	Area 2	NA	NA	Naphthalene	OC-1	12	24	77.4			Yes	Include
HB15-25	24 - 36	6/25/2015	Area 2	NA	NA	Naphthalene	OC-1	24	36	77.4			Yes	Include
HB15-25	36 - 48	6/25/2015	Area 2	NA	NA	Naphthalene	OC-1	36	48	77.4			Yes	Include
HB15-25	48 - 60	6/25/2015	Area 2	NA	NA	Naphthalene	OC-1	48	60	77.4			Yes	Include
HB15-25	60 - 72	6/25/2015	Area 2	NA	NA	Naphthalene	OC-1	60	72	77.4			Yes	Include
HB15-25	72 - 88	6/25/2015	Area 2	NA	NA	Naphthalene	OC-1	72	88	77.4			Yes	Include
HB15-26	0 - 12	6/25/2015	Area 2	NA	NA	Naphthalene	FC-2	0	12	38.28	6.36	include	Yes	Include
HB15-26	12 - 24	6/25/2015	Area 2	NA	NA	Naphthalene	FC-2	12	24	38.28	6.36	include	Yes	Include
HB15-26	24 - 36	6/25/2015	Area 2	NA	NA	Naphthalene	FC-2	24	36	38.28	6.36	include	Yes	Include
HB15-26	36 - 46	6/25/2015	Area 2	NA	NA	Naphthalene	FC-2	36	46	38.28	6.36	include	Yes	Include
HB15-27	0 - 12	6/25/2015	Area 2	NA	NA	Naphthalene	FC-3	0	12	33.6	14.64	exclude	Yes	Exclude
HB15-27	12 - 24	6/25/2015	Area 2	NA	NA	Naphthalene	FC-3	12	24	33.6	14.64	include	Yes	Include
HB15-27	24 - 36	6/25/2015	Area 2	NA	NA	Naphthalene	FC-3	24	36	33.6	14.64	include	Yes	Include
HB15-27	36 - 48	6/25/2015	Area 2	NA	NA	Naphthalene	FC-3	36	48	33.6	14.64	include	No	Exclude
HB15-27	48 - 60	6/25/2015	Area 2	NA	NA	Naphthalene	FC-3	48	60	33.6	14.64	include	No	Exclude
HB15-27	60 - 71	6/25/2015	Area 2	NA	NA	Naphthalene	FC-3	60	71	33.6	14.64	include	No	Exclude
HB15-28	0 - 12	6/25/2015	Area 2	NA	NA	Naphthalene	OC-7	0	12	11.994072			Yes	Include
HB15-28	12 - 24	6/25/2015	Area 2	NA	NA	Naphthalene	OC-7	12	24	11.994072			No	Exclude
HB15-28	24 - 30	6/25/2015	Area 2	NA	NA	Naphthalene	OC-7	24	30	11.994072			No	Exclude
HB15-30	0 - 12	6/25/2015	Area 2	NA	NA	Naphthalene		0	12	43.776			Yes	Include
HB15-30	12 - 24	6/25/2015	Area 2	NA	NA	Naphthalene		12	24	43.776			Yes	Include
HB15-30	24 - 36	6/25/2015	Area 2	NA	NA	Naphthalene		24	36	43.776			Yes	Include
HB15-30	36 - 50	6/25/2015	Area 2	NA	NA	Naphthalene		36	50	43.776			Yes	Include
HB15-31	0 - 12	6/25/2015	Area 2	NA	NA	Naphthalene		0	12					Exclude
HB15-31	12 - 20	6/25/2015	Area 2	NA	NA	Naphthalene		12	20					Exclude
HB15-32	0 - 12	6/25/2015	Area 1	NA	NA	Naphthalene	SND-4	0	12	11.995236			Yes	Include
HB15-32	12 - 26	6/25/2015	Area 1	NA	NA	Naphthalene	SND-4	12	26	11.995236			No	Exclude
HB15-33	0 - 12	6/25/2015	Area 1	NA	NA	Naphthalene		0	12	26.292			Yes	Include
HB15-33	12 - 24	6/25/2015	Area 1	NA	NA	Naphthalene		12	24	26.292			Yes	Include
HB15-33	24 - 39	6/25/2015	Area 1	NA	NA	Naphthalene		24	39	26.292			Yes	Include
HB15-34	0 - 12	6/25/2015	Area 1	NA	NA	Naphthalene	FC-11	0	12		35.52	exclude		Exclude
HB15-34	12 - 24	6/25/2015	Area 1	NA	NA	Naphthalene	FC-11	12	24		35.52	exclude		Exclude
HB15-34	24 - 32	6/25/2015	Area 1	NA	NA	Naphthalene	FC-11	24	32		35.52	exclude		Exclude
HB15-35	0 - 12	6/25/2015	Area 1	NA	NA	Naphthalene	FC-16	0	12	74.28	-6.48	include	Yes	Include
HB15-35	12 - 24	6/25/2015	Area 1	NA	NA	Naphthalene	FC-16	12	24	74.28	-6.48	include	Yes	Include
HB15-35	24 - 36	6/25/2015	Area 1	NA	NA	Naphthalene	FC-16	24	36	74.28	-6.48	include	Yes	Include
HB15-35	36 - 48	6/25/2015	Area 1	NA	NA	Naphthalene	FC-16	36	48	74.28	-6.48	include	Yes	Include
HB15-35	48 - 60	6/25/2015	Area 1	NA	NA	Naphthalene	FC-16	48	60	74.28	-6.48	include	Yes	Include
HB15-35	60 - 72	6/25/2015	Area 1	NA	NA	Naphthalene	FC-16	60	72	74.28	-6.48	include	Yes	Include
HB15-36G	15 - 36	6/29/2015	Area 2	NA	NA	Naphthalene		15	36					Exclude
HB15-37	0 - 12	6/25/2015	Area 2	NA	NA	Naphthalene	OC-9	0	12	51.048			Yes	Include
HB15-37	12 - 24	6/25/2015	Area 2	NA	NA	Naphthalene	OC-9	12	24	51.048			Yes	Include
HB15-37	24 - 36	6/25/2015	Area 2	NA	NA	Naphthalene	OC-9	24	36	51.048			Yes	Include
HB15-37	36 - 48	6/25/2015	Area 2	NA	NA	Naphthalene	OC-9	36	48	51.048			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB15-37	48 - 60	6/25/2015	Area 2	NA	NA	Naphthalene	OC-9	48	60	51.048			Yes	Include
HB15-37	60 - 74	6/25/2015	Area 2	NA	NA	Naphthalene	OC-9	60	74	51.048			No	Exclude
HB15-38	0 - 12	6/25/2015	Area 2	NA	NA	Naphthalene	OC-9	0	12	83.184			Yes	Include
HB15-38	12 - 24	6/25/2015	Area 2	NA	NA	Naphthalene	OC-9	12	24	83.184			Yes	Include
HB15-38	24 - 36	6/25/2015	Area 2	NA	NA	Naphthalene	OC-9	24	36	83.184			Yes	Include
HB15-38	36 - 48	6/25/2015	Area 2	NA	NA	Naphthalene	OC-9	36	48	83.184			Yes	Include
HB15-38	48 - 60	6/25/2015	Area 2	NA	NA	Naphthalene	OC-9	48	60	83.184			Yes	Include
HB15-38	60 - 72	6/25/2015	Area 2	NA	NA	Naphthalene	OC-9	60	72	83.184			Yes	Include
HB15-38	72 - 84	6/25/2015	Area 2	NA	NA	Naphthalene	OC-9	72	84	83.184			Yes	Include
HB15-38	84 - 96	6/25/2015	Area 2	NA	NA	Naphthalene	OC-9	84	96	83.184			No	Exclude
HB15-G28	0 - 6	6/25/2015	Hughitt Ave Slip	NA	NA	Naphthalene		0	6					Exclude
HB15-HC20A	0 - 6	6/25/2015	Area 1	NA	NA	Naphthalene	OC-13	0	6	6.003036			Yes	Include
HB2A_4	0 - 6	5/12/2007	Hughitt Ave Slip	0.3	0.3	Phenanthrene	HS-1	0	6	48.00432			Yes	Include
HB2A_4	6 - 24	5/12/2007	Hughitt Ave Slip	1.1 J-	1.1	Phenanthrene	HS-1	6	24	48.00432			Yes	Include
HB2A_4	24 - 48	5/12/2007	Hughitt Ave Slip	0.14	0.14	Phenanthrene	HS-1	24	48	48.00432			Yes	Include
HB2A_6	0 - 5	5/2/2007	Area 1	0.37	0.37	Phenanthrene		0	5					Exclude
HB2A_7	0 - 5	5/10/2007	Area 1	0.41 BL	0.41	Phenanthrene	SND-1	0	5					Exclude
HB2A_8	0 - 5	5/10/2007	Area 1	0.23 BL	0.23	Phenanthrene	FC-12/FC-13	0	5	4.9944804	79.824	exclude	Yes	Exclude
HB2A_11	0 - 5	5/10/2007	Area 1	0.42 J-BL	0.42	Phenanthrene		0	5					Exclude
HB2A_13	0 - 5	5/2/2007	Area 1	0.30 BL	0.3	Phenanthrene		0	5					Exclude
HB2A_16	0 - 5	5/2/2007	Area 1	0.086 J-BL	0.086	Phenanthrene		0	5					Exclude
HB2A_210	0 - 6	5/16/2007	Area 1	0.01	0.01	Phenanthrene		0	6					Exclude
HB2A_210	6 - 24	5/16/2007	Area 1	0.0056 J	0.0056	Phenanthrene		6	24					Exclude
HB2A_210	24 - 48	5/16/2007	Area 1	0.0069 J-S-	0.0069	Phenanthrene		24	48					Exclude
HB2A_GENES	0 - 5	5/22/2007	Cummings Ave Slip	0.65 BL	0.65	Phenanthrene		0	5					Exclude
HB2B_17	0 - 6	5/12/2007	Fraser Ave Slip	0.4	0.4	Phenanthrene	FS-2	0	6	24.005676			Yes	Include
HB2B_17	6 - 24	5/12/2007	Fraser Ave Slip	0.15	0.15	Phenanthrene	FS-2	6	24	24.005676			Yes	Include
HB2B_18	0 - 6	5/7/2007	Area 2	0.28 BL	0.28	Phenanthrene	FP-1	0	6	47.997552			Yes	Include
HB2B_18	6 - 24	5/7/2007	Area 2	0.21 BL	0.21	Phenanthrene	FP-1	6	24	47.997552			Yes	Include
HB2B_18	24 - 48	5/7/2007	Area 2	0.47 BL	0.47	Phenanthrene	FP-1	24	48	47.997552			Yes	Include
HB2B_19	0 - 6	5/2/2007	Area 2	0.15 J-M-	0.15	Phenanthrene	OC-1	0	6	6.001728			Yes	Include
HB2B_19	6 - 24	5/2/2007	Area 2	0.015 J-M-	0.015	Phenanthrene	OC-1	6	24	6.001728			Yes	Include
HB2B_20	0 - 6	5/2/2007	Area 2	0.18 J-M-	0.18	Phenanthrene	OC-9	0	6	23.997336			Yes	Include
HB2B_20	6 - 24	5/2/2007	Area 2	0.15 J-M-	0.15	Phenanthrene	OC-9	6	24	23.997336			Yes	Include
HB2B_20	24 - 48	5/2/2007	Area 2	0.054 J-M-	0.054	Phenanthrene	OC-9	24	48	23.997336			No	Exclude
HB2B_21	0 - 5	5/2/2007	Area 2	0.15 BL	0.15	Phenanthrene		0	5					Exclude
HB2B_22	0 - 5	5/2/2007	Area 2	0.23 BL	0.23	Phenanthrene	OC-5	0	5	5.0028204			Yes	Include
HB3A_GENES	0 - 5	9/6/2007	Cummings Ave Slip	0.076 BL	0.076	Phenanthrene		0	5					Exclude
HB10-1-01	0 - 6	10/16/2010	Area 1	0.27	0.27	Phenanthrene		0	6					Exclude
HB10-1-01	0 - 12	10/16/2010	Area 1	0.0071 U	0.0071	Phenanthrene		0	12					Exclude
HB10-1-01	36 - 40	10/16/2010	Area 1	0.0051 U	0.0051	Phenanthrene		36	40					Exclude
HB10-1-02	0 - 6	10/16/2010	Area 1	0.086	0.086	Phenanthrene		0	6	23.0027508			Yes	Include
HB10-1-02	12 - 23	10/16/2010	Area 1	0.092	0.092	Phenanthrene		12	23	23.0027508			Yes	Include
HB10-1-03	0 - 6	10/16/2010	Area 1	0.17	0.17	Phenanthrene	FC-17	0	6	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	0 - 12	10/16/2010	Area 1	0.11	0.11	Phenanthrene	FC-17	0	12	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	12 - 36	10/16/2010	Area 1	0.088	0.088	Phenanthrene	FC-17	12	36	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	36 - 60	10/16/2010	Area 1	0.25	0.25	Phenanthrene	FC-17	36	60	59.99475	49.872	include	Yes	Include
HB10-1-03	60 - 84	10/16/2010	Area 1	0.21	0.21	Phenanthrene	FC-17	60	84	59.99475	49.872	include	No	Exclude
HB10-1-04	0 - 6	10/17/2010	Area 1	0.18	0.18	Phenanthrene		0	6					Exclude
HB10-1-04	0 - 12	10/17/2010	Area 1	0.28	0.28	Phenanthrene		0	12					Exclude
HB10-1-04	12 - 36	10/17/2010	Area 1	0.18	0.18	Phenanthrene		12	36					Exclude
HB10-1-04	36 - 50	10/17/2010	Area 1	0.25	0.25	Phenanthrene		36	50					Exclude
HB10-1-05	0 - 6	10/16/2010	Area 1	0.48	0.48	Phenanthrene	OC-17	0	6	5.9987496			Yes	Include
HB10-1-07	0 - 6	10/17/2010	Area 1	8.3	8.3	Phenanthrene	OC-15	0	6	6.0057			Yes	Include
HB10-1-07	0 - 12	10/17/2010	Area 1	0.28	0.28	Phenanthrene	OC-15	0	12	6.0057			Yes	Include
HB10-1-07	12 - 36	10/17/2010	Area 1	0.22	0.22	Phenanthrene	OC-15	12	36	6.0057			No	Exclude
HB10-1-07	60 - 64	10/17/2010	Area 1	0.006	0.006	Phenanthrene	OC-15	60	64	6.0057			No	Exclude
HB10-1-08	0 - 6	10/17/2010	Area 1	0.19	0.19	Phenanthrene		0	6	36.0057			Yes	Include
HB10-1-08	0 - 12	10/17/2010	Area 1	0.19	0.19	Phenanthrene		0	12	36.0057			Yes	Include
HB10-1-08	12 - 36	10/17/2010	Area 1	0.29	0.29	Phenanthrene		12	36	36.0057			Yes	Include
HB10-1-10	0 - 6	10/18/2010	Area 1	2.3	2.3	Phenanthrene	SND-1	0	6					Exclude
HB10-1-11	0 - 6	10/16/2010	Area 1	0.10 J	0.1	Phenanthrene		0	6	20.9987496			Yes	Include
HB10-1-11	12 - 21	10/16/2010	Area 1	0.15	0.15	Phenanthrene		12	21	20.9987496			Yes	Include
HB10-1-12	0 - 6	10/17/2010	Area 1	0.21	0.21	Phenanthrene		0	6					Exclude
HB10-1-12	0 - 12	10/17/2010	Area 1	0.18	0.18	Phenanthrene		0	12					Exclude
HB10-1-12	12 - 34	10/17/2010	Area 1	0.15	0.15	Phenanthrene		12	34					Exclude
HB10-1-13	0 - 6	10/18/2010	Area 1	0.36	0.36	Phenanthrene	FC-12/FC-13	0	6	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	0 - 12	10/18/2010	Area 1	0.41	0.41	Phenanthrene	FC-12/FC-13	0	12	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	12 - 36	10/18/2010	Area 1	0.35	0.35	Phenanthrene	FC-12/FC-13	12	36	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	60 - 67	10/18/2010	Area 1	0.61	0.61	Phenanthrene	FC-12/FC-13	60	67	36.0053004	42.816	include	No	Exclude
HB10-1-14	0 - 6	10/17/2010	Area 1	0.28	0.28	Phenanthrene		0	6	66.0057			Yes	Include
HB10-1-14	0 - 12	10/17/2010	Area 1	0.16	0.16	Phenanthrene		0	12	66.0057			Yes	Include
HB10-1-14	12 - 36	10/17/2010	Area 1	0.24	0.24	Phenanthrene		12	36	66.0057			Yes	Include
HB10-1-14	60 - 66	10/17/2010	Area 1	0.32	0.32	Phenanthrene		60	66	66.0057			Yes	Include
HB10-1-15	0 - 6	10/18/2010	Area 1	0.011	0.011	Phenanthrene	OC-13	0	6	16.0056996			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB10-1-15	12 - 16	10/18/2010	Area 1	0.34 J	0.34	Phenanthrene	OC-13	12	16	16.0056996			Yes	Include
HB10-1-16	0 - 6	10/17/2010	Hughitt Ave Slip	0.43	0.43	Phenanthrene	HS-3	0	6	31.0056996			Yes	Include
HB10-1-16	0 - 12	10/17/2010	Hughitt Ave Slip	1.2	1.2	Phenanthrene	HS-3	0	12	31.0056996			Yes	Include
HB10-1-16	12 - 31	10/17/2010	Hughitt Ave Slip	0.37	0.37	Phenanthrene	HS-3	12	31	31.0056996			Yes	Include
HB10-1-17	0 - 6	10/17/2010	Area 1	0.13	0.13	Phenanthrene	OC-14	0	6	12			Yes	Include
HB10-1-20	0 - 6	10/17/2010	Hughitt Ave Slip	1.8	1.8	Phenanthrene		0	6	6.0057			Yes	Include
HB10-1-21	0 - 6	10/18/2010	Cummings Ave Slip	0.061	0.061	Phenanthrene		0	6	6.0012996			Yes	Include
HB10-1-21	12 - 23	10/18/2010	Cummings Ave Slip	0.21	0.21	Phenanthrene		12	23	6.0012996			No	Exclude
HB10-1-23	0 - 6	10/17/2010	Area 1	0.16	0.16	Phenanthrene		0	6	36.0057			Yes	Include
HB10-1-23	0 - 12	10/17/2010	Area 1	0.22	0.22	Phenanthrene		0	12	36.0057			Yes	Include
HB10-1-23	12 - 36	10/17/2010	Area 1	0.37	0.37	Phenanthrene		12	36	36.0057			Yes	Include
HB10-1-24	0 - 6	10/18/2010	Cummings Ave Slip	0.31	0.31	Phenanthrene	CS-4	0	6	36.0047496			Yes	Include
HB10-1-24	0 - 12	10/18/2010	Cummings Ave Slip	0.47	0.47	Phenanthrene	CS-4	0	12	36.0047496			Yes	Include
HB10-1-24	12 - 36	10/18/2010	Cummings Ave Slip	0.72	0.72	Phenanthrene	CS-4	12	36	36.0047496			Yes	Include
HB10-1-25	0 - 6	10/17/2010	Baxter Ave Embayment	0.13	0.13	Phenanthrene		0	6	6.0057			Yes	Include
HB10-1-27	0 - 6	10/18/2010	Area 1	0.056	0.056	Phenanthrene		0	6	-0.0027			No	Exclude
HB10-1-28	0 - 6	10/17/2010	Hughitt Ave Slip	0.48	0.48	Phenanthrene	HS-1	0	6	84.0057			Yes	Include
HB10-1-28	0 - 12	10/17/2010	Hughitt Ave Slip	0.43	0.43	Phenanthrene	HS-1	0	12	84.0057			Yes	Include
HB10-1-28	12 - 36	10/17/2010	Hughitt Ave Slip	0.86	0.86	Phenanthrene	HS-1	12	36	84.0057			Yes	Include
HB10-1-28	36 - 60	10/17/2010	Hughitt Ave Slip	0.29 J	0.29	Phenanthrene	HS-1	36	60	84.0057			Yes	Include
HB10-1-28	60 - 84	10/17/2010	Hughitt Ave Slip	0.81	0.81	Phenanthrene	HS-1	60	84	84.0057			Yes	Include
HB10-1-28	60 - 96	10/17/2010	Hughitt Ave Slip	0.14 J	0.14	Phenanthrene	HS-1	60	96	84.0057			Yes	Include
HB10-1-29	0 - 6	10/17/2010	Cummings Ave Slip	0.94	0.94	Phenanthrene	CS-1	0	6	83.9937			Yes	Include
HB10-1-29	0 - 12	10/17/2010	Cummings Ave Slip	2.2	2.2	Phenanthrene	CS-1	0	12	83.9937			Yes	Include
HB10-1-29	12 - 36	10/17/2010	Cummings Ave Slip	9.8	9.8	Phenanthrene	CS-1	12	36	83.9937			Yes	Include
HB10-1-29	36 - 60	10/17/2010	Cummings Ave Slip	4.2	4.2	Phenanthrene	CS-1	36	60	83.9937			Yes	Include
HB10-1-29	60 - 93	10/17/2010	Cummings Ave Slip	6.5	6.5	Phenanthrene	CS-1	60	93	83.9937			Yes	Include
HB10-1-30	0 - 6	10/18/2010	Baxter Ave Embayment	0.34	0.34	Phenanthrene		0	6	60.0053004			Yes	Include
HB10-1-30	0 - 12	10/18/2010	Baxter Ave Embayment	1.4	1.4	Phenanthrene		0	12	60.0053004			Yes	Include
HB10-1-30	12 - 36	10/18/2010	Baxter Ave Embayment	1.1	1.1	Phenanthrene		12	36	60.0053004			Yes	Include
HB10-1-30	36 - 60	10/18/2010	Baxter Ave Embayment	0.34	0.34	Phenanthrene		36	60	60.0053004			Yes	Include
HB10-1-30	60 - 77	10/18/2010	Baxter Ave Embayment	0.22	0.22	Phenanthrene		60	77	60.0053004			Yes	Include
HB10-1-31	0 - 6	10/18/2010	Baxter Ave Embayment	0.3	0.3	Phenanthrene	OC-11	0	6	35.9973			Yes	Include
HB10-1-31	0 - 12	10/18/2010	Baxter Ave Embayment	0.41	0.41	Phenanthrene	OC-11	0	12	35.9973			Yes	Include
HB10-1-31	12 - 36	10/18/2010	Baxter Ave Embayment	0.3	0.3	Phenanthrene	OC-11	12	36	35.9973			Yes	Include
HB10-2-18	0 - 6	10/18/2010	Area 2	0.26	0.26	Phenanthrene	OC-2	0	6	6.0053004			Yes	Include
HB10-2-26	0 - 6	10/16/2010	Area 2	0.090 J	0.09	Phenanthrene		0	6					Exclude
HB10-2-26	12 - 17	10/16/2010	Area 2	0.14	0.14	Phenanthrene		12	17					Exclude
HB10-2-32	0 - 6	10/18/2010	Area 2	0.15	0.15	Phenanthrene		0	6					Exclude
HB10-2-33	0 - 6	10/18/2010	Area 2	0.044 J	0.044	Phenanthrene		0	6	6.0012996			Yes	Include
HB10-2-33	12 - 22	10/18/2010	Area 2	0.21	0.21	Phenanthrene		12	22	6.0012996			No	Exclude
HB10-2-34	0 - 6	10/18/2010	Area 2	0.18	0.18	Phenanthrene	FC-7	0	6	6.0053004	0.816	include	Yes	Include
HB10-2-35	0 - 6	10/18/2010	Area 2	0.045 J	0.045	Phenanthrene		0	6	30.0012996			Yes	Include
HB10-2-35	0 - 12	10/18/2010	Area 2	0.093	0.093	Phenanthrene		0	12	30.0012996			Yes	Include
HB10-2-35	12 - 30	10/18/2010	Area 2	0.86	0.86	Phenanthrene		12	30	30.0012996			Yes	Include
HB10-2-36	0 - 6	10/18/2010	Area 2	0.32	0.32	Phenanthrene	FC-5	0	6	6.0053004	-29.184	include	Yes	Include
HB10-2-37	0 - 6	10/18/2010	Area 2	0.64	0.64	Phenanthrene		0	6	23.0013			Yes	Include
HB10-2-37	12 - 23	10/18/2010	Area 2	0.12	0.12	Phenanthrene		12	23	23.0013			Yes	Include
HB10-2-38	0 - 6	10/18/2010	Area 2	0.077	0.077	Phenanthrene	OC-6	0	6	38.0013			Yes	Include
HB10-2-38	0 - 12	10/18/2010	Area 2	0.26	0.26	Phenanthrene	OC-6	0	12	38.0013			Yes	Include
HB10-2-38	36 - 38	10/18/2010	Area 2	2	2	Phenanthrene	OC-6	36	38	38.0013			Yes	Include
HB10-2-39	0 - 6	10/18/2010	Area 2	0.053 J	0.053	Phenanthrene		0	6	6.0012996			Yes	Include
HB10-2-39	0 - 12	10/18/2010	Area 2	0.18	0.18	Phenanthrene		0	12	6.0012996			Yes	Include
HB10-2-39	12 - 28	10/18/2010	Area 2	0.14	0.14	Phenanthrene		12	28	6.0012996			No	Exclude
HB10-2-40	0 - 6	10/18/2010	Area 2	0.19	0.19	Phenanthrene	OC-5	0	6	48.0053004			Yes	Include
HB10-2-40	0 - 12	10/18/2010	Area 2	0.052	0.052	Phenanthrene	OC-5	0	12	48.0053004			Yes	Include
HB10-2-40	12 - 36	10/18/2010	Area 2	0.0044 U	0.0044	Phenanthrene	OC-5	12	36	48.0053004			Yes	Include
HB10-2-40	36 - 48	10/18/2010	Area 2	0.0043 U	0.0043	Phenanthrene	OC-5	36	48	48.0053004			Yes	Include
HB10-2-41	0 - 6	10/18/2010	Area 2	4	4	Phenanthrene	FP-2	0	6	31.0012992			Yes	Include
HB10-2-41	0 - 12	10/18/2010	Area 2	0.046	0.046	Phenanthrene	FP-2	0	12	31.0012992			Yes	Include
HB10-2-41	12 - 31	10/18/2010	Area 2	0.058	0.058	Phenanthrene	FP-2	12	31	31.0012992			Yes	Include
HB10-2-42	0 - 6	10/18/2010	Area 2	0.27	0.27	Phenanthrene	FP-1	0	6	12.0012996			Yes	Include
HB10-2-42	0 - 12	10/18/2010	Area 2	NA	NA	Phenanthrene	FP-1	0	12	12.0012996			Yes	Include
HB10-2-42	12 - 30	10/18/2010	Area 2	0.27	0.27	Phenanthrene	FP-1	12	30	12.0012996			Yes	Include
HB10-2-43	0 - 6	10/17/2010	Area 2	R	R	Phenanthrene		0	6	22.0056996			Yes	Include
HB10-2-43	12 - 22	10/17/2010	Area 2	0.85	0.85	Phenanthrene		12	22	22.0056996			Yes	Include
HB10-2-44	0 - 6	10/18/2010	Area 2	0.41	0.41	Phenanthrene	FP-2	0	6	16.0012992			Yes	Include
HB10-2-44	12 - 16	10/18/2010	Area 2	0.72	0.72	Phenanthrene	FP-2	12	16	16.0012992			Yes	Include
HB10-2-45	0 - 6	10/18/2010	Area 2	0.17	0.17	Phenanthrene	FP-2	0	6	19.0012992			Yes	Include
HB10-2-45	12 - 19	10/18/2010	Area 2	0.71	0.71	Phenanthrene	FP-2	12	19	19.0012992			Yes	Include
HB13-01	0 - 6 *	9/11/2013	Area 2	NA	NA	Phenanthrene	FP-1	0	6	48			Yes	Include
HB13-01	6 - 12 *	9/11/2013	Area 2	NA	NA	Phenanthrene	FP-1	6	12	48			Yes	Include
HB13-01	12 - 18 *	9/11/2013	Area 2	NA	NA	Phenanthrene	FP-1	12	18	48			Yes	Include
HB13-01	18 - 24 *	9/11/2013	Area 2	NA	NA	Phenanthrene	FP-1	18	24	48			Yes	Include
HB13-01	24 - 30 *	9/11/2013	Area 2	NA	NA	Phenanthrene	FP-1	24	30	48			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-01	30 - 36 *	9/11/2013	Area 2	NA	NA	Phenanthrene	FP-1	30	36	48			Yes	Include
HB13-01	36 - 42 *	9/11/2013	Area 2	NA	NA	Phenanthrene	FP-1	36	42	48			Yes	Include
HB13-01	42 - 48 *	9/11/2013	Area 2	NA	NA	Phenanthrene	FP-1	42	48	48			Yes	Include
HB13-01	48 - 54 *	9/11/2013	Area 2	NA	NA	Phenanthrene	FP-1	48	54	48			No	Exclude
HB13-01	54 - 60 *	9/11/2013	Area 2	NA	NA	Phenanthrene	FP-1	54	60	48			No	Exclude
HB13-01	60 - 66 *	9/11/2013	Area 2	NA	NA	Phenanthrene	FP-1	60	66	48			No	Exclude
HB13-01	66 - 72 *	9/11/2013	Area 2	NA	NA	Phenanthrene	FP-1	66	72	48			No	Exclude
HB13-01	72 - 74 *	9/11/2013	Area 2	NA	NA	Phenanthrene	FP-1	72	74	48			No	Exclude
HB13-02	0 - 6 *	9/9/2013	Area 2	0.016 U	0.016	Phenanthrene		0	6	29.9960004			Yes	Include
HB13-02	6 - 12 *	9/9/2013	Area 2	NA	NA	Phenanthrene		6	12	29.9960004			Yes	Include
HB13-02	12 - 18 *	9/9/2013	Area 2	NA	NA	Phenanthrene		12	18	29.9960004			Yes	Include
HB13-02	18 - 24 *	9/9/2013	Area 2	NA	NA	Phenanthrene		18	24	29.9960004			Yes	Include
HB13-02	24 - 30 *	9/9/2013	Area 2	NA	NA	Phenanthrene		24	30	29.9960004			Yes	Include
HB13-02	30 - 36 *	9/9/2013	Area 2	NA	NA	Phenanthrene		30	36	29.9960004			No	Exclude
HB13-02	36 - 42 *	9/9/2013	Area 2	NA	NA	Phenanthrene		36	42	29.9960004			No	Exclude
HB13-02	42 - 48 *	9/9/2013	Area 2	NA	NA	Phenanthrene		42	48	29.9960004			No	Exclude
HB13-03	0 - 6 *	9/9/2013	Area 2	NA	NA	Phenanthrene	FP-2	0	6	46.0040004			Yes	Include
HB13-03	0 - 24	9/9/2013	Area 2	1.6	1.6	Phenanthrene	FP-2	0	24	46.0040004			Yes	Include
HB13-03	6 - 12 *	9/9/2013	Area 2	NA	NA	Phenanthrene	FP-2	6	12	46.0040004			Yes	Include
HB13-03	12 - 18 *	9/9/2013	Area 2	NA	NA	Phenanthrene	FP-2	12	18	46.0040004			Yes	Include
HB13-03	18 - 24 *	9/9/2013	Area 2	NA	NA	Phenanthrene	FP-2	18	24	46.0040004			Yes	Include
HB13-03	24 - 30 *	9/9/2013	Area 2	NA	NA	Phenanthrene	FP-2	24	30	46.0040004			Yes	Include
HB13-03	24 - 46	9/9/2013	Area 2	0.59	0.59	Phenanthrene	FP-2	24	46	46.0040004			Yes	Include
HB13-03	30 - 36 *	9/9/2013	Area 2	NA	NA	Phenanthrene	FP-2	30	36	46.0040004			Yes	Include
HB13-03	36 - 42 *	9/9/2013	Area 2	NA	NA	Phenanthrene	FP-2	36	42	46.0040004			Yes	Include
HB13-03	42 - 46 *	9/9/2013	Area 2	NA	NA	Phenanthrene	FP-2	42	46	46.0040004			Yes	Include
HB13-03	46 - 51 *	9/9/2013	Area 2	NA	NA	Phenanthrene	FP-2	46	51	46.0040004			Yes	Include
HB13-04	0 - 6 *	9/9/2013	Area 2	NA	NA	Phenanthrene	OC-1	0	6	41.9960004			Yes	Include
HB13-04	6 - 12 *	9/9/2013	Area 2	NA	NA	Phenanthrene	OC-1	6	12	41.9960004			Yes	Include
HB13-04	12 - 18 *	9/9/2013	Area 2	NA	NA	Phenanthrene	OC-1	12	18	41.9960004			Yes	Include
HB13-04	18 - 24 *	9/9/2013	Area 2	NA	NA	Phenanthrene	OC-1	18	24	41.9960004			Yes	Include
HB13-04	24 - 30 *	9/9/2013	Area 2	NA	NA	Phenanthrene	OC-1	24	30	41.9960004			Yes	Include
HB13-04	30 - 36 *	9/9/2013	Area 2	NA	NA	Phenanthrene	OC-1	30	36	41.9960004			Yes	Include
HB13-04	36 - 42 *	9/9/2013	Area 2	NA	NA	Phenanthrene	OC-1	36	42	41.9960004			Yes	Include
HB13-04	42 - 44 *	9/9/2013	Area 2	NA	NA	Phenanthrene	OC-1	42	44	41.9960004			No	Exclude
HB13-05	0 - 32 *	9/9/2013	Area 2	NA	NA	Phenanthrene	FC-1	0	32	43.8	33.156	exclude	Yes	Exclude
HB13-05	32 - 38 *	9/9/2013	Area 2	NA	NA	Phenanthrene	FC-1	32	38	43.8	33.156	include	Yes	Include
HB13-05	38 - 44 *	9/9/2013	Area 2	NA	NA	Phenanthrene	FC-1	38	44	43.8	33.156	include	Yes	Include
HB13-05	44 - 50 *	9/9/2013	Area 2	NA	NA	Phenanthrene	FC-1	44	50	43.8	33.156	include	No	Exclude
HB13-05	50 - 56 *	9/9/2013	Area 2	NA	NA	Phenanthrene	FC-1	50	56	43.8	33.156	include	No	Exclude
HB13-05	56 - 62	9/9/2013	Area 2	2.1	2.1	Phenanthrene	FC-1	56	62	43.8	33.156	include	No	Exclude
HB13-05	62 - 66	9/9/2013	Area 2	0.22	0.22	Phenanthrene	FC-1	62	66	43.8	33.156	include	No	Exclude
HB13-05	68 - 74 *	9/9/2013	Area 2	NA	NA	Phenanthrene	FC-1	68	74	43.8	33.156	include	No	Exclude
HB13-05	74 - 77 *	9/9/2013	Area 2	NA	NA	Phenanthrene	FC-1	74	77	43.8	33.156	include	No	Exclude
HB13-06	0 - 6 *	9/9/2013	Area 2	NA	NA	Phenanthrene	OC-2	0	6	48			Yes	Include
HB13-06	6 - 12 *	9/9/2013	Area 2	NA	NA	Phenanthrene	OC-2	6	12	48			Yes	Include
HB13-06	12 - 18 *	9/9/2013	Area 2	NA	NA	Phenanthrene	OC-2	12	18	48			Yes	Include
HB13-06	18 - 24 *	9/9/2013	Area 2	NA	NA	Phenanthrene	OC-2	18	24	48			Yes	Include
HB13-06	24 - 30 *	9/9/2013	Area 2	NA	NA	Phenanthrene	OC-2	24	30	48			Yes	Include
HB13-06	30 - 36 *	9/9/2013	Area 2	NA	NA	Phenanthrene	OC-2	30	36	48			Yes	Include
HB13-06	36 - 42 *	9/9/2013	Area 2	NA	NA	Phenanthrene	OC-2	36	42	48			Yes	Include
HB13-06	42 - 48 *	9/9/2013	Area 2	NA	NA	Phenanthrene	OC-2	42	48	48			Yes	Include
HB13-07	0 - 6 *	9/10/2013	Area 2	NA	NA	Phenanthrene		0	6					Exclude
HB13-07	6 - 12 *	9/10/2013	Area 2	NA	NA	Phenanthrene		6	12					Exclude
HB13-07	12 - 18 *	9/10/2013	Area 2	NA	NA	Phenanthrene		12	18					Exclude
HB13-07	18 - 24 *	9/10/2013	Area 2	NA	NA	Phenanthrene		18	24					Exclude
HB13-07	24 - 30 *	9/10/2013	Area 2	NA	NA	Phenanthrene		24	30					Exclude
HB13-07	30 - 36 *	9/10/2013	Area 2	NA	NA	Phenanthrene		30	36					Exclude
HB13-07	36 - 42 *	9/10/2013	Area 2	NA	NA	Phenanthrene		36	42					Exclude
HB13-07	42 - 48 *	9/10/2013	Area 2	NA	NA	Phenanthrene		42	48					Exclude
HB13-08	0 - 18	9/11/2013	Area 2	0.58	0.58	Phenanthrene	FC-2	0	18	38.28	21.756	exclude	Yes	Exclude
HB13-08	18 - 36	9/11/2013	Area 2	0.69	0.69	Phenanthrene	FC-2	18	36	38.28	21.756	include	Yes	Include
HB13-08	36 - 60	9/11/2013	Area 2	1	1	Phenanthrene	FC-2	36	60	38.28	21.756	include	Yes	Include
HB13-08	60 - 92	9/11/2013	Area 2	0.47	0.47	Phenanthrene	FC-2	60	92	38.28	21.756	include	No	Exclude
HB13-10	0 - 6 *	9/10/2013	Area 2	NA	NA	Phenanthrene		0	6	0.0039996			Yes	Include
HB13-11	0 - 18	9/11/2013	Area 2	0.65	0.65	Phenanthrene	FC-4	0	18	25.2	23.964	exclude	Yes	Exclude
HB13-11	18 - 24 *	9/11/2013	Area 2	NA	NA	Phenanthrene	FC-4	18	24	25.2	23.964	include	Yes	Include
HB13-11	18 - 42	9/11/2013	Area 2	0.58	0.58	Phenanthrene	FC-4	18	42	25.2	23.964	include	Yes	Include
HB13-11	24 - 30 *	9/11/2013	Area 2	NA	NA	Phenanthrene	FC-4	24	30	25.2	23.964	include	Yes	Include
HB13-11	30 - 36 *	9/11/2013	Area 2	NA	NA	Phenanthrene	FC-4	30	36	25.2	23.964	include	No	Exclude
HB13-11	36 - 42 *	9/11/2013	Area 2	NA	NA	Phenanthrene	FC-4	36	42	25.2	23.964	include	No	Exclude
HB13-11	42 - 48 *	9/11/2013	Area 2	NA	NA	Phenanthrene	FC-4	42	48	25.2	23.964	include	No	Exclude
HB13-11	42 - 60	9/11/2013	Area 2	0.27	0.27	Phenanthrene	FC-4	42	60	25.2	23.964	include	No	Exclude
HB13-11	48 - 54 *	9/11/2013	Area 2	NA	NA	Phenanthrene	FC-4	48	54	25.2	23.964	include	No	Exclude
HB13-11	54 - 60 *	9/11/2013	Area 2	NA	NA	Phenanthrene	FC-4	54	60	25.2	23.964	include	No	Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-12	0 - 6 *	9/10/2013	Area 2	NA	NA	Phenanthrene		0	6	5.9960004			Yes	Include
HB13-13	0 - 1 *	9/11/2013	Area 2	NA	NA	Phenanthrene	SND-5	0	1	0.9999996			Yes	Include
HB13-14	0 - 6 *	9/12/2013	Area 2	NA	NA	Phenanthrene	FC-6	0	6	45.9999996	-5.316	include	Yes	Include
HB13-14	0 - 24	9/12/2013	Area 2	0.057	0.057	Phenanthrene	FC-6	0	24	45.9999996	-5.316	include	Yes	Include
HB13-14	6 - 24 *	9/12/2013	Area 2	NA	NA	Phenanthrene	FC-6	6	24	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 42 *	9/12/2013	Area 2	NA	NA	Phenanthrene	FC-6	24	42	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 46	9/12/2013	Area 2	0.088	0.088	Phenanthrene	FC-6	24	46	45.9999996	-5.316	include	Yes	Include
HB13-14	42 - 46 *	9/12/2013	Area 2	NA	NA	Phenanthrene	FC-6	42	46	45.9999996	-5.316	include	Yes	Include
HB13-15	0 - 6 *	9/12/2013	Area 2	NA	NA	Phenanthrene	FC-7	0	6	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	6 - 12 *	9/12/2013	Area 2	NA	NA	Phenanthrene	FC-7	6	12	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	12 - 19 *	9/12/2013	Area 2	NA	NA	Phenanthrene	FC-7	12	19	18.9999996	18.516	include	Yes	Include
HB13-16	0 - 6 *	9/12/2013	Area 2	NA	NA	Phenanthrene		0	6	26.0000004			Yes	Include
HB13-16	6 - 12 *	9/12/2013	Area 2	NA	NA	Phenanthrene		6	12	26.0000004			Yes	Include
HB13-16	12 - 18 *	9/12/2013	Area 2	NA	NA	Phenanthrene		12	18	26.0000004			Yes	Include
HB13-16	18 - 24 *	9/12/2013	Area 2	NA	NA	Phenanthrene		18	24	26.0000004			Yes	Include
HB13-16	24 - 27 *	9/12/2013	Area 2	NA	NA	Phenanthrene		24	27	26.0000004			Yes	Include
HB13-17	0 - 12 *	9/12/2013	Area 2	NA	NA	Phenanthrene	FC-7	0	12	24	16.2	exclude	Yes	Exclude
HB13-17	12 - 18 *	9/12/2013	Area 2	NA	NA	Phenanthrene	FC-7	12	18	24	16.2	include	Yes	Include
HB13-17	18 - 24 *	9/12/2013	Area 2	NA	NA	Phenanthrene	FC-7	18	24	24	16.2	include	Yes	Include
HB13-17	24 - 47 *	9/12/2013	Area 2	NA	NA	Phenanthrene	FC-7	24	47	24	16.2	include	No	Exclude
HB13-18	0 - 6	9/12/2013	Area 2	0.42	0.42	Phenanthrene		0	6	9.9999996			Yes	Include
HB13-18	6 - 10	9/12/2013	Area 2	0.12	0.12	Phenanthrene		6	10	9.9999996			Yes	Include
HB13-18	10 - 16	9/12/2013	Area 2	0.012	0.012	Phenanthrene		10	16	9.9999996			No	Exclude
HB13-19	0 - 6 *	9/13/2013	Area 2	NA	NA	Phenanthrene		0	6					Exclude
HB13-19	6 - 24 *	9/13/2013	Area 2	NA	NA	Phenanthrene		6	24					Exclude
HB13-19	18 - 20 *	9/13/2013	Area 2	NA	NA	Phenanthrene		18	20					Exclude
HB13-19	24 - 42 *	9/13/2013	Area 2	NA	NA	Phenanthrene		24	42					Exclude
HB13-19	42 - 61 *	9/13/2013	Area 2	NA	NA	Phenanthrene		42	61					Exclude
HB13-19	61 - 67 *	9/13/2013	Area 2	NA	NA	Phenanthrene		61	67					Exclude
HB13-20	0 - 6 *	9/12/2013	Area 2	NA	NA	Phenanthrene		0	6	24			Yes	Include
HB13-20	0 - 12	9/12/2013	Area 2	0.058	0.058	Phenanthrene		0	12	24			Yes	Include
HB13-20	6 - 12 *	9/12/2013	Area 2	NA	NA	Phenanthrene		6	12	24			Yes	Include
HB13-20	12 - 18 *	9/12/2013	Area 2	NA	NA	Phenanthrene		12	18	24			Yes	Include
HB13-20	12 - 24	9/12/2013	Area 2	0.095	0.095	Phenanthrene		12	24	24			Yes	Include
HB13-20	18 - 24 *	9/12/2013	Area 2	NA	NA	Phenanthrene		18	24	24			Yes	Include
HB13-20	24 - 30 *	9/12/2013	Area 2	NA	NA	Phenanthrene		24	30	24			No	Exclude
HB13-20	24 - 36	9/12/2013	Area 2	0.073	0.073	Phenanthrene		24	36	24			No	Exclude
HB13-20	30 - 36 *	9/12/2013	Area 2	NA	NA	Phenanthrene		30	36	24			No	Exclude
HB13-20	36 - 42 *	9/12/2013	Area 2	NA	NA	Phenanthrene		36	42	24			No	Exclude
HB13-20	36 - 48	9/12/2013	Area 2	0.15	0.15	Phenanthrene		36	48	24			No	Exclude
HB13-20	42 - 48 *	9/12/2013	Area 2	NA	NA	Phenanthrene		42	48	24			No	Exclude
HB13-21	0 - 6 *	9/13/2013	Area 2	NA	NA	Phenanthrene	OC-10	0	6	24			Yes	Include
HB13-21	6 - 24 *	9/13/2013	Area 2	NA	NA	Phenanthrene	OC-10	6	24	24			Yes	Include
HB13-21	24 - 48 *	9/13/2013	Area 2	NA	NA	Phenanthrene	OC-10	24	48	24			No	Exclude
HB13-21	48 - 72 *	9/13/2013	Area 2	NA	NA	Phenanthrene	OC-10	48	72	24			No	Exclude
HB13-21	72 - 88 *	9/13/2013	Area 2	NA	NA	Phenanthrene	OC-10	72	88	24			No	Exclude
HB13-22	0 - 28 *	9/12/2013	Area 2	NA	NA	Phenanthrene	FC-7	0	28	24	36.72	exclude	Yes	Exclude
HB13-22	28 - 31 *	9/12/2013	Area 2	NA	NA	Phenanthrene	FC-7	28	31	24	36.72	exclude	No	Exclude
HB13-23	0 - 12 *	9/12/2013	Area 2	NA	NA	Phenanthrene	SND-5	0	12	27			Yes	Include
HB13-23	12 - 18 *	9/12/2013	Area 2	NA	NA	Phenanthrene	SND-5	12	18	27			Yes	Include
HB13-23	18 - 24 *	9/12/2013	Area 2	NA	NA	Phenanthrene	SND-5	18	24	27			Yes	Include
HB13-23	24 - 32 *	9/12/2013	Area 2	NA	NA	Phenanthrene	SND-5	24	32	27			Yes	Include
HB13-24	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-3	0	6	6			Yes	Include
HB13-24	0 - 24 *	9/12/2013	HUGHITT AVE SLIP	2.7	2.7	Phenanthrene	HS-3	0	24	6			Yes	Include
HB13-24	6 - 24	9/12/2013	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-3	6	24	6			No	Exclude
HB13-25	0 - 6 *	9/12/2013	Area 1	NA	NA	Phenanthrene	OC-11	0	6	57			Yes	Include
HB13-25	0 - 18	9/12/2013	Area 1	0.12	0.12	Phenanthrene	OC-11	0	18	57			Yes	Include
HB13-25	6 - 18 *	9/12/2013	Area 1	NA	NA	Phenanthrene	OC-11	6	18	57			Yes	Include
HB13-25	18 - 36 *	9/12/2013	Area 1	NA	NA	Phenanthrene	OC-11	18	36	57			Yes	Include
HB13-25	18 - 57	9/12/2013	Area 1	0.06	0.06	Phenanthrene	OC-11	18	57	57			Yes	Include
HB13-25	36 - 57 *	9/12/2013	Area 1	NA	NA	Phenanthrene	OC-11	36	57	57			Yes	Include
HB13-26	0 - 12	9/13/2013	Area 1	0.066	0.066	Phenanthrene	FC-10	0	12	33	17.04	exclude	Yes	Exclude
HB13-26	12 - 18	9/13/2013	Area 1	0.092	0.092	Phenanthrene	FC-10	12	18	33	17.04	include	Yes	Include
HB13-26	18 - 33	9/13/2013	Area 1	0.095	0.095	Phenanthrene	FC-10	18	33	33	17.04	include	Yes	Include
HB13-27	0 - 6 *	9/13/2013	Area 1	NA	NA	Phenanthrene		0	6					Exclude
HB13-27	0 - 32	9/13/2013	Area 1	0.019	0.019	Phenanthrene		0	32					Exclude
HB13-28	0 - 8 *	9/13/2013	Area 1	NA	NA	Phenanthrene	FC-11	0	8	14.0000004	13.68	exclude	Yes	Exclude
HB13-28	8 - 14 *	9/13/2013	Area 1	NA	NA	Phenanthrene	FC-11	8	14	14.0000004	13.68	include	Yes	Include
HB13-28	14 - 26 *	9/13/2013	Area 1	NA	NA	Phenanthrene	FC-11	14	26	14.0000004	13.68	include	Yes	Include
HB13-28	26 - 40 *	9/13/2013	Area 1	NA	NA	Phenanthrene	FC-11	26	40	14.0000004	13.68	include	No	Exclude
HB13-29	0 - 6	9/13/2013	Area 1	NA	NA	Phenanthrene	FC-12/FC-13	0	6	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 12 *	9/13/2013	Area 1	0.14	0.14	Phenanthrene	FC-12/FC-13	0	12	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 18 *	9/13/2013	Area 1	NA	NA	Phenanthrene	FC-12/FC-13	0	18	44.0000004	1.044	include	Yes	Include
HB13-29	6 - 12	9/13/2013	Area 1	NA	NA	Phenanthrene	FC-12/FC-13	6	12	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 24	9/13/2013	Area 1	NA	NA	Phenanthrene	FC-12/FC-13	12	24	44.0000004	1.044	include	Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-29	12 - 44 *	9/13/2013	Area 1	0.2	0.2	Phenanthrene	FC-12/FC-13	12	44	44.0000004	1.044	include	Yes	Include
HB13-29	24 - 44	9/13/2013	Area 1	NA	NA	Phenanthrene	FC-12/FC-13	24	44	44.0000004	1.044	include	Yes	Include
HB13-30	0 - 6	9/10/2013	Area 1	NA	NA	Phenanthrene	SND-1	0	6	60			Yes	Include
HB13-30	6 - 24	9/10/2013	Area 1	NA	NA	Phenanthrene	SND-1	6	24	60			Yes	Include
HB13-30	24 - 42	9/10/2013	Area 1	NA	NA	Phenanthrene	SND-1	24	42	60			Yes	Include
HB13-30	42 - 60	9/10/2013	Area 1	NA	NA	Phenanthrene	SND-1	42	60	60			Yes	Include
HB13-30	60 - 78	9/10/2013	Area 1	NA	NA	Phenanthrene	SND-1	60	78	60			No	Exclude
HB13-31	0 - 6	9/13/2013	Area 1	NA	NA	Phenanthrene	FC-16	0	6	27	2.76	include	Yes	Include
HB13-31	6 - 18	9/13/2013	Area 1	NA	NA	Phenanthrene	FC-16	6	18	27	2.76	include	Yes	Include
HB13-31	18 - 27	9/13/2013	Area 1	NA	NA	Phenanthrene	FC-16	18	27	27	2.76	include	Yes	Include
HB13-31	27 - 33	9/13/2013	Area 1	NA	NA	Phenanthrene	FC-16	27	33	27	2.76	include	No	Exclude
HB13-32	0 - 6	9/13/2013	Area 1	NA	NA	Phenanthrene	FC-14	0	6	26.0000004	-2.52	include	Yes	Include
HB13-32	6 - 18	9/13/2013	Area 1	NA	NA	Phenanthrene	FC-14	6	18	26.0000004	-2.52	include	Yes	Include
HB13-32	18 - 26	9/13/2013	Area 1	NA	NA	Phenanthrene	FC-14	18	26	26.0000004	-2.52	include	Yes	Include
HB13-32	26 - 32	9/13/2013	Area 1	NA	NA	Phenanthrene	FC-14	26	32	26.0000004	-2.52	include	Yes	Include
HB13-33	0 - 6	9/13/2013	Area 1	NA	NA	Phenanthrene		0	6	12			Yes	Include
HB13-33	6 - 12	9/13/2013	Area 1	NA	NA	Phenanthrene		6	12	12			Yes	Include
HB13-34	0 - 6	9/13/2013	Area 1	NA	NA	Phenanthrene		0	6	0.5000004			Yes	Include
HB13-35	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Phenanthrene		0	6	3.9999996			Yes	Include
HB13-35	6 - 12	9/13/2013	Hughitt Ave Slip	NA	NA	Phenanthrene		6	12	3.9999996			No	Exclude
HB13-37	2 - 6	9/10/2013	Hughitt Ave Slip	4.6	4.6	Phenanthrene	HS-3	2	6	6			Yes	Include
HB13-38	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-3	0	6	6			Yes	Include
HB13-39	4 - 10	9/13/2013	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-2	4	10	27.9999996			Yes	Include
HB13-39	10 - 28	9/13/2013	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-2	10	28	27.9999996			Yes	Include
HB13-39	28 - 34	9/13/2013	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-2	28	34	27.9999996			No	Exclude
HB13-40	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-2	0	6	86.0000004			Yes	Include
HB13-40	0 - 24 *	9/13/2013	Hughitt Ave Slip	0.3	0.3	Phenanthrene	HS-2	0	24	86.0000004			Yes	Include
HB13-40	6 - 24	9/13/2013	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-2	6	24	86.0000004			Yes	Include
HB13-40	24 - 48	9/13/2013	Hughitt Ave Slip	1.6	1.6	Phenanthrene	HS-2	24	48	86.0000004			Yes	Include
HB13-40	48 - 72	9/13/2013	Hughitt Ave Slip	0.32	0.32	Phenanthrene	HS-2	48	72	86.0000004			Yes	Include
HB13-40	72 - 86	9/13/2013	Hughitt Ave Slip	0.029	0.029	Phenanthrene	HS-2	72	86	86.0000004			Yes	Include
HB13-41	0 - 6	9/10/2013	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-2	0	6	29.0000004			Yes	Include
HB13-41	0 - 24 *	9/10/2013	Hughitt Ave Slip	1.7	1.7	Phenanthrene	HS-2	0	24	29.0000004			Yes	Include
HB13-41	6 - 24	9/10/2013	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-2	6	24	29.0000004			Yes	Include
HB13-41	24 - 29	9/10/2013	Hughitt Ave Slip	0.67	0.67	Phenanthrene	HS-2	24	29	29.0000004			Yes	Include
HB13-42	0 - 6	9/11/2013	Cummings Ave Slip	2.2	2.2	Phenanthrene	CS-3	0	6	33			Yes	Include
HB13-42	6 - 24	9/11/2013	Cummings Ave Slip	0.85	0.85	Phenanthrene	CS-3	6	24	33			Yes	Include
HB13-42	24 - 33	9/11/2013	Cummings Ave Slip	1.1	1.1	Phenanthrene	CS-3	24	33	33			Yes	Include
HB13-42	33 - 36	9/11/2013	Cummings Ave Slip	0.035	0.035	Phenanthrene	CS-3	33	36	33			No	Exclude
HB13-43	0 - 6	9/11/2013	Cummings Ave Slip	22	22	Phenanthrene	CS-2	0	6	24			Yes	Include
HB13-43	0 - 24 *	9/11/2013	Cummings Ave Slip	NA	NA	Phenanthrene	CS-2	0	24	24			Yes	Include
HB13-43	6 - 24	9/11/2013	Cummings Ave Slip	0.56	0.56	Phenanthrene	CS-2	6	24	24			Yes	Include
HB13-45	0 - 6	9/11/2013	Cummings Ave Slip	2.3	2.3	Phenanthrene	CS-2	0	6	21			Yes	Include
HB13-45	6 - 21	9/11/2013	Cummings Ave Slip	4.6	4.6	Phenanthrene	CS-2	6	21	21			Yes	Include
HB13-47	0 - 6	9/10/2013	Fraser Ave Slip	5.3	5.3	Phenanthrene	FS-1	0	6	30.996			Yes	Include
HB13-47	6 - 24	9/10/2013	Fraser Ave Slip	4.4	4.4	Phenanthrene	FS-1	6	24	30.996			Yes	Include
HB13-47	24 - 31	9/10/2013	Fraser Ave Slip	7.5	7.5	Phenanthrene	FS-1	24	31	30.996			Yes	Include
HB13-47	31 - 37 *	9/10/2013	Fraser Ave Slip	NA	NA	Phenanthrene	FS-1	31	37	30.996			No	Exclude
HB13-48	0 - 6 *	9/10/2013	Fraser Ave Slip	NA	NA	Phenanthrene	FS-2	0	6	45.9999996			Yes	Include
HB13-48	0 - 24	9/10/2013	FRASER AVE SLIP	4	4	Phenanthrene	FS-2	0	24	45.9999996			Yes	Include
HB13-48	6 - 24 *	9/10/2013	Fraser Ave Slip	NA	NA	Phenanthrene	FS-2	6	24	45.9999996			Yes	Include
HB13-48	24 - 42 *	9/10/2013	Fraser Ave Slip	NA	NA	Phenanthrene	FS-2	24	42	45.9999996			Yes	Include
HB13-48	24 - 46 *	9/10/2013	FRASER AVE SLIP	4.6	4.6	Phenanthrene	FS-2	24	46	45.9999996			Yes	Include
HB13-48	42 - 46 *	9/10/2013	Fraser Ave Slip	NA	NA	Phenanthrene	FS-2	42	46	45.9999996			Yes	Include
HB13-49	0 - 6	9/11/2013	Fraser Ave Slip	1.3	1.3	Phenanthrene	FS-2	0	6	30			Yes	Include
HB13-49	6 - 24	9/11/2013	Fraser Ave Slip	2.5	2.5	Phenanthrene	FS-2	6	24	30			Yes	Include
HB13-49	24 - 30	9/11/2013	Fraser Ave Slip	2.9	2.9	Phenanthrene	FS-2	24	30	30			Yes	Include
HB13-50	0 - 12 *	9/13/2013	Area 1	NA	NA	Phenanthrene	OC-12	0	12	47.0000004			Yes	Include
HB13-50	12 - 24 *	9/13/2013	Area 1	NA	NA	Phenanthrene	OC-12	12	24	47.0000004			Yes	Include
HB13-50	24 - 36 *	9/13/2013	Area 1	NA	NA	Phenanthrene	OC-12	24	36	47.0000004			Yes	Include
HB13-50	36 - 47 *	9/13/2013	Area 1	NA	NA	Phenanthrene	OC-12	36	47	47.0000004			Yes	Include
HB13-51	0 - 6 *	9/11/2013	Area 2	NA	NA	Phenanthrene		0	6					Exclude
HB13-51	6 - 15 *	9/11/2013	Area 2	NA	NA	Phenanthrene		6	15					Exclude
HB13-52	0 - 6 *	9/11/2013	Area 2	NA	NA	Phenanthrene	OC-10	0	6	12			Yes	Include
HB13-52	6 - 12 *	9/11/2013	Area 2	NA	NA	Phenanthrene	OC-10	6	12	12			Yes	Include
HB13-52	12 - 17 *	9/11/2013	Area 2	NA	NA	Phenanthrene	OC-10	12	17	12			No	Exclude
HB14-01	0 - 6	8/18/2014	Area 1	NA	NA	Phenanthrene	SND-1	0	6					Exclude
HB14-01	6 - 18	8/18/2014	Area 1	NA	NA	Phenanthrene	SND-1	6	18					Exclude
HB14-02	0 - 6	8/18/2014	Area 1	NA	NA	Phenanthrene	FC-15	0	6	17.004	-12.996	include	Yes	Include
HB14-02	6 - 14	8/18/2014	Area 1	NA	NA	Phenanthrene	FC-15	6	14	17.004	-12.996	include	Yes	Include
HB14-03	0 - 6	8/18/2014	Area 1	NA	NA	Phenanthrene	FC-15	0	6	29.997288	-2.472	include	Yes	Include
HB14-03	6 - 18	8/18/2014	Area 1	NA	NA	Phenanthrene	FC-15	6	18	29.997288	-2.472	include	Yes	Include
HB14-03	18 - 30	8/18/2014	Area 1	NA	NA	Phenanthrene	FC-15	18	30	29.997288	-2.472	include	Yes	Include
HB14-03	30 - 42	8/18/2014	Area 1	NA	NA	Phenanthrene	FC-15	30	42	29.997288	-2.472	include	No	Exclude
HB14-03	42 - 54	8/18/2014	Area 1	NA	NA	Phenanthrene	FC-15	42	54	29.997288	-2.472	include	No	Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB14-04	0 - 6	8/18/2014	Area 1	NA	NA	Phenanthrene		0	6	29.904			Yes	Include
HB14-04	6 - 18	8/18/2014	Area 1	NA	NA	Phenanthrene		6	18	29.904			Yes	Include
HB14-04	18 - 30	8/18/2014	Area 1	NA	NA	Phenanthrene		18	30	29.904			Yes	Include
HB14-05 G		8/18/2014	Area 1	NA	NA	Phenanthrene			#VALUE!					Exclude
HB14-06	0 - 6	8/18/2014	Area 1	NA	NA	Phenanthrene		0	6	30.588			Yes	Include
HB14-06	6 - 24	8/18/2014	Area 1	NA	NA	Phenanthrene		6	24	30.588			Yes	Include
HB14-07	0 - 6	8/18/2014	Area 1	NA	NA	Phenanthrene		0	6	78.012			Yes	Include
HB14-07	6 - 24	8/18/2014	Area 1	NA	NA	Phenanthrene		6	24	78.012			Yes	Include
HB14-07	24 - 42	8/18/2014	Area 1	NA	NA	Phenanthrene		24	42	78.012			Yes	Include
HB14-08	0 - 6	8/19/2014	Area 1	NA	NA	Phenanthrene		0	6	34.416			Yes	Include
HB14-08	6 - 19	8/19/2014	Area 1	NA	NA	Phenanthrene		6	19	34.416			Yes	Include
HB14-09	0 - 12	8/19/2014	Area 1	NA	NA	Phenanthrene	OC-16	0	12	12.003804			Yes	Include
HB14-09	12 - 24	8/19/2014	Area 1	NA	NA	Phenanthrene	OC-16	12	24	12.003804			Yes	Include
HB14-09	24 - 36	8/19/2014	Area 1	NA	NA	Phenanthrene	OC-16	24	36	12.003804			No	Exclude
HB14-09	36 - 48	8/19/2014	Area 1	NA	NA	Phenanthrene	OC-16	36	48	12.003804			No	Exclude
HB14-09	48 - 60	8/19/2014	Area 1	NA	NA	Phenanthrene	OC-16	48	60	12.003804			No	Exclude
HB14-09	60 - 72	8/19/2014	Area 1	NA	NA	Phenanthrene	OC-16	60	72	12.003804			No	Exclude
HB14-10	0 - 6	8/20/2014	Area 1	0.21	0.21	Phenanthrene		0	6	54.005544			Yes	Include
HB14-10	6 - 18	8/20/2014	Area 1	0.27	0.27	Phenanthrene		6	18	54.005544			Yes	Include
HB14-10	18 - 30	8/20/2014	Area 1	0.56	0.56	Phenanthrene		18	30	54.005544			Yes	Include
HB14-10	30 - 42	8/20/2014	Area 1	1.2	1.2	Phenanthrene		30	42	54.005544			Yes	Include
HB14-10	42 - 54	8/20/2014	Area 1	0.88	0.88	Phenanthrene		42	54	54.005544			Yes	Include
HB14-10	54 - 66	8/20/2014	Area 1	NA	NA	Phenanthrene		54	66	54.005544			Yes	Include
HB14-11	0 - 6	8/19/2014	Area 1	NA	NA	Phenanthrene	SND-2	0	6					Exclude
HB14-11	6 - 18	8/19/2014	Area 1	NA	NA	Phenanthrene	SND-2	6	18					Exclude
HB14-11	18 - 20	8/19/2014	Area 1	NA	NA	Phenanthrene	SND-2	18	20					Exclude
HB14-12	0 - 6	8/19/2014	Area 1	NA	NA	Phenanthrene	SND-4	0	6	26.34			Yes	Include
HB14-12	6 - 18	8/19/2014	Area 1	NA	NA	Phenanthrene	SND-4	6	18	26.34			Yes	Include
HB14-12	18 - 32	8/19/2014	Area 1	NA	NA	Phenanthrene	SND-4	18	32	26.34			Yes	Include
HB14-13	0 - 6	8/19/2014	Area 2	NA	NA	Phenanthrene	SND-5	0	6	-0.648			No	Exclude
HB14-13	6 - 11	8/19/2014	Area 2	NA	NA	Phenanthrene	SND-5	6	11	-0.648			No	Exclude
HB14-14	0 - 6	8/20/2014	Area 2	0.64	0.64	Phenanthrene	OC-4	0	6	101.997672			Yes	Include
HB14-14	4 - 6	8/20/2014	Area 2	15	15	Phenanthrene	OC-4	4	6	101.997672			Yes	Include
HB14-14	6 - 18	8/20/2014	Area 2	NA	NA	Phenanthrene	OC-4	6	18	101.997672			Yes	Include
HB14-14	6 - 30	8/20/2014	Area 2	0.82	0.82	Phenanthrene	OC-4	6	30	101.997672			Yes	Include
HB14-14	18 - 30	8/20/2014	Area 2	NA	NA	Phenanthrene	OC-4	18	30	101.997672			Yes	Include
HB14-14	30 - 42	8/20/2014	Area 2	NA	NA	Phenanthrene	OC-4	30	42	101.997672			Yes	Include
HB14-14	30 - 54	8/20/2014	Area 2	0.79	0.79	Phenanthrene	OC-4	30	54	101.997672			Yes	Include
HB14-14	42 - 54	8/20/2014	Area 2	NA	NA	Phenanthrene	OC-4	42	54	101.997672			Yes	Include
HB14-14	54 - 66	8/20/2014	Area 2	NA	NA	Phenanthrene	OC-4	54	66	101.997672			Yes	Include
HB14-14	54 - 78	8/20/2014	Area 2	0.55	0.55	Phenanthrene	OC-4	54	78	101.997672			Yes	Include
HB14-14	66 - 78	8/20/2014	Area 2	NA	NA	Phenanthrene	OC-4	66	78	101.997672			Yes	Include
HB14-14	78 - 90	8/20/2014	Area 2	NA	NA	Phenanthrene	OC-4	78	90	101.997672			Yes	Include
HB14-14	78 - 102	8/20/2014	Area 2	0.63	0.63	Phenanthrene	OC-4	78	102	101.997672			Yes	Include
HB14-14	90 - 102	8/20/2014	Area 2	NA	NA	Phenanthrene	OC-4	90	102	101.997672			Yes	Include
HB14-14	102 - 111	8/20/2014	Area 2	NA	NA	Phenanthrene	OC-4	102	111	101.997672			No	Exclude
HB15-01	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	0	12	51.096			Yes	Include
HB15-01	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	12	24	51.096			Yes	Include
HB15-01	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	24	36	51.096			Yes	Include
HB15-01	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	36	48	51.096			Yes	Include
HB15-01	48 - 57	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	48	57	51.096			Yes	Include
HB15-02	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	0	12	48.000696			Yes	Include
HB15-02	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	12	24	48.000696			Yes	Include
HB15-02	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	24	36	48.000696			Yes	Include
HB15-02	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	36	48	48.000696			Yes	Include
HB15-03	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	0	12	67.9950564			Yes	Include
HB15-03	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	12	24	67.9950564			Yes	Include
HB15-03	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	24	36	67.9950564			Yes	Include
HB15-03	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	36	48	67.9950564			Yes	Include
HB15-03	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	48	60	67.9950564			Yes	Include
HB15-03	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	60	68	67.9950564			Yes	Include
HB15-03R	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	0	12	67.9950564			Yes	Include
HB15-03R	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	12	24	67.9950564			Yes	Include
HB15-03R	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	24	36	67.9950564			Yes	Include
HB15-03R	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	36	48	67.9950564			Yes	Include
HB15-03R	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	48	60	67.9950564			Yes	Include
HB15-03R	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	60	68	67.9950564			Yes	Include
HB15-04	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	0	12	63.84			Yes	Include
HB15-04	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	12	24	63.84			Yes	Include
HB15-04	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	24	36	63.84			Yes	Include
HB15-04	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	36	48	63.84			Yes	Include
HB15-04	48 - 59	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	48	59	63.84			Yes	Include
HB15-05	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	0	12	71.994852			Yes	Include
HB15-05	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	12	24	71.994852			Yes	Include
HB15-05	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	24	36	71.994852			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB15-05	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	36	48	71.994852			Yes	Include
HB15-05	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	48	60	71.994852			Yes	Include
HB15-05	60 - 72	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	60	72	71.994852			Yes	Include
HB15-05	72 - 80	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-1	72	80	71.994852			No	Exclude
HB15-06	0 - 9	6/23/2015	Hughitt Ave Slip	NA	NA	Phenanthrene	HS-2	0	9	9.000636			Yes	Include
HB15-07	0 - 12	6/23/2015	Cummings Ave Slip	NA	NA	Phenanthrene	CS-1	0	12	90.9955116			Yes	Include
HB15-07	12 - 24	6/23/2015	Cummings Ave Slip	NA	NA	Phenanthrene	CS-1	12	24	90.9955116			Yes	Include
HB15-07	24 - 36	6/23/2015	Cummings Ave Slip	NA	NA	Phenanthrene	CS-1	24	36	90.9955116			Yes	Include
HB15-07	36 - 48	6/23/2015	Cummings Ave Slip	6.4	6.4	Phenanthrene	CS-1	36	48	90.9955116			Yes	Include
HB15-07	48 - 60	6/23/2015	Cummings Ave Slip	16	16	Phenanthrene	CS-1	48	60	90.9955116			Yes	Include
HB15-07	60 - 72	6/23/2015	Cummings Ave Slip	7.2	7.2	Phenanthrene	CS-1	60	72	90.9955116			Yes	Include
HB15-07	72 - 84	6/23/2015	Cummings Ave Slip	7.8	7.8	Phenanthrene	CS-1	72	84	90.9955116			Yes	Include
HB15-07	84 - 91	6/23/2015	Cummings Ave Slip	13	13	Phenanthrene	CS-1	84	91	90.9955116			Yes	Include
HB15-08	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Phenanthrene	CS-2	0	12	65.997804			Yes	Include
HB15-08	12 - 24	6/24/2015	Cummings Ave Slip	6.4	6.4	Phenanthrene	CS-2	12	24	65.997804			Yes	Include
HB15-08	24 - 36	6/24/2015	Cummings Ave Slip	5.7	5.7	Phenanthrene	CS-2	24	36	65.997804			Yes	Include
HB15-08	36 - 48	6/24/2015	Cummings Ave Slip	NA	NA	Phenanthrene	CS-2	36	48	65.997804			Yes	Include
HB15-08	48 - 60	6/24/2015	Cummings Ave Slip	NA	NA	Phenanthrene	CS-2	48	60	65.997804			Yes	Include
HB15-08	60 - 66	6/24/2015	Cummings Ave Slip	NA	NA	Phenanthrene	CS-2	60	66	65.997804			Yes	Include
HB15-09	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Phenanthrene	CS-3	0	12	45.396			Yes	Include
HB15-09	12 - 17	6/24/2015	Cummings Ave Slip	NA	NA	Phenanthrene	CS-3	12	17	45.396			Yes	Include
HB15-10	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Phenanthrene		0	12	-0.936			No	Exclude
HB15-11	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Phenanthrene	CS-5	0	12	27.9944796			Yes	Include
HB15-11	12 - 24	6/24/2015	Cummings Ave Slip	NA	NA	Phenanthrene	CS-5	12	24	27.9944796			Yes	Include
HB15-11	24 - 28	6/24/2015	Cummings Ave Slip	NA	NA	Phenanthrene	CS-5	24	28	27.9944796			Yes	Include
HB15-12	0 - 12	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-1	0	12	29.994876			Yes	Include
HB15-12	12 - 24	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-1	12	24	29.994876			Yes	Include
HB15-12	24 - 30	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-1	24	30	29.994876			Yes	Include
HB15-13	0 - 12	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-1	0	12	64.0033716			Yes	Include
HB15-13	12 - 24	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-1	12	24	64.0033716			Yes	Include
HB15-13	24 - 36	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-1	24	36	64.0033716			Yes	Include
HB15-13	36 - 48	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-1	36	48	64.0033716			Yes	Include
HB15-13	48 - 60	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-1	48	60	64.0033716			Yes	Include
HB15-13	60 - 64	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-1	60	64	64.0033716			Yes	Include
HB15-14	0 - 12	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-1	0	12	23.996196			Yes	Include
HB15-14	12 - 24	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-1	12	24	23.996196			Yes	Include
HB15-14	24 - 28	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-1	24	28	23.996196			No	Exclude
HB15-14	28 - 35	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-1	28	35	23.996196			No	Exclude
HB15-15	0 - 12	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-2	0	12	19.0051356			Yes	Include
HB15-15	12 - 19	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-2	12	19	19.0051356			Yes	Include
HB15-15R	0 - 12	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-2	0	12	18.9999996			Yes	Include
HB15-15R	12 - 19	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-2	12	19	18.9999996			Yes	Include
HB15-16	0 - 12	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-1	0	12	8.304			Yes	Include
HB15-16	12 - 19	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-1	12	19	8.304			No	Exclude
HB15-17	0 - 12	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-2	0	12	36.004608			Yes	Include
HB15-17	12 - 24	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-2	12	24	36.004608			Yes	Include
HB15-17	24 - 36	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-2	24	36	36.004608			Yes	Include
HB15-17	36 - 48	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-2	36	48	36.004608			Yes	Include
HB15-17	48 - 54	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-2	48	54	36.004608			No	Exclude
HB15-18	0 - 12	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-2	0	12	23.999508			Yes	Include
HB15-18	12 - 24	6/24/2015	Area 2	NA	NA	Phenanthrene	FP-2	12	24	23.999508			Yes	Include
HB15-19	0 - 12	6/24/2015	Area 2	NA	NA	Phenanthrene		0	12					Exclude
HB15-19	12 - 24	6/24/2015	Area 2	NA	NA	Phenanthrene		12	24					Exclude
HB15-19	24 - 32	6/24/2015	Area 2	NA	NA	Phenanthrene		24	32					Exclude
HB15-20	0 - 12	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-3	0	12	33.864			Yes	Include
HB15-20	12 - 24	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-3	12	24	33.864			Yes	Include
HB15-20	24 - 28	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-3	24	28	33.864			Yes	Include
HB15-20B	0 - 6	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-13	0	6	11.996892			Yes	Include
HB15-20B	6 - 12	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-13	6	12	11.996892			Yes	Include
HB15-21G	15 - 21	6/29/2015	Fraser Ave Slip	NA	NA	Phenanthrene		15	21					Exclude
HB15-22G	0 - 6	6/29/2015	Fraser Ave Slip	0.4	0.4	Phenanthrene	OC-8	0	6	6			Yes	Include
HB15-23	0 - 12	6/25/2015	Fraser Ave Slip	NA	NA	Phenanthrene	FS-1	0	12	55.02			Yes	Include
HB15-23	12 - 24	6/25/2015	Fraser Ave Slip	NA	NA	Phenanthrene	FS-1	12	24	55.02			Yes	Include
HB15-23	24 - 36	6/25/2015	Fraser Ave Slip	NA	NA	Phenanthrene	FS-1	24	36	55.02			Yes	Include
HB15-23	36 - 48	6/25/2015	Fraser Ave Slip	NA	NA	Phenanthrene	FS-1	36	48	55.02			Yes	Include
HB15-23	48 - 56	6/25/2015	Fraser Ave Slip	NA	NA	Phenanthrene	FS-1	48	56	55.02			Yes	Include
HB15-25	0 - 12	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-1	0	12	77.4			Yes	Include
HB15-25	12 - 24	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-1	12	24	77.4			Yes	Include
HB15-25	24 - 36	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-1	24	36	77.4			Yes	Include
HB15-25	36 - 48	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-1	36	48	77.4			Yes	Include
HB15-25	48 - 60	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-1	48	60	77.4			Yes	Include
HB15-25	60 - 72	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-1	60	72	77.4			Yes	Include
HB15-25	72 - 88	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-1	72	88	77.4			Yes	Include
HB15-26	0 - 12	6/25/2015	Area 2	NA	NA	Phenanthrene	FC-2	0	12	38.28	6.36	include	Yes	Include
HB15-26	12 - 24	6/25/2015	Area 2	NA	NA	Phenanthrene	FC-2	12	24	38.28	6.36	include	Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB15-26	24 - 36	6/25/2015	Area 2	NA	NA	Phenanthrene	FC-2	24	36	38.28	6.36	include	Yes	Include
HB15-26	36 - 46	6/25/2015	Area 2	NA	NA	Phenanthrene	FC-2	36	46	38.28	6.36	include	Yes	Include
HB15-27	0 - 12	6/25/2015	Area 2	NA	NA	Phenanthrene	FC-3	0	12	33.6	14.64	exclude	Yes	Exclude
HB15-27	12 - 24	6/25/2015	Area 2	NA	NA	Phenanthrene	FC-3	12	24	33.6	14.64	include	Yes	Include
HB15-27	24 - 36	6/25/2015	Area 2	NA	NA	Phenanthrene	FC-3	24	36	33.6	14.64	include	Yes	Include
HB15-27	36 - 48	6/25/2015	Area 2	NA	NA	Phenanthrene	FC-3	36	48	33.6	14.64	include	No	Exclude
HB15-27	48 - 60	6/25/2015	Area 2	NA	NA	Phenanthrene	FC-3	48	60	33.6	14.64	include	No	Exclude
HB15-27	60 - 71	6/25/2015	Area 2	NA	NA	Phenanthrene	FC-3	60	71	33.6	14.64	include	No	Exclude
HB15-28	0 - 12	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-7	0	12	11.994072			Yes	Include
HB15-28	12 - 24	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-7	12	24	11.994072			No	Exclude
HB15-28	24 - 30	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-7	24	30	11.994072			No	Exclude
HB15-30	0 - 12	6/25/2015	Area 2	NA	NA	Phenanthrene		0	12	43.776			Yes	Include
HB15-30	12 - 24	6/25/2015	Area 2	NA	NA	Phenanthrene		12	24	43.776			Yes	Include
HB15-30	24 - 36	6/25/2015	Area 2	NA	NA	Phenanthrene		24	36	43.776			Yes	Include
HB15-30	36 - 50	6/25/2015	Area 2	NA	NA	Phenanthrene		36	50	43.776			Yes	Include
HB15-31	0 - 12	6/25/2015	Area 2	NA	NA	Phenanthrene		0	12					Exclude
HB15-31	12 - 20	6/25/2015	Area 2	NA	NA	Phenanthrene		12	20					Exclude
HB15-32	0 - 12	6/25/2015	Area 1	NA	NA	Phenanthrene	SND-4	0	12	11.995236			Yes	Include
HB15-32	12 - 26	6/25/2015	Area 1	NA	NA	Phenanthrene	SND-4	12	26	11.995236			No	Exclude
HB15-33	0 - 12	6/25/2015	Area 1	NA	NA	Phenanthrene		0	12	26.292			Yes	Include
HB15-33	12 - 24	6/25/2015	Area 1	NA	NA	Phenanthrene		12	24	26.292			Yes	Include
HB15-33	24 - 39	6/25/2015	Area 1	NA	NA	Phenanthrene		24	39	26.292			Yes	Include
HB15-34	0 - 12	6/25/2015	Area 1	NA	NA	Phenanthrene	FC-11	0	12		35.52	exclude		Exclude
HB15-34	12 - 24	6/25/2015	Area 1	NA	NA	Phenanthrene	FC-11	12	24		35.52	exclude		Exclude
HB15-34	24 - 32	6/25/2015	Area 1	NA	NA	Phenanthrene	FC-11	24	32		35.52	exclude		Exclude
HB15-35	0 - 12	6/25/2015	Area 1	NA	NA	Phenanthrene	FC-16	0	12	74.28	-6.48	include	Yes	Include
HB15-35	12 - 24	6/25/2015	Area 1	NA	NA	Phenanthrene	FC-16	12	24	74.28	-6.48	include	Yes	Include
HB15-35	24 - 36	6/25/2015	Area 1	NA	NA	Phenanthrene	FC-16	24	36	74.28	-6.48	include	Yes	Include
HB15-35	36 - 48	6/25/2015	Area 1	NA	NA	Phenanthrene	FC-16	36	48	74.28	-6.48	include	Yes	Include
HB15-35	48 - 60	6/25/2015	Area 1	NA	NA	Phenanthrene	FC-16	48	60	74.28	-6.48	include	Yes	Include
HB15-35	60 - 72	6/25/2015	Area 1	NA	NA	Phenanthrene	FC-16	60	72	74.28	-6.48	include	Yes	Include
HB15-36G	15 - 36	6/29/2015	Area 2	NA	NA	Phenanthrene		15	36					Exclude
HB15-37	0 - 12	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-9	0	12	51.048			Yes	Include
HB15-37	12 - 24	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-9	12	24	51.048			Yes	Include
HB15-37	24 - 36	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-9	24	36	51.048			Yes	Include
HB15-37	36 - 48	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-9	36	48	51.048			Yes	Include
HB15-37	48 - 60	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-9	48	60	51.048			Yes	Include
HB15-37	60 - 74	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-9	60	74	51.048			No	Exclude
HB15-38	0 - 12	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-9	0	12	83.184			Yes	Include
HB15-38	12 - 24	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-9	12	24	83.184			Yes	Include
HB15-38	24 - 36	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-9	24	36	83.184			Yes	Include
HB15-38	36 - 48	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-9	36	48	83.184			Yes	Include
HB15-38	48 - 60	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-9	48	60	83.184			Yes	Include
HB15-38	60 - 72	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-9	60	72	83.184			Yes	Include
HB15-38	72 - 84	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-9	72	84	83.184			Yes	Include
HB15-38	84 - 96	6/25/2015	Area 2	NA	NA	Phenanthrene	OC-9	84	96	83.184			No	Exclude
HB15-G28A	0 - 6	6/25/2015	Hughitt Ave Slip	NA	NA	Phenanthrene		0	6					Exclude
HB15-HC20A	0 - 6	6/25/2015	Area 1	NA	NA	Phenanthrene	OC-13	0	6	6.003036			Yes	Include
HB2A_4	0 - 6	5/12/2007	Hughitt Ave Slip	0.46 J-M-	0.46	Pyrene	HS-1	0	6	48.00432			Yes	Include
HB2A_4	6 - 24	5/12/2007	Hughitt Ave Slip	1.1 J-M-	1.1	Pyrene	HS-1	6	24	48.00432			Yes	Include
HB2A_4	24 - 48	5/12/2007	Hughitt Ave Slip	0.17 J-M-	0.17	Pyrene	HS-1	24	48	48.00432			Yes	Include
HB2A_6	0 - 5	5/2/2007	Area 1	1	1	Pyrene		0	5					Exclude
HB2A_7	0 - 5	5/10/2007	Area 1	0.82 BL	0.82	Pyrene	SND-1	0	5					Exclude
HB2A_8	0 - 5	5/10/2007	Area 1	0.40 BL	0.4	Pyrene	FC-12/FC-13	0	5	4.9944804	79.824	exclude	Yes	Exclude
HB2A_11	0 - 5	5/10/2007	Area 1	0.66 J-BL	0.66	Pyrene		0	5					Exclude
HB2A_13	0 - 5	5/2/2007	Area 1	0.57 BL	0.57	Pyrene		0	5					Exclude
HB2A_16	0 - 5	5/2/2007	Area 1	0.14 J-BL	0.14	Pyrene		0	5					Exclude
HB2A_210	0 - 6	5/16/2007	Area 1	0.0080 U	0.008	Pyrene		0	6					Exclude
HB2A_210	6 - 24	5/16/2007	Area 1	0.0083 U	0.0083	Pyrene		6	24					Exclude
HB2A_210	24 - 48	5/16/2007	Area 1	0.0061 UJS-	0.0061	Pyrene		24	48					Exclude
HB2A_GENES	0 - 5	5/22/2007	Cummings Ave Slip	0.69 BL	0.69	Pyrene		0	5					Exclude
HB2B_17	0 - 6	5/12/2007	Fraser Ave Slip	0.51 J-M-	0.51	Pyrene	FS-2	0	6	24.005676			Yes	Include
HB2B_17	6 - 24	5/12/2007	Fraser Ave Slip	0.18 J-M-	0.18	Pyrene	FS-2	6	24	24.005676			Yes	Include
HB2B_18	0 - 6	5/7/2007	Area 2	0.44	0.44	Pyrene	FP-1	0	6	47.997552			Yes	Include
HB2B_18	6 - 24	5/7/2007	Area 2	0.27	0.27	Pyrene	FP-1	6	24	47.997552			Yes	Include
HB2B_18	24 - 48	5/7/2007	Area 2	0.38	0.38	Pyrene	FP-1	24	48	47.997552			Yes	Include
HB2B_19	0 - 6	5/2/2007	Area 2	0.14 J-M-	0.14	Pyrene	OC-1	0	6	6.001728			Yes	Include
HB2B_19	6 - 24	5/2/2007	Area 2	0.023 J-M-	0.023	Pyrene	OC-1	6	24	6.001728			Yes	Include
HB2B_20	0 - 6	5/2/2007	Area 2	0.27 J-M-	0.27	Pyrene	OC-9	0	6	23.997336			Yes	Include
HB2B_20	6 - 24	5/2/2007	Area 2	0.21 J-M-	0.21	Pyrene	OC-9	6	24	23.997336			Yes	Include
HB2B_20	24 - 48	5/2/2007	Area 2	0.069 J-M-	0.069	Pyrene	OC-9	24	48	23.997336			No	Exclude
HB2B_21	0 - 5	5/2/2007	Area 2	0.25 BL	0.25	Pyrene		0	5					Exclude
HB2B_22	0 - 5	5/2/2007	Area 2	0.42 BL	0.42	Pyrene	OC-5	0	5	5.0028204			Yes	Include
HB3A_GENES	0 - 5	9/6/2007	Cummings Ave Slip	0.15 BL	0.15	Pyrene		0	5					Exclude
HB10-1-01	0 - 6	10/16/2010	Area 1	0.24	0.24	Pyrene		0	6					Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB10-1-01	0 - 12	10/16/2010	Area 1	0.0071 U	0.0071	Pyrene		0	12					Exclude
HB10-1-01	36 - 40	10/16/2010	Area 1	0.0051 U	0.0051	Pyrene		36	40					Exclude
HB10-1-02	0 - 6	10/16/2010	Area 1	0.17	0.17	Pyrene		0	6	23.0027508			Yes	Include
HB10-1-02	12 - 23	10/16/2010	Area 1	0.2	0.2	Pyrene		12	23	23.0027508			Yes	Include
HB10-1-03	0 - 6	10/16/2010	Area 1	0.37	0.37	Pyrene	FC-17	0	6	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	0 - 12	10/16/2010	Area 1	0.18	0.18	Pyrene	FC-17	0	12	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	12 - 36	10/16/2010	Area 1	0.16	0.16	Pyrene	FC-17	12	36	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	36 - 60	10/16/2010	Area 1	0.33	0.33	Pyrene	FC-17	36	60	59.99475	49.872	include	Yes	Include
HB10-1-03	60 - 84	10/16/2010	Area 1	0.38	0.38	Pyrene	FC-17	60	84	59.99475	49.872	include	No	Exclude
HB10-1-04	0 - 6	10/17/2010	Area 1	0.3	0.3	Pyrene		0	6					Exclude
HB10-1-04	0 - 12	10/17/2010	Area 1	0.43	0.43	Pyrene		0	12					Exclude
HB10-1-04	12 - 36	10/17/2010	Area 1	0.28	0.28	Pyrene		12	36					Exclude
HB10-1-04	36 - 50	10/17/2010	Area 1	0.41	0.41	Pyrene		36	50					Exclude
HB10-1-05	0 - 6	10/16/2010	Area 1	0.66	0.66	Pyrene	OC-17	0	6	5.9987496			Yes	Include
HB10-1-07	0 - 6	10/17/2010	Area 1	5	5	Pyrene	OC-15	0	6	6.0057			Yes	Include
HB10-1-07	0 - 12	10/17/2010	Area 1	0.59	0.59	Pyrene	OC-15	0	12	6.0057			Yes	Include
HB10-1-07	12 - 36	10/17/2010	Area 1	0.54	0.54	Pyrene	OC-15	12	36	6.0057			No	Exclude
HB10-1-07	60 - 64	10/17/2010	Area 1	0.01	0.01	Pyrene	OC-15	60	64	6.0057			No	Exclude
HB10-1-08	0 - 6	10/17/2010	Area 1	0.36	0.36	Pyrene		0	6	36.0057			Yes	Include
HB10-1-08	0 - 12	10/17/2010	Area 1	0.4	0.4	Pyrene		0	12	36.0057			Yes	Include
HB10-1-08	12 - 36	10/17/2010	Area 1	0.67	0.67	Pyrene		12	36	36.0057			Yes	Include
HB10-1-10	0 - 6	10/18/2010	Area 1	2.6	2.6	Pyrene	SND-1	0	6					Exclude
HB10-1-11	0 - 6	10/16/2010	Area 1	0.24 J	0.24	Pyrene		0	6	20.9987496			Yes	Include
HB10-1-11	12 - 21	10/16/2010	Area 1	0.3	0.3	Pyrene		12	21	20.9987496			Yes	Include
HB10-1-12	0 - 6	10/17/2010	Area 1	0.41	0.41	Pyrene		0	6					Exclude
HB10-1-12	0 - 12	10/17/2010	Area 1	0.5	0.5	Pyrene		0	12					Exclude
HB10-1-12	12 - 34	10/17/2010	Area 1	0.24	0.24	Pyrene		12	34					Exclude
HB10-1-13	0 - 6	10/18/2010	Area 1	0.54	0.54	Pyrene	FC-12/FC-13	0	6	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	0 - 12	10/18/2010	Area 1	0.75	0.75	Pyrene	FC-12/FC-13	0	12	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	12 - 36	10/18/2010	Area 1	0.47	0.47	Pyrene	FC-12/FC-13	12	36	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	60 - 67	10/18/2010	Area 1	0.84	0.84	Pyrene	FC-12/FC-13	60	67	36.0053004	42.816	include	No	Exclude
HB10-1-14	0 - 6	10/17/2010	Area 1	0.63	0.63	Pyrene		0	6	66.0057			Yes	Include
HB10-1-14	0 - 12	10/17/2010	Area 1	0.35	0.35	Pyrene		0	12	66.0057			Yes	Include
HB10-1-14	12 - 36	10/17/2010	Area 1	0.46	0.46	Pyrene		12	36	66.0057			Yes	Include
HB10-1-14	60 - 66	10/17/2010	Area 1	0.52	0.52	Pyrene		60	66	66.0057			Yes	Include
HB10-1-15	0 - 6	10/18/2010	Area 1	0.021	0.021	Pyrene	OC-13	0	6	16.0056996			Yes	Include
HB10-1-15	12 - 16	10/18/2010	Area 1	0.62	0.62	Pyrene	OC-13	12	16	16.0056996			Yes	Include
HB10-1-16	0 - 6	10/17/2010	Hughitt Ave Slip	0.67	0.67	Pyrene	HS-3	0	6	31.0056996			Yes	Include
HB10-1-16	0 - 12	10/17/2010	Hughitt Ave Slip	1.5	1.5	Pyrene	HS-3	0	12	31.0056996			Yes	Include
HB10-1-16	12 - 31	10/17/2010	Hughitt Ave Slip	0.69	0.69	Pyrene	HS-3	12	31	31.0056996			Yes	Include
HB10-1-17	0 - 6	10/17/2010	Area 1	0.28	0.28	Pyrene	OC-14	0	6	12			Yes	Include
HB10-1-20	0 - 6	10/17/2010	Hughitt Ave Slip	2.8	2.8	Pyrene		0	6	6.0057			Yes	Include
HB10-1-21	0 - 6	10/18/2010	Cummings Ave Slip	0.12	0.12	Pyrene		0	6	6.0012996			Yes	Include
HB10-1-21	12 - 23	10/18/2010	Cummings Ave Slip	0.37	0.37	Pyrene		12	23	6.0012996			No	Exclude
HB10-1-23	0 - 6	10/17/2010	Area 1	0.31	0.31	Pyrene		0	6	36.0057			Yes	Include
HB10-1-23	0 - 12	10/17/2010	Area 1	0.55	0.55	Pyrene		0	12	36.0057			Yes	Include
HB10-1-23	12 - 36	10/17/2010	Area 1	0.66	0.66	Pyrene		12	36	36.0057			Yes	Include
HB10-1-24	0 - 6	10/18/2010	Cummings Ave Slip	0.38	0.38	Pyrene	CS-4	0	6	36.0047496			Yes	Include
HB10-1-24	0 - 12	10/18/2010	Cummings Ave Slip	0.9	0.9	Pyrene	CS-4	0	12	36.0047496			Yes	Include
HB10-1-24	12 - 36	10/18/2010	Cummings Ave Slip	1.2	1.2	Pyrene	CS-4	12	36	36.0047496			Yes	Include
HB10-1-25	0 - 6	10/17/2010	Baxter Ave Embayment	0.28	0.28	Pyrene		0	6	6.0057			Yes	Include
HB10-1-27	0 - 6	10/18/2010	Area 1	0.14	0.14	Pyrene		0	6	-0.0027			No	Exclude
HB10-1-28	0 - 6	10/17/2010	Hughitt Ave Slip	0.82	0.82	Pyrene	HS-1	0	6	84.0057			Yes	Include
HB10-1-28	0 - 12	10/17/2010	Hughitt Ave Slip	0.69	0.69	Pyrene	HS-1	0	12	84.0057			Yes	Include
HB10-1-28	12 - 36	10/17/2010	Hughitt Ave Slip	1.1	1.1	Pyrene	HS-1	12	36	84.0057			Yes	Include
HB10-1-28	36 - 60	10/17/2010	Hughitt Ave Slip	0.50 J	0.5	Pyrene	HS-1	36	60	84.0057			Yes	Include
HB10-1-28	60 - 84	10/17/2010	Hughitt Ave Slip	0.97	0.97	Pyrene	HS-1	60	84	84.0057			Yes	Include
HB10-1-28	60 - 96	10/17/2010	Hughitt Ave Slip	0.20 J	0.2	Pyrene	HS-1	60	96	84.0057			Yes	Include
HB10-1-29	0 - 6	10/17/2010	Cummings Ave Slip	0.98	0.98	Pyrene	CS-1	0	6	83.9937			Yes	Include
HB10-1-29	0 - 12	10/17/2010	Cummings Ave Slip	2.6	2.6	Pyrene	CS-1	0	12	83.9937			Yes	Include
HB10-1-29	12 - 36	10/17/2010	Cummings Ave Slip	11	11	Pyrene	CS-1	12	36	83.9937			Yes	Include
HB10-1-29	36 - 60	10/17/2010	Cummings Ave Slip	5.2	5.2	Pyrene	CS-1	36	60	83.9937			Yes	Include
HB10-1-29	60 - 93	10/17/2010	Cummings Ave Slip	7.2	7.2	Pyrene	CS-1	60	93	83.9937			Yes	Include
HB10-1-30	0 - 6	10/18/2010	Baxter Ave Embayment	0.74	0.74	Pyrene		0	6	60.0053004			Yes	Include
HB10-1-30	0 - 12	10/18/2010	Baxter Ave Embayment	2.5	2.5	Pyrene		0	12	60.0053004			Yes	Include
HB10-1-30	12 - 36	10/18/2010	Baxter Ave Embayment	1.3	1.3	Pyrene		12	36	60.0053004			Yes	Include
HB10-1-30	36 - 60	10/18/2010	Baxter Ave Embayment	0.57	0.57	Pyrene		36	60	60.0053004			Yes	Include
HB10-1-30	60 - 77	10/18/2010	Baxter Ave Embayment	0.47	0.47	Pyrene		60	77	60.0053004			Yes	Include
HB10-1-31	0 - 6	10/18/2010	Baxter Ave Embayment	0.66	0.66	Pyrene	OC-11	0	6	35.9973			Yes	Include
HB10-1-31	0 - 12	10/18/2010	Baxter Ave Embayment	0.86	0.86	Pyrene	OC-11	0	12	35.9973			Yes	Include
HB10-1-31	12 - 36	10/18/2010	Baxter Ave Embayment	0.52	0.52	Pyrene	OC-11	12	36	35.9973			Yes	Include
HB10-2-18	0 - 6	10/18/2010	Area 2	0.46	0.46	Pyrene	OC-2	0	6	6.0053004			Yes	Include
HB10-2-26	0 - 6	10/16/2010	Area 2	0.13 J	0.13	Pyrene		0	6					Exclude
HB10-2-26	12 - 17	10/16/2010	Area 2	0.25	0.25	Pyrene		12	17					Exclude
HB10-2-32	0 - 6	10/18/2010	Area 2	0.34	0.34	Pyrene		0	6					Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB10-2-33	0 - 6	10/18/2010	Area 2	0.089 J	0.089	Pyrene		0	6	6.0012996			Yes	Include
HB10-2-33	12 - 22	10/18/2010	Area 2	0.64	0.64	Pyrene		12	22	6.0012996			No	Exclude
HB10-2-34	0 - 6	10/18/2010	Area 2	0.34	0.34	Pyrene	FC-7	0	6	6.0053004	0.816	include	Yes	Include
HB10-2-35	0 - 6	10/18/2010	Area 2	0.070 J	0.07	Pyrene		0	6	30.0012996			Yes	Include
HB10-2-35	0 - 12	10/18/2010	Area 2	0.24	0.24	Pyrene		0	12	30.0012996			Yes	Include
HB10-2-35	12 - 30	10/18/2010	Area 2	0.55	0.55	Pyrene		12	30	30.0012996			Yes	Include
HB10-2-36	0 - 6	10/18/2010	Area 2	0.54	0.54	Pyrene	FC-5	0	6	6.0053004	-29.184	include	Yes	Include
HB10-2-37	0 - 6	10/18/2010	Area 2	0.43	0.43	Pyrene		0	6	23.0013			Yes	Include
HB10-2-37	12 - 23	10/18/2010	Area 2	0.28	0.28	Pyrene		12	23	23.0013			Yes	Include
HB10-2-38	0 - 6	10/18/2010	Area 2	0.14	0.14	Pyrene	OC-6	0	6	38.0013			Yes	Include
HB10-2-38	0 - 12	10/18/2010	Area 2	0.49	0.49	Pyrene	OC-6	0	12	38.0013			Yes	Include
HB10-2-38	36 - 38	10/18/2010	Area 2	2.1	2.1	Pyrene	OC-6	36	38	38.0013			Yes	Include
HB10-2-39	0 - 6	10/18/2010	Area 2	0.10 J	0.1	Pyrene		0	6	6.0012996			Yes	Include
HB10-2-39	0 - 12	10/18/2010	Area 2	0.55	0.55	Pyrene		0	12	6.0012996			Yes	Include
HB10-2-39	12 - 28	10/18/2010	Area 2	0.39	0.39	Pyrene		12	28	6.0012996			No	Exclude
HB10-2-40	0 - 6	10/18/2010	Area 2	0.39	0.39	Pyrene	OC-5	0	6	48.0053004			Yes	Include
HB10-2-40	0 - 12	10/18/2010	Area 2	0.14	0.14	Pyrene	OC-5	0	12	48.0053004			Yes	Include
HB10-2-40	12 - 36	10/18/2010	Area 2	0.0044 U	0.0044	Pyrene	OC-5	12	36	48.0053004			Yes	Include
HB10-2-40	36 - 48	10/18/2010	Area 2	0.0043 U	0.0043	Pyrene	OC-5	36	48	48.0053004			Yes	Include
HB10-2-41	0 - 6	10/18/2010	Area 2	3.3	3.3	Pyrene	FP-2	0	6	31.0012992			Yes	Include
HB10-2-41	0 - 12	10/18/2010	Area 2	0.14	0.14	Pyrene	FP-2	0	12	31.0012992			Yes	Include
HB10-2-41	12 - 31	10/18/2010	Area 2	0.17 J	0.17	Pyrene	FP-2	12	31	31.0012992			Yes	Include
HB10-2-42	0 - 6	10/18/2010	Area 2	0.48	0.48	Pyrene	FP-1	0	6	12.0012996			Yes	Include
HB10-2-42	0 - 12	10/18/2010	Area 2	NA	NA	Pyrene	FP-1	0	12	12.0012996			Yes	Include
HB10-2-42	12 - 30	10/18/2010	Area 2	0.43	0.43	Pyrene	FP-1	12	30	12.0012996			Yes	Include
HB10-2-43	0 - 6	10/17/2010	Area 2	R	R	Pyrene		0	6	22.0056996			Yes	Include
HB10-2-43	12 - 22	10/17/2010	Area 2	1.1	1.1	Pyrene		12	22	22.0056996			Yes	Include
HB10-2-44	0 - 6	10/18/2010	Area 2	0.9	0.9	Pyrene	FP-2	0	6	16.0012992			Yes	Include
HB10-2-44	12 - 16	10/18/2010	Area 2	1.1	1.1	Pyrene	FP-2	12	16	16.0012992			Yes	Include
HB10-2-45	0 - 6	10/18/2010	Area 2	0.25	0.25	Pyrene	FP-2	0	6	19.0012992			Yes	Include
HB10-2-45	12 - 19	10/18/2010	Area 2	0.93	0.93	Pyrene	FP-2	12	19	19.0012992			Yes	Include
HB13-01	0 - 6 *	9/11/2013	Area 2	NA	NA	Pyrene	FP-1	0	6	48			Yes	Include
HB13-01	6 - 12 *	9/11/2013	Area 2	NA	NA	Pyrene	FP-1	6	12	48			Yes	Include
HB13-01	12 - 18 *	9/11/2013	Area 2	NA	NA	Pyrene	FP-1	12	18	48			Yes	Include
HB13-01	18 - 24 *	9/11/2013	Area 2	NA	NA	Pyrene	FP-1	18	24	48			Yes	Include
HB13-01	24 - 30 *	9/11/2013	Area 2	NA	NA	Pyrene	FP-1	24	30	48			Yes	Include
HB13-01	30 - 36 *	9/11/2013	Area 2	NA	NA	Pyrene	FP-1	30	36	48			Yes	Include
HB13-01	36 - 42 *	9/11/2013	Area 2	NA	NA	Pyrene	FP-1	36	42	48			Yes	Include
HB13-01	42 - 48 *	9/11/2013	Area 2	NA	NA	Pyrene	FP-1	42	48	48			Yes	Include
HB13-01	48 - 54 *	9/11/2013	Area 2	NA	NA	Pyrene	FP-1	48	54	48			No	Exclude
HB13-01	54 - 60 *	9/11/2013	Area 2	NA	NA	Pyrene	FP-1	54	60	48			No	Exclude
HB13-01	60 - 66 *	9/11/2013	Area 2	NA	NA	Pyrene	FP-1	60	66	48			No	Exclude
HB13-01	66 - 72 *	9/11/2013	Area 2	NA	NA	Pyrene	FP-1	66	72	48			No	Exclude
HB13-01	72 - 74 *	9/11/2013	Area 2	NA	NA	Pyrene	FP-1	72	74	48			No	Exclude
HB13-02	0 - 6 *	9/9/2013	Area 2	0.016 U	0.016	Pyrene		0	6	29.9960004			Yes	Include
HB13-02	6 - 12 *	9/9/2013	Area 2	NA	NA	Pyrene		6	12	29.9960004			Yes	Include
HB13-02	12 - 18 *	9/9/2013	Area 2	NA	NA	Pyrene		12	18	29.9960004			Yes	Include
HB13-02	18 - 24 *	9/9/2013	Area 2	NA	NA	Pyrene		18	24	29.9960004			Yes	Include
HB13-02	24 - 30 *	9/9/2013	Area 2	NA	NA	Pyrene		24	30	29.9960004			Yes	Include
HB13-02	30 - 36 *	9/9/2013	Area 2	NA	NA	Pyrene		30	36	29.9960004			No	Exclude
HB13-02	36 - 42 *	9/9/2013	Area 2	NA	NA	Pyrene		36	42	29.9960004			No	Exclude
HB13-02	42 - 48 *	9/9/2013	Area 2	NA	NA	Pyrene		42	48	29.9960004			No	Exclude
HB13-03	0 - 6 *	9/9/2013	Area 2	NA	NA	Pyrene	FP-2	0	6	46.0040004			Yes	Include
HB13-03	0 - 24	9/9/2013	Area 2	2.1	2.1	Pyrene	FP-2	0	24	46.0040004			Yes	Include
HB13-03	6 - 12 *	9/9/2013	Area 2	NA	NA	Pyrene	FP-2	6	12	46.0040004			Yes	Include
HB13-03	12 - 18 *	9/9/2013	Area 2	NA	NA	Pyrene	FP-2	12	18	46.0040004			Yes	Include
HB13-03	18 - 24 *	9/9/2013	Area 2	NA	NA	Pyrene	FP-2	18	24	46.0040004			Yes	Include
HB13-03	24 - 30 *	9/9/2013	Area 2	NA	NA	Pyrene	FP-2	24	30	46.0040004			Yes	Include
HB13-03	24 - 46	9/9/2013	Area 2	0.74	0.74	Pyrene	FP-2	24	46	46.0040004			Yes	Include
HB13-03	30 - 36 *	9/9/2013	Area 2	NA	NA	Pyrene	FP-2	30	36	46.0040004			Yes	Include
HB13-03	36 - 42 *	9/9/2013	Area 2	NA	NA	Pyrene	FP-2	36	42	46.0040004			Yes	Include
HB13-03	42 - 46 *	9/9/2013	Area 2	NA	NA	Pyrene	FP-2	42	46	46.0040004			Yes	Include
HB13-03	46 - 51 *	9/9/2013	Area 2	NA	NA	Pyrene	FP-2	46	51	46.0040004			Yes	Include
HB13-04	0 - 6 *	9/9/2013	Area 2	NA	NA	Pyrene	OC-1	0	6	41.9960004			Yes	Include
HB13-04	6 - 12 *	9/9/2013	Area 2	NA	NA	Pyrene	OC-1	6	12	41.9960004			Yes	Include
HB13-04	12 - 18 *	9/9/2013	Area 2	NA	NA	Pyrene	OC-1	12	18	41.9960004			Yes	Include
HB13-04	18 - 24 *	9/9/2013	Area 2	NA	NA	Pyrene	OC-1	18	24	41.9960004			Yes	Include
HB13-04	24 - 30 *	9/9/2013	Area 2	NA	NA	Pyrene	OC-1	24	30	41.9960004			Yes	Include
HB13-04	30 - 36 *	9/9/2013	Area 2	NA	NA	Pyrene	OC-1	30	36	41.9960004			Yes	Include
HB13-04	36 - 42 *	9/9/2013	Area 2	NA	NA	Pyrene	OC-1	36	42	41.9960004			Yes	Include
HB13-04	42 - 44 *	9/9/2013	Area 2	NA	NA	Pyrene	OC-1	42	44	41.9960004			No	Exclude
HB13-05	0 - 32 *	9/9/2013	Area 2	NA	NA	Pyrene	FC-1	0	32	43.8	33.156	exclude	Yes	Exclude
HB13-05	32 - 38 *	9/9/2013	Area 2	NA	NA	Pyrene	FC-1	32	38	43.8	33.156	include	Yes	Include
HB13-05	38 - 44 *	9/9/2013	Area 2	NA	NA	Pyrene	FC-1	38	44	43.8	33.156	include	Yes	Include
HB13-05	44 - 50 *	9/9/2013	Area 2	NA	NA	Pyrene	FC-1	44	50	43.8	33.156	include	No	Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-05	50 - 56 *	9/9/2013	Area 2	NA	NA	Pyrene	FC-1	50	56	43.8	33.156	include	No	Exclude
HB13-05	56 - 62	9/9/2013	Area 2	1	1	Pyrene	FC-1	56	62	43.8	33.156	include	No	Exclude
HB13-05	62 - 66	9/9/2013	Area 2	0.24	0.24	Pyrene	FC-1	62	66	43.8	33.156	include	No	Exclude
HB13-05	68 - 74 *	9/9/2013	Area 2	NA	NA	Pyrene	FC-1	68	74	43.8	33.156	include	No	Exclude
HB13-05	74 - 77 *	9/9/2013	Area 2	NA	NA	Pyrene	FC-1	74	77	43.8	33.156	include	No	Exclude
HB13-06	0 - 6 *	9/9/2013	Area 2	NA	NA	Pyrene	OC-2	0	6	48			Yes	Include
HB13-06	6 - 12 *	9/9/2013	Area 2	NA	NA	Pyrene	OC-2	6	12	48			Yes	Include
HB13-06	12 - 18 *	9/9/2013	Area 2	NA	NA	Pyrene	OC-2	12	18	48			Yes	Include
HB13-06	18 - 24 *	9/9/2013	Area 2	NA	NA	Pyrene	OC-2	18	24	48			Yes	Include
HB13-06	24 - 30 *	9/9/2013	Area 2	NA	NA	Pyrene	OC-2	24	30	48			Yes	Include
HB13-06	30 - 36 *	9/9/2013	Area 2	NA	NA	Pyrene	OC-2	30	36	48			Yes	Include
HB13-06	36 - 42 *	9/9/2013	Area 2	NA	NA	Pyrene	OC-2	36	42	48			Yes	Include
HB13-06	42 - 48 *	9/9/2013	Area 2	NA	NA	Pyrene	OC-2	42	48	48			Yes	Include
HB13-07	0 - 6 *	9/10/2013	Area 2	NA	NA	Pyrene		0	6					Exclude
HB13-07	6 - 12 *	9/10/2013	Area 2	NA	NA	Pyrene		6	12					Exclude
HB13-07	12 - 18 *	9/10/2013	Area 2	NA	NA	Pyrene		12	18					Exclude
HB13-07	18 - 24 *	9/10/2013	Area 2	NA	NA	Pyrene		18	24					Exclude
HB13-07	24 - 30 *	9/10/2013	Area 2	NA	NA	Pyrene		24	30					Exclude
HB13-07	30 - 36 *	9/10/2013	Area 2	NA	NA	Pyrene		30	36					Exclude
HB13-07	36 - 42 *	9/10/2013	Area 2	NA	NA	Pyrene		36	42					Exclude
HB13-07	42 - 48 *	9/10/2013	Area 2	NA	NA	Pyrene		42	48					Exclude
HB13-08	0 - 18	9/11/2013	Area 2	0.7	0.7	Pyrene	FC-2	0	18	38.28	21.756	exclude	Yes	Exclude
HB13-08	18 - 36	9/11/2013	Area 2	0.93	0.93	Pyrene	FC-2	18	36	38.28	21.756	include	Yes	Include
HB13-08	36 - 60	9/11/2013	Area 2	1.2	1.2	Pyrene	FC-2	36	60	38.28	21.756	include	Yes	Include
HB13-08	60 - 92	9/11/2013	Area 2	0.55	0.55	Pyrene	FC-2	60	92	38.28	21.756	include	No	Exclude
HB13-10	0 - 6 *	9/10/2013	Area 2	NA	NA	Pyrene		0	6	0.0039996			Yes	Include
HB13-11	0 - 18	9/11/2013	Area 2	0.8	0.8	Pyrene	FC-4	0	18	25.2	23.964	exclude	Yes	Exclude
HB13-11	18 - 24 *	9/11/2013	Area 2	NA	NA	Pyrene	FC-4	18	24	25.2	23.964	include	Yes	Include
HB13-11	18 - 42	9/11/2013	Area 2	0.86	0.86	Pyrene	FC-4	18	42	25.2	23.964	include	Yes	Include
HB13-11	24 - 30 *	9/11/2013	Area 2	NA	NA	Pyrene	FC-4	24	30	25.2	23.964	include	Yes	Include
HB13-11	30 - 36 *	9/11/2013	Area 2	NA	NA	Pyrene	FC-4	30	36	25.2	23.964	include	No	Exclude
HB13-11	36 - 42 *	9/11/2013	Area 2	NA	NA	Pyrene	FC-4	36	42	25.2	23.964	include	No	Exclude
HB13-11	42 - 48 *	9/11/2013	Area 2	NA	NA	Pyrene	FC-4	42	48	25.2	23.964	include	No	Exclude
HB13-11	42 - 60	9/11/2013	Area 2	0.32	0.32	Pyrene	FC-4	42	60	25.2	23.964	include	No	Exclude
HB13-11	48 - 54 *	9/11/2013	Area 2	NA	NA	Pyrene	FC-4	48	54	25.2	23.964	include	No	Exclude
HB13-11	54 - 60 *	9/11/2013	Area 2	NA	NA	Pyrene	FC-4	54	60	25.2	23.964	include	No	Exclude
HB13-12	0 - 6 *	9/10/2013	Area 2	NA	NA	Pyrene		0	6	5.9960004			Yes	Include
HB13-13	0 - 1 *	9/11/2013	Area 2	NA	NA	Pyrene	SND-5	0	1	0.9999996			Yes	Include
HB13-14	0 - 6 *	9/12/2013	Area 2	NA	NA	Pyrene	FC-6	0	6	45.9999996	-5.316	include	Yes	Include
HB13-14	0 - 24	9/12/2013	Area 2	0.076	0.076	Pyrene	FC-6	0	24	45.9999996	-5.316	include	Yes	Include
HB13-14	6 - 24 *	9/12/2013	Area 2	NA	NA	Pyrene	FC-6	6	24	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 42 *	9/12/2013	Area 2	NA	NA	Pyrene	FC-6	24	42	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 46	9/12/2013	Area 2	0.12	0.12	Pyrene	FC-6	24	46	45.9999996	-5.316	include	Yes	Include
HB13-14	42 - 46 *	9/12/2013	Area 2	NA	NA	Pyrene	FC-6	42	46	45.9999996	-5.316	include	Yes	Include
HB13-15	0 - 6 *	9/12/2013	Area 2	NA	NA	Pyrene	FC-7	0	6	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	6 - 12 *	9/12/2013	Area 2	NA	NA	Pyrene	FC-7	6	12	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	12 - 19 *	9/12/2013	Area 2	NA	NA	Pyrene	FC-7	12	19	18.9999996	18.516	include	Yes	Include
HB13-16	0 - 6 *	9/12/2013	Area 2	NA	NA	Pyrene		0	6	26.0000004			Yes	Include
HB13-16	6 - 12 *	9/12/2013	Area 2	NA	NA	Pyrene		6	12	26.0000004			Yes	Include
HB13-16	12 - 18 *	9/12/2013	Area 2	NA	NA	Pyrene		12	18	26.0000004			Yes	Include
HB13-16	18 - 24 *	9/12/2013	Area 2	NA	NA	Pyrene		18	24	26.0000004			Yes	Include
HB13-16	24 - 27 *	9/12/2013	Area 2	NA	NA	Pyrene		24	27	26.0000004			Yes	Include
HB13-17	0 - 12 *	9/12/2013	Area 2	NA	NA	Pyrene	FC-7	0	12	24	16.2	exclude	Yes	Exclude
HB13-17	12 - 18 *	9/12/2013	Area 2	NA	NA	Pyrene	FC-7	12	18	24	16.2	include	Yes	Include
HB13-17	18 - 24 *	9/12/2013	Area 2	NA	NA	Pyrene	FC-7	18	24	24	16.2	include	Yes	Include
HB13-17	24 - 47 *	9/12/2013	Area 2	NA	NA	Pyrene	FC-7	24	47	24	16.2	include	No	Exclude
HB13-18	0 - 6	9/12/2013	Area 2	0.73	0.73	Pyrene		0	6	9.9999996			Yes	Include
HB13-18	6 - 10	9/12/2013	Area 2	0.17	0.17	Pyrene		6	10	9.9999996			Yes	Include
HB13-18	10 - 16	9/12/2013	Area 2	0.013	0.013	Pyrene		10	16	9.9999996			No	Exclude
HB13-19	0 - 6 *	9/13/2013	Area 2	NA	NA	Pyrene		0	6					Exclude
HB13-19	6 - 24 *	9/13/2013	Area 2	NA	NA	Pyrene		6	24					Exclude
HB13-19	18 - 20 *	9/13/2013	Area 2	NA	NA	Pyrene		18	20					Exclude
HB13-19	24 - 42 *	9/13/2013	Area 2	NA	NA	Pyrene		24	42					Exclude
HB13-19	42 - 61 *	9/13/2013	Area 2	NA	NA	Pyrene		42	61					Exclude
HB13-19	61 - 67 *	9/13/2013	Area 2	NA	NA	Pyrene		61	67					Exclude
HB13-20	0 - 6 *	9/12/2013	Area 2	NA	NA	Pyrene		0	6	24			Yes	Include
HB13-20	0 - 12	9/12/2013	Area 2	0.1	0.1	Pyrene		0	12	24			Yes	Include
HB13-20	6 - 12 *	9/12/2013	Area 2	NA	NA	Pyrene		6	12	24			Yes	Include
HB13-20	12 - 18 *	9/12/2013	Area 2	NA	NA	Pyrene		12	18	24			Yes	Include
HB13-20	12 - 24	9/12/2013	Area 2	0.15	0.15	Pyrene		12	24	24			Yes	Include
HB13-20	18 - 24 *	9/12/2013	Area 2	NA	NA	Pyrene		18	24	24			Yes	Include
HB13-20	24 - 30 *	9/12/2013	Area 2	NA	NA	Pyrene		24	30	24			No	Exclude
HB13-20	24 - 36	9/12/2013	Area 2	0.11	0.11	Pyrene		24	36	24			No	Exclude
HB13-20	30 - 36 *	9/12/2013	Area 2	NA	NA	Pyrene		30	36	24			No	Exclude
HB13-20	36 - 42 *	9/12/2013	Area 2	NA	NA	Pyrene		36	42	24			No	Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-20	36 - 48	9/12/2013	Area 2	0.25	0.25	Pyrene		36	48	24			No	Exclude
HB13-20	42 - 48 *	9/12/2013	Area 2	NA	NA	Pyrene		42	48	24			No	Exclude
HB13-21	0 - 6 *	9/13/2013	Area 2	NA	NA	Pyrene	OC-10	0	6	24			Yes	Include
HB13-21	6 - 24 *	9/13/2013	Area 2	NA	NA	Pyrene	OC-10	6	24	24			Yes	Include
HB13-21	24 - 48 *	9/13/2013	Area 2	NA	NA	Pyrene	OC-10	24	48	24			No	Exclude
HB13-21	48 - 72 *	9/13/2013	Area 2	NA	NA	Pyrene	OC-10	48	72	24			No	Exclude
HB13-21	72 - 88 *	9/13/2013	Area 2	NA	NA	Pyrene	OC-10	72	88	24			No	Exclude
HB13-22	0 - 28 *	9/12/2013	Area 2	NA	NA	Pyrene	FC-7	0	28	24	36.72	exclude	Yes	Exclude
HB13-22	28 - 31 *	9/12/2013	Area 2	NA	NA	Pyrene	FC-7	28	31	24	36.72	exclude	No	Exclude
HB13-23	0 - 12 *	9/12/2013	Area 2	NA	NA	Pyrene	SND-5	0	12	27			Yes	Include
HB13-23	12 - 18 *	9/12/2013	Area 2	NA	NA	Pyrene	SND-5	12	18	27			Yes	Include
HB13-23	18 - 24 *	9/12/2013	Area 2	NA	NA	Pyrene	SND-5	18	24	27			Yes	Include
HB13-23	24 - 32 *	9/12/2013	Area 2	NA	NA	Pyrene	SND-5	24	32	27			Yes	Include
HB13-24	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Pyrene	HS-3	0	6	6			Yes	Include
HB13-24	0 - 24 *	9/12/2013	HUGHITT AVE SLIP	2.6	2.6	Pyrene	HS-3	0	24	6			Yes	Include
HB13-24	6 - 24	9/12/2013	Hughitt Ave Slip	NA	NA	Pyrene	HS-3	6	24	6			No	Exclude
HB13-25	0 - 6 *	9/12/2013	Area 1	NA	NA	Pyrene	OC-11	0	6	57			Yes	Include
HB13-25	0 - 18	9/12/2013	Area 1	0.18	0.18	Pyrene	OC-11	0	18	57			Yes	Include
HB13-25	6 - 18 *	9/12/2013	Area 1	NA	NA	Pyrene	OC-11	6	18	57			Yes	Include
HB13-25	18 - 36 *	9/12/2013	Area 1	NA	NA	Pyrene	OC-11	18	36	57			Yes	Include
HB13-25	18 - 57	9/12/2013	Area 1	0.078	0.078	Pyrene	OC-11	18	57	57			Yes	Include
HB13-25	36 - 57 *	9/12/2013	Area 1	NA	NA	Pyrene	OC-11	36	57	57			Yes	Include
HB13-26	0 - 12	9/13/2013	Area 1	0.091	0.091	Pyrene	FC-10	0	12	33	17.04	exclude	Yes	Exclude
HB13-26	12 - 18	9/13/2013	Area 1	0.14	0.14	Pyrene	FC-10	12	18	33	17.04	include	Yes	Include
HB13-26	18 - 33	9/13/2013	Area 1	0.14	0.14	Pyrene	FC-10	18	33	33	17.04	include	Yes	Include
HB13-27	0 - 6 *	9/13/2013	Area 1	NA	NA	Pyrene		0	6					Exclude
HB13-27	0 - 32	9/13/2013	Area 1	0.022	0.022	Pyrene		0	32					Exclude
HB13-28	0 - 8 *	9/13/2013	Area 1	NA	NA	Pyrene	FC-11	0	8	14.0000004	13.68	exclude	Yes	Exclude
HB13-28	8 - 14 *	9/13/2013	Area 1	NA	NA	Pyrene	FC-11	8	14	14.0000004	13.68	include	Yes	Include
HB13-28	14 - 26 *	9/13/2013	Area 1	NA	NA	Pyrene	FC-11	14	26	14.0000004	13.68	include	Yes	Include
HB13-28	26 - 40 *	9/13/2013	Area 1	NA	NA	Pyrene	FC-11	26	40	14.0000004	13.68	include	No	Exclude
HB13-29	0 - 6	9/13/2013	Area 1	NA	NA	Pyrene	FC-12/FC-13	0	6	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 12 *	9/13/2013	Area 1	0.16	0.16	Pyrene	FC-12/FC-13	0	12	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 18 *	9/13/2013	Area 1	NA	NA	Pyrene	FC-12/FC-13	0	18	44.0000004	1.044	include	Yes	Include
HB13-29	6 - 12	9/13/2013	Area 1	NA	NA	Pyrene	FC-12/FC-13	6	12	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 24	9/13/2013	Area 1	NA	NA	Pyrene	FC-12/FC-13	12	24	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 44 *	9/13/2013	Area 1	0.3	0.3	Pyrene	FC-12/FC-13	12	44	44.0000004	1.044	include	Yes	Include
HB13-29	24 - 44	9/13/2013	Area 1	NA	NA	Pyrene	FC-12/FC-13	24	44	44.0000004	1.044	include	Yes	Include
HB13-30	0 - 6	9/10/2013	Area 1	NA	NA	Pyrene	SND-1	0	6	60			Yes	Include
HB13-30	6 - 24	9/10/2013	Area 1	NA	NA	Pyrene	SND-1	6	24	60			Yes	Include
HB13-30	24 - 42	9/10/2013	Area 1	NA	NA	Pyrene	SND-1	24	42	60			Yes	Include
HB13-30	42 - 60	9/10/2013	Area 1	NA	NA	Pyrene	SND-1	42	60	60			Yes	Include
HB13-30	60 - 78	9/10/2013	Area 1	NA	NA	Pyrene	SND-1	60	78	60			No	Exclude
HB13-31	0 - 6	9/13/2013	Area 1	NA	NA	Pyrene	FC-16	0	6	27	2.76	include	Yes	Include
HB13-31	6 - 18	9/13/2013	Area 1	NA	NA	Pyrene	FC-16	6	18	27	2.76	include	Yes	Include
HB13-31	18 - 27	9/13/2013	Area 1	NA	NA	Pyrene	FC-16	18	27	27	2.76	include	Yes	Include
HB13-31	27 - 33	9/13/2013	Area 1	NA	NA	Pyrene	FC-16	27	33	27	2.76	include	No	Exclude
HB13-32	0 - 6	9/13/2013	Area 1	NA	NA	Pyrene	FC-14	0	6	26.0000004	-2.52	include	Yes	Include
HB13-32	6 - 18	9/13/2013	Area 1	NA	NA	Pyrene	FC-14	6	18	26.0000004	-2.52	include	Yes	Include
HB13-32	18 - 26	9/13/2013	Area 1	NA	NA	Pyrene	FC-14	18	26	26.0000004	-2.52	include	Yes	Include
HB13-32	26 - 32	9/13/2013	Area 1	NA	NA	Pyrene	FC-14	26	32	26.0000004	-2.52	include	Yes	Include
HB13-33	0 - 6	9/13/2013	Area 1	NA	NA	Pyrene		0	6	12			Yes	Include
HB13-33	6 - 12	9/13/2013	Area 1	NA	NA	Pyrene		6	12	12			Yes	Include
HB13-34	0 - 6	9/13/2013	Area 1	NA	NA	Pyrene		0	6	0.5000004			Yes	Include
HB13-35	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Pyrene		0	6	3.9999996			Yes	Include
HB13-35	6 - 12	9/13/2013	Hughitt Ave Slip	NA	NA	Pyrene		6	12	3.9999996			No	Exclude
HB13-37	2 - 6	9/10/2013	Hughitt Ave Slip	6.8	6.8	Pyrene	HS-3	2	6	6			Yes	Include
HB13-38	0 - 6	9/12/2013	Hughitt Ave Slip	NA	NA	Pyrene	HS-3	0	6	6			Yes	Include
HB13-39	4 - 10	9/13/2013	Hughitt Ave Slip	NA	NA	Pyrene	HS-2	4	10	27.9999996			Yes	Include
HB13-39	10 - 28	9/13/2013	Hughitt Ave Slip	NA	NA	Pyrene	HS-2	10	28	27.9999996			Yes	Include
HB13-39	28 - 34	9/13/2013	Hughitt Ave Slip	NA	NA	Pyrene	HS-2	28	34	27.9999996			No	Exclude
HB13-40	0 - 6	9/13/2013	Hughitt Ave Slip	NA	NA	Pyrene	HS-2	0	6	86.0000004			Yes	Include
HB13-40	0 - 24 *	9/13/2013	Hughitt Ave Slip	0.36	0.36	Pyrene	HS-2	0	24	86.0000004			Yes	Include
HB13-40	6 - 24	9/13/2013	Hughitt Ave Slip	NA	NA	Pyrene	HS-2	6	24	86.0000004			Yes	Include
HB13-40	24 - 48	9/13/2013	Hughitt Ave Slip	1.7	1.7	Pyrene	HS-2	24	48	86.0000004			Yes	Include
HB13-40	48 - 72	9/13/2013	Hughitt Ave Slip	0.27	0.27	Pyrene	HS-2	48	72	86.0000004			Yes	Include
HB13-40	72 - 86	9/13/2013	Hughitt Ave Slip	0.026	0.026	Pyrene	HS-2	72	86	86.0000004			Yes	Include
HB13-41	0 - 6	9/10/2013	Hughitt Ave Slip	NA	NA	Pyrene	HS-2	0	6	29.0000004			Yes	Include
HB13-41	0 - 24 *	9/10/2013	Hughitt Ave Slip	2.3	2.3	Pyrene	HS-2	0	24	29.0000004			Yes	Include
HB13-41	6 - 24	9/10/2013	Hughitt Ave Slip	NA	NA	Pyrene	HS-2	6	24	29.0000004			Yes	Include
HB13-41	24 - 29	9/10/2013	Hughitt Ave Slip	0.79	0.79	Pyrene	HS-2	24	29	29.0000004			Yes	Include
HB13-42	0 - 6	9/11/2013	Cummings Ave Slip	3.6	3.6	Pyrene	CS-3	0	6	33			Yes	Include
HB13-42	6 - 24	9/11/2013	Cummings Ave Slip	1.1	1.1	Pyrene	CS-3	6	24	33			Yes	Include
HB13-42	24 - 33	9/11/2013	Cummings Ave Slip	0.6	0.6	Pyrene	CS-3	24	33	33			Yes	Include
HB13-42	33 - 36	9/11/2013	Cummings Ave Slip	0.036	0.036	Pyrene	CS-3	33	36	33			No	Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-43	0 - 6	9/11/2013	Cummings Ave Slip	29	29	Pyrene	CS-2	0	6	24			Yes	Include
HB13-43	0 - 24 *	9/11/2013	Cummings Ave Slip	NA	NA	Pyrene	CS-2	0	24	24			Yes	Include
HB13-43	6 - 24	9/11/2013	Cummings Ave Slip	0.93	0.93	Pyrene	CS-2	6	24	24			Yes	Include
HB13-45	0 - 6	9/11/2013	Cummings Ave Slip	3.9	3.9	Pyrene	CS-2	0	6	21			Yes	Include
HB13-45	6 - 21	9/11/2013	Cummings Ave Slip	6.3	6.3	Pyrene	CS-2	6	21	21			Yes	Include
HB13-47	0 - 6	9/10/2013	Fraser Ave Slip	7	7	Pyrene	FS-1	0	6	30.996			Yes	Include
HB13-47	6 - 24	9/10/2013	Fraser Ave Slip	6.2	6.2	Pyrene	FS-1	6	24	30.996			Yes	Include
HB13-47	24 - 31	9/10/2013	Fraser Ave Slip	8.3	8.3	Pyrene	FS-1	24	31	30.996			Yes	Include
HB13-47	31 - 37 *	9/10/2013	Fraser Ave Slip	NA	NA	Pyrene	FS-1	31	37	30.996			No	Exclude
HB13-48	0 - 6 *	9/10/2013	Fraser Ave Slip	NA	NA	Pyrene	FS-2	0	6	45.9999996			Yes	Include
HB13-48	0 - 24	9/10/2013	FRASER AVE SLIP	5.2	5.2	Pyrene	FS-2	0	24	45.9999996			Yes	Include
HB13-48	6 - 24 *	9/10/2013	Fraser Ave Slip	NA	NA	Pyrene	FS-2	6	24	45.9999996			Yes	Include
HB13-48	24 - 42 *	9/10/2013	Fraser Ave Slip	NA	NA	Pyrene	FS-2	24	42	45.9999996			Yes	Include
HB13-48	24 - 46 *	9/10/2013	FRASER AVE SLIP	6.8	6.8	Pyrene	FS-2	24	46	45.9999996			Yes	Include
HB13-48	42 - 46 *	9/10/2013	Fraser Ave Slip	NA	NA	Pyrene	FS-2	42	46	45.9999996			Yes	Include
HB13-49	0 - 6	9/11/2013	Fraser Ave Slip	2.1	2.1	Pyrene	FS-2	0	6	30			Yes	Include
HB13-49	6 - 24	9/11/2013	Fraser Ave Slip	2.9	2.9	Pyrene	FS-2	6	24	30			Yes	Include
HB13-49	24 - 30	9/11/2013	Fraser Ave Slip	3.5	3.5	Pyrene	FS-2	24	30	30			Yes	Include
HB13-50	0 - 12 *	9/13/2013	Area 1	NA	NA	Pyrene	OC-12	0	12	47.0000004			Yes	Include
HB13-50	12 - 24 *	9/13/2013	Area 1	NA	NA	Pyrene	OC-12	12	24	47.0000004			Yes	Include
HB13-50	24 - 36 *	9/13/2013	Area 1	NA	NA	Pyrene	OC-12	24	36	47.0000004			Yes	Include
HB13-50	36 - 47 *	9/13/2013	Area 1	NA	NA	Pyrene	OC-12	36	47	47.0000004			Yes	Include
HB13-51	0 - 6 *	9/11/2013	Area 2	NA	NA	Pyrene		0	6					Exclude
HB13-51	6 - 15 *	9/11/2013	Area 2	NA	NA	Pyrene		6	15					Exclude
HB13-52	0 - 6 *	9/11/2013	Area 2	NA	NA	Pyrene	OC-10	0	6	12			Yes	Include
HB13-52	6 - 12 *	9/11/2013	Area 2	NA	NA	Pyrene	OC-10	6	12	12			Yes	Include
HB13-52	12 - 17 *	9/11/2013	Area 2	NA	NA	Pyrene	OC-10	12	17	12			No	Exclude
HB14-01	0 - 6	8/18/2014	Area 1	NA	NA	Pyrene	SND-1	0	6					Exclude
HB14-01	6 - 18	8/18/2014	Area 1	NA	NA	Pyrene	SND-1	6	18					Exclude
HB14-02	0 - 6	8/18/2014	Area 1	NA	NA	Pyrene	FC-15	0	6	17.004	-12.996	include	Yes	Include
HB14-02	6 - 14	8/18/2014	Area 1	NA	NA	Pyrene	FC-15	6	14	17.004	-12.996	include	Yes	Include
HB14-03	0 - 6	8/18/2014	Area 1	NA	NA	Pyrene	FC-15	0	6	29.997288	-2.472	include	Yes	Include
HB14-03	6 - 18	8/18/2014	Area 1	NA	NA	Pyrene	FC-15	6	18	29.997288	-2.472	include	Yes	Include
HB14-03	18 - 30	8/18/2014	Area 1	NA	NA	Pyrene	FC-15	18	30	29.997288	-2.472	include	Yes	Include
HB14-03	30 - 42	8/18/2014	Area 1	NA	NA	Pyrene	FC-15	30	42	29.997288	-2.472	include	No	Exclude
HB14-03	42 - 54	8/18/2014	Area 1	NA	NA	Pyrene	FC-15	42	54	29.997288	-2.472	include	No	Exclude
HB14-04	0 - 6	8/18/2014	Area 1	NA	NA	Pyrene		0	6	29.904			Yes	Include
HB14-04	6 - 18	8/18/2014	Area 1	NA	NA	Pyrene		6	18	29.904			Yes	Include
HB14-04	18 - 30	8/18/2014	Area 1	NA	NA	Pyrene		18	30	29.904			Yes	Include
HB14-05 G		8/18/2014	Area 1	NA	NA	Pyrene			#VALUE!					Exclude
HB14-06	0 - 6	8/18/2014	Area 1	NA	NA	Pyrene		0	6	30.588			Yes	Include
HB14-06	6 - 24	8/18/2014	Area 1	NA	NA	Pyrene		6	24	30.588			Yes	Include
HB14-07	0 - 6	8/18/2014	Area 1	NA	NA	Pyrene		0	6	78.012			Yes	Include
HB14-07	6 - 24	8/18/2014	Area 1	NA	NA	Pyrene		6	24	78.012			Yes	Include
HB14-07	24 - 42	8/18/2014	Area 1	NA	NA	Pyrene		24	42	78.012			Yes	Include
HB14-08	0 - 6	8/19/2014	Area 1	NA	NA	Pyrene		0	6	34.416			Yes	Include
HB14-08	6 - 19	8/19/2014	Area 1	NA	NA	Pyrene		6	19	34.416			Yes	Include
HB14-09	0 - 12	8/19/2014	Area 1	NA	NA	Pyrene	OC-16	0	12	12.003804			Yes	Include
HB14-09	12 - 24	8/19/2014	Area 1	NA	NA	Pyrene	OC-16	12	24	12.003804			Yes	Include
HB14-09	24 - 36	8/19/2014	Area 1	NA	NA	Pyrene	OC-16	24	36	12.003804			No	Exclude
HB14-09	36 - 48	8/19/2014	Area 1	NA	NA	Pyrene	OC-16	36	48	12.003804			No	Exclude
HB14-09	48 - 60	8/19/2014	Area 1	NA	NA	Pyrene	OC-16	48	60	12.003804			No	Exclude
HB14-09	60 - 72	8/19/2014	Area 1	NA	NA	Pyrene	OC-16	60	72	12.003804			No	Exclude
HB14-10	0 - 6	8/20/2014	Area 1	0.35	0.35	Pyrene		0	6	54.005544			Yes	Include
HB14-10	6 - 18	8/20/2014	Area 1	0.38	0.38	Pyrene		6	18	54.005544			Yes	Include
HB14-10	18 - 30	8/20/2014	Area 1	0.78	0.78	Pyrene		18	30	54.005544			Yes	Include
HB14-10	30 - 42	8/20/2014	Area 1	1.1	1.1	Pyrene		30	42	54.005544			Yes	Include
HB14-10	42 - 54	8/20/2014	Area 1	0.85	0.85	Pyrene		42	54	54.005544			Yes	Include
HB14-10	54 - 66	8/20/2014	Area 1	NA	NA	Pyrene		54	66	54.005544			Yes	Include
HB14-11	0 - 6	8/19/2014	Area 1	NA	NA	Pyrene	SND-2	0	6					Exclude
HB14-11	6 - 18	8/19/2014	Area 1	NA	NA	Pyrene	SND-2	6	18					Exclude
HB14-11	18 - 20	8/19/2014	Area 1	NA	NA	Pyrene	SND-2	18	20					Exclude
HB14-12	0 - 6	8/19/2014	Area 1	NA	NA	Pyrene	SND-4	0	6	26.34			Yes	Include
HB14-12	6 - 18	8/19/2014	Area 1	NA	NA	Pyrene	SND-4	6	18	26.34			Yes	Include
HB14-12	18 - 32	8/19/2014	Area 1	NA	NA	Pyrene	SND-4	18	32	26.34			Yes	Include
HB14-13	0 - 6	8/19/2014	Area 2	NA	NA	Pyrene	SND-5	0	6	-0.648			No	Exclude
HB14-13	6 - 11	8/19/2014	Area 2	NA	NA	Pyrene	SND-5	6	11	-0.648			No	Exclude
HB14-14	0 - 6	8/20/2014	Area 2	0.8	0.8	Pyrene	OC-4	0	6	101.997672			Yes	Include
HB14-14	4 - 6	8/20/2014	Area 2	8.6	8.6	Pyrene	OC-4	4	6	101.997672			Yes	Include
HB14-14	6 - 18	8/20/2014	Area 2	NA	NA	Pyrene	OC-4	6	18	101.997672			Yes	Include
HB14-14	6 - 30	8/20/2014	Area 2	0.93	0.93	Pyrene	OC-4	6	30	101.997672			Yes	Include
HB14-14	18 - 30	8/20/2014	Area 2	NA	NA	Pyrene	OC-4	18	30	101.997672			Yes	Include
HB14-14	30 - 42	8/20/2014	Area 2	NA	NA	Pyrene	OC-4	30	42	101.997672			Yes	Include
HB14-14	30 - 54	8/20/2014	Area 2	1	1	Pyrene	OC-4	30	54	101.997672			Yes	Include
HB14-14	42 - 54	8/20/2014	Area 2	NA	NA	Pyrene	OC-4	42	54	101.997672			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB14-14	54 - 66	8/20/2014	Area 2	NA	NA	Pyrene	OC-4	54	66	101.997672			Yes	Include
HB14-14	54 - 78	8/20/2014	Area 2	0.79	0.79	Pyrene	OC-4	54	78	101.997672			Yes	Include
HB14-14	66 - 78	8/20/2014	Area 2	NA	NA	Pyrene	OC-4	66	78	101.997672			Yes	Include
HB14-14	78 - 90	8/20/2014	Area 2	NA	NA	Pyrene	OC-4	78	90	101.997672			Yes	Include
HB14-14	78 - 102	8/20/2014	Area 2	1.5	1.5	Pyrene	OC-4	78	102	101.997672			Yes	Include
HB14-14	90 - 102	8/20/2014	Area 2	NA	NA	Pyrene	OC-4	90	102	101.997672			Yes	Include
HB14-14	102 - 111	8/20/2014	Area 2	NA	NA	Pyrene	OC-4	102	111	101.997672			No	Exclude
HB15-01	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	0	12	51.096			Yes	Include
HB15-01	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	12	24	51.096			Yes	Include
HB15-01	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	24	36	51.096			Yes	Include
HB15-01	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	36	48	51.096			Yes	Include
HB15-01	48 - 57	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	48	57	51.096			Yes	Include
HB15-02	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	0	12	48.000696			Yes	Include
HB15-02	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	12	24	48.000696			Yes	Include
HB15-02	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	24	36	48.000696			Yes	Include
HB15-02	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	36	48	48.000696			Yes	Include
HB15-03	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	0	12	67.9950564			Yes	Include
HB15-03	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	12	24	67.9950564			Yes	Include
HB15-03	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	24	36	67.9950564			Yes	Include
HB15-03	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	36	48	67.9950564			Yes	Include
HB15-03	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	48	60	67.9950564			Yes	Include
HB15-03	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	60	68	67.9950564			Yes	Include
HB15-03R	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	0	12	67.9950564			Yes	Include
HB15-03R	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	12	24	67.9950564			Yes	Include
HB15-03R	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	24	36	67.9950564			Yes	Include
HB15-03R	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	36	48	67.9950564			Yes	Include
HB15-03R	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	48	60	67.9950564			Yes	Include
HB15-03R	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	60	68	67.9950564			Yes	Include
HB15-04	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	0	12	63.84			Yes	Include
HB15-04	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	12	24	63.84			Yes	Include
HB15-04	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	24	36	63.84			Yes	Include
HB15-04	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	36	48	63.84			Yes	Include
HB15-04	48 - 59	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	48	59	63.84			Yes	Include
HB15-05	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	0	12	71.994852			Yes	Include
HB15-05	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	12	24	71.994852			Yes	Include
HB15-05	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	24	36	71.994852			Yes	Include
HB15-05	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	36	48	71.994852			Yes	Include
HB15-05	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	48	60	71.994852			Yes	Include
HB15-05	60 - 72	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	60	72	71.994852			Yes	Include
HB15-05	72 - 80	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-1	72	80	71.994852			No	Exclude
HB15-06	0 - 9	6/23/2015	Hughitt Ave Slip	NA	NA	Pyrene	HS-2	0	9	9.000636			Yes	Include
HB15-07	0 - 12	6/23/2015	Cummings Ave Slip	NA	NA	Pyrene	CS-1	0	12	90.9955116			Yes	Include
HB15-07	12 - 24	6/23/2015	Cummings Ave Slip	NA	NA	Pyrene	CS-1	12	24	90.9955116			Yes	Include
HB15-07	24 - 36	6/23/2015	Cummings Ave Slip	NA	NA	Pyrene	CS-1	24	36	90.9955116			Yes	Include
HB15-07	36 - 48	6/23/2015	Cummings Ave Slip	7.3	7.3	Pyrene	CS-1	36	48	90.9955116			Yes	Include
HB15-07	48 - 60	6/23/2015	Cummings Ave Slip	13	13	Pyrene	CS-1	48	60	90.9955116			Yes	Include
HB15-07	60 - 72	6/23/2015	Cummings Ave Slip	8	8	Pyrene	CS-1	60	72	90.9955116			Yes	Include
HB15-07	72 - 84	6/23/2015	Cummings Ave Slip	9	9	Pyrene	CS-1	72	84	90.9955116			Yes	Include
HB15-07	84 - 91	6/23/2015	Cummings Ave Slip	11	11	Pyrene	CS-1	84	91	90.9955116			Yes	Include
HB15-08	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Pyrene	CS-2	0	12	65.997804			Yes	Include
HB15-08	12 - 24	6/24/2015	Cummings Ave Slip	7	7	Pyrene	CS-2	12	24	65.997804			Yes	Include
HB15-08	24 - 36	6/24/2015	Cummings Ave Slip	6.5	6.5	Pyrene	CS-2	24	36	65.997804			Yes	Include
HB15-08	36 - 48	6/24/2015	Cummings Ave Slip	NA	NA	Pyrene	CS-2	36	48	65.997804			Yes	Include
HB15-08	48 - 60	6/24/2015	Cummings Ave Slip	NA	NA	Pyrene	CS-2	48	60	65.997804			Yes	Include
HB15-08	60 - 66	6/24/2015	Cummings Ave Slip	NA	NA	Pyrene	CS-2	60	66	65.997804			Yes	Include
HB15-09	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Pyrene	CS-3	0	12	45.396			Yes	Include
HB15-09	12 - 17	6/24/2015	Cummings Ave Slip	NA	NA	Pyrene	CS-3	12	17	45.396			Yes	Include
HB15-10	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Pyrene		0	12	-0.936			No	Exclude
HB15-11	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Pyrene	CS-5	0	12	27.9944796			Yes	Include
HB15-11	12 - 24	6/24/2015	Cummings Ave Slip	NA	NA	Pyrene	CS-5	12	24	27.9944796			Yes	Include
HB15-11	24 - 28	6/24/2015	Cummings Ave Slip	NA	NA	Pyrene	CS-5	24	28	27.9944796			Yes	Include
HB15-12	0 - 12	6/24/2015	Area 2	NA	NA	Pyrene	FP-1	0	12	29.994876			Yes	Include
HB15-12	12 - 24	6/24/2015	Area 2	NA	NA	Pyrene	FP-1	12	24	29.994876			Yes	Include
HB15-12	24 - 30	6/24/2015	Area 2	NA	NA	Pyrene	FP-1	24	30	29.994876			Yes	Include
HB15-13	0 - 12	6/24/2015	Area 2	NA	NA	Pyrene	FP-1	0	12	64.0033716			Yes	Include
HB15-13	12 - 24	6/24/2015	Area 2	NA	NA	Pyrene	FP-1	12	24	64.0033716			Yes	Include
HB15-13	24 - 36	6/24/2015	Area 2	NA	NA	Pyrene	FP-1	24	36	64.0033716			Yes	Include
HB15-13	36 - 48	6/24/2015	Area 2	NA	NA	Pyrene	FP-1	36	48	64.0033716			Yes	Include
HB15-13	48 - 60	6/24/2015	Area 2	NA	NA	Pyrene	FP-1	48	60	64.0033716			Yes	Include
HB15-13	60 - 64	6/24/2015	Area 2	NA	NA	Pyrene	FP-1	60	64	64.0033716			Yes	Include
HB15-14	0 - 12	6/24/2015	Area 2	NA	NA	Pyrene	FP-1	0	12	23.996196			Yes	Include
HB15-14	12 - 24	6/24/2015	Area 2	NA	NA	Pyrene	FP-1	12	24	23.996196			Yes	Include
HB15-14	24 - 28	6/24/2015	Area 2	NA	NA	Pyrene	FP-1	24	28	23.996196			No	Exclude
HB15-14	28 - 35	6/24/2015	Area 2	NA	NA	Pyrene	FP-1	28	35	23.996196			No	Exclude
HB15-15	0 - 12	6/24/2015	Area 2	NA	NA	Pyrene	FP-2	0	12	19.0051356			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB15-15	12 - 19	6/24/2015	Area 2	NA	NA	Pyrene	FP-2	12	19	19.0051356			Yes	Include
HB15-15R	0 - 12	6/24/2015	Area 2	NA	NA	Pyrene	FP-2	0	12	18.9999996			Yes	Include
HB15-15R	12 - 19	6/24/2015	Area 2	NA	NA	Pyrene	FP-2	12	19	18.9999996			Yes	Include
HB15-16	0 - 12	6/24/2015	Area 2	NA	NA	Pyrene	FP-1	0	12	8.304			Yes	Include
HB15-16	12 - 19	6/24/2015	Area 2	NA	NA	Pyrene	FP-1	12	19	8.304			No	Exclude
HB15-17	0 - 12	6/24/2015	Area 2	NA	NA	Pyrene	FP-2	0	12	36.004608			Yes	Include
HB15-17	12 - 24	6/24/2015	Area 2	NA	NA	Pyrene	FP-2	12	24	36.004608			Yes	Include
HB15-17	24 - 36	6/24/2015	Area 2	NA	NA	Pyrene	FP-2	24	36	36.004608			Yes	Include
HB15-17	36 - 48	6/24/2015	Area 2	NA	NA	Pyrene	FP-2	36	48	36.004608			Yes	Include
HB15-17	48 - 54	6/24/2015	Area 2	NA	NA	Pyrene	FP-2	48	54	36.004608			No	Exclude
HB15-18	0 - 12	6/24/2015	Area 2	NA	NA	Pyrene	FP-2	0	12	23.999508			Yes	Include
HB15-18	12 - 24	6/24/2015	Area 2	NA	NA	Pyrene	FP-2	12	24	23.999508			Yes	Include
HB15-19	0 - 12	6/24/2015	Area 2	NA	NA	Pyrene		0	12					Exclude
HB15-19	12 - 24	6/24/2015	Area 2	NA	NA	Pyrene		12	24					Exclude
HB15-19	24 - 32	6/24/2015	Area 2	NA	NA	Pyrene		24	32					Exclude
HB15-20	0 - 12	6/25/2015	Area 2	NA	NA	Pyrene	OC-3	0	12	33.864			Yes	Include
HB15-20	12 - 24	6/25/2015	Area 2	NA	NA	Pyrene	OC-3	12	24	33.864			Yes	Include
HB15-20	24 - 28	6/25/2015	Area 2	NA	NA	Pyrene	OC-3	24	28	33.864			Yes	Include
HB15-20B	0 - 6	6/25/2015	Area 2	NA	NA	Pyrene	OC-13	0	6	11.996892			Yes	Include
HB15-20B	6 - 12	6/25/2015	Area 2	NA	NA	Pyrene	OC-13	6	12	11.996892			Yes	Include
HB15-21G	15 - 21	6/29/2015	Fraser Ave Slip	NA	NA	Pyrene		15	21					Exclude
HB15-22G	0 - 6	6/29/2015	Fraser Ave Slip	0.41	0.41	Pyrene	OC-8	0	6	6			Yes	Include
HB15-23	0 - 12	6/25/2015	Fraser Ave Slip	NA	NA	Pyrene	FS-1	0	12	55.02			Yes	Include
HB15-23	12 - 24	6/25/2015	Fraser Ave Slip	NA	NA	Pyrene	FS-1	12	24	55.02			Yes	Include
HB15-23	24 - 36	6/25/2015	Fraser Ave Slip	NA	NA	Pyrene	FS-1	24	36	55.02			Yes	Include
HB15-23	36 - 48	6/25/2015	Fraser Ave Slip	NA	NA	Pyrene	FS-1	36	48	55.02			Yes	Include
HB15-23	48 - 56	6/25/2015	Fraser Ave Slip	NA	NA	Pyrene	FS-1	48	56	55.02			Yes	Include
HB15-25	0 - 12	6/25/2015	Area 2	NA	NA	Pyrene	OC-1	0	12	77.4			Yes	Include
HB15-25	12 - 24	6/25/2015	Area 2	NA	NA	Pyrene	OC-1	12	24	77.4			Yes	Include
HB15-25	24 - 36	6/25/2015	Area 2	NA	NA	Pyrene	OC-1	24	36	77.4			Yes	Include
HB15-25	36 - 48	6/25/2015	Area 2	NA	NA	Pyrene	OC-1	36	48	77.4			Yes	Include
HB15-25	48 - 60	6/25/2015	Area 2	NA	NA	Pyrene	OC-1	48	60	77.4			Yes	Include
HB15-25	60 - 72	6/25/2015	Area 2	NA	NA	Pyrene	OC-1	60	72	77.4			Yes	Include
HB15-25	72 - 88	6/25/2015	Area 2	NA	NA	Pyrene	OC-1	72	88	77.4			Yes	Include
HB15-26	0 - 12	6/25/2015	Area 2	NA	NA	Pyrene	FC-2	0	12	38.28	6.36	include	Yes	Include
HB15-26	12 - 24	6/25/2015	Area 2	NA	NA	Pyrene	FC-2	12	24	38.28	6.36	include	Yes	Include
HB15-26	24 - 36	6/25/2015	Area 2	NA	NA	Pyrene	FC-2	24	36	38.28	6.36	include	Yes	Include
HB15-26	36 - 46	6/25/2015	Area 2	NA	NA	Pyrene	FC-2	36	46	38.28	6.36	include	Yes	Include
HB15-27	0 - 12	6/25/2015	Area 2	NA	NA	Pyrene	FC-3	0	12	33.6	14.64	exclude	Yes	Exclude
HB15-27	12 - 24	6/25/2015	Area 2	NA	NA	Pyrene	FC-3	12	24	33.6	14.64	include	Yes	Include
HB15-27	24 - 36	6/25/2015	Area 2	NA	NA	Pyrene	FC-3	24	36	33.6	14.64	include	Yes	Include
HB15-27	36 - 48	6/25/2015	Area 2	NA	NA	Pyrene	FC-3	36	48	33.6	14.64	include	No	Exclude
HB15-27	48 - 60	6/25/2015	Area 2	NA	NA	Pyrene	FC-3	48	60	33.6	14.64	include	No	Exclude
HB15-27	60 - 71	6/25/2015	Area 2	NA	NA	Pyrene	FC-3	60	71	33.6	14.64	include	No	Exclude
HB15-28	0 - 12	6/25/2015	Area 2	NA	NA	Pyrene	OC-7	0	12	11.994072			Yes	Include
HB15-28	12 - 24	6/25/2015	Area 2	NA	NA	Pyrene	OC-7	12	24	11.994072			No	Exclude
HB15-28	24 - 30	6/25/2015	Area 2	NA	NA	Pyrene	OC-7	24	30	11.994072			No	Exclude
HB15-30	0 - 12	6/25/2015	Area 2	NA	NA	Pyrene		0	12	43.776			Yes	Include
HB15-30	12 - 24	6/25/2015	Area 2	NA	NA	Pyrene		12	24	43.776			Yes	Include
HB15-30	24 - 36	6/25/2015	Area 2	NA	NA	Pyrene		24	36	43.776			Yes	Include
HB15-30	36 - 50	6/25/2015	Area 2	NA	NA	Pyrene		36	50	43.776			Yes	Include
HB15-31	0 - 12	6/25/2015	Area 2	NA	NA	Pyrene		0	12					Exclude
HB15-31	12 - 20	6/25/2015	Area 2	NA	NA	Pyrene		12	20					Exclude
HB15-32	0 - 12	6/25/2015	Area 1	NA	NA	Pyrene	SND-4	0	12	11.995236			Yes	Include
HB15-32	12 - 26	6/25/2015	Area 1	NA	NA	Pyrene	SND-4	12	26	11.995236			No	Exclude
HB15-33	0 - 12	6/25/2015	Area 1	NA	NA	Pyrene		0	12	26.292			Yes	Include
HB15-33	12 - 24	6/25/2015	Area 1	NA	NA	Pyrene		12	24	26.292			Yes	Include
HB15-33	24 - 39	6/25/2015	Area 1	NA	NA	Pyrene		24	39	26.292			Yes	Include
HB15-34	0 - 12	6/25/2015	Area 1	NA	NA	Pyrene	FC-11	0	12		35.52	exclude		Exclude
HB15-34	12 - 24	6/25/2015	Area 1	NA	NA	Pyrene	FC-11	12	24		35.52	exclude		Exclude
HB15-34	24 - 32	6/25/2015	Area 1	NA	NA	Pyrene	FC-11	24	32		35.52	exclude		Exclude
HB15-35	0 - 12	6/25/2015	Area 1	NA	NA	Pyrene	FC-16	0	12	74.28	-6.48	include	Yes	Include
HB15-35	12 - 24	6/25/2015	Area 1	NA	NA	Pyrene	FC-16	12	24	74.28	-6.48	include	Yes	Include
HB15-35	24 - 36	6/25/2015	Area 1	NA	NA	Pyrene	FC-16	24	36	74.28	-6.48	include	Yes	Include
HB15-35	36 - 48	6/25/2015	Area 1	NA	NA	Pyrene	FC-16	36	48	74.28	-6.48	include	Yes	Include
HB15-35	48 - 60	6/25/2015	Area 1	NA	NA	Pyrene	FC-16	48	60	74.28	-6.48	include	Yes	Include
HB15-35	60 - 72	6/25/2015	Area 1	NA	NA	Pyrene	FC-16	60	72	74.28	-6.48	include	Yes	Include
HB15-36G	15 - 36	6/29/2015	Area 2	NA	NA	Pyrene		15	36					Exclude
HB15-37	0 - 12	6/25/2015	Area 2	NA	NA	Pyrene	OC-9	0	12	51.048			Yes	Include
HB15-37	12 - 24	6/25/2015	Area 2	NA	NA	Pyrene	OC-9	12	24	51.048			Yes	Include
HB15-37	24 - 36	6/25/2015	Area 2	NA	NA	Pyrene	OC-9	24	36	51.048			Yes	Include
HB15-37	36 - 48	6/25/2015	Area 2	NA	NA	Pyrene	OC-9	36	48	51.048			Yes	Include
HB15-37	48 - 60	6/25/2015	Area 2	NA	NA	Pyrene	OC-9	48	60	51.048			Yes	Include
HB15-37	60 - 74	6/25/2015	Area 2	NA	NA	Pyrene	OC-9	60	74	51.048			No	Exclude
HB15-38	0 - 12	6/25/2015	Area 2	NA	NA	Pyrene	OC-9	0	12	83.184			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB15-38	12 - 24	6/25/2015	Area 2	NA	NA	Pyrene	OC-9	12	24	83.184			Yes	Include
HB15-38	24 - 36	6/25/2015	Area 2	NA	NA	Pyrene	OC-9	24	36	83.184			Yes	Include
HB15-38	36 - 48	6/25/2015	Area 2	NA	NA	Pyrene	OC-9	36	48	83.184			Yes	Include
HB15-38	48 - 60	6/25/2015	Area 2	NA	NA	Pyrene	OC-9	48	60	83.184			Yes	Include
HB15-38	60 - 72	6/25/2015	Area 2	NA	NA	Pyrene	OC-9	60	72	83.184			Yes	Include
HB15-38	72 - 84	6/25/2015	Area 2	NA	NA	Pyrene	OC-9	72	84	83.184			Yes	Include
HB15-38	84 - 96	6/25/2015	Area 2	NA	NA	Pyrene	OC-9	84	96	83.184			No	Exclude
HB15-G28	0 - 6	6/25/2015	Hughitt Ave Slip	NA	NA	Pyrene		0	6					Exclude
HB15-HC20A	0 - 6	6/25/2015	Area 1	NA	NA	Pyrene	OC-13	0	6	6.003036			Yes	Include
HB2A_4	0 - 6	5/12/2007	Hughitt Ave Slip	NA	NA	Tributyltin	HS-1	0	6	48.00432			Yes	Include
HB2A_4	6 - 24	5/12/2007	Hughitt Ave Slip	NA	NA	Tributyltin	HS-1	6	24	48.00432			Yes	Include
HB2A_4	24 - 48	5/12/2007	Hughitt Ave Slip	NA	NA	Tributyltin	HS-1	24	48	48.00432			Yes	Include
HB2A_6	0 - 5	5/2/2007	Area 1	NA	NA	Tributyltin		0	5					Exclude
HB2A_7	0 - 5	5/10/2007	Area 1	NA	NA	Tributyltin	SND-1	0	5					Exclude
HB2A_8	0 - 5	5/10/2007	Area 1	NA	NA	Tributyltin	FC-12/FC-13	0	5	4.9944804	79.824	exclude	Yes	Exclude
HB2A_11	0 - 5	5/10/2007	Area 1	NA	NA	Tributyltin		0	5					Exclude
HB2A_13	0 - 5	5/2/2007	Area 1	NA	NA	Tributyltin		0	5					Exclude
HB2A_16	0 - 5	5/2/2007	Area 1	NA	NA	Tributyltin		0	5					Exclude
HB2A_210	0 - 6	5/16/2007	Area 1	NA	NA	Tributyltin		0	6					Exclude
HB2A_210	6 - 24	5/16/2007	Area 1	NA	NA	Tributyltin		6	24					Exclude
HB2A_210	24 - 48	5/16/2007	Area 1	NA	NA	Tributyltin		24	48					Exclude
HB2A_GENES	0 - 5	5/22/2007	Cummings Ave Slip	NA	NA	Tributyltin		0	5					Exclude
HB2B_17	0 - 6	5/12/2007	Fraser Ave Slip	NA	NA	Tributyltin	FS-2	0	6	24.005676			Yes	Include
HB2B_17	6 - 24	5/12/2007	Fraser Ave Slip	NA	NA	Tributyltin	FS-2	6	24	24.005676			Yes	Include
HB2B_18	0 - 6	5/7/2007	Area 2	NA	NA	Tributyltin	FP-1	0	6	47.997552			Yes	Include
HB2B_18	6 - 24	5/7/2007	Area 2	NA	NA	Tributyltin	FP-1	6	24	47.997552			Yes	Include
HB2B_18	24 - 48	5/7/2007	Area 2	NA	NA	Tributyltin	FP-1	24	48	47.997552			Yes	Include
HB2B_19	0 - 6	5/2/2007	Area 2	NA	NA	Tributyltin	OC-1	0	6	6.001728			Yes	Include
HB2B_19	6 - 24	5/2/2007	Area 2	NA	NA	Tributyltin	OC-1	6	24	6.001728			Yes	Include
HB2B_20	0 - 6	5/2/2007	Area 2	NA	NA	Tributyltin	OC-9	0	6	23.997336			Yes	Include
HB2B_20	6 - 24	5/2/2007	Area 2	NA	NA	Tributyltin	OC-9	6	24	23.997336			Yes	Include
HB2B_20	24 - 48	5/2/2007	Area 2	NA	NA	Tributyltin	OC-9	24	48	23.997336			No	Exclude
HB2B_21	0 - 5	5/2/2007	Area 2	NA	NA	Tributyltin		0	5					Exclude
HB2B_22	0 - 5	5/2/2007	Area 2	NA	NA	Tributyltin	OC-5	0	5	5.0028204			Yes	Include
HB3A_GENES	0 - 5	9/6/2007	Cummings Ave Slip	NA	NA	Tributyltin		0	5					Exclude
HB10-1-01	0 - 6	10/16/2010	Area 1	0.0029 U	0.0029	Tributyltin		0	6					Exclude
HB10-1-01	0 - 12	10/16/2010	Area 1	0.0030 U	0.003	Tributyltin		0	12					Exclude
HB10-1-01	36 - 40	10/16/2010	Area 1	0.0025 U	0.0025	Tributyltin		36	40					Exclude
HB10-1-02	0 - 6	10/16/2010	Area 1	0.004	0.004	Tributyltin		0	6	23.0027508			Yes	Include
HB10-1-02	12 - 23	10/16/2010	Area 1	0.0082	0.0082	Tributyltin		12	23	23.0027508			Yes	Include
HB10-1-03	0 - 6	10/16/2010	Area 1	0.0037	0.0037	Tributyltin	FC-17	0	6	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	0 - 12	10/16/2010	Area 1	0.0051	0.0051	Tributyltin	FC-17	0	12	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	12 - 36	10/16/2010	Area 1	0.0044	0.0044	Tributyltin	FC-17	12	36	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	36 - 60	10/16/2010	Area 1	0.0073	0.0073	Tributyltin	FC-17	36	60	59.99475	49.872	include	Yes	Include
HB10-1-03	60 - 84	10/16/2010	Area 1	0.0022 U	0.0022	Tributyltin	FC-17	60	84	59.99475	49.872	include	No	Exclude
HB10-1-04	0 - 6	10/17/2010	Area 1	0.0022	0.0022	Tributyltin		0	6					Exclude
HB10-1-04	0 - 12	10/17/2010	Area 1	0.0015 J	0.0015	Tributyltin		0	12					Exclude
HB10-1-04	12 - 36	10/17/2010	Area 1	0.0026 U	0.0026	Tributyltin		12	36					Exclude
HB10-1-04	36 - 50	10/17/2010	Area 1	0.0022 U	0.0022	Tributyltin		36	50					Exclude
HB10-1-05	0 - 6	10/16/2010	Area 1	0.0041	0.0041	Tributyltin	OC-17	0	6	5.9987496			Yes	Include
HB10-1-07	0 - 6	10/17/2010	Area 1	0.0019 J	0.0019	Tributyltin	OC-15	0	6	6.0057			Yes	Include
HB10-1-07	0 - 12	10/17/2010	Area 1	0.0026 U	0.0026	Tributyltin	OC-15	0	12	6.0057			Yes	Include
HB10-1-07	12 - 36	10/17/2010	Area 1	0.0025 U	0.0025	Tributyltin	OC-15	12	36	6.0057			No	Exclude
HB10-1-07	60 - 64	10/17/2010	Area 1	0.0018 U	0.0018	Tributyltin	OC-15	60	64	6.0057			No	Exclude
HB10-1-08	0 - 6	10/17/2010	Area 1	0.0028 J	0.0028	Tributyltin		0	6	36.0057			Yes	Include
HB10-1-08	0 - 12	10/17/2010	Area 1	0.0037	0.0037	Tributyltin		0	12	36.0057			Yes	Include
HB10-1-08	12 - 36	10/17/2010	Area 1	0.0015 J	0.0015	Tributyltin		12	36	36.0057			Yes	Include
HB10-1-10	0 - 6	10/18/2010	Area 1	0.0034 U	0.0034	Tributyltin	SND-1	0	6					Exclude
HB10-1-11	0 - 6	10/16/2010	Area 1	0.0030 U	0.003	Tributyltin		0	6	20.9987496			Yes	Include
HB10-1-11	12 - 21	10/16/2010	Area 1	0.0027 U	0.0027	Tributyltin		12	21	20.9987496			Yes	Include
HB10-1-12	0 - 6	10/17/2010	Area 1	0.0027 U	0.0027	Tributyltin		0	6					Exclude
HB10-1-12	0 - 12	10/17/2010	Area 1	0.0026 U	0.0026	Tributyltin		0	12					Exclude
HB10-1-12	12 - 34	10/17/2010	Area 1	0.0038 UJ	0.0038	Tributyltin		12	34					Exclude
HB10-1-13	0 - 6	10/18/2010	Area 1	0.0030 J	0.003	Tributyltin	FC-12/FC-13	0	6	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	0 - 12	10/18/2010	Area 1	0.0029 U	0.0029	Tributyltin	FC-12/FC-13	0	12	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	12 - 36	10/18/2010	Area 1	0.0038	0.0038	Tributyltin	FC-12/FC-13	12	36	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	60 - 67	10/18/2010	Area 1	0.0026 U	0.0026	Tributyltin	FC-12/FC-13	60	67	36.0053004	42.816	include	No	Exclude
HB10-1-14	0 - 6	10/17/2010	Area 1	0.0027 J	0.0027	Tributyltin		0	6	66.0057			Yes	Include
HB10-1-14	0 - 12	10/17/2010	Area 1	0.0046	0.0046	Tributyltin		0	12	66.0057			Yes	Include
HB10-1-14	12 - 36	10/17/2010	Area 1	0.0064	0.0064	Tributyltin		12	36	66.0057			Yes	Include
HB10-1-14	60 - 66	10/17/2010	Area 1	0.0026 U	0.0026	Tributyltin		60	66	66.0057			Yes	Include
HB10-1-15	0 - 6	10/18/2010	Area 1	0.0023 U	0.0023	Tributyltin	OC-13	0	6	16.0056996			Yes	Include
HB10-1-15	12 - 16	10/18/2010	Area 1	0.0038 U	0.0038	Tributyltin	OC-13	12	16	16.0056996			Yes	Include
HB10-1-16	0 - 6	10/17/2010	Hughitt Ave Slip	0.0092	0.0092	Tributyltin	HS-3	0	6	31.0056996			Yes	Include
HB10-1-16	0 - 12	10/17/2010	Hughitt Ave Slip	0.006	0.006	Tributyltin	HS-3	0	12	31.0056996			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB10-1-16	12 - 31	10/17/2010	Hughitt Ave Slip	0.0029 U	0.0029	Tributyltin	HS-3	12	31	31.0056996			Yes	Include
HB10-1-17	0 - 6	10/17/2010	Area 1	0.0022 J	0.0022	Tributyltin	OC-14	0	6	12			Yes	Include
HB10-1-20	0 - 6	10/17/2010	Hughitt Ave Slip	0.0057	0.0057	Tributyltin		0	6	6.0057			Yes	Include
HB10-1-21	0 - 6	10/18/2010	Cummings Ave Slip	0.0019 U	0.0019	Tributyltin		0	6	6.0012996			Yes	Include
HB10-1-21	12 - 23	10/18/2010	Cummings Ave Slip	0.0019 U	0.0019	Tributyltin		12	23	6.0012996			No	Exclude
HB10-1-23	0 - 6	10/17/2010	Area 1	0.0033 U	0.0033	Tributyltin		0	6	36.0057			Yes	Include
HB10-1-23	0 - 12	10/17/2010	Area 1	0.0028 U	0.0028	Tributyltin		0	12	36.0057			Yes	Include
HB10-1-23	12 - 36	10/17/2010	Area 1	0.0036 U	0.0036	Tributyltin		12	36	36.0057			Yes	Include
HB10-1-24	0 - 6	10/18/2010	Cummings Ave Slip	0.0020 J	0.002	Tributyltin	CS-4	0	6	36.0047496			Yes	Include
HB10-1-24	0 - 12	10/18/2010	Cummings Ave Slip	0.0020 J	0.002	Tributyltin	CS-4	0	12	36.0047496			Yes	Include
HB10-1-24	12 - 36	10/18/2010	Cummings Ave Slip	0.0031 U	0.0031	Tributyltin	CS-4	12	36	36.0047496			Yes	Include
HB10-1-25	0 - 6	10/17/2010	Baxter Ave Embayment	0.0031 J	0.0031	Tributyltin		0	6	6.0057			Yes	Include
HB10-1-27	0 - 6	10/18/2010	Area 1	0.0041 U	0.0041	Tributyltin		0	6	-0.0027			No	Exclude
HB10-1-28	0 - 6	10/17/2010	Hughitt Ave Slip	0.27	0.27	Tributyltin	HS-1	0	6	84.0057			Yes	Include
HB10-1-28	0 - 12	10/17/2010	Hughitt Ave Slip	0.024	0.024	Tributyltin	HS-1	0	12	84.0057			Yes	Include
HB10-1-28	12 - 36	10/17/2010	Hughitt Ave Slip	0.0038	0.0038	Tributyltin	HS-1	12	36	84.0057			Yes	Include
HB10-1-28	36 - 60	10/17/2010	Hughitt Ave Slip	0.0031 U	0.0031	Tributyltin	HS-1	36	60	84.0057			Yes	Include
HB10-1-28	60 - 84	10/17/2010	Hughitt Ave Slip	0.0029 U	0.0029	Tributyltin	HS-1	60	84	84.0057			Yes	Include
HB10-1-28	60 - 96	10/17/2010	Hughitt Ave Slip	0.0027 U	0.0027	Tributyltin	HS-1	60	96	84.0057			Yes	Include
HB10-1-29	0 - 6	10/17/2010	Cummings Ave Slip	0.0031 J	0.0031	Tributyltin	CS-1	0	6	83.9937			Yes	Include
HB10-1-29	0 - 12	10/17/2010	Cummings Ave Slip	0.0036 U	0.0036	Tributyltin	CS-1	0	12	83.9937			Yes	Include
HB10-1-29	12 - 36	10/17/2010	Cummings Ave Slip	0.0041 U	0.0041	Tributyltin	CS-1	12	36	83.9937			Yes	Include
HB10-1-29	36 - 60	10/17/2010	Cummings Ave Slip	0.0036 UJ	0.0036	Tributyltin	CS-1	36	60	83.9937			Yes	Include
HB10-1-29	60 - 93	10/17/2010	Cummings Ave Slip	0.0037 U	0.0037	Tributyltin	CS-1	60	93	83.9937			Yes	Include
HB10-1-30	0 - 6	10/18/2010	Baxter Ave Embayment	0.0030 U	0.003	Tributyltin		0	6	60.0053004			Yes	Include
HB10-1-30	0 - 12	10/18/2010	Baxter Ave Embayment	0.0033 U	0.0033	Tributyltin		0	12	60.0053004			Yes	Include
HB10-1-30	12 - 36	10/18/2010	Baxter Ave Embayment	0.0029 U	0.0029	Tributyltin		12	36	60.0053004			Yes	Include
HB10-1-30	36 - 60	10/18/2010	Baxter Ave Embayment	0.0049 U	0.0049	Tributyltin		36	60	60.0053004			Yes	Include
HB10-1-30	60 - 77	10/18/2010	Baxter Ave Embayment	0.0099 U	0.0099	Tributyltin		60	77	60.0053004			Yes	Include
HB10-1-31	0 - 6	10/18/2010	Baxter Ave Embayment	0.0033 J	0.0033	Tributyltin	OC-11	0	6	35.9973			Yes	Include
HB10-1-31	0 - 12	10/18/2010	Baxter Ave Embayment	0.0030 U	0.003	Tributyltin	OC-11	0	12	35.9973			Yes	Include
HB10-1-31	12 - 36	10/18/2010	Baxter Ave Embayment	0.0029 U	0.0029	Tributyltin	OC-11	12	36	35.9973			Yes	Include
HB10-2-18	0 - 6	10/18/2010	Area 2	0.0042 J	0.0042	Tributyltin	OC-2	0	6	6.0053004			Yes	Include
HB10-2-26	0 - 6	10/16/2010	Area 2	0.0024 U	0.0024	Tributyltin		0	6					Exclude
HB10-2-26	12 - 17	10/16/2010	Area 2	0.0020 U	0.002	Tributyltin		12	17					Exclude
HB10-2-32	0 - 6	10/18/2010	Area 2	0.0037 U	0.0037	Tributyltin		0	6					Exclude
HB10-2-33	0 - 6	10/18/2010	Area 2	0.0022 U	0.0022	Tributyltin		0	6	6.0012996			Yes	Include
HB10-2-33	12 - 22	10/18/2010	Area 2	0.0024 U	0.0024	Tributyltin		12	22	6.0012996			No	Exclude
HB10-2-34	0 - 6	10/18/2010	Area 2	0.0029 J	0.0029	Tributyltin	FC-7	0	6	6.0053004	0.816	include	Yes	Include
HB10-2-35	0 - 6	10/18/2010	Area 2	0.0021 U	0.0021	Tributyltin		0	6	30.0012996			Yes	Include
HB10-2-35	0 - 12	10/18/2010	Area 2	0.0022 U	0.0022	Tributyltin		0	12	30.0012996			Yes	Include
HB10-2-35	12 - 30	10/18/2010	Area 2	0.0023 U	0.0023	Tributyltin		12	30	30.0012996			Yes	Include
HB10-2-36	0 - 6	10/18/2010	Area 2	0.0031 U	0.0031	Tributyltin	FC-5	0	6	6.0053004	-29.184	include	Yes	Include
HB10-2-37	0 - 6	10/18/2010	Area 2	0.0019 U	0.0019	Tributyltin		0	6	23.0013			Yes	Include
HB10-2-37	12 - 23	10/18/2010	Area 2	0.0021 U	0.0021	Tributyltin		12	23	23.0013			Yes	Include
HB10-2-38	0 - 6	10/18/2010	Area 2	0.0042	0.0042	Tributyltin	OC-6	0	6	38.0013			Yes	Include
HB10-2-38	0 - 12	10/18/2010	Area 2	0.0026 U	0.0026	Tributyltin	OC-6	0	12	38.0013			Yes	Include
HB10-2-38	36 - 38	10/18/2010	Area 2	0.0022 U	0.0022	Tributyltin	OC-6	36	38	38.0013			Yes	Include
HB10-2-39	0 - 6	10/18/2010	Area 2	0.0020 U	0.002	Tributyltin		0	6	6.0012996			Yes	Include
HB10-2-39	0 - 12	10/18/2010	Area 2	0.0021 U	0.0021	Tributyltin		0	12	6.0012996			Yes	Include
HB10-2-39	12 - 28	10/18/2010	Area 2	0.0034 U	0.0034	Tributyltin		12	28	6.0012996			No	Exclude
HB10-2-40	0 - 6	10/18/2010	Area 2	0.0038	0.0038	Tributyltin	OC-5	0	6	48.0053004			Yes	Include
HB10-2-40	0 - 12	10/18/2010	Area 2	0.0019 J	0.0019	Tributyltin	OC-5	0	12	48.0053004			Yes	Include
HB10-2-40	12 - 36	10/18/2010	Area 2	0.0021 U	0.0021	Tributyltin	OC-5	12	36	48.0053004			Yes	Include
HB10-2-40	36 - 48	10/18/2010	Area 2	0.0024 U	0.0024	Tributyltin	OC-5	36	48	48.0053004			Yes	Include
HB10-2-41	0 - 6	10/18/2010	Area 2	0.0042 U	0.0042	Tributyltin	FP-2	0	6	31.0012992			Yes	Include
HB10-2-41	0 - 12	10/18/2010	Area 2	0.0021 U	0.0021	Tributyltin	FP-2	0	12	31.0012992			Yes	Include
HB10-2-41	12 - 31	10/18/2010	Area 2	0.0020 U	0.002	Tributyltin	FP-2	12	31	31.0012992			Yes	Include
HB10-2-42	0 - 6	10/18/2010	Area 2	0.0022 U	0.0022	Tributyltin	FP-1	0	6	12.0012996			Yes	Include
HB10-2-42	0 - 12	10/18/2010	Area 2	0.0023 U	0.0023	Tributyltin	FP-1	0	12	12.0012996			Yes	Include
HB10-2-42	12 - 30	10/18/2010	Area 2	0.0022 U	0.0022	Tributyltin	FP-1	12	30	12.0012996			Yes	Include
HB10-2-43	0 - 6	10/17/2010	Area 2	0.0021 U	0.0021	Tributyltin		0	6	22.0056996			Yes	Include
HB10-2-43	12 - 22	10/17/2010	Area 2	0.0024 U	0.0024	Tributyltin		12	22	22.0056996			Yes	Include
HB10-2-44	0 - 6	10/18/2010	Area 2	0.0091	0.0091	Tributyltin	FP-2	0	6	16.0012992			Yes	Include
HB10-2-44	12 - 16	10/18/2010	Area 2	0.0024 U	0.0024	Tributyltin	FP-2	12	16	16.0012992			Yes	Include
HB10-2-45	0 - 6	10/18/2010	Area 2	0.0025 U	0.0025	Tributyltin	FP-2	0	6	19.0012992			Yes	Include
HB10-2-45	12 - 19	10/18/2010	Area 2	0.0022 U	0.0022	Tributyltin	FP-2	12	19	19.0012992			Yes	Include
HB13-01	0 - 6 *	9/11/2013	Area 2	NA	NA	Tributyltin	FP-1	0	6	48			Yes	Include
HB13-01	6 - 12 *	9/11/2013	Area 2	NA	NA	Tributyltin	FP-1	6	12	48			Yes	Include
HB13-01	12 - 18 *	9/11/2013	Area 2	NA	NA	Tributyltin	FP-1	12	18	48			Yes	Include
HB13-01	18 - 24 *	9/11/2013	Area 2	NA	NA	Tributyltin	FP-1	18	24	48			Yes	Include
HB13-01	24 - 30 *	9/11/2013	Area 2	NA	NA	Tributyltin	FP-1	24	30	48			Yes	Include
HB13-01	30 - 36 *	9/11/2013	Area 2	NA	NA	Tributyltin	FP-1	30	36	48			Yes	Include
HB13-01	36 - 42 *	9/11/2013	Area 2	NA	NA	Tributyltin	FP-1	36	42	48			Yes	Include
HB13-01	42 - 48 *	9/11/2013	Area 2	NA	NA	Tributyltin	FP-1	42	48	48			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-01	48 - 54 *	9/11/2013	Area 2	NA	NA	Tributyltin	FP-1	48	54	48			No	Exclude
HB13-01	54 - 60 *	9/11/2013	Area 2	NA	NA	Tributyltin	FP-1	54	60	48			No	Exclude
HB13-01	60 - 66 *	9/11/2013	Area 2	NA	NA	Tributyltin	FP-1	60	66	48			No	Exclude
HB13-01	66 - 72 *	9/11/2013	Area 2	NA	NA	Tributyltin	FP-1	66	72	48			No	Exclude
HB13-01	72 - 74 *	9/11/2013	Area 2	NA	NA	Tributyltin	FP-1	72	74	48			No	Exclude
HB13-02	0 - 6 *	9/9/2013	Area 2	NA	NA	Tributyltin		0	6	29.9960004			Yes	Include
HB13-02	6 - 12 *	9/9/2013	Area 2	NA	NA	Tributyltin		6	12	29.9960004			Yes	Include
HB13-02	12 - 18 *	9/9/2013	Area 2	NA	NA	Tributyltin		12	18	29.9960004			Yes	Include
HB13-02	18 - 24 *	9/9/2013	Area 2	NA	NA	Tributyltin		18	24	29.9960004			Yes	Include
HB13-02	24 - 30 *	9/9/2013	Area 2	NA	NA	Tributyltin		24	30	29.9960004			Yes	Include
HB13-02	30 - 36 *	9/9/2013	Area 2	NA	NA	Tributyltin		30	36	29.9960004			No	Exclude
HB13-02	36 - 42 *	9/9/2013	Area 2	NA	NA	Tributyltin		36	42	29.9960004			No	Exclude
HB13-02	42 - 48 *	9/9/2013	Area 2	NA	NA	Tributyltin		42	48	29.9960004			No	Exclude
HB13-03	0 - 6 *	9/9/2013	Area 2	NA	NA	Tributyltin	FP-2	0	6	46.0040004			Yes	Include
HB13-03	0 - 24	9/9/2013	Area 2	0.0039	0.0039	Tributyltin	FP-2	0	24	46.0040004			Yes	Include
HB13-03	6 - 12 *	9/9/2013	Area 2	NA	NA	Tributyltin	FP-2	6	12	46.0040004			Yes	Include
HB13-03	12 - 18 *	9/9/2013	Area 2	NA	NA	Tributyltin	FP-2	12	18	46.0040004			Yes	Include
HB13-03	18 - 24 *	9/9/2013	Area 2	NA	NA	Tributyltin	FP-2	18	24	46.0040004			Yes	Include
HB13-03	24 - 30 *	9/9/2013	Area 2	NA	NA	Tributyltin	FP-2	24	30	46.0040004			Yes	Include
HB13-03	24 - 46	9/9/2013	Area 2	0.0027 U	0.0027	Tributyltin	FP-2	24	46	46.0040004			Yes	Include
HB13-03	30 - 36 *	9/9/2013	Area 2	NA	NA	Tributyltin	FP-2	30	36	46.0040004			Yes	Include
HB13-03	36 - 42 *	9/9/2013	Area 2	NA	NA	Tributyltin	FP-2	36	42	46.0040004			Yes	Include
HB13-03	42 - 46 *	9/9/2013	Area 2	NA	NA	Tributyltin	FP-2	42	46	46.0040004			Yes	Include
HB13-03	46 - 51 *	9/9/2013	Area 2	NA	NA	Tributyltin	FP-2	46	51	46.0040004			Yes	Include
HB13-04	0 - 6 *	9/9/2013	Area 2	NA	NA	Tributyltin	OC-1	0	6	41.9960004			Yes	Include
HB13-04	6 - 12 *	9/9/2013	Area 2	NA	NA	Tributyltin	OC-1	6	12	41.9960004			Yes	Include
HB13-04	12 - 18 *	9/9/2013	Area 2	NA	NA	Tributyltin	OC-1	12	18	41.9960004			Yes	Include
HB13-04	18 - 24 *	9/9/2013	Area 2	NA	NA	Tributyltin	OC-1	18	24	41.9960004			Yes	Include
HB13-04	24 - 30 *	9/9/2013	Area 2	NA	NA	Tributyltin	OC-1	24	30	41.9960004			Yes	Include
HB13-04	30 - 36 *	9/9/2013	Area 2	NA	NA	Tributyltin	OC-1	30	36	41.9960004			Yes	Include
HB13-04	36 - 42 *	9/9/2013	Area 2	NA	NA	Tributyltin	OC-1	36	42	41.9960004			Yes	Include
HB13-04	42 - 44 *	9/9/2013	Area 2	NA	NA	Tributyltin	OC-1	42	44	41.9960004			No	Exclude
HB13-05	0 - 32 *	9/9/2013	Area 2	NA	NA	Tributyltin	FC-1	0	32	43.8	33.156	exclude	Yes	Exclude
HB13-05	32 - 38 *	9/9/2013	Area 2	NA	NA	Tributyltin	FC-1	32	38	43.8	33.156	include	Yes	Include
HB13-05	38 - 44 *	9/9/2013	Area 2	NA	NA	Tributyltin	FC-1	38	44	43.8	33.156	include	Yes	Include
HB13-05	44 - 50 *	9/9/2013	Area 2	NA	NA	Tributyltin	FC-1	44	50	43.8	33.156	include	No	Exclude
HB13-05	50 - 56 *	9/9/2013	Area 2	NA	NA	Tributyltin	FC-1	50	56	43.8	33.156	include	No	Exclude
HB13-05	56 - 62	9/9/2013	Area 2	NA	NA	Tributyltin	FC-1	56	62	43.8	33.156	include	No	Exclude
HB13-05	62 - 66	9/9/2013	Area 2	NA	NA	Tributyltin	FC-1	62	66	43.8	33.156	include	No	Exclude
HB13-05	68 - 74 *	9/9/2013	Area 2	NA	NA	Tributyltin	FC-1	68	74	43.8	33.156	include	No	Exclude
HB13-05	74 - 77 *	9/9/2013	Area 2	NA	NA	Tributyltin	FC-1	74	77	43.8	33.156	include	No	Exclude
HB13-06	0 - 6 *	9/9/2013	Area 2	NA	NA	Tributyltin	OC-2	0	6	48			Yes	Include
HB13-06	6 - 12 *	9/9/2013	Area 2	NA	NA	Tributyltin	OC-2	6	12	48			Yes	Include
HB13-06	12 - 18 *	9/9/2013	Area 2	NA	NA	Tributyltin	OC-2	12	18	48			Yes	Include
HB13-06	18 - 24 *	9/9/2013	Area 2	NA	NA	Tributyltin	OC-2	18	24	48			Yes	Include
HB13-06	24 - 30 *	9/9/2013	Area 2	NA	NA	Tributyltin	OC-2	24	30	48			Yes	Include
HB13-06	30 - 36 *	9/9/2013	Area 2	NA	NA	Tributyltin	OC-2	30	36	48			Yes	Include
HB13-06	36 - 42 *	9/9/2013	Area 2	NA	NA	Tributyltin	OC-2	36	42	48			Yes	Include
HB13-06	42 - 48 *	9/9/2013	Area 2	NA	NA	Tributyltin	OC-2	42	48	48			Yes	Include
HB13-07	0 - 6 *	9/10/2013	Area 2	NA	NA	Tributyltin		0	6					Exclude
HB13-07	6 - 12 *	9/10/2013	Area 2	NA	NA	Tributyltin		6	12					Exclude
HB13-07	12 - 18 *	9/10/2013	Area 2	NA	NA	Tributyltin		12	18					Exclude
HB13-07	18 - 24 *	9/10/2013	Area 2	NA	NA	Tributyltin		18	24					Exclude
HB13-07	24 - 30 *	9/10/2013	Area 2	NA	NA	Tributyltin		24	30					Exclude
HB13-07	30 - 36 *	9/10/2013	Area 2	NA	NA	Tributyltin		30	36					Exclude
HB13-07	36 - 42 *	9/10/2013	Area 2	NA	NA	Tributyltin		36	42					Exclude
HB13-07	42 - 48 *	9/10/2013	Area 2	NA	NA	Tributyltin		42	48					Exclude
HB13-08	0 - 18	9/11/2013	Area 2	0.024	0.024	Tributyltin	FC-2	0	18	38.28	21.756	exclude	Yes	Exclude
HB13-08	18 - 36	9/11/2013	Area 2	0.0094	0.0094	Tributyltin	FC-2	18	36	38.28	21.756	include	Yes	Include
HB13-08	36 - 60	9/11/2013	Area 2	0.0025 U	0.0025	Tributyltin	FC-2	36	60	38.28	21.756	include	Yes	Include
HB13-08	60 - 92	9/11/2013	Area 2	0.0021 U	0.0021	Tributyltin	FC-2	60	92	38.28	21.756	include	No	Exclude
HB13-10	0 - 6 *	9/10/2013	Area 2	NA	NA	Tributyltin		0	6	0.0039996			Yes	Include
HB13-11	0 - 18	9/11/2013	Area 2	0.0027 U	0.0027	Tributyltin	FC-4	0	18	25.2	23.964	exclude	Yes	Exclude
HB13-11	18 - 24 *	9/11/2013	Area 2	NA	NA	Tributyltin	FC-4	18	24	25.2	23.964	include	Yes	Include
HB13-11	18 - 42	9/11/2013	Area 2	0.0024 U	0.0024	Tributyltin	FC-4	18	42	25.2	23.964	include	Yes	Include
HB13-11	24 - 30 *	9/11/2013	Area 2	NA	NA	Tributyltin	FC-4	24	30	25.2	23.964	include	Yes	Include
HB13-11	30 - 36 *	9/11/2013	Area 2	NA	NA	Tributyltin	FC-4	30	36	25.2	23.964	include	No	Exclude
HB13-11	36 - 42 *	9/11/2013	Area 2	NA	NA	Tributyltin	FC-4	36	42	25.2	23.964	include	No	Exclude
HB13-11	42 - 48 *	9/11/2013	Area 2	NA	NA	Tributyltin	FC-4	42	48	25.2	23.964	include	No	Exclude
HB13-11	42 - 60	9/11/2013	Area 2	0.0019 U	0.0019	Tributyltin	FC-4	42	60	25.2	23.964	include	No	Exclude
HB13-11	48 - 54 *	9/11/2013	Area 2	NA	NA	Tributyltin	FC-4	48	54	25.2	23.964	include	No	Exclude
HB13-11	54 - 60 *	9/11/2013	Area 2	NA	NA	Tributyltin	FC-4	54	60	25.2	23.964	include	No	Exclude
HB13-12	0 - 6 *	9/10/2013	Area 2	NA	NA	Tributyltin		0	6	5.9960004			Yes	Include
HB13-13	0 - 1 *	9/11/2013	Area 2	NA	NA	Tributyltin	SND-5	0	1	0.9999996			Yes	Include
HB13-14	0 - 6 *	9/12/2013	Area 2	NA	NA	Tributyltin	FC-6	0	6	45.9999996	-5.316	include	Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-14	0 - 24	9/12/2013	Area 2	0.0021 U	0.0021	Tributyltin	FC-6	0	24	45.9999996	-5.316	include	Yes	Include
HB13-14	6 - 24 *	9/12/2013	Area 2	NA	NA	Tributyltin	FC-6	6	24	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 42 *	9/12/2013	Area 2	NA	NA	Tributyltin	FC-6	24	42	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 46	9/12/2013	Area 2	0.0021 U	0.0021	Tributyltin	FC-6	24	46	45.9999996	-5.316	include	Yes	Include
HB13-14	42 - 46 *	9/12/2013	Area 2	NA	NA	Tributyltin	FC-6	42	46	45.9999996	-5.316	include	Yes	Include
HB13-15	0 - 6 *	9/12/2013	Area 2	NA	NA	Tributyltin	FC-7	0	6	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	6 - 12 *	9/12/2013	Area 2	NA	NA	Tributyltin	FC-7	6	12	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	12 - 19 *	9/12/2013	Area 2	NA	NA	Tributyltin	FC-7	12	19	18.9999996	18.516	include	Yes	Include
HB13-16	0 - 6 *	9/12/2013	Area 2	NA	NA	Tributyltin		0	6	26.0000004			Yes	Include
HB13-16	6 - 12 *	9/12/2013	Area 2	NA	NA	Tributyltin		6	12	26.0000004			Yes	Include
HB13-16	12 - 18 *	9/12/2013	Area 2	NA	NA	Tributyltin		12	18	26.0000004			Yes	Include
HB13-16	18 - 24 *	9/12/2013	Area 2	NA	NA	Tributyltin		18	24	26.0000004			Yes	Include
HB13-16	24 - 27 *	9/12/2013	Area 2	NA	NA	Tributyltin		24	27	26.0000004			Yes	Include
HB13-17	0 - 12 *	9/12/2013	Area 2	NA	NA	Tributyltin	FC-7	0	12	24	16.2	exclude	Yes	Exclude
HB13-17	12 - 18 *	9/12/2013	Area 2	NA	NA	Tributyltin	FC-7	12	18	24	16.2	include	Yes	Include
HB13-17	18 - 24 *	9/12/2013	Area 2	NA	NA	Tributyltin	FC-7	18	24	24	16.2	include	Yes	Include
HB13-17	24 - 47 *	9/12/2013	Area 2	NA	NA	Tributyltin	FC-7	24	47	24	16.2	include	No	Exclude
HB13-18	0 - 6	9/12/2013	Area 2	NA	NA	Tributyltin		0	6	9.9999996			Yes	Include
HB13-18	6 - 10	9/12/2013	Area 2	NA	NA	Tributyltin		6	10	9.9999996			Yes	Include
HB13-18	10 - 16	9/12/2013	Area 2	NA	NA	Tributyltin		10	16	9.9999996			No	Exclude
HB13-19	0 - 6 *	9/13/2013	Area 2	NA	NA	Tributyltin		0	6					Exclude
HB13-19	6 - 24 *	9/13/2013	Area 2	NA	NA	Tributyltin		6	24					Exclude
HB13-19	18 - 20 *	9/13/2013	Area 2	NA	NA	Tributyltin		18	20					Exclude
HB13-19	24 - 42 *	9/13/2013	Area 2	NA	NA	Tributyltin		24	42					Exclude
HB13-19	42 - 61 *	9/13/2013	Area 2	NA	NA	Tributyltin		42	61					Exclude
HB13-19	61 - 67 *	9/13/2013	Area 2	NA	NA	Tributyltin		61	67					Exclude
HB13-20	0 - 6 *	9/12/2013	Area 2	NA	NA	Tributyltin		0	6	24			Yes	Include
HB13-20	0 - 12	9/12/2013	Area 2	0.004	0.004	Tributyltin		0	12	24			Yes	Include
HB13-20	6 - 12 *	9/12/2013	Area 2	NA	NA	Tributyltin		6	12	24			Yes	Include
HB13-20	12 - 18 *	9/12/2013	Area 2	NA	NA	Tributyltin		12	18	24			Yes	Include
HB13-20	12 - 24	9/12/2013	Area 2	0.011	0.011	Tributyltin		12	24	24			Yes	Include
HB13-20	18 - 24 *	9/12/2013	Area 2	NA	NA	Tributyltin		18	24	24			Yes	Include
HB13-20	24 - 30 *	9/12/2013	Area 2	NA	NA	Tributyltin		24	30	24			No	Exclude
HB13-20	24 - 36	9/12/2013	Area 2	0.0025 U	0.0025	Tributyltin		24	36	24			No	Exclude
HB13-20	30 - 36 *	9/12/2013	Area 2	NA	NA	Tributyltin		30	36	24			No	Exclude
HB13-20	36 - 42 *	9/12/2013	Area 2	NA	NA	Tributyltin		36	42	24			No	Exclude
HB13-20	36 - 48	9/12/2013	Area 2	0.0025 U	0.0025	Tributyltin		36	48	24			No	Exclude
HB13-20	42 - 48 *	9/12/2013	Area 2	NA	NA	Tributyltin		42	48	24			No	Exclude
HB13-21	0 - 6 *	9/13/2013	Area 2	NA	NA	Tributyltin	OC-10	0	6	24			Yes	Include
HB13-21	6 - 24 *	9/13/2013	Area 2	NA	NA	Tributyltin	OC-10	6	24	24			Yes	Include
HB13-21	24 - 48 *	9/13/2013	Area 2	NA	NA	Tributyltin	OC-10	24	48	24			No	Exclude
HB13-21	48 - 72 *	9/13/2013	Area 2	NA	NA	Tributyltin	OC-10	48	72	24			No	Exclude
HB13-21	72 - 88 *	9/13/2013	Area 2	NA	NA	Tributyltin	OC-10	72	88	24			No	Exclude
HB13-22	0 - 28 *	9/12/2013	Area 2	NA	NA	Tributyltin	FC-7	0	28	24	36.72	exclude	Yes	Exclude
HB13-22	28 - 31 *	9/12/2013	Area 2	NA	NA	Tributyltin	FC-7	28	31	24	36.72	exclude	No	Exclude
HB13-23	0 - 12 *	9/12/2013	Area 2	NA	NA	Tributyltin	SND-5	0	12	27			Yes	Include
HB13-23	12 - 18 *	9/12/2013	Area 2	NA	NA	Tributyltin	SND-5	12	18	27			Yes	Include
HB13-23	18 - 24 *	9/12/2013	Area 2	NA	NA	Tributyltin	SND-5	18	24	27			Yes	Include
HB13-23	24 - 32 *	9/12/2013	Area 2	NA	NA	Tributyltin	SND-5	24	32	27			Yes	Include
HB13-24	0 - 6	9/12/2013	Hughitt Ave Slip	0.0025 U	0.0025	Tributyltin	HS-3	0	6	6			Yes	Include
HB13-24	0 - 24 *	9/12/2013	HUGHITT AVE SLIP	NA	NA	Tributyltin	HS-3	0	24	6			Yes	Include
HB13-24	6 - 24	9/12/2013	Hughitt Ave Slip	0.0024 U	0.0024	Tributyltin	HS-3	6	24	6			No	Exclude
HB13-25	0 - 6 *	9/12/2013	Area 1	NA	NA	Tributyltin	OC-11	0	6	57			Yes	Include
HB13-25	0 - 18	9/12/2013	Area 1	0.0026 U	0.0026	Tributyltin	OC-11	0	18	57			Yes	Include
HB13-25	6 - 18 *	9/12/2013	Area 1	NA	NA	Tributyltin	OC-11	6	18	57			Yes	Include
HB13-25	18 - 36 *	9/12/2013	Area 1	NA	NA	Tributyltin	OC-11	18	36	57			Yes	Include
HB13-25	18 - 57	9/12/2013	Area 1	0.0031 U	0.0031	Tributyltin	OC-11	18	57	57			Yes	Include
HB13-25	36 - 57 *	9/12/2013	Area 1	NA	NA	Tributyltin	OC-11	36	57	57			Yes	Include
HB13-26	0 - 12	9/13/2013	Area 1	NA	NA	Tributyltin	FC-10	0	12	33	17.04	exclude	Yes	Exclude
HB13-26	12 - 18	9/13/2013	Area 1	NA	NA	Tributyltin	FC-10	12	18	33	17.04	include	Yes	Include
HB13-26	18 - 33	9/13/2013	Area 1	NA	NA	Tributyltin	FC-10	18	33	33	17.04	include	Yes	Include
HB13-27	0 - 6 *	9/13/2013	Area 1	NA	NA	Tributyltin		0	6					Exclude
HB13-27	0 - 32	9/13/2013	Area 1	NA	NA	Tributyltin		0	32					Exclude
HB13-28	0 - 8 *	9/13/2013	Area 1	NA	NA	Tributyltin	FC-11	0	8	14.0000004	13.68	exclude	Yes	Exclude
HB13-28	8 - 14 *	9/13/2013	Area 1	NA	NA	Tributyltin	FC-11	8	14	14.0000004	13.68	include	Yes	Include
HB13-28	14 - 26 *	9/13/2013	Area 1	NA	NA	Tributyltin	FC-11	14	26	14.0000004	13.68	include	Yes	Include
HB13-28	26 - 40 *	9/13/2013	Area 1	NA	NA	Tributyltin	FC-11	26	40	14.0000004	13.68	include	No	Exclude
HB13-29	0 - 6	9/13/2013	Area 1	0.003	0.003	Tributyltin	FC-12/FC-13	0	6	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 12 *	9/13/2013	Area 1	NA	NA	Tributyltin	FC-12/FC-13	0	12	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 18 *	9/13/2013	Area 1	NA	NA	Tributyltin	FC-12/FC-13	0	18	44.0000004	1.044	include	Yes	Include
HB13-29	6 - 12	9/13/2013	Area 1	0.0029	0.0029	Tributyltin	FC-12/FC-13	6	12	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 24	9/13/2013	Area 1	0.0027 U	0.0027	Tributyltin	FC-12/FC-13	12	24	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 44 *	9/13/2013	Area 1	NA	NA	Tributyltin	FC-12/FC-13	12	44	44.0000004	1.044	include	Yes	Include
HB13-29	24 - 44	9/13/2013	Area 1	0.0022 U	0.0022	Tributyltin	FC-12/FC-13	24	44	44.0000004	1.044	include	Yes	Include
HB13-30	0 - 6	9/10/2013	Area 1	0.0028 U	0.0028	Tributyltin	SND-1	0	6	60			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB13-30	6 - 24	9/10/2013	Area 1	0.0072	0.0072	Tributyltin	SND-1	6	24	60			Yes	Include
HB13-30	24 - 42	9/10/2013	Area 1	0.0028 U	0.0028	Tributyltin	SND-1	24	42	60			Yes	Include
HB13-30	42 - 60	9/10/2013	Area 1	0.0028 U	0.0028	Tributyltin	SND-1	42	60	60			Yes	Include
HB13-30	60 - 78	9/10/2013	Area 1	0.0024 U	0.0024	Tributyltin	SND-1	60	78	60			No	Exclude
HB13-31	0 - 6	9/13/2013	Area 1	0.0046	0.0046	Tributyltin	FC-16	0	6	27	2.76	include	Yes	Include
HB13-31	6 - 18	9/13/2013	Area 1	0.0078	0.0078	Tributyltin	FC-16	6	18	27	2.76	include	Yes	Include
HB13-31	18 - 27	9/13/2013	Area 1	0.0044	0.0044	Tributyltin	FC-16	18	27	27	2.76	include	Yes	Include
HB13-31	27 - 33	9/13/2013	Area 1	0.0021 U	0.0021	Tributyltin	FC-16	27	33	27	2.76	include	No	Exclude
HB13-32	0 - 6	9/13/2013	Area 1	0.014	0.014	Tributyltin	FC-14	0	6	26.0000004	-2.52	include	Yes	Include
HB13-32	6 - 18	9/13/2013	Area 1	0.0026	0.0026	Tributyltin	FC-14	6	18	26.0000004	-2.52	include	Yes	Include
HB13-32	18 - 26	9/13/2013	Area 1	0.0085	0.0085	Tributyltin	FC-14	18	26	26.0000004	-2.52	include	Yes	Include
HB13-32	26 - 32	9/13/2013	Area 1	0.0022 U	0.0022	Tributyltin	FC-14	26	32	26.0000004	-2.52	include	Yes	Include
HB13-33	0 - 6	9/13/2013	Area 1	0.0027 U	0.0027	Tributyltin		0	6	12			Yes	Include
HB13-33	6 - 12	9/13/2013	Area 1	0.0030 U	0.003	Tributyltin		6	12	12			Yes	Include
HB13-34	0 - 6	9/13/2013	Area 1	0.0020 U	0.002	Tributyltin		0	6	0.5000004			Yes	Include
HB13-35	0 - 6	9/13/2013	Hughitt Ave Slip	0.0020 U	0.002	Tributyltin		0	6	3.9999996			Yes	Include
HB13-35	6 - 12	9/13/2013	Hughitt Ave Slip	0.0022 U	0.0022	Tributyltin		6	12	3.9999996			No	Exclude
HB13-37	2 - 6	9/10/2013	Hughitt Ave Slip	0.057	0.057	Tributyltin	HS-3	2	6	6			Yes	Include
HB13-38	0 - 6	9/12/2013	Hughitt Ave Slip	0.09	0.09	Tributyltin	HS-3	0	6	6			Yes	Include
HB13-39	4 - 10	9/13/2013	Hughitt Ave Slip	0.0039	0.0039	Tributyltin	HS-2	4	10	27.9999996			Yes	Include
HB13-39	10 - 28	9/13/2013	Hughitt Ave Slip	0.0025 U	0.0025	Tributyltin	HS-2	10	28	27.9999996			Yes	Include
HB13-39	28 - 34	9/13/2013	Hughitt Ave Slip	0.0021 U	0.0021	Tributyltin	HS-2	28	34	27.9999996			No	Exclude
HB13-40	0 - 6	9/13/2013	Hughitt Ave Slip	0.01	0.01	Tributyltin	HS-2	0	6	86.0000004			Yes	Include
HB13-40	0 - 24 *	9/13/2013	Hughitt Ave Slip	NA	NA	Tributyltin	HS-2	0	24	86.0000004			Yes	Include
HB13-40	6 - 24	9/13/2013	Hughitt Ave Slip	0.003	0.003	Tributyltin	HS-2	6	24	86.0000004			Yes	Include
HB13-40	24 - 48	9/13/2013	Hughitt Ave Slip	0.0026 U	0.0026	Tributyltin	HS-2	24	48	86.0000004			Yes	Include
HB13-40	48 - 72	9/13/2013	Hughitt Ave Slip	0.0031 U	0.0031	Tributyltin	HS-2	48	72	86.0000004			Yes	Include
HB13-40	72 - 86	9/13/2013	Hughitt Ave Slip	0.0029 U	0.0029	Tributyltin	HS-2	72	86	86.0000004			Yes	Include
HB13-41	0 - 6	9/10/2013	Hughitt Ave Slip	0.0028 U	0.0028	Tributyltin	HS-2	0	6	29.0000004			Yes	Include
HB13-41	0 - 24 *	9/10/2013	Hughitt Ave Slip	NA	NA	Tributyltin	HS-2	0	24	29.0000004			Yes	Include
HB13-41	6 - 24	9/10/2013	Hughitt Ave Slip	0.0026 U	0.0026	Tributyltin	HS-2	6	24	29.0000004			Yes	Include
HB13-41	24 - 29	9/10/2013	Hughitt Ave Slip	0.0030 U	0.003	Tributyltin	HS-2	24	29	29.0000004			Yes	Include
HB13-42	0 - 6	9/11/2013	Cummings Ave Slip	NA	NA	Tributyltin	CS-3	0	6	33			Yes	Include
HB13-42	6 - 24	9/11/2013	Cummings Ave Slip	NA	NA	Tributyltin	CS-3	6	24	33			Yes	Include
HB13-42	24 - 33	9/11/2013	Cummings Ave Slip	NA	NA	Tributyltin	CS-3	24	33	33			Yes	Include
HB13-42	33 - 36	9/11/2013	Cummings Ave Slip	NA	NA	Tributyltin	CS-3	33	36	33			No	Exclude
HB13-43	0 - 6	9/11/2013	Cummings Ave Slip	NA	NA	Tributyltin	CS-2	0	6	24			Yes	Include
HB13-43	0 - 24 *	9/11/2013	Cummings Ave Slip	0.0048 U	0.0048	Tributyltin	CS-2	0	24	24			Yes	Include
HB13-43	6 - 24	9/11/2013	Cummings Ave Slip	NA	NA	Tributyltin	CS-2	6	24	24			Yes	Include
HB13-45	0 - 6	9/11/2013	Cummings Ave Slip	NA	NA	Tributyltin	CS-2	0	6	21			Yes	Include
HB13-45	6 - 21	9/11/2013	Cummings Ave Slip	NA	NA	Tributyltin	CS-2	6	21	21			Yes	Include
HB13-47	0 - 6	9/10/2013	Fraser Ave Slip	NA	NA	Tributyltin	FS-1	0	6	30.996			Yes	Include
HB13-47	6 - 24	9/10/2013	Fraser Ave Slip	NA	NA	Tributyltin	FS-1	6	24	30.996			Yes	Include
HB13-47	24 - 31	9/10/2013	Fraser Ave Slip	NA	NA	Tributyltin	FS-1	24	31	30.996			Yes	Include
HB13-47	31 - 37 *	9/10/2013	Fraser Ave Slip	NA	NA	Tributyltin	FS-1	31	37	30.996			No	Exclude
HB13-48	0 - 6 *	9/10/2013	Fraser Ave Slip	NA	NA	Tributyltin	FS-2	0	6	45.9999996			Yes	Include
HB13-48	0 - 24	9/10/2013	FRASER AVE SLIP	0.0042	0.0042	Tributyltin	FS-2	0	24	45.9999996			Yes	Include
HB13-48	6 - 24 *	9/10/2013	Fraser Ave Slip	NA	NA	Tributyltin	FS-2	6	24	45.9999996			Yes	Include
HB13-48	24 - 42 *	9/10/2013	Fraser Ave Slip	NA	NA	Tributyltin	FS-2	24	42	45.9999996			Yes	Include
HB13-48	24 - 46 *	9/10/2013	FRASER AVE SLIP	0.0029 U	0.0029	Tributyltin	FS-2	24	46	45.9999996			Yes	Include
HB13-48	42 - 46 *	9/10/2013	Fraser Ave Slip	NA	NA	Tributyltin	FS-2	42	46	45.9999996			Yes	Include
HB13-49	0 - 6	9/11/2013	Fraser Ave Slip	NA	NA	Tributyltin	FS-2	0	6	30			Yes	Include
HB13-49	6 - 24	9/11/2013	Fraser Ave Slip	NA	NA	Tributyltin	FS-2	6	24	30			Yes	Include
HB13-49	24 - 30	9/11/2013	Fraser Ave Slip	NA	NA	Tributyltin	FS-2	24	30	30			Yes	Include
HB13-50	0 - 12 *	9/13/2013	Area 1	NA	NA	Tributyltin	OC-12	0	12	47.0000004			Yes	Include
HB13-50	12 - 24 *	9/13/2013	Area 1	NA	NA	Tributyltin	OC-12	12	24	47.0000004			Yes	Include
HB13-50	24 - 36 *	9/13/2013	Area 1	NA	NA	Tributyltin	OC-12	24	36	47.0000004			Yes	Include
HB13-50	36 - 47 *	9/13/2013	Area 1	NA	NA	Tributyltin	OC-12	36	47	47.0000004			Yes	Include
HB13-51	0 - 6 *	9/11/2013	Area 2	NA	NA	Tributyltin		0	6					Exclude
HB13-51	6 - 15 *	9/11/2013	Area 2	NA	NA	Tributyltin		6	15					Exclude
HB13-52	0 - 6 *	9/11/2013	Area 2	NA	NA	Tributyltin	OC-10	0	6	12			Yes	Include
HB13-52	6 - 12 *	9/11/2013	Area 2	NA	NA	Tributyltin	OC-10	6	12	12			Yes	Include
HB13-52	12 - 17 *	9/11/2013	Area 2	NA	NA	Tributyltin	OC-10	12	17	12			No	Exclude
HB14-01	0 - 6	8/18/2014	Area 1	0.00145 U	0.00145	Tributyltin	SND-1	0	6					Exclude
HB14-01	6 - 18	8/18/2014	Area 1	0.00105 U*	0.00105	Tributyltin	SND-1	6	18					Exclude
HB14-02	0 - 6	8/18/2014	Area 1	0.0083	0.0083	Tributyltin	FC-15	0	6	17.004	-12.996	include	Yes	Include
HB14-02	6 - 14	8/18/2014	Area 1	0.00115 U	0.00115	Tributyltin	FC-15	6	14	17.004	-12.996	include	Yes	Include
HB14-03	0 - 6	8/18/2014	Area 1	0.0068	0.0068	Tributyltin	FC-15	0	6	29.997288	-2.472	include	Yes	Include
HB14-03	6 - 18	8/18/2014	Area 1	0.0057	0.0057	Tributyltin	FC-15	6	18	29.997288	-2.472	include	Yes	Include
HB14-03	18 - 30	8/18/2014	Area 1	0.0028	0.0028	Tributyltin	FC-15	18	30	29.997288	-2.472	include	Yes	Include
HB14-03	30 - 42	8/18/2014	Area 1	0.000950 U	0.00095	Tributyltin	FC-15	30	42	29.997288	-2.472	include	No	Exclude
HB14-03	42 - 54	8/18/2014	Area 1	0.00100 U	0.001	Tributyltin	FC-15	42	54	29.997288	-2.472	include	No	Exclude
HB14-04	0 - 6	8/18/2014	Area 1	0.0046	0.0046	Tributyltin		0	6	29.904			Yes	Include
HB14-04	6 - 18	8/18/2014	Area 1	0.0099	0.0099	Tributyltin		6	18	29.904			Yes	Include
HB14-04	18 - 30	8/18/2014	Area 1	0.0069	0.0069	Tributyltin		18	30	29.904			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB14-05 G		8/18/2014	Area 1	0.00195 U	0.00195	Tributyltin			#VALUE!					Exclude
HB14-06	0 - 6	8/18/2014	Area 1	0.00165 U	0.00165	Tributyltin		0	6	30.588			Yes	Include
HB14-06	6 - 24	8/18/2014	Area 1	0.0048	0.0048	Tributyltin		6	24	30.588			Yes	Include
HB14-07	0 - 6	8/18/2014	Area 1	0.007	0.007	Tributyltin		0	6	78.012			Yes	Include
HB14-07	6 - 24	8/18/2014	Area 1	0.0042	0.0042	Tributyltin		6	24	78.012			Yes	Include
HB14-07	24 - 42	8/18/2014	Area 1	0.00110 U	0.0011	Tributyltin		24	42	78.012			Yes	Include
HB14-08	0 - 6	8/19/2014	Area 1	0.0088	0.0088	Tributyltin		0	6	34.416			Yes	Include
HB14-08	6 - 19	8/19/2014	Area 1	0.011	0.011	Tributyltin		6	19	34.416			Yes	Include
HB14-09	0 - 12	8/19/2014	Area 1	0.0044	0.0044	Tributyltin	OC-16	0	12	12.003804			Yes	Include
HB14-09	12 - 24	8/19/2014	Area 1	0.00120 U	0.0012	Tributyltin	OC-16	12	24	12.003804			Yes	Include
HB14-09	24 - 36	8/19/2014	Area 1	0.00140 U	0.0014	Tributyltin	OC-16	24	36	12.003804			No	Exclude
HB14-09	36 - 48	8/19/2014	Area 1	0.00130 U	0.0013	Tributyltin	OC-16	36	48	12.003804			No	Exclude
HB14-09	48 - 60	8/19/2014	Area 1	0.00115 U	0.00115	Tributyltin	OC-16	48	60	12.003804			No	Exclude
HB14-09	60 - 72	8/19/2014	Area 1	0.00115 U*	0.00115	Tributyltin	OC-16	60	72	12.003804			No	Exclude
HB14-10	0 - 6	8/20/2014	Area 1	0.00130 U	0.0013	Tributyltin		0	6	54.005544			Yes	Include
HB14-10	6 - 18	8/20/2014	Area 1	0.00135 U	0.00135	Tributyltin		6	18	54.005544			Yes	Include
HB14-10	18 - 30	8/20/2014	Area 1	0.00130 U	0.0013	Tributyltin		18	30	54.005544			Yes	Include
HB14-10	30 - 42	8/20/2014	Area 1	0.00130 U	0.0013	Tributyltin		30	42	54.005544			Yes	Include
HB14-10	42 - 54	8/20/2014	Area 1	0.00115 U	0.00115	Tributyltin		42	54	54.005544			Yes	Include
HB14-10	54 - 66	8/20/2014	Area 1	0.00115 U	0.00115	Tributyltin		54	66	54.005544			Yes	Include
HB14-11	0 - 6	8/19/2014	Area 1	NA	NA	Tributyltin	SND-2	0	6					Exclude
HB14-11	6 - 18	8/19/2014	Area 1	NA	NA	Tributyltin	SND-2	6	18					Exclude
HB14-11	18 - 20	8/19/2014	Area 1	NA	NA	Tributyltin	SND-2	18	20					Exclude
HB14-12	0 - 6	8/19/2014	Area 1	NA	NA	Tributyltin	SND-4	0	6	26.34			Yes	Include
HB14-12	6 - 18	8/19/2014	Area 1	NA	NA	Tributyltin	SND-4	6	18	26.34			Yes	Include
HB14-12	18 - 32	8/19/2014	Area 1	NA	NA	Tributyltin	SND-4	18	32	26.34			Yes	Include
HB14-13	0 - 6	8/19/2014	Area 2	NA	NA	Tributyltin	SND-5	0	6	-0.648			No	Exclude
HB14-13	6 - 11	8/19/2014	Area 2	NA	NA	Tributyltin	SND-5	6	11	-0.648			No	Exclude
HB14-14	0 - 6	8/20/2014	Area 2	NA	NA	Tributyltin	OC-4	0	6	101.997672			Yes	Include
HB14-14	4 - 6	8/20/2014	Area 2	NA	NA	Tributyltin	OC-4	4	6	101.997672			Yes	Include
HB14-14	6 - 18	8/20/2014	Area 2	NA	NA	Tributyltin	OC-4	6	18	101.997672			Yes	Include
HB14-14	6 - 30	8/20/2014	Area 2	NA	NA	Tributyltin	OC-4	6	30	101.997672			Yes	Include
HB14-14	18 - 30	8/20/2014	Area 2	NA	NA	Tributyltin	OC-4	18	30	101.997672			Yes	Include
HB14-14	30 - 42	8/20/2014	Area 2	NA	NA	Tributyltin	OC-4	30	42	101.997672			Yes	Include
HB14-14	30 - 54	8/20/2014	Area 2	NA	NA	Tributyltin	OC-4	30	54	101.997672			Yes	Include
HB14-14	42 - 54	8/20/2014	Area 2	NA	NA	Tributyltin	OC-4	42	54	101.997672			Yes	Include
HB14-14	54 - 66	8/20/2014	Area 2	NA	NA	Tributyltin	OC-4	54	66	101.997672			Yes	Include
HB14-14	54 - 78	8/20/2014	Area 2	NA	NA	Tributyltin	OC-4	54	78	101.997672			Yes	Include
HB14-14	66 - 78	8/20/2014	Area 2	NA	NA	Tributyltin	OC-4	66	78	101.997672			Yes	Include
HB14-14	78 - 90	8/20/2014	Area 2	NA	NA	Tributyltin	OC-4	78	90	101.997672			Yes	Include
HB14-14	78 - 102	8/20/2014	Area 2	NA	NA	Tributyltin	OC-4	78	102	101.997672			Yes	Include
HB14-14	90 - 102	8/20/2014	Area 2	NA	NA	Tributyltin	OC-4	90	102	101.997672			Yes	Include
HB14-14	102 - 111	8/20/2014	Area 2	NA	NA	Tributyltin	OC-4	102	111	101.997672			No	Exclude
HB15-01	0 - 12	6/23/2015	Hughitt Ave Slip	0.15	0.15	Tributyltin	HS-1	0	12	51.096			Yes	Include
HB15-01	12 - 24	6/23/2015	Hughitt Ave Slip	0.00105 U	0.00105	Tributyltin	HS-1	12	24	51.096			Yes	Include
HB15-01	24 - 36	6/23/2015	Hughitt Ave Slip	0.000900 U	0.0009	Tributyltin	HS-1	24	36	51.096			Yes	Include
HB15-01	36 - 48	6/23/2015	Hughitt Ave Slip	0.000800 U	0.0008	Tributyltin	HS-1	36	48	51.096			Yes	Include
HB15-01	48 - 57	6/23/2015	Hughitt Ave Slip	0.000800 U	0.0008	Tributyltin	HS-1	48	57	51.096			Yes	Include
HB15-02	0 - 12	6/23/2015	Hughitt Ave Slip	13	13	Tributyltin	HS-1	0	12	48.000696			Yes	Include
HB15-02	12 - 24	6/23/2015	Hughitt Ave Slip	0.22	0.22	Tributyltin	HS-1	12	24	48.000696			Yes	Include
HB15-02	24 - 36	6/23/2015	Hughitt Ave Slip	0.000900 U	0.0009	Tributyltin	HS-1	24	36	48.000696			Yes	Include
HB15-02	36 - 48	6/23/2015	Hughitt Ave Slip	0.000950 U	0.00095	Tributyltin	HS-1	36	48	48.000696			Yes	Include
HB15-03	0 - 12	6/23/2015	Hughitt Ave Slip	0.04	0.04	Tributyltin	HS-1	0	12	67.9950564			Yes	Include
HB15-03	12 - 24	6/23/2015	Hughitt Ave Slip	0.046	0.046	Tributyltin	HS-1	12	24	67.9950564			Yes	Include
HB15-03	24 - 36	6/23/2015	Hughitt Ave Slip	0.047	0.047	Tributyltin	HS-1	24	36	67.9950564			Yes	Include
HB15-03	36 - 48	6/23/2015	Hughitt Ave Slip	0.036	0.036	Tributyltin	HS-1	36	48	67.9950564			Yes	Include
HB15-03	48 - 60	6/23/2015	Hughitt Ave Slip	0.018	0.018	Tributyltin	HS-1	48	60	67.9950564			Yes	Include
HB15-03	60 - 68	6/23/2015	Hughitt Ave Slip	0.000650 U	0.00065	Tributyltin	HS-1	60	68	67.9950564			Yes	Include
HB15-03R	0 - 12	6/23/2015	Hughitt Ave Slip	0.036	0.036	Tributyltin	HS-1	0	12	67.9950564			Yes	Include
HB15-03R	12 - 24	6/23/2015	Hughitt Ave Slip	0.059	0.059	Tributyltin	HS-1	12	24	67.9950564			Yes	Include
HB15-03R	24 - 36	6/23/2015	Hughitt Ave Slip	0.089	0.089	Tributyltin	HS-1	24	36	67.9950564			Yes	Include
HB15-03R	36 - 48	6/23/2015	Hughitt Ave Slip	0.000750 U	0.00075	Tributyltin	HS-1	36	48	67.9950564			Yes	Include
HB15-03R	48 - 60	6/23/2015	Hughitt Ave Slip	0.000700 U	0.0007	Tributyltin	HS-1	48	60	67.9950564			Yes	Include
HB15-03R	60 - 68	6/23/2015	Hughitt Ave Slip	0.000650 UF2	0.00065	Tributyltin	HS-1	60	68	67.9950564			Yes	Include
HB15-04	0 - 12	6/23/2015	Hughitt Ave Slip	0.047	0.047	Tributyltin	HS-1	0	12	63.84			Yes	Include
HB15-04	12 - 24	6/23/2015	Hughitt Ave Slip	0.076	0.076	Tributyltin	HS-1	12	24	63.84			Yes	Include
HB15-04	24 - 36	6/23/2015	Hughitt Ave Slip	0.039	0.039	Tributyltin	HS-1	24	36	63.84			Yes	Include
HB15-04	36 - 48	6/23/2015	Hughitt Ave Slip	0.056	0.056	Tributyltin	HS-1	36	48	63.84			Yes	Include
HB15-04	48 - 59	6/23/2015	Hughitt Ave Slip	0.000750 U	0.00075	Tributyltin	HS-1	48	59	63.84			Yes	Include
HB15-05	0 - 12	6/23/2015	Hughitt Ave Slip	0.04	0.04	Tributyltin	HS-1	0	12	71.994852			Yes	Include
HB15-05	12 - 24	6/23/2015	Hughitt Ave Slip	0.000800 U	0.0008	Tributyltin	HS-1	12	24	71.994852			Yes	Include
HB15-05	24 - 36	6/23/2015	Hughitt Ave Slip	0.000800 U	0.0008	Tributyltin	HS-1	24	36	71.994852			Yes	Include
HB15-05	36 - 48	6/23/2015	Hughitt Ave Slip	0.000750 U	0.00075	Tributyltin	HS-1	36	48	71.994852			Yes	Include
HB15-05	48 - 60	6/23/2015	Hughitt Ave Slip	0.000850 U	0.00085	Tributyltin	HS-1	48	60	71.994852			Yes	Include
HB15-05	60 - 72	6/23/2015	Hughitt Ave Slip	0.000800 U	0.0008	Tributyltin	HS-1	60	72	71.994852			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB15-05	72 - 80	6/23/2015	Hughitt Ave Slip	0.000600 U	0.0006	Tributyltin	HS-1	72	80	71.994852			No	Exclude
HB15-06	0 - 9	6/23/2015	Hughitt Ave Slip	0.019	0.019	Tributyltin	HS-2	0	9	9.000636			Yes	Include
HB15-07	0 - 12	6/23/2015	Cummings Ave Slip	NA	NA	Tributyltin	CS-1	0	12	90.9955116			Yes	Include
HB15-07	12 - 24	6/23/2015	Cummings Ave Slip	NA	NA	Tributyltin	CS-1	12	24	90.9955116			Yes	Include
HB15-07	24 - 36	6/23/2015	Cummings Ave Slip	NA	NA	Tributyltin	CS-1	24	36	90.9955116			Yes	Include
HB15-07	36 - 48	6/23/2015	Cummings Ave Slip	NA	NA	Tributyltin	CS-1	36	48	90.9955116			Yes	Include
HB15-07	48 - 60	6/23/2015	Cummings Ave Slip	NA	NA	Tributyltin	CS-1	48	60	90.9955116			Yes	Include
HB15-07	60 - 72	6/23/2015	Cummings Ave Slip	NA	NA	Tributyltin	CS-1	60	72	90.9955116			Yes	Include
HB15-07	72 - 84	6/23/2015	Cummings Ave Slip	NA	NA	Tributyltin	CS-1	72	84	90.9955116			Yes	Include
HB15-07	84 - 91	6/23/2015	Cummings Ave Slip	NA	NA	Tributyltin	CS-1	84	91	90.9955116			Yes	Include
HB15-08	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Tributyltin	CS-2	0	12	65.997804			Yes	Include
HB15-08	12 - 24	6/24/2015	Cummings Ave Slip	NA	NA	Tributyltin	CS-2	12	24	65.997804			Yes	Include
HB15-08	24 - 36	6/24/2015	Cummings Ave Slip	NA	NA	Tributyltin	CS-2	24	36	65.997804			Yes	Include
HB15-08	36 - 48	6/24/2015	Cummings Ave Slip	NA	NA	Tributyltin	CS-2	36	48	65.997804			Yes	Include
HB15-08	48 - 60	6/24/2015	Cummings Ave Slip	NA	NA	Tributyltin	CS-2	48	60	65.997804			Yes	Include
HB15-08	60 - 66	6/24/2015	Cummings Ave Slip	NA	NA	Tributyltin	CS-2	60	66	65.997804			Yes	Include
HB15-09	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Tributyltin	CS-3	0	12	45.396			Yes	Include
HB15-09	12 - 17	6/24/2015	Cummings Ave Slip	NA	NA	Tributyltin	CS-3	12	17	45.396			Yes	Include
HB15-10	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Tributyltin		0	12	-0.936			No	Exclude
HB15-11	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Tributyltin	CS-5	0	12	27.9944796			Yes	Include
HB15-11	12 - 24	6/24/2015	Cummings Ave Slip	NA	NA	Tributyltin	CS-5	12	24	27.9944796			Yes	Include
HB15-11	24 - 28	6/24/2015	Cummings Ave Slip	NA	NA	Tributyltin	CS-5	24	28	27.9944796			Yes	Include
HB15-12	0 - 12	6/24/2015	Area 2	NA	NA	Tributyltin	FP-1	0	12	29.994876			Yes	Include
HB15-12	12 - 24	6/24/2015	Area 2	NA	NA	Tributyltin	FP-1	12	24	29.994876			Yes	Include
HB15-12	24 - 30	6/24/2015	Area 2	NA	NA	Tributyltin	FP-1	24	30	29.994876			Yes	Include
HB15-13	0 - 12	6/24/2015	Area 2	NA	NA	Tributyltin	FP-1	0	12	64.0033716			Yes	Include
HB15-13	12 - 24	6/24/2015	Area 2	NA	NA	Tributyltin	FP-1	12	24	64.0033716			Yes	Include
HB15-13	24 - 36	6/24/2015	Area 2	NA	NA	Tributyltin	FP-1	24	36	64.0033716			Yes	Include
HB15-13	36 - 48	6/24/2015	Area 2	NA	NA	Tributyltin	FP-1	36	48	64.0033716			Yes	Include
HB15-13	48 - 60	6/24/2015	Area 2	NA	NA	Tributyltin	FP-1	48	60	64.0033716			Yes	Include
HB15-13	60 - 64	6/24/2015	Area 2	NA	NA	Tributyltin	FP-1	60	64	64.0033716			Yes	Include
HB15-14	0 - 12	6/24/2015	Area 2	NA	NA	Tributyltin	FP-1	0	12	23.996196			Yes	Include
HB15-14	12 - 24	6/24/2015	Area 2	NA	NA	Tributyltin	FP-1	12	24	23.996196			Yes	Include
HB15-14	24 - 28	6/24/2015	Area 2	NA	NA	Tributyltin	FP-1	24	28	23.996196			No	Exclude
HB15-14	28 - 35	6/24/2015	Area 2	NA	NA	Tributyltin	FP-1	28	35	23.996196			No	Exclude
HB15-15	0 - 12	6/24/2015	Area 2	NA	NA	Tributyltin	FP-2	0	12	19.0051356			Yes	Include
HB15-15	12 - 19	6/24/2015	Area 2	NA	NA	Tributyltin	FP-2	12	19	19.0051356			Yes	Include
HB15-15R	0 - 12	6/24/2015	Area 2	NA	NA	Tributyltin	FP-2	0	12	18.9999996			Yes	Include
HB15-15R	12 - 19	6/24/2015	Area 2	NA	NA	Tributyltin	FP-2	12	19	18.9999996			Yes	Include
HB15-16	0 - 12	6/24/2015	Area 2	NA	NA	Tributyltin	FP-1	0	12	8.304			Yes	Include
HB15-16	12 - 19	6/24/2015	Area 2	NA	NA	Tributyltin	FP-1	12	19	8.304			No	Exclude
HB15-17	0 - 12	6/24/2015	Area 2	NA	NA	Tributyltin	FP-2	0	12	36.004608			Yes	Include
HB15-17	12 - 24	6/24/2015	Area 2	NA	NA	Tributyltin	FP-2	12	24	36.004608			Yes	Include
HB15-17	24 - 36	6/24/2015	Area 2	NA	NA	Tributyltin	FP-2	24	36	36.004608			Yes	Include
HB15-17	36 - 48	6/24/2015	Area 2	NA	NA	Tributyltin	FP-2	36	48	36.004608			Yes	Include
HB15-17	48 - 54	6/24/2015	Area 2	NA	NA	Tributyltin	FP-2	48	54	36.004608			No	Exclude
HB15-18	0 - 12	6/24/2015	Area 2	0.000950 U	0.00095	Tributyltin	FP-2	0	12	23.999508			Yes	Include
HB15-18	12 - 24	6/24/2015	Area 2	0.000900 U	0.0009	Tributyltin	FP-2	12	24	23.999508			Yes	Include
HB15-19	0 - 12	6/24/2015	Area 2	0.000850 U	0.00085	Tributyltin		0	12					Exclude
HB15-19	12 - 24	6/24/2015	Area 2	0.000650 U	0.00065	Tributyltin		12	24					Exclude
HB15-19	24 - 32	6/24/2015	Area 2	0.000600 U	0.0006	Tributyltin		24	32					Exclude
HB15-20	0 - 12	6/25/2015	Area 2	NA	NA	Tributyltin	OC-3	0	12	33.864			Yes	Include
HB15-20	12 - 24	6/25/2015	Area 2	NA	NA	Tributyltin	OC-3	12	24	33.864			Yes	Include
HB15-20	24 - 28	6/25/2015	Area 2	NA	NA	Tributyltin	OC-3	24	28	33.864			Yes	Include
HB15-20B	0 - 6	6/25/2015	Area 2	NA	NA	Tributyltin	OC-13	0	6	11.996892			Yes	Include
HB15-20B	6 - 12	6/25/2015	Area 2	NA	NA	Tributyltin	OC-13	6	12	11.996892			Yes	Include
HB15-21G	15 - 21	6/29/2015	Fraser Ave Slip	NA	NA	Tributyltin		15	21					Exclude
HB15-22G	0 - 6	6/29/2015	Fraser Ave Slip	NA	NA	Tributyltin	OC-8	0	6	6			Yes	Include
HB15-23	0 - 12	6/25/2015	Fraser Ave Slip	NA	NA	Tributyltin	FS-1	0	12	55.02			Yes	Include
HB15-23	12 - 24	6/25/2015	Fraser Ave Slip	NA	NA	Tributyltin	FS-1	12	24	55.02			Yes	Include
HB15-23	24 - 36	6/25/2015	Fraser Ave Slip	NA	NA	Tributyltin	FS-1	24	36	55.02			Yes	Include
HB15-23	36 - 48	6/25/2015	Fraser Ave Slip	NA	NA	Tributyltin	FS-1	36	48	55.02			Yes	Include
HB15-23	48 - 56	6/25/2015	Fraser Ave Slip	NA	NA	Tributyltin	FS-1	48	56	55.02			Yes	Include
HB15-25	0 - 12	6/25/2015	Area 2	NA	NA	Tributyltin	OC-1	0	12	77.4			Yes	Include
HB15-25	12 - 24	6/25/2015	Area 2	NA	NA	Tributyltin	OC-1	12	24	77.4			Yes	Include
HB15-25	24 - 36	6/25/2015	Area 2	NA	NA	Tributyltin	OC-1	24	36	77.4			Yes	Include
HB15-25	36 - 48	6/25/2015	Area 2	NA	NA	Tributyltin	OC-1	36	48	77.4			Yes	Include
HB15-25	48 - 60	6/25/2015	Area 2	NA	NA	Tributyltin	OC-1	48	60	77.4			Yes	Include
HB15-25	60 - 72	6/25/2015	Area 2	NA	NA	Tributyltin	OC-1	60	72	77.4			Yes	Include
HB15-25	72 - 88	6/25/2015	Area 2	NA	NA	Tributyltin	OC-1	72	88	77.4			Yes	Include
HB15-26	0 - 12	6/25/2015	Area 2	NA	NA	Tributyltin	FC-2	0	12	38.28	6.36	include	Yes	Include
HB15-26	12 - 24	6/25/2015	Area 2	NA	NA	Tributyltin	FC-2	12	24	38.28	6.36	include	Yes	Include
HB15-26	24 - 36	6/25/2015	Area 2	NA	NA	Tributyltin	FC-2	24	36	38.28	6.36	include	Yes	Include
HB15-26	36 - 46	6/25/2015	Area 2	NA	NA	Tributyltin	FC-2	36	46	38.28	6.36	include	Yes	Include
HB15-27	0 - 12	6/25/2015	Area 2	NA	NA	Tributyltin	FC-3	0	12	33.6	14.64	exclude	Yes	Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB15-27	12 - 24	6/25/2015	Area 2	NA	NA	Tributyltin	FC-3	12	24	33.6	14.64	include	Yes	Include
HB15-27	24 - 36	6/25/2015	Area 2	NA	NA	Tributyltin	FC-3	24	36	33.6	14.64	include	Yes	Include
HB15-27	36 - 48	6/25/2015	Area 2	NA	NA	Tributyltin	FC-3	36	48	33.6	14.64	include	No	Exclude
HB15-27	48 - 60	6/25/2015	Area 2	NA	NA	Tributyltin	FC-3	48	60	33.6	14.64	include	No	Exclude
HB15-27	60 - 71	6/25/2015	Area 2	NA	NA	Tributyltin	FC-3	60	71	33.6	14.64	include	No	Exclude
HB15-28	0 - 12	6/25/2015	Area 2	NA	NA	Tributyltin	OC-7	0	12	11.994072			Yes	Include
HB15-28	12 - 24	6/25/2015	Area 2	NA	NA	Tributyltin	OC-7	12	24	11.994072			No	Exclude
HB15-28	24 - 30	6/25/2015	Area 2	NA	NA	Tributyltin	OC-7	24	30	11.994072			No	Exclude
HB15-30	0 - 12	6/25/2015	Area 2	NA	NA	Tributyltin		0	12	43.776			Yes	Include
HB15-30	12 - 24	6/25/2015	Area 2	NA	NA	Tributyltin		12	24	43.776			Yes	Include
HB15-30	24 - 36	6/25/2015	Area 2	NA	NA	Tributyltin		24	36	43.776			Yes	Include
HB15-30	36 - 50	6/25/2015	Area 2	NA	NA	Tributyltin		36	50	43.776			Yes	Include
HB15-31	0 - 12	6/25/2015	Area 2	NA	NA	Tributyltin		0	12					Exclude
HB15-31	12 - 20	6/25/2015	Area 2	NA	NA	Tributyltin		12	20					Exclude
HB15-32	0 - 12	6/25/2015	Area 1	NA	NA	Tributyltin	SND-4	0	12	11.995236			Yes	Include
HB15-32	12 - 26	6/25/2015	Area 1	NA	NA	Tributyltin	SND-4	12	26	11.995236			No	Exclude
HB15-33	0 - 12	6/25/2015	Area 1	NA	NA	Tributyltin		0	12	26.292			Yes	Include
HB15-33	12 - 24	6/25/2015	Area 1	NA	NA	Tributyltin		12	24	26.292			Yes	Include
HB15-33	24 - 39	6/25/2015	Area 1	NA	NA	Tributyltin		24	39	26.292			Yes	Include
HB15-34	0 - 12	6/25/2015	Area 1	NA	NA	Tributyltin	FC-11	0	12		35.52	exclude		Exclude
HB15-34	12 - 24	6/25/2015	Area 1	NA	NA	Tributyltin	FC-11	12	24		35.52	exclude		Exclude
HB15-34	24 - 32	6/25/2015	Area 1	NA	NA	Tributyltin	FC-11	24	32		35.52	exclude		Exclude
HB15-35	0 - 12	6/25/2015	Area 1	0.011	0.011	Tributyltin	FC-16	0	12	74.28	-6.48	include	Yes	Include
HB15-35	12 - 24	6/25/2015	Area 1	0.021	0.021	Tributyltin	FC-16	12	24	74.28	-6.48	include	Yes	Include
HB15-35	24 - 36	6/25/2015	Area 1	0.0066	0.0066	Tributyltin	FC-16	24	36	74.28	-6.48	include	Yes	Include
HB15-35	36 - 48	6/25/2015	Area 1	0.000550 UF2F1	0.00055	Tributyltin	FC-16	36	48	74.28	-6.48	include	Yes	Include
HB15-35	48 - 60	6/25/2015	Area 1	0.017	0.017	Tributyltin	FC-16	48	60	74.28	-6.48	include	Yes	Include
HB15-35	60 - 72	6/25/2015	Area 1	0.026	0.026	Tributyltin	FC-16	60	72	74.28	-6.48	include	Yes	Include
HB15-36G	15 - 36	6/29/2015	Area 2	NA	NA	Tributyltin		15	36					Exclude
HB15-37	0 - 12	6/25/2015	Area 2	NA	NA	Tributyltin	OC-9	0	12	51.048			Yes	Include
HB15-37	12 - 24	6/25/2015	Area 2	NA	NA	Tributyltin	OC-9	12	24	51.048			Yes	Include
HB15-37	24 - 36	6/25/2015	Area 2	NA	NA	Tributyltin	OC-9	24	36	51.048			Yes	Include
HB15-37	36 - 48	6/25/2015	Area 2	NA	NA	Tributyltin	OC-9	36	48	51.048			Yes	Include
HB15-37	48 - 60	6/25/2015	Area 2	NA	NA	Tributyltin	OC-9	48	60	51.048			Yes	Include
HB15-37	60 - 74	6/25/2015	Area 2	NA	NA	Tributyltin	OC-9	60	74	51.048			No	Exclude
HB15-38	0 - 12	6/25/2015	Area 2	NA	NA	Tributyltin	OC-9	0	12	83.184			Yes	Include
HB15-38	12 - 24	6/25/2015	Area 2	NA	NA	Tributyltin	OC-9	12	24	83.184			Yes	Include
HB15-38	24 - 36	6/25/2015	Area 2	NA	NA	Tributyltin	OC-9	24	36	83.184			Yes	Include
HB15-38	36 - 48	6/25/2015	Area 2	NA	NA	Tributyltin	OC-9	36	48	83.184			Yes	Include
HB15-38	48 - 60	6/25/2015	Area 2	NA	NA	Tributyltin	OC-9	48	60	83.184			Yes	Include
HB15-38	60 - 72	6/25/2015	Area 2	NA	NA	Tributyltin	OC-9	60	72	83.184			Yes	Include
HB15-38	72 - 84	6/25/2015	Area 2	NA	NA	Tributyltin	OC-9	72	84	83.184			Yes	Include
HB15-38	84 - 96	6/25/2015	Area 2	NA	NA	Tributyltin	OC-9	84	96	83.184			No	Exclude
HB15-G28	0 - 6	6/25/2015	Hughitt Ave Slip	0.000900 U	0.0009	Tributyltin		0	6					Exclude
HB15-HC20A	0 - 6	6/25/2015	Area 1	NA	NA	Tributyltin	OC-13	0	6	6.003036			Yes	Include
HB2A_4	0 - 6	5/12/2007	Hughitt Ave Slip	52 JSD	52	Lead	HS-1	0	6	48.00432			Yes	Include
HB2A_4	6 - 24	5/12/2007	Hughitt Ave Slip	86 JSD	86	Lead	HS-1	6	24	48.00432			Yes	Include
HB2A_4	24 - 48	5/12/2007	Hughitt Ave Slip	84 JSD	84	Lead	HS-1	24	48	48.00432			Yes	Include
HB2A_6	0 - 5	5/2/2007	Area 1	26	26	Lead		0	5					Exclude
HB2A_7	0 - 5	5/10/2007	Area 1	33	33	Lead	SND-1	0	5					Exclude
HB2A_8	0 - 5	5/10/2007	Area 1	110	110	Lead	FC-12/FC-13	0	5	4.9944804	79.824	exclude	Yes	Exclude
HB2A_11	0 - 5	5/10/2007	Area 1	78 J-M-	78	Lead		0	5					Exclude
HB2A_13	0 - 5	5/2/2007	Area 1	62	62	Lead		0	5					Exclude
HB2A_16	0 - 5	5/2/2007	Area 1	22	22	Lead		0	5					Exclude
HB2A_210	0 - 6	5/16/2007	Area 1	7.2	7.2	Lead		0	6					Exclude
HB2A_210	6 - 24	5/16/2007	Area 1	8.3	8.3	Lead		6	24					Exclude
HB2A_210	24 - 48	5/16/2007	Area 1	6.9	6.9	Lead		24	48					Exclude
HB2A_GENES	0 - 5	5/22/2007	Cummings Ave Slip	100	100	Lead		0	5					Exclude
HB2B_17	0 - 6	5/12/2007	Fraser Ave Slip	670 JSD	670	Lead	FS-2	0	6	24.005676			Yes	Include
HB2B_17	6 - 24	5/12/2007	Fraser Ave Slip	710 JSD	710	Lead	FS-2	6	24	24.005676			Yes	Include
HB2B_18	0 - 6	5/7/2007	Area 2	220 JSD	220	Lead	FP-1	0	6	47.997552			Yes	Include
HB2B_18	6 - 24	5/7/2007	Area 2	200 JSD	200	Lead	FP-1	6	24	47.997552			Yes	Include
HB2B_18	24 - 48	5/7/2007	Area 2	95 JSD	95	Lead	FP-1	24	48	47.997552			Yes	Include
HB2B_19	0 - 6	5/2/2007	Area 2	110 J-M-S	110	Lead	OC-1	0	6	6.001728			Yes	Include
HB2B_19	6 - 24	5/2/2007	Area 2	42 J-M-S	42	Lead	OC-1	6	24	6.001728			Yes	Include
HB2B_20	0 - 6	5/2/2007	Area 2	150 J-M-S	150	Lead	OC-9	0	6	23.997336			Yes	Include
HB2B_20	6 - 24	5/2/2007	Area 2	110 J-M-S	110	Lead	OC-9	6	24	23.997336			Yes	Include
HB2B_20	24 - 48	5/2/2007	Area 2	66 J-M-S	66	Lead	OC-9	24	48	23.997336			No	Exclude
HB2B_21	0 - 5	5/2/2007	Area 2	56 J-M-S	56	Lead		0	5					Exclude
HB2B_22	0 - 5	5/2/2007	Area 2	110 J-M-S	110	Lead	OC-5	0	5	5.0028204			Yes	Include
HB3A_GENES	0 - 5	9/6/2007	Cummings Ave Slip	20 JM+	20	Lead		0	5					Exclude
HB10-1-01	0 - 6	10/16/2010	Area 1	22	22	Lead		0	6					Exclude
HB10-1-01	0 - 12	10/16/2010	Area 1	8	8	Lead		0	12					Exclude
HB10-1-01	36 - 40	10/16/2010	Area 1	6.2	6.2	Lead		36	40					Exclude
HB10-1-02	0 - 6	10/16/2010	Area 1	28	28	Lead		0	6	23.0027508			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB10-1-02	12 - 23	10/16/2010	Area 1	32	32	Lead		12	23	23.0027508			Yes	Include
HB10-1-03	0 - 6	10/16/2010	Area 1	30	30	Lead	FC-17	0	6	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	0 - 12	10/16/2010	Area 1	31	31	Lead	FC-17	0	12	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	12 - 36	10/16/2010	Area 1	25	25	Lead	FC-17	12	36	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	36 - 60	10/16/2010	Area 1	60	60	Lead	FC-17	36	60	59.99475	49.872	include	Yes	Include
HB10-1-03	60 - 84	10/16/2010	Area 1	46	46	Lead	FC-17	60	84	59.99475	49.872	include	No	Exclude
HB10-1-04	0 - 6	10/17/2010	Area 1	24	24	Lead		0	6					Exclude
HB10-1-04	0 - 12	10/17/2010	Area 1	36	36	Lead		0	12					Exclude
HB10-1-04	12 - 36	10/17/2010	Area 1	35	35	Lead		12	36					Exclude
HB10-1-04	36 - 50	10/17/2010	Area 1	55	55	Lead		36	50					Exclude
HB10-1-05	0 - 6	10/16/2010	Area 1	32	32	Lead	OC-17	0	6	5.9987496			Yes	Include
HB10-1-07	0 - 6	10/17/2010	Area 1	36	36	Lead	OC-15	0	6	6.0057			Yes	Include
HB10-1-07	0 - 12	10/17/2010	Area 1	50	50	Lead	OC-15	0	12	6.0057			Yes	Include
HB10-1-07	12 - 36	10/17/2010	Area 1	53	53	Lead	OC-15	12	36	6.0057			No	Exclude
HB10-1-07	60 - 64	10/17/2010	Area 1	2.9	2.9	Lead	OC-15	60	64	6.0057			No	Exclude
HB10-1-08	0 - 6	10/17/2010	Area 1	46	46	Lead		0	6	36.0057			Yes	Include
HB10-1-08	0 - 12	10/17/2010	Area 1	51	51	Lead		0	12	36.0057			Yes	Include
HB10-1-08	12 - 36	10/17/2010	Area 1	89	89	Lead		12	36	36.0057			Yes	Include
HB10-1-10	0 - 6	10/18/2010	Area 1	39 J	39	Lead	SND-1	0	6					Exclude
HB10-1-11	0 - 6	10/16/2010	Area 1	59	59	Lead		0	6	20.9987496			Yes	Include
HB10-1-11	12 - 21	10/16/2010	Area 1	63	63	Lead		12	21	20.9987496			Yes	Include
HB10-1-12	0 - 6	10/17/2010	Area 1	48	48	Lead		0	6					Exclude
HB10-1-12	0 - 12	10/17/2010	Area 1	57	57	Lead		0	12					Exclude
HB10-1-12	12 - 34	10/17/2010	Area 1	35 J	35	Lead		12	34					Exclude
HB10-1-13	0 - 6	10/18/2010	Area 1	83 J	83	Lead	FC-12/FC-13	0	6	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	0 - 12	10/18/2010	Area 1	81 J	81	Lead	FC-12/FC-13	0	12	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	12 - 36	10/18/2010	Area 1	160 J	160	Lead	FC-12/FC-13	12	36	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	60 - 67	10/18/2010	Area 1	64 J	64	Lead	FC-12/FC-13	60	67	36.0053004	42.816	include	No	Exclude
HB10-1-14	0 - 6	10/17/2010	Area 1	50	50	Lead		0	6	66.0057			Yes	Include
HB10-1-14	0 - 12	10/17/2010	Area 1	60	60	Lead		0	12	66.0057			Yes	Include
HB10-1-14	12 - 36	10/17/2010	Area 1	75	75	Lead		12	36	66.0057			Yes	Include
HB10-1-14	60 - 66	10/17/2010	Area 1	100	100	Lead		60	66	66.0057			Yes	Include
HB10-1-15	0 - 6	10/18/2010	Area 1	24 J	24	Lead	OC-13	0	6	16.0056996			Yes	Include
HB10-1-15	12 - 16	10/18/2010	Area 1	130 J	130	Lead	OC-13	12	16	16.0056996			Yes	Include
HB10-1-16	0 - 6	10/17/2010	Hughitt Ave Slip	33 J	33	Lead	HS-3	0	6	31.0056996			Yes	Include
HB10-1-16	0 - 12	10/17/2010	Hughitt Ave Slip	68 J	68	Lead	HS-3	0	12	31.0056996			Yes	Include
HB10-1-16	12 - 31	10/17/2010	Hughitt Ave Slip	80 J	80	Lead	HS-3	12	31	31.0056996			Yes	Include
HB10-1-17	0 - 6	10/17/2010	Area 1	120	120	Lead	OC-14	0	6	12			Yes	Include
HB10-1-20	0 - 6	10/17/2010	Hughitt Ave Slip	36 J	36	Lead		0	6	6.0057			Yes	Include
HB10-1-21	0 - 6	10/18/2010	Cummings Ave Slip	26 J	26	Lead		0	6	6.0012996			Yes	Include
HB10-1-21	12 - 23	10/18/2010	Cummings Ave Slip	40 J	40	Lead		12	23	6.0012996			No	Exclude
HB10-1-23	0 - 6	10/17/2010	Area 1	33	33	Lead		0	6	36.0057			Yes	Include
HB10-1-23	0 - 12	10/17/2010	Area 1	82	82	Lead		0	12	36.0057			Yes	Include
HB10-1-23	12 - 36	10/17/2010	Area 1	120 J	120	Lead		12	36	36.0057			Yes	Include
HB10-1-24	0 - 6	10/18/2010	Cummings Ave Slip	210 J	210	Lead	CS-4	0	6	36.0047496			Yes	Include
HB10-1-24	0 - 12	10/18/2010	Cummings Ave Slip	230 J	230	Lead	CS-4	0	12	36.0047496			Yes	Include
HB10-1-24	12 - 36	10/18/2010	Cummings Ave Slip	210 J	210	Lead	CS-4	12	36	36.0047496			Yes	Include
HB10-1-25	0 - 6	10/17/2010	Baxter Ave Embayment	84 J	84	Lead		0	6	6.0057			Yes	Include
HB10-1-27	0 - 6	10/18/2010	Area 1	47 J	47	Lead		0	6	-0.0027			No	Exclude
HB10-1-28	0 - 6	10/17/2010	Hughitt Ave Slip	60	60	Lead	HS-1	0	6	84.0057			Yes	Include
HB10-1-28	0 - 12	10/17/2010	Hughitt Ave Slip	72	72	Lead	HS-1	0	12	84.0057			Yes	Include
HB10-1-28	12 - 36	10/17/2010	Hughitt Ave Slip	84	84	Lead	HS-1	12	36	84.0057			Yes	Include
HB10-1-28	36 - 60	10/17/2010	Hughitt Ave Slip	85	85	Lead	HS-1	36	60	84.0057			Yes	Include
HB10-1-28	60 - 84	10/17/2010	Hughitt Ave Slip	110	110	Lead	HS-1	60	84	84.0057			Yes	Include
HB10-1-28	60 - 96	10/17/2010	Hughitt Ave Slip	36	36	Lead	HS-1	60	96	84.0057			Yes	Include
HB10-1-29	0 - 6	10/17/2010	Cummings Ave Slip	290	290	Lead	CS-1	0	6	83.9937			Yes	Include
HB10-1-29	0 - 12	10/17/2010	Cummings Ave Slip	380	380	Lead	CS-1	0	12	83.9937			Yes	Include
HB10-1-29	12 - 36	10/17/2010	Cummings Ave Slip	480	480	Lead	CS-1	12	36	83.9937			Yes	Include
HB10-1-29	36 - 60	10/17/2010	Cummings Ave Slip	190	190	Lead	CS-1	36	60	83.9937			Yes	Include
HB10-1-29	60 - 93	10/17/2010	Cummings Ave Slip	310	310	Lead	CS-1	60	93	83.9937			Yes	Include
HB10-1-30	0 - 6	10/18/2010	Baxter Ave Embayment	94 J	94	Lead		0	6	60.0053004			Yes	Include
HB10-1-30	0 - 12	10/18/2010	Baxter Ave Embayment	170 J	170	Lead		0	12	60.0053004			Yes	Include
HB10-1-30	12 - 36	10/18/2010	Baxter Ave Embayment	130 J	130	Lead		12	36	60.0053004			Yes	Include
HB10-1-30	36 - 60	10/18/2010	Baxter Ave Embayment	130 J	130	Lead		36	60	60.0053004			Yes	Include
HB10-1-30	60 - 77	10/18/2010	Baxter Ave Embayment	6.5 J	6.5	Lead		60	77	60.0053004			Yes	Include
HB10-1-31	0 - 6	10/18/2010	Baxter Ave Embayment	98 J	98	Lead	OC-11	0	6	35.9973			Yes	Include
HB10-1-31	0 - 12	10/18/2010	Baxter Ave Embayment	250 J	250	Lead	OC-11	0	12	35.9973			Yes	Include
HB10-1-31	12 - 36	10/18/2010	Baxter Ave Embayment	88 J	88	Lead	OC-11	12	36	35.9973			Yes	Include
HB10-2-18	0 - 6	10/18/2010	Area 2	91 J	91	Lead	OC-2	0	6	6.0053004			Yes	Include
HB10-2-26	0 - 6	10/16/2010	Area 2	55	55	Lead		0	6					Exclude
HB10-2-26	12 - 17	10/16/2010	Area 2	57	57	Lead		12	17					Exclude
HB10-2-32	0 - 6	10/18/2010	Area 2	57 J	57	Lead		0	6					Exclude
HB10-2-33	0 - 6	10/18/2010	Area 2	31 J	31	Lead		0	6	6.0012996			Yes	Include
HB10-2-33	12 - 22	10/18/2010	Area 2	79 J	79	Lead		12	22	6.0012996			No	Exclude
HB10-2-34	0 - 6	10/18/2010	Area 2	150 J	150	Lead	FC-7	0	6	6.0053004	0.816	include	Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB10-2-35	0 - 6	10/18/2010	Area 2	17 J-	17	Lead		0	6	30.0012996			Yes	Include
HB10-2-35	0 - 12	10/18/2010	Area 2	45 J-	45	Lead		0	12	30.0012996			Yes	Include
HB10-2-35	12 - 30	10/18/2010	Area 2	96 J-	96	Lead		12	30	30.0012996			Yes	Include
HB10-2-36	0 - 6	10/18/2010	Area 2	120 J-	120	Lead	FC-5	0	6	6.0053004	-29.184	include	Yes	Include
HB10-2-37	0 - 6	10/18/2010	Area 2	14 J-	14	Lead		0	6	23.0013			Yes	Include
HB10-2-37	12 - 23	10/18/2010	Area 2	21 J-	21	Lead		12	23	23.0013			Yes	Include
HB10-2-38	0 - 6	10/18/2010	Area 2	110 J-	110	Lead	OC-6	0	6	38.0013			Yes	Include
HB10-2-38	0 - 12	10/18/2010	Area 2	180 J-	180	Lead	OC-6	0	12	38.0013			Yes	Include
HB10-2-38	36 - 38	10/18/2010	Area 2	51 J-	51	Lead	OC-6	36	38	38.0013			Yes	Include
HB10-2-39	0 - 6	10/18/2010	Area 2	29 J-	29	Lead		0	6	6.0012996			Yes	Include
HB10-2-39	0 - 12	10/18/2010	Area 2	32 J-	32	Lead		0	12	6.0012996			Yes	Include
HB10-2-39	12 - 28	10/18/2010	Area 2	65 J-	65	Lead		12	28	6.0012996			No	Exclude
HB10-2-40	0 - 6	10/18/2010	Area 2	150 J-	150	Lead	OC-5	0	6	48.0053004			Yes	Include
HB10-2-40	0 - 12	10/18/2010	Area 2	100 J-	100	Lead	OC-5	0	12	48.0053004			Yes	Include
HB10-2-40	12 - 36	10/18/2010	Area 2	4.6 J-	4.6	Lead	OC-5	12	36	48.0053004			Yes	Include
HB10-2-40	36 - 48	10/18/2010	Area 2	2.8 J-	2.8	Lead	OC-5	36	48	48.0053004			Yes	Include
HB10-2-41	0 - 6	10/18/2010	Area 2	150 J	150	Lead	FP-2	0	6	31.0012992			Yes	Include
HB10-2-41	0 - 12	10/18/2010	Area 2	37 J	37	Lead	FP-2	0	12	31.0012992			Yes	Include
HB10-2-41	12 - 31	10/18/2010	Area 2	41 J	41	Lead	FP-2	12	31	31.0012992			Yes	Include
HB10-2-42	0 - 6	10/18/2010	Area 2	47 J-	47	Lead	FP-1	0	6	12.0012996			Yes	Include
HB10-2-42	0 - 12	10/18/2010	Area 2	250 J-	250	Lead	FP-1	0	12	12.0012996			Yes	Include
HB10-2-42	12 - 30	10/18/2010	Area 2	75 J-	75	Lead	FP-1	12	30	12.0012996			Yes	Include
HB10-2-43	0 - 6	10/17/2010	Area 2	27	27	Lead		0	6	22.0056996			Yes	Include
HB10-2-43	12 - 22	10/17/2010	Area 2	110 J	110	Lead		12	22	22.0056996			Yes	Include
HB10-2-44	0 - 6	10/18/2010	Area 2	300 J-	300	Lead	FP-2	0	6	16.0012992			Yes	Include
HB10-2-44	12 - 16	10/18/2010	Area 2	120 J-	120	Lead	FP-2	12	16	16.0012992			Yes	Include
HB10-2-45	0 - 6	10/18/2010	Area 2	1,100 J	1100	Lead	FP-2	0	6	19.0012992			Yes	Include
HB10-2-45	12 - 19	10/18/2010	Area 2	190 J	190	Lead	FP-2	12	19	19.0012992			Yes	Include
HB13-01	0 - 6 *	9/11/2013	Area 2	170	170	Lead	FP-1	0	6	48			Yes	Include
HB13-01	6 - 12 *	9/11/2013	Area 2	280	280	Lead	FP-1	6	12	48			Yes	Include
HB13-01	12 - 18 *	9/11/2013	Area 2	310	310	Lead	FP-1	12	18	48			Yes	Include
HB13-01	18 - 24 *	9/11/2013	Area 2	210	210	Lead	FP-1	18	24	48			Yes	Include
HB13-01	24 - 30 *	9/11/2013	Area 2	160	160	Lead	FP-1	24	30	48			Yes	Include
HB13-01	30 - 36 *	9/11/2013	Area 2	200	200	Lead	FP-1	30	36	48			Yes	Include
HB13-01	36 - 42 *	9/11/2013	Area 2	130	130	Lead	FP-1	36	42	48			Yes	Include
HB13-01	42 - 48 *	9/11/2013	Area 2	87	87	Lead	FP-1	42	48	48			Yes	Include
HB13-01	48 - 54 *	9/11/2013	Area 2	72	72	Lead	FP-1	48	54	48			No	Exclude
HB13-01	54 - 60 *	9/11/2013	Area 2	23	23	Lead	FP-1	54	60	48			No	Exclude
HB13-01	60 - 66 *	9/11/2013	Area 2	41	41	Lead	FP-1	60	66	48			No	Exclude
HB13-01	66 - 72 *	9/11/2013	Area 2	61	61	Lead	FP-1	66	72	48			No	Exclude
HB13-01	72 - 74 *	9/11/2013	Area 2	34	34	Lead	FP-1	72	74	48			No	Exclude
HB13-02	0 - 6 *	9/9/2013	Area 2	32	32	Lead		0	6	29.9960004			Yes	Include
HB13-02	6 - 12 *	9/9/2013	Area 2	28	28	Lead		6	12	29.9960004			Yes	Include
HB13-02	12 - 18 *	9/9/2013	Area 2	22	22	Lead		12	18	29.9960004			Yes	Include
HB13-02	18 - 24 *	9/9/2013	Area 2	52	52	Lead		18	24	29.9960004			Yes	Include
HB13-02	24 - 30 *	9/9/2013	Area 2	84	84	Lead		24	30	29.9960004			Yes	Include
HB13-02	30 - 36 *	9/9/2013	Area 2	52	52	Lead		30	36	29.9960004			No	Exclude
HB13-02	36 - 42 *	9/9/2013	Area 2	9.9	9.9	Lead		36	42	29.9960004			No	Exclude
HB13-02	42 - 48 *	9/9/2013	Area 2	9.8	9.8	Lead		42	48	29.9960004			No	Exclude
HB13-03	0 - 6 *	9/9/2013	Area 2	160	160	Lead	FP-2	0	6	46.0040004			Yes	Include
HB13-03	0 - 24	9/9/2013	Area 2	NA	NA	Lead	FP-2	0	24	46.0040004			Yes	Include
HB13-03	6 - 12 *	9/9/2013	Area 2	310	310	Lead	FP-2	6	12	46.0040004			Yes	Include
HB13-03	12 - 18 *	9/9/2013	Area 2	170	170	Lead	FP-2	12	18	46.0040004			Yes	Include
HB13-03	18 - 24 *	9/9/2013	Area 2	180	180	Lead	FP-2	18	24	46.0040004			Yes	Include
HB13-03	24 - 30 *	9/9/2013	Area 2	160	160	Lead	FP-2	24	30	46.0040004			Yes	Include
HB13-03	24 - 46	9/9/2013	Area 2	NA	NA	Lead	FP-2	24	46	46.0040004			Yes	Include
HB13-03	30 - 36 *	9/9/2013	Area 2	140	140	Lead	FP-2	30	36	46.0040004			Yes	Include
HB13-03	36 - 42 *	9/9/2013	Area 2	97	97	Lead	FP-2	36	42	46.0040004			Yes	Include
HB13-03	42 - 46 *	9/9/2013	Area 2	180	180	Lead	FP-2	42	46	46.0040004			Yes	Include
HB13-03	46 - 51 *	9/9/2013	Area 2	7.8	7.8	Lead	FP-2	46	51	46.0040004			Yes	Include
HB13-04	0 - 6 *	9/9/2013	Area 2	130	130	Lead	OC-1	0	6	41.9960004			Yes	Include
HB13-04	6 - 12 *	9/9/2013	Area 2	170	170	Lead	OC-1	6	12	41.9960004			Yes	Include
HB13-04	12 - 18 *	9/9/2013	Area 2	240	240	Lead	OC-1	12	18	41.9960004			Yes	Include
HB13-04	18 - 24 *	9/9/2013	Area 2	160	160	Lead	OC-1	18	24	41.9960004			Yes	Include
HB13-04	24 - 30 *	9/9/2013	Area 2	200	200	Lead	OC-1	24	30	41.9960004			Yes	Include
HB13-04	30 - 36 *	9/9/2013	Area 2	100	100	Lead	OC-1	30	36	41.9960004			Yes	Include
HB13-04	36 - 42 *	9/9/2013	Area 2	160	160	Lead	OC-1	36	42	41.9960004			Yes	Include
HB13-04	42 - 44 *	9/9/2013	Area 2	15	15	Lead	OC-1	42	44	41.9960004			No	Exclude
HB13-05	0 - 32 *	9/9/2013	Area 2	180	180	Lead	FC-1	0	32	43.8	33.156	exclude	Yes	Exclude
HB13-05	32 - 38 *	9/9/2013	Area 2	250	250	Lead	FC-1	32	38	43.8	33.156	include	Yes	Include
HB13-05	38 - 44 *	9/9/2013	Area 2	210	210	Lead	FC-1	38	44	43.8	33.156	include	Yes	Include
HB13-05	44 - 50 *	9/9/2013	Area 2	150	150	Lead	FC-1	44	50	43.8	33.156	include	No	Exclude
HB13-05	50 - 56 *	9/9/2013	Area 2	210	210	Lead	FC-1	50	56	43.8	33.156	include	No	Exclude
HB13-05	56 - 62	9/9/2013	Area 2	160	160	Lead	FC-1	56	62	43.8	33.156	include	No	Exclude
HB13-05	62 - 66	9/9/2013	Area 2	130	130	Lead	FC-1	62	66	43.8	33.156	include	No	Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
 Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-05	68 - 74 *	9/9/2013	Area 2	160	160	Lead	FC-1	68	74	43.8	33.156	include	No	Exclude
HB13-05	74 - 77 *	9/9/2013	Area 2	140	140	Lead	FC-1	74	77	43.8	33.156	include	No	Exclude
HB13-06	0 - 6 *	9/9/2013	Area 2	130	130	Lead	OC-2	0	6	48			Yes	Include
HB13-06	6 - 12 *	9/9/2013	Area 2	210	210	Lead	OC-2	6	12	48			Yes	Include
HB13-06	12 - 18 *	9/9/2013	Area 2	150	150	Lead	OC-2	12	18	48			Yes	Include
HB13-06	18 - 24 *	9/9/2013	Area 2	110	110	Lead	OC-2	18	24	48			Yes	Include
HB13-06	24 - 30 *	9/9/2013	Area 2	79	79	Lead	OC-2	24	30	48			Yes	Include
HB13-06	30 - 36 *	9/9/2013	Area 2	93	93	Lead	OC-2	30	36	48			Yes	Include
HB13-06	36 - 42 *	9/9/2013	Area 2	80	80	Lead	OC-2	36	42	48			Yes	Include
HB13-06	42 - 48 *	9/9/2013	Area 2	35	35	Lead	OC-2	42	48	48			Yes	Include
HB13-07	0 - 6 *	9/10/2013	Area 2	59	59	Lead		0	6					Exclude
HB13-07	6 - 12 *	9/10/2013	Area 2	26	26	Lead		6	12					Exclude
HB13-07	12 - 18 *	9/10/2013	Area 2	8.2	8.2	Lead		12	18					Exclude
HB13-07	18 - 24 *	9/10/2013	Area 2	5.2	5.2	Lead		18	24					Exclude
HB13-07	24 - 30 *	9/10/2013	Area 2	13	13	Lead		24	30					Exclude
HB13-07	30 - 36 *	9/10/2013	Area 2	5.3	5.3	Lead		30	36					Exclude
HB13-07	36 - 42 *	9/10/2013	Area 2	3.1	3.1	Lead		36	42					Exclude
HB13-07	42 - 48 *	9/10/2013	Area 2	2.9	2.9	Lead		42	48					Exclude
HB13-08	0 - 18	9/11/2013	Area 2	150	150	Lead	FC-2	0	18	38.28	21.756	exclude	Yes	Exclude
HB13-08	18 - 36	9/11/2013	Area 2	230	230	Lead	FC-2	18	36	38.28	21.756	include	Yes	Include
HB13-08	36 - 60	9/11/2013	Area 2	200	200	Lead	FC-2	36	60	38.28	21.756	include	Yes	Include
HB13-08	60 - 92	9/11/2013	Area 2	54	54	Lead	FC-2	60	92	38.28	21.756	include	No	Exclude
HB13-10	0 - 6 *	9/10/2013	Area 2	5.7	5.7	Lead		0	6	0.0039996			Yes	Include
HB13-11	0 - 18	9/11/2013	Area 2	91	91	Lead	FC-4	0	18	25.2	23.964	exclude	Yes	Exclude
HB13-11	18 - 24 *	9/11/2013	Area 2	130	130	Lead	FC-4	18	24	25.2	23.964	include	Yes	Include
HB13-11	18 - 42	9/11/2013	Area 2	NA	NA	Lead	FC-4	18	42	25.2	23.964	include	Yes	Include
HB13-11	24 - 30 *	9/11/2013	Area 2	140	140	Lead	FC-4	24	30	25.2	23.964	include	Yes	Include
HB13-11	30 - 36 *	9/11/2013	Area 2	130	130	Lead	FC-4	30	36	25.2	23.964	include	No	Exclude
HB13-11	36 - 42 *	9/11/2013	Area 2	110	110	Lead	FC-4	36	42	25.2	23.964	include	No	Exclude
HB13-11	42 - 48 *	9/11/2013	Area 2	72	72	Lead	FC-4	42	48	25.2	23.964	include	No	Exclude
HB13-11	42 - 60	9/11/2013	Area 2	NA	NA	Lead	FC-4	42	60	25.2	23.964	include	No	Exclude
HB13-11	48 - 54 *	9/11/2013	Area 2	660	660	Lead	FC-4	48	54	25.2	23.964	include	No	Exclude
HB13-11	54 - 60 *	9/11/2013	Area 2	73	73	Lead	FC-4	54	60	25.2	23.964	include	No	Exclude
HB13-12	0 - 6 *	9/10/2013	Area 2	5	5	Lead		0	6	5.9960004			Yes	Include
HB13-13	0 - 1 *	9/11/2013	Area 2	53	53	Lead	SND-5	0	1	0.9999996			Yes	Include
HB13-14	0 - 6 *	9/12/2013	Area 2	65	65	Lead	FC-6	0	6	45.9999996	-5.316	include	Yes	Include
HB13-14	0 - 24	9/12/2013	Area 2	NA	NA	Lead	FC-6	0	24	45.9999996	-5.316	include	Yes	Include
HB13-14	6 - 24 *	9/12/2013	Area 2	160	160	Lead	FC-6	6	24	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 42 *	9/12/2013	Area 2	78	78	Lead	FC-6	24	42	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 46	9/12/2013	Area 2	NA	NA	Lead	FC-6	24	46	45.9999996	-5.316	include	Yes	Include
HB13-14	42 - 46 *	9/12/2013	Area 2	69	69	Lead	FC-6	42	46	45.9999996	-5.316	include	Yes	Include
HB13-15	0 - 6 *	9/12/2013	Area 2	140	140	Lead	FC-7	0	6	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	6 - 12 *	9/12/2013	Area 2	100	100	Lead	FC-7	6	12	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	12 - 19 *	9/12/2013	Area 2	130	130	Lead	FC-7	12	19	18.9999996	18.516	include	Yes	Include
HB13-16	0 - 6 *	9/12/2013	Area 2	55	55	Lead		0	6	26.0000004			Yes	Include
HB13-16	6 - 12 *	9/12/2013	Area 2	13	13	Lead		6	12	26.0000004			Yes	Include
HB13-16	12 - 18 *	9/12/2013	Area 2	22	22	Lead		12	18	26.0000004			Yes	Include
HB13-16	18 - 24 *	9/12/2013	Area 2	42	42	Lead		18	24	26.0000004			Yes	Include
HB13-16	24 - 27 *	9/12/2013	Area 2	22	22	Lead		24	27	26.0000004			Yes	Include
HB13-17	0 - 12 *	9/12/2013	Area 2	94	94	Lead	FC-7	0	12	24	16.2	exclude	Yes	Exclude
HB13-17	12 - 18 *	9/12/2013	Area 2	110	110	Lead	FC-7	12	18	24	16.2	include	Yes	Include
HB13-17	18 - 24 *	9/12/2013	Area 2	110	110	Lead	FC-7	18	24	24	16.2	include	Yes	Include
HB13-17	24 - 47 *	9/12/2013	Area 2	80	80	Lead	FC-7	24	47	24	16.2	include	No	Exclude
HB13-18	0 - 6	9/12/2013	Area 2	67	67	Lead		0	6	9.9999996			Yes	Include
HB13-18	6 - 10	9/12/2013	Area 2	62	62	Lead		6	10	9.9999996			Yes	Include
HB13-18	10 - 16	9/12/2013	Area 2	9.2	9.2	Lead		10	16	9.9999996			No	Exclude
HB13-19	0 - 6 *	9/13/2013	Area 2	60	60	Lead		0	6					Exclude
HB13-19	6 - 24 *	9/13/2013	Area 2	44	44	Lead		6	24					Exclude
HB13-19	18 - 20 *	9/13/2013	Area 2	NA	NA	Lead		18	20					Exclude
HB13-19	24 - 42 *	9/13/2013	Area 2	9.6	9.6	Lead		24	42					Exclude
HB13-19	42 - 61 *	9/13/2013	Area 2	8.1	8.1	Lead		42	61					Exclude
HB13-19	61 - 67 *	9/13/2013	Area 2	15	15	Lead		61	67					Exclude
HB13-20	0 - 6 *	9/12/2013	Area 2	58	58	Lead		0	6	24			Yes	Include
HB13-20	0 - 12	9/12/2013	Area 2	NA	NA	Lead		0	12	24			Yes	Include
HB13-20	6 - 12 *	9/12/2013	Area 2	23	23	Lead		6	12	24			Yes	Include
HB13-20	12 - 18 *	9/12/2013	Area 2	98	98	Lead		12	18	24			Yes	Include
HB13-20	12 - 24	9/12/2013	Area 2	NA	NA	Lead		12	24	24			Yes	Include
HB13-20	18 - 24 *	9/12/2013	Area 2	70	70	Lead		18	24	24			Yes	Include
HB13-20	24 - 30 *	9/12/2013	Area 2	33	33	Lead		24	30	24			No	Exclude
HB13-20	24 - 36	9/12/2013	Area 2	NA	NA	Lead		24	36	24			No	Exclude
HB13-20	30 - 36 *	9/12/2013	Area 2	50	50	Lead		30	36	24			No	Exclude
HB13-20	36 - 42 *	9/12/2013	Area 2	45	45	Lead		36	42	24			No	Exclude
HB13-20	36 - 48	9/12/2013	Area 2	NA	NA	Lead		36	48	24			No	Exclude
HB13-20	42 - 48 *	9/12/2013	Area 2	52	52	Lead		42	48	24			No	Exclude
HB13-21	0 - 6 *	9/13/2013	Area 2	80	80	Lead	OC-10	0	6	24			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than	Sample down	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft	573.6 ft (FC units)?	to target depth?	
HB13-21	6 - 24 *	9/13/2013	Area 2	85	85	Lead	OC-10	6	24	24			Yes	Include
HB13-21	24 - 48 *	9/13/2013	Area 2	32	32	Lead	OC-10	24	48	24			No	Exclude
HB13-21	48 - 72 *	9/13/2013	Area 2	6.8	6.8	Lead	OC-10	48	72	24			No	Exclude
HB13-21	72 - 88 *	9/13/2013	Area 2	2.3	2.3	Lead	OC-10	72	88	24			No	Exclude
HB13-22	0 - 28 *	9/12/2013	Area 2	90	90	Lead	FC-7	0	28	24	36.72	exclude	Yes	Exclude
HB13-22	28 - 31 *	9/12/2013	Area 2	33	33	Lead	FC-7	28	31	24	36.72	exclude	No	Exclude
HB13-23	0 - 12 *	9/12/2013	Area 2	66	66	Lead	SND-5	0	12	27			Yes	Include
HB13-23	12 - 18 *	9/12/2013	Area 2	65	65	Lead	SND-5	12	18	27			Yes	Include
HB13-23	18 - 24 *	9/12/2013	Area 2	57	57	Lead	SND-5	18	24	27			Yes	Include
HB13-23	24 - 32 *	9/12/2013	Area 2	46	46	Lead	SND-5	24	32	27			Yes	Include
HB13-24	0 - 6	9/12/2013	Hughitt Ave Slip	91	91	Lead	HS-3	0	6	6			Yes	Include
HB13-24	0 - 24 *	9/12/2013	HUGHITT AVE SLIP	NA	NA	Lead	HS-3	0	24	6			Yes	Include
HB13-24	6 - 24	9/12/2013	Hughitt Ave Slip	74	74	Lead	HS-3	6	24	6			No	Exclude
HB13-25	0 - 6 *	9/12/2013	Area 1	93	93	Lead	OC-11	0	6	57			Yes	Include
HB13-25	0 - 18	9/12/2013	Area 1	NA	NA	Lead	OC-11	0	18	57			Yes	Include
HB13-25	6 - 18 *	9/12/2013	Area 1	130	130	Lead	OC-11	6	18	57			Yes	Include
HB13-25	18 - 36 *	9/12/2013	Area 1	410	410	Lead	OC-11	18	36	57			Yes	Include
HB13-25	18 - 57	9/12/2013	Area 1	NA	NA	Lead	OC-11	18	57	57			Yes	Include
HB13-25	36 - 57 *	9/12/2013	Area 1	27	27	Lead	OC-11	36	57	57			Yes	Include
HB13-26	0 - 12	9/13/2013	Area 1	83	83	Lead	FC-10	0	12	33	17.04	exclude	Yes	Exclude
HB13-26	12 - 18	9/13/2013	Area 1	120	120	Lead	FC-10	12	18	33	17.04	include	Yes	Include
HB13-26	18 - 33	9/13/2013	Area 1	95	95	Lead	FC-10	18	33	33	17.04	include	Yes	Include
HB13-27	0 - 6 *	9/13/2013	Area 1	13	13	Lead		0	6					Exclude
HB13-27	0 - 32	9/13/2013	Area 1	NA	NA	Lead		0	32					Exclude
HB13-28	0 - 8 *	9/13/2013	Area 1	92	92	Lead	FC-11	0	8	14.0000004	13.68	exclude	Yes	Exclude
HB13-28	8 - 14 *	9/13/2013	Area 1	91	91	Lead	FC-11	8	14	14.0000004	13.68	include	Yes	Include
HB13-28	14 - 26 *	9/13/2013	Area 1	63	63	Lead	FC-11	14	26	14.0000004	13.68	include	Yes	Include
HB13-28	26 - 40 *	9/13/2013	Area 1	35	35	Lead	FC-11	26	40	14.0000004	13.68	include	No	Exclude
HB13-29	0 - 6	9/13/2013	Area 1	46	46	Lead	FC-12/FC-13	0	6	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 12 *	9/13/2013	Area 1	NA	NA	Lead	FC-12/FC-13	0	12	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 18 *	9/13/2013	Area 1	NA	NA	Lead	FC-12/FC-13	0	18	44.0000004	1.044	include	Yes	Include
HB13-29	6 - 12	9/13/2013	Area 1	88	88	Lead	FC-12/FC-13	6	12	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 24	9/13/2013	Area 1	55	55	Lead	FC-12/FC-13	12	24	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 44 *	9/13/2013	Area 1	NA	NA	Lead	FC-12/FC-13	12	44	44.0000004	1.044	include	Yes	Include
HB13-29	24 - 44	9/13/2013	Area 1	110	110	Lead	FC-12/FC-13	24	44	44.0000004	1.044	include	Yes	Include
HB13-30	0 - 6	9/10/2013	Area 1	46	46	Lead	SND-1	0	6	60			Yes	Include
HB13-30	6 - 24	9/10/2013	Area 1	49	49	Lead	SND-1	6	24	60			Yes	Include
HB13-30	24 - 42	9/10/2013	Area 1	78	78	Lead	SND-1	24	42	60			Yes	Include
HB13-30	42 - 60	9/10/2013	Area 1	55	55	Lead	SND-1	42	60	60			Yes	Include
HB13-30	60 - 78	9/10/2013	Area 1	39	39	Lead	SND-1	60	78	60			No	Exclude
HB13-31	0 - 6	9/13/2013	Area 1	35	35	Lead	FC-16	0	6	27	2.76	include	Yes	Include
HB13-31	6 - 18	9/13/2013	Area 1	36	36	Lead	FC-16	6	18	27	2.76	include	Yes	Include
HB13-31	18 - 27	9/13/2013	Area 1	54	54	Lead	FC-16	18	27	27	2.76	include	Yes	Include
HB13-31	27 - 33	9/13/2013	Area 1	NA	NA	Lead	FC-16	27	33	27	2.76	include	No	Exclude
HB13-32	0 - 6	9/13/2013	Area 1	44	44	Lead	FC-14	0	6	26.0000004	-2.52	include	Yes	Include
HB13-32	6 - 18	9/13/2013	Area 1	40	40	Lead	FC-14	6	18	26.0000004	-2.52	include	Yes	Include
HB13-32	18 - 26	9/13/2013	Area 1	48	48	Lead	FC-14	18	26	26.0000004	-2.52	include	Yes	Include
HB13-32	26 - 32	9/13/2013	Area 1	NA	NA	Lead	FC-14	26	32	26.0000004	-2.52	include	Yes	Include
HB13-33	0 - 6	9/13/2013	Area 1	9.4	9.4	Lead		0	6	12			Yes	Include
HB13-33	6 - 12	9/13/2013	Area 1	10	10	Lead		6	12	12			Yes	Include
HB13-34	0 - 6	9/13/2013	Area 1	8.9	8.9	Lead		0	6	0.5000004			Yes	Include
HB13-35	0 - 6	9/13/2013	Hughitt Ave Slip	5.8	5.8	Lead		0	6	3.9999996			Yes	Include
HB13-35	6 - 12	9/13/2013	Hughitt Ave Slip	NA	NA	Lead		6	12	3.9999996			No	Exclude
HB13-37	2 - 6	9/10/2013	Hughitt Ave Slip	43	43	Lead	HS-3	2	6	6			Yes	Include
HB13-38	0 - 6	9/12/2013	Hughitt Ave Slip	33	33	Lead	HS-3	0	6	6			Yes	Include
HB13-39	4 - 10	9/13/2013	Hughitt Ave Slip	340	340	Lead	HS-2	4	10	27.9999996			Yes	Include
HB13-39	10 - 28	9/13/2013	Hughitt Ave Slip	550	550	Lead	HS-2	10	28	27.9999996			Yes	Include
HB13-39	28 - 34	9/13/2013	Hughitt Ave Slip	15	15	Lead	HS-2	28	34	27.9999996			No	Exclude
HB13-40	0 - 6	9/13/2013	Hughitt Ave Slip	48	48	Lead	HS-2	0	6	86.0000004			Yes	Include
HB13-40	0 - 24 *	9/13/2013	Hughitt Ave Slip	NA	NA	Lead	HS-2	0	24	86.0000004			Yes	Include
HB13-40	6 - 24	9/13/2013	Hughitt Ave Slip	52	52	Lead	HS-2	6	24	86.0000004			Yes	Include
HB13-40	24 - 48	9/13/2013	Hughitt Ave Slip	130	130	Lead	HS-2	24	48	86.0000004			Yes	Include
HB13-40	48 - 72	9/13/2013	Hughitt Ave Slip	28	28	Lead	HS-2	48	72	86.0000004			Yes	Include
HB13-40	72 - 86	9/13/2013	Hughitt Ave Slip	9.9	9.9	Lead	HS-2	72	86	86.0000004			Yes	Include
HB13-41	0 - 6	9/10/2013	Hughitt Ave Slip	95	95	Lead	HS-2	0	6	29.0000004			Yes	Include
HB13-41	0 - 24 *	9/10/2013	Hughitt Ave Slip	NA	NA	Lead	HS-2	0	24	29.0000004			Yes	Include
HB13-41	6 - 24	9/10/2013	Hughitt Ave Slip	310	310	Lead	HS-2	6	24	29.0000004			Yes	Include
HB13-41	24 - 29	9/10/2013	Hughitt Ave Slip	190	190	Lead	HS-2	24	29	29.0000004			Yes	Include
HB13-42	0 - 6	9/11/2013	Cummings Ave Slip	270	270	Lead	CS-3	0	6	33			Yes	Include
HB13-42	6 - 24	9/11/2013	Cummings Ave Slip	59	59	Lead	CS-3	6	24	33			Yes	Include
HB13-42	24 - 33	9/11/2013	Cummings Ave Slip	28	28	Lead	CS-3	24	33	33			Yes	Include
HB13-42	33 - 36	9/11/2013	Cummings Ave Slip	NA	NA	Lead	CS-3	33	36	33			No	Exclude
HB13-43	0 - 6	9/11/2013	Cummings Ave Slip	57	57	Lead	CS-2	0	6	24			Yes	Include
HB13-43	0 - 24 *	9/11/2013	Cummings Ave Slip	NA	NA	Lead	CS-2	0	24	24			Yes	Include
HB13-43	6 - 24	9/11/2013	Cummings Ave Slip	66	66	Lead	CS-2	6	24	24			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB13-45	0 - 6	9/11/2013	Cummings Ave Slip	220	220	Lead	CS-2	0	6	21			Yes	Include
HB13-45	6 - 21	9/11/2013	Cummings Ave Slip	280	280	Lead	CS-2	6	21	21			Yes	Include
HB13-47	0 - 6	9/10/2013	Fraser Ave Slip	230	230	Lead	FS-1	0	6	30.996			Yes	Include
HB13-47	6 - 24	9/10/2013	Fraser Ave Slip	300	300	Lead	FS-1	6	24	30.996			Yes	Include
HB13-47	24 - 31	9/10/2013	Fraser Ave Slip	450	450	Lead	FS-1	24	31	30.996			Yes	Include
HB13-47	31 - 37 *	9/10/2013	Fraser Ave Slip	37	37	Lead	FS-1	31	37	30.996			No	Exclude
HB13-48	0 - 6 *	9/10/2013	Fraser Ave Slip	180	180	Lead	FS-2	0	6	45.9999996			Yes	Include
HB13-48	0 - 24	9/10/2013	FRASER AVE SLIP	NA	NA	Lead	FS-2	0	24	45.9999996			Yes	Include
HB13-48	6 - 24 *	9/10/2013	Fraser Ave Slip	340	340	Lead	FS-2	6	24	45.9999996			Yes	Include
HB13-48	24 - 42 *	9/10/2013	Fraser Ave Slip	500	500	Lead	FS-2	24	42	45.9999996			Yes	Include
HB13-48	24 - 46 *	9/10/2013	FRASER AVE SLIP	NA	NA	Lead	FS-2	24	46	45.9999996			Yes	Include
HB13-48	42 - 46 *	9/10/2013	Fraser Ave Slip	550	550	Lead	FS-2	42	46	45.9999996			Yes	Include
HB13-49	0 - 6	9/11/2013	Fraser Ave Slip	140	140	Lead	FS-2	0	6	30			Yes	Include
HB13-49	6 - 24	9/11/2013	Fraser Ave Slip	360	360	Lead	FS-2	6	24	30			Yes	Include
HB13-49	24 - 30	9/11/2013	Fraser Ave Slip	300	300	Lead	FS-2	24	30	30			Yes	Include
HB13-50	0 - 12 *	9/13/2013	Area 1	77	77	Lead	OC-12	0	12	47.0000004			Yes	Include
HB13-50	12 - 24 *	9/13/2013	Area 1	70	70	Lead	OC-12	12	24	47.0000004			Yes	Include
HB13-50	24 - 36 *	9/13/2013	Area 1	220	220	Lead	OC-12	24	36	47.0000004			Yes	Include
HB13-50	36 - 47 *	9/13/2013	Area 1	220	220	Lead	OC-12	36	47	47.0000004			Yes	Include
HB13-51	0 - 6 *	9/11/2013	Area 2	23	23	Lead		0	6					Exclude
HB13-51	6 - 15 *	9/11/2013	Area 2	60	60	Lead		6	15					Exclude
HB13-52	0 - 6 *	9/11/2013	Area 2	93	93	Lead	OC-10	0	6	12			Yes	Include
HB13-52	6 - 12 *	9/11/2013	Area 2	160	160	Lead	OC-10	6	12	12			Yes	Include
HB13-52	12 - 17 *	9/11/2013	Area 2	73	73	Lead	OC-10	12	17	12			No	Exclude
HB14-01	0 - 6	8/18/2014	Area 1	NA	NA	Lead	SND-1	0	6					Exclude
HB14-01	6 - 18	8/18/2014	Area 1	NA	NA	Lead	SND-1	6	18					Exclude
HB14-02	0 - 6	8/18/2014	Area 1	NA	NA	Lead	FC-15	0	6	17.004	-12.996	include	Yes	Include
HB14-02	6 - 14	8/18/2014	Area 1	NA	NA	Lead	FC-15	6	14	17.004	-12.996	include	Yes	Include
HB14-03	0 - 6	8/18/2014	Area 1	NA	NA	Lead	FC-15	0	6	29.997288	-2.472	include	Yes	Include
HB14-03	6 - 18	8/18/2014	Area 1	NA	NA	Lead	FC-15	6	18	29.997288	-2.472	include	Yes	Include
HB14-03	18 - 30	8/18/2014	Area 1	NA	NA	Lead	FC-15	18	30	29.997288	-2.472	include	Yes	Include
HB14-03	30 - 42	8/18/2014	Area 1	NA	NA	Lead	FC-15	30	42	29.997288	-2.472	include	No	Exclude
HB14-03	42 - 54	8/18/2014	Area 1	NA	NA	Lead	FC-15	42	54	29.997288	-2.472	include	No	Exclude
HB14-04	0 - 6	8/18/2014	Area 1	NA	NA	Lead		0	6	29.904			Yes	Include
HB14-04	6 - 18	8/18/2014	Area 1	NA	NA	Lead		6	18	29.904			Yes	Include
HB14-04	18 - 30	8/18/2014	Area 1	NA	NA	Lead		18	30	29.904			Yes	Include
HB14-05 G		8/18/2014	Area 1	NA	NA	Lead			#VALUE!					Exclude
HB14-06	0 - 6	8/18/2014	Area 1	NA	NA	Lead		0	6	30.588			Yes	Include
HB14-06	6 - 24	8/18/2014	Area 1	NA	NA	Lead		6	24	30.588			Yes	Include
HB14-07	0 - 6	8/18/2014	Area 1	NA	NA	Lead		0	6	78.012			Yes	Include
HB14-07	6 - 24	8/18/2014	Area 1	NA	NA	Lead		6	24	78.012			Yes	Include
HB14-07	24 - 42	8/18/2014	Area 1	NA	NA	Lead		24	42	78.012			Yes	Include
HB14-08	0 - 6	8/19/2014	Area 1	NA	NA	Lead		0	6	34.416			Yes	Include
HB14-08	6 - 19	8/19/2014	Area 1	NA	NA	Lead		6	19	34.416			Yes	Include
HB14-09	0 - 12	8/19/2014	Area 1	NA	NA	Lead	OC-16	0	12	12.003804			Yes	Include
HB14-09	12 - 24	8/19/2014	Area 1	NA	NA	Lead	OC-16	12	24	12.003804			Yes	Include
HB14-09	24 - 36	8/19/2014	Area 1	NA	NA	Lead	OC-16	24	36	12.003804			No	Exclude
HB14-09	36 - 48	8/19/2014	Area 1	NA	NA	Lead	OC-16	36	48	12.003804			No	Exclude
HB14-09	48 - 60	8/19/2014	Area 1	NA	NA	Lead	OC-16	48	60	12.003804			No	Exclude
HB14-09	60 - 72	8/19/2014	Area 1	NA	NA	Lead	OC-16	60	72	12.003804			No	Exclude
HB14-10	0 - 6	8/20/2014	Area 1	NA	NA	Lead		0	6	54.005544			Yes	Include
HB14-10	6 - 18	8/20/2014	Area 1	NA	NA	Lead		6	18	54.005544			Yes	Include
HB14-10	18 - 30	8/20/2014	Area 1	NA	NA	Lead		18	30	54.005544			Yes	Include
HB14-10	30 - 42	8/20/2014	Area 1	NA	NA	Lead		30	42	54.005544			Yes	Include
HB14-10	42 - 54	8/20/2014	Area 1	NA	NA	Lead		42	54	54.005544			Yes	Include
HB14-10	54 - 66	8/20/2014	Area 1	NA	NA	Lead		54	66	54.005544			Yes	Include
HB14-11	0 - 6	8/19/2014	Area 1	78	78	Lead	SND-2	0	6					Exclude
HB14-11	6 - 18	8/19/2014	Area 1	41	41	Lead	SND-2	6	18					Exclude
HB14-11	18 - 20	8/19/2014	Area 1	19	19	Lead	SND-2	18	20					Exclude
HB14-12	0 - 6	8/19/2014	Area 1	96	96	Lead	SND-4	0	6	26.34			Yes	Include
HB14-12	6 - 18	8/19/2014	Area 1	76	76	Lead	SND-4	6	18	26.34			Yes	Include
HB14-12	18 - 32	8/19/2014	Area 1	94	94	Lead	SND-4	18	32	26.34			Yes	Include
HB14-13	0 - 6	8/19/2014	Area 2	7.9	7.9	Lead	SND-5	0	6	-0.648			No	Exclude
HB14-13	6 - 11	8/19/2014	Area 2	8	8	Lead	SND-5	6	11	-0.648			No	Exclude
HB14-14	0 - 6	8/20/2014	Area 2	140	140	Lead	OC-4	0	6	101.997672			Yes	Include
HB14-14	4 - 6	8/20/2014	Area 2	NA	NA	Lead	OC-4	4	6	101.997672			Yes	Include
HB14-14	6 - 18	8/20/2014	Area 2	110	110	Lead	OC-4	6	18	101.997672			Yes	Include
HB14-14	6 - 30	8/20/2014	Area 2	NA	NA	Lead	OC-4	6	30	101.997672			Yes	Include
HB14-14	18 - 30	8/20/2014	Area 2	110	110	Lead	OC-4	18	30	101.997672			Yes	Include
HB14-14	30 - 42	8/20/2014	Area 2	170	170	Lead	OC-4	30	42	101.997672			Yes	Include
HB14-14	30 - 54	8/20/2014	Area 2	NA	NA	Lead	OC-4	30	54	101.997672			Yes	Include
HB14-14	42 - 54	8/20/2014	Area 2	27	27	Lead	OC-4	42	54	101.997672			Yes	Include
HB14-14	54 - 66	8/20/2014	Area 2	65	65	Lead	OC-4	54	66	101.997672			Yes	Include
HB14-14	54 - 78	8/20/2014	Area 2	NA	NA	Lead	OC-4	54	78	101.997672			Yes	Include
HB14-14	66 - 78	8/20/2014	Area 2	100	100	Lead	OC-4	66	78	101.997672			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB14-14	78 - 90	8/20/2014	Area 2	98	98	Lead	OC-4	78	90	101.997672			Yes	Include
HB14-14	78 - 102	8/20/2014	Area 2	NA	NA	Lead	OC-4	78	102	101.997672			Yes	Include
HB14-14	90 - 102	8/20/2014	Area 2	90	90	Lead	OC-4	90	102	101.997672			Yes	Include
HB14-14	102 - 111	8/20/2014	Area 2	45	45	Lead	OC-4	102	111	101.997672			No	Exclude
HB15-01	0 - 12	6/23/2015	Hughitt Ave Slip	87	87	Lead	HS-1	0	12	51.096			Yes	Include
HB15-01	12 - 24	6/23/2015	Hughitt Ave Slip	86	86	Lead	HS-1	12	24	51.096			Yes	Include
HB15-01	24 - 36	6/23/2015	Hughitt Ave Slip	110	110	Lead	HS-1	24	36	51.096			Yes	Include
HB15-01	36 - 48	6/23/2015	Hughitt Ave Slip	130	130	Lead	HS-1	36	48	51.096			Yes	Include
HB15-01	48 - 57	6/23/2015	Hughitt Ave Slip	310	310	Lead	HS-1	48	57	51.096			Yes	Include
HB15-02	0 - 12	6/23/2015	Hughitt Ave Slip	120	120	Lead	HS-1	0	12	48.000696			Yes	Include
HB15-02	12 - 24	6/23/2015	Hughitt Ave Slip	190	190	Lead	HS-1	12	24	48.000696			Yes	Include
HB15-02	24 - 36	6/23/2015	Hughitt Ave Slip	340	340	Lead	HS-1	24	36	48.000696			Yes	Include
HB15-02	36 - 48	6/23/2015	Hughitt Ave Slip	850	850	Lead	HS-1	36	48	48.000696			Yes	Include
HB15-03	0 - 12	6/23/2015	Hughitt Ave Slip	64	64	Lead	HS-1	0	12	67.9950564			Yes	Include
HB15-03	12 - 24	6/23/2015	Hughitt Ave Slip	69	69	Lead	HS-1	12	24	67.9950564			Yes	Include
HB15-03	24 - 36	6/23/2015	Hughitt Ave Slip	130 F2F1	130	Lead	HS-1	24	36	67.9950564			Yes	Include
HB15-03	36 - 48	6/23/2015	Hughitt Ave Slip	120	120	Lead	HS-1	36	48	67.9950564			Yes	Include
HB15-03	48 - 60	6/23/2015	Hughitt Ave Slip	110	110	Lead	HS-1	48	60	67.9950564			Yes	Include
HB15-03	60 - 68	6/23/2015	Hughitt Ave Slip	220	220	Lead	HS-1	60	68	67.9950564			Yes	Include
HB15-03R	0 - 12	6/23/2015	Hughitt Ave Slip	65	65	Lead	HS-1	0	12	67.9950564			Yes	Include
HB15-03R	12 - 24	6/23/2015	Hughitt Ave Slip	85	85	Lead	HS-1	12	24	67.9950564			Yes	Include
HB15-03R	24 - 36	6/23/2015	Hughitt Ave Slip	270	270	Lead	HS-1	24	36	67.9950564			Yes	Include
HB15-03R	36 - 48	6/23/2015	Hughitt Ave Slip	81	81	Lead	HS-1	36	48	67.9950564			Yes	Include
HB15-03R	48 - 60	6/23/2015	Hughitt Ave Slip	73	73	Lead	HS-1	48	60	67.9950564			Yes	Include
HB15-03R	60 - 68	6/23/2015	Hughitt Ave Slip	120	120	Lead	HS-1	60	68	67.9950564			Yes	Include
HB15-04	0 - 12	6/23/2015	Hughitt Ave Slip	51	51	Lead	HS-1	0	12	63.84			Yes	Include
HB15-04	12 - 24	6/23/2015	Hughitt Ave Slip	58	58	Lead	HS-1	12	24	63.84			Yes	Include
HB15-04	24 - 36	6/23/2015	Hughitt Ave Slip	51	51	Lead	HS-1	24	36	63.84			Yes	Include
HB15-04	36 - 48	6/23/2015	Hughitt Ave Slip	49	49	Lead	HS-1	36	48	63.84			Yes	Include
HB15-04	48 - 59	6/23/2015	Hughitt Ave Slip	53	53	Lead	HS-1	48	59	63.84			Yes	Include
HB15-05	0 - 12	6/23/2015	Hughitt Ave Slip	62	62	Lead	HS-1	0	12	71.994852			Yes	Include
HB15-05	12 - 24	6/23/2015	Hughitt Ave Slip	59	59	Lead	HS-1	12	24	71.994852			Yes	Include
HB15-05	24 - 36	6/23/2015	Hughitt Ave Slip	270	270	Lead	HS-1	24	36	71.994852			Yes	Include
HB15-05	36 - 48	6/23/2015	Hughitt Ave Slip	170	170	Lead	HS-1	36	48	71.994852			Yes	Include
HB15-05	48 - 60	6/23/2015	Hughitt Ave Slip	140	140	Lead	HS-1	48	60	71.994852			Yes	Include
HB15-05	60 - 72	6/23/2015	Hughitt Ave Slip	98.0 F1	98	Lead	HS-1	60	72	71.994852			Yes	Include
HB15-05	72 - 80	6/23/2015	Hughitt Ave Slip	20	20	Lead	HS-1	72	80	71.994852			No	Exclude
HB15-06	0 - 9	6/23/2015	Hughitt Ave Slip	58	58	Lead	HS-2	0	9	9.000636			Yes	Include
HB15-07	0 - 12	6/23/2015	Cummings Ave Slip	240	240	Lead	CS-1	0	12	90.9955116			Yes	Include
HB15-07	12 - 24	6/23/2015	Cummings Ave Slip	400	400	Lead	CS-1	12	24	90.9955116			Yes	Include
HB15-07	24 - 36	6/23/2015	Cummings Ave Slip	480	480	Lead	CS-1	24	36	90.9955116			Yes	Include
HB15-07	36 - 48	6/23/2015	Cummings Ave Slip	280	280	Lead	CS-1	36	48	90.9955116			Yes	Include
HB15-07	48 - 60	6/23/2015	Cummings Ave Slip	370	370	Lead	CS-1	48	60	90.9955116			Yes	Include
HB15-07	60 - 72	6/23/2015	Cummings Ave Slip	400	400	Lead	CS-1	60	72	90.9955116			Yes	Include
HB15-07	72 - 84	6/23/2015	Cummings Ave Slip	360	360	Lead	CS-1	72	84	90.9955116			Yes	Include
HB15-07	84 - 91	6/23/2015	Cummings Ave Slip	420	420	Lead	CS-1	84	91	90.9955116			Yes	Include
HB15-08	0 - 12	6/24/2015	Cummings Ave Slip	170	170	Lead	CS-2	0	12	65.997804			Yes	Include
HB15-08	12 - 24	6/24/2015	Cummings Ave Slip	380	380	Lead	CS-2	12	24	65.997804			Yes	Include
HB15-08	24 - 36	6/24/2015	Cummings Ave Slip	380	380	Lead	CS-2	24	36	65.997804			Yes	Include
HB15-08	36 - 48	6/24/2015	Cummings Ave Slip	240	240	Lead	CS-2	36	48	65.997804			Yes	Include
HB15-08	48 - 60	6/24/2015	Cummings Ave Slip	180	180	Lead	CS-2	48	60	65.997804			Yes	Include
HB15-08	60 - 66	6/24/2015	Cummings Ave Slip	170	170	Lead	CS-2	60	66	65.997804			Yes	Include
HB15-09	0 - 12	6/24/2015	Cummings Ave Slip	220	220	Lead	CS-3	0	12	45.396			Yes	Include
HB15-09	12 - 17	6/24/2015	Cummings Ave Slip	160	160	Lead	CS-3	12	17	45.396			Yes	Include
HB15-10	0 - 12	6/24/2015	Cummings Ave Slip	26	26	Lead		0	12	-0.936			No	Exclude
HB15-11	0 - 12	6/24/2015	Cummings Ave Slip	120	120	Lead	CS-5	0	12	27.9944796			Yes	Include
HB15-11	12 - 24	6/24/2015	Cummings Ave Slip	250	250	Lead	CS-5	12	24	27.9944796			Yes	Include
HB15-11	24 - 28	6/24/2015	Cummings Ave Slip	150	150	Lead	CS-5	24	28	27.9944796			Yes	Include
HB15-12	0 - 12	6/24/2015	Area 2	120	120	Lead	FP-1	0	12	29.994876			Yes	Include
HB15-12	12 - 24	6/24/2015	Area 2	180	180	Lead	FP-1	12	24	29.994876			Yes	Include
HB15-12	24 - 30	6/24/2015	Area 2	130	130	Lead	FP-1	24	30	29.994876			Yes	Include
HB15-13	0 - 12	6/24/2015	Area 2	140	140	Lead	FP-1	0	12	64.0033716			Yes	Include
HB15-13	12 - 24	6/24/2015	Area 2	220	220	Lead	FP-1	12	24	64.0033716			Yes	Include
HB15-13	24 - 36	6/24/2015	Area 2	150	150	Lead	FP-1	24	36	64.0033716			Yes	Include
HB15-13	36 - 48	6/24/2015	Area 2	170	170	Lead	FP-1	36	48	64.0033716			Yes	Include
HB15-13	48 - 60	6/24/2015	Area 2	130	130	Lead	FP-1	48	60	64.0033716			Yes	Include
HB15-13	60 - 64	6/24/2015	Area 2	110	110	Lead	FP-1	60	64	64.0033716			Yes	Include
HB15-14	0 - 12	6/24/2015	Area 2	150	150	Lead	FP-1	0	12	23.996196			Yes	Include
HB15-14	12 - 24	6/24/2015	Area 2	120	120	Lead	FP-1	12	24	23.996196			Yes	Include
HB15-14	24 - 28	6/24/2015	Area 2	45	45	Lead	FP-1	24	28	23.996196			No	Exclude
HB15-14	28 - 35	6/24/2015	Area 2	14	14	Lead	FP-1	28	35	23.996196			No	Exclude
HB15-15	0 - 12	6/24/2015	Area 2	390	390	Lead	FP-2	0	12	19.0051356			Yes	Include
HB15-15	12 - 19	6/24/2015	Area 2	120	120	Lead	FP-2	12	19	19.0051356			Yes	Include
HB15-15R	0 - 12	6/24/2015	Area 2	230	230	Lead	FP-2	0	12	18.9999996			Yes	Include
HB15-15R	12 - 19	6/24/2015	Area 2	240	240	Lead	FP-2	12	19	18.9999996			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB15-16	0 - 12	6/24/2015	Area 2	130	130	Lead	FP-1	0	12	8.304			Yes	Include
HB15-16	12 - 19	6/24/2015	Area 2	8.70 BF1	8.7	Lead	FP-1	12	19	8.304			No	Exclude
HB15-17	0 - 12	6/24/2015	Area 2	130 B	130	Lead	FP-2	0	12	36.004608			Yes	Include
HB15-17	12 - 24	6/24/2015	Area 2	190 B	190	Lead	FP-2	12	24	36.004608			Yes	Include
HB15-17	24 - 36	6/24/2015	Area 2	160 B	160	Lead	FP-2	24	36	36.004608			Yes	Include
HB15-17	36 - 48	6/24/2015	Area 2	56.0 B	56	Lead	FP-2	36	48	36.004608			Yes	Include
HB15-17	48 - 54	6/24/2015	Area 2	12.0 B	12	Lead	FP-2	48	54	36.004608			No	Exclude
HB15-18	0 - 12	6/24/2015	Area 2	150 B	150	Lead	FP-2	0	12	23.999508			Yes	Include
HB15-18	12 - 24	6/24/2015	Area 2	170 B	170	Lead	FP-2	12	24	23.999508			Yes	Include
HB15-19	0 - 12	6/24/2015	Area 2	51.0 B	51	Lead		0	12					Exclude
HB15-19	12 - 24	6/24/2015	Area 2	11.0 B	11	Lead		12	24					Exclude
HB15-19	24 - 32	6/24/2015	Area 2	4.30 B	4.3	Lead		24	32					Exclude
HB15-20	0 - 12	6/25/2015	Area 2	130 F1	130	Lead	OC-3	0	12	33.864			Yes	Include
HB15-20	12 - 24	6/25/2015	Area 2	180	180	Lead	OC-3	12	24	33.864			Yes	Include
HB15-20	24 - 28	6/25/2015	Area 2	12	12	Lead	OC-3	24	28	33.864			Yes	Include
HB15-20B	0 - 6	6/25/2015	Area 2	81	81	Lead	OC-13	0	6	11.996892			Yes	Include
HB15-20B	6 - 12	6/25/2015	Area 2	160 F1	160	Lead	OC-13	6	12	11.996892			Yes	Include
HB15-21G	15 - 21	6/29/2015	Fraser Ave Slip	42	42	Lead		15	21					Exclude
HB15-22G	0 - 6	6/29/2015	Fraser Ave Slip	140	140	Lead	OC-8	0	6	6			Yes	Include
HB15-23	0 - 12	6/25/2015	Fraser Ave Slip	210 B	210	Lead	FS-1	0	12	55.02			Yes	Include
HB15-23	12 - 24	6/25/2015	Fraser Ave Slip	1,700 B	1700	Lead	FS-1	12	24	55.02			Yes	Include
HB15-23	24 - 36	6/25/2015	Fraser Ave Slip	190 B	190	Lead	FS-1	24	36	55.02			Yes	Include
HB15-23	36 - 48	6/25/2015	Fraser Ave Slip	300 B	300	Lead	FS-1	36	48	55.02			Yes	Include
HB15-23	48 - 56	6/25/2015	Fraser Ave Slip	56.0 B	56	Lead	FS-1	48	56	55.02			Yes	Include
HB15-25	0 - 12	6/25/2015	Area 2	180	180	Lead	OC-1	0	12	77.4			Yes	Include
HB15-25	12 - 24	6/25/2015	Area 2	2700	2700	Lead	OC-1	12	24	77.4			Yes	Include
HB15-25	24 - 36	6/25/2015	Area 2	140	140	Lead	OC-1	24	36	77.4			Yes	Include
HB15-25	36 - 48	6/25/2015	Area 2	92	92	Lead	OC-1	36	48	77.4			Yes	Include
HB15-25	48 - 60	6/25/2015	Area 2	61	61	Lead	OC-1	48	60	77.4			Yes	Include
HB15-25	60 - 72	6/25/2015	Area 2	46	46	Lead	OC-1	60	72	77.4			Yes	Include
HB15-25	72 - 88	6/25/2015	Area 2	110	110	Lead	OC-1	72	88	77.4			Yes	Include
HB15-26	0 - 12	6/25/2015	Area 2	130	130	Lead	FC-2	0	12	38.28	6.36	include	Yes	Include
HB15-26	12 - 24	6/25/2015	Area 2	160	160	Lead	FC-2	12	24	38.28	6.36	include	Yes	Include
HB15-26	24 - 36	6/25/2015	Area 2	78	78	Lead	FC-2	24	36	38.28	6.36	include	Yes	Include
HB15-26	36 - 46	6/25/2015	Area 2	89	89	Lead	FC-2	36	46	38.28	6.36	include	Yes	Include
HB15-27	0 - 12	6/25/2015	Area 2	130	130	Lead	FC-3	0	12	33.6	14.64	exclude	Yes	Exclude
HB15-27	12 - 24	6/25/2015	Area 2	190	190	Lead	FC-3	12	24	33.6	14.64	include	Yes	Include
HB15-27	24 - 36	6/25/2015	Area 2	190	190	Lead	FC-3	24	36	33.6	14.64	include	Yes	Include
HB15-27	36 - 48	6/25/2015	Area 2	150	150	Lead	FC-3	36	48	33.6	14.64	include	No	Exclude
HB15-27	48 - 60	6/25/2015	Area 2	28	28	Lead	FC-3	48	60	33.6	14.64	include	No	Exclude
HB15-27	60 - 71	6/25/2015	Area 2	2.5	2.5	Lead	FC-3	60	71	33.6	14.64	include	No	Exclude
HB15-28	0 - 12	6/25/2015	Area 2	88	88	Lead	OC-7	0	12	11.994072			Yes	Include
HB15-28	12 - 24	6/25/2015	Area 2	23	23	Lead	OC-7	12	24	11.994072			No	Exclude
HB15-28	24 - 30	6/25/2015	Area 2	8.6	8.6	Lead	OC-7	24	30	11.994072			No	Exclude
HB15-30	0 - 12	6/25/2015	Area 2	42.0 B	42	Lead		0	12	43.776			Yes	Include
HB15-30	12 - 24	6/25/2015	Area 2	110 B	110	Lead		12	24	43.776			Yes	Include
HB15-30	24 - 36	6/25/2015	Area 2	34.0 B	34	Lead		24	36	43.776			Yes	Include
HB15-30	36 - 50	6/25/2015	Area 2	54.0 B	54	Lead		36	50	43.776			Yes	Include
HB15-31	0 - 12	6/25/2015	Area 2	30.0 B	30	Lead		0	12					Exclude
HB15-31	12 - 20	6/25/2015	Area 2	55.0 B	55	Lead		12	20					Exclude
HB15-32	0 - 12	6/25/2015	Area 1	100	100	Lead	SND-4	0	12	11.995236			Yes	Include
HB15-32	12 - 26	6/25/2015	Area 1	30.0 B	30	Lead	SND-4	12	26	11.995236			No	Exclude
HB15-33	0 - 12	6/25/2015	Area 1	62	62	Lead		0	12	26.292			Yes	Include
HB15-33	12 - 24	6/25/2015	Area 1	90	90	Lead		12	24	26.292			Yes	Include
HB15-33	24 - 39	6/25/2015	Area 1	9.2	9.2	Lead		24	39	26.292			Yes	Include
HB15-34	0 - 12	6/25/2015	Area 1	51.0 B	51	Lead	FC-11	0	12		35.52	exclude		Exclude
HB15-34	12 - 24	6/25/2015	Area 1	40.0 B	40	Lead	FC-11	12	24		35.52	exclude		Exclude
HB15-34	24 - 32	6/25/2015	Area 1	81.0 B	81	Lead	FC-11	24	32		35.52	exclude		Exclude
HB15-35	0 - 12	6/25/2015	Area 1	NA	NA	Lead	FC-16	0	12	74.28	-6.48	include	Yes	Include
HB15-35	12 - 24	6/25/2015	Area 1	NA	NA	Lead	FC-16	12	24	74.28	-6.48	include	Yes	Include
HB15-35	24 - 36	6/25/2015	Area 1	NA	NA	Lead	FC-16	24	36	74.28	-6.48	include	Yes	Include
HB15-35	36 - 48	6/25/2015	Area 1	NA	NA	Lead	FC-16	36	48	74.28	-6.48	include	Yes	Include
HB15-35	48 - 60	6/25/2015	Area 1	NA	NA	Lead	FC-16	48	60	74.28	-6.48	include	Yes	Include
HB15-35	60 - 72	6/25/2015	Area 1	NA	NA	Lead	FC-16	60	72	74.28	-6.48	include	Yes	Include
HB15-36G	15 - 36	6/29/2015	Area 2	76	76	Lead		15	36					Exclude
HB15-37	0 - 12	6/25/2015	Area 2	80.0 B	80	Lead	OC-9	0	12	51.048			Yes	Include
HB15-37	12 - 24	6/25/2015	Area 2	130 B	130	Lead	OC-9	12	24	51.048			Yes	Include
HB15-37	24 - 36	6/25/2015	Area 2	75.0 B	75	Lead	OC-9	24	36	51.048			Yes	Include
HB15-37	36 - 48	6/25/2015	Area 2	24.0 B	24	Lead	OC-9	36	48	51.048			Yes	Include
HB15-37	48 - 60	6/25/2015	Area 2	11.0 B	11	Lead	OC-9	48	60	51.048			Yes	Include
HB15-37	60 - 74	6/25/2015	Area 2	11.0 B	11	Lead	OC-9	60	74	51.048			No	Exclude
HB15-38	0 - 12	6/25/2015	Area 2	170	170	Lead	OC-9	0	12	83.184			Yes	Include
HB15-38	12 - 24	6/25/2015	Area 2	130	130	Lead	OC-9	12	24	83.184			Yes	Include
HB15-38	24 - 36	6/25/2015	Area 2	130	130	Lead	OC-9	24	36	83.184			Yes	Include
HB15-38	36 - 48	6/25/2015	Area 2	110	110	Lead	OC-9	36	48	83.184			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB15-38	48 - 60	6/25/2015	Area 2	110	110	Lead	OC-9	48	60	83.184			Yes	Include
HB15-38	60 - 72	6/25/2015	Area 2	46.0 B	46	Lead	OC-9	60	72	83.184			Yes	Include
HB15-38	72 - 84	6/25/2015	Area 2	31.0 B	31	Lead	OC-9	72	84	83.184			Yes	Include
HB15-38	84 - 96	6/25/2015	Area 2	8.50 B	8.5	Lead	OC-9	84	96	83.184			No	Exclude
HB15-G28	0 - 6	6/25/2015	Hughitt Ave Slip	27	27	Lead		0	6					Exclude
HB15-HC20A	0 - 6	6/25/2015	Area 1	190	190	Lead	OC-13	0	6	6.003036			Yes	Include
HB2A_4	0 - 6	5/12/2007	Hughitt Ave Slip	0.15	0.15	Mercury	HS-1	0	6	48.00432			Yes	Include
HB2A_4	6 - 24	5/12/2007	Hughitt Ave Slip	0.17	0.17	Mercury	HS-1	6	24	48.00432			Yes	Include
HB2A_4	24 - 48	5/12/2007	Hughitt Ave Slip	0.44	0.44	Mercury	HS-1	24	48	48.00432			Yes	Include
HB2A_6	0 - 5	5/2/2007	Area 1	0.18	0.18	Mercury		0	5					Exclude
HB2A_7	0 - 5	5/10/2007	Area 1	0.12	0.12	Mercury	SND-1	0	5					Exclude
HB2A_8	0 - 5	5/10/2007	Area 1	0.15	0.15	Mercury	FC-12/FC-13	0	5	4.9944804	79.824	exclude	Yes	Exclude
HB2A_11	0 - 5	5/10/2007	Area 1	0.34 J+LS+	0.34	Mercury		0	5					Exclude
HB2A_13	0 - 5	5/2/2007	Area 1	0.24	0.24	Mercury		0	5					Exclude
HB2A_16	0 - 5	5/2/2007	Area 1	0.082	0.082	Mercury		0	5					Exclude
HB2A_210	0 - 6	5/16/2007	Area 1	0.058	0.058	Mercury		0	6					Exclude
HB2A_210	6 - 24	5/16/2007	Area 1	0.066	0.066	Mercury		6	24					Exclude
HB2A_210	24 - 48	5/16/2007	Area 1	0.05	0.05	Mercury		24	48					Exclude
HB2A_GENES	0 - 5	5/22/2007	Cummings Ave Slip	0.035 BL	0.035	Mercury		0	5					Exclude
HB2B_17	0 - 6	5/12/2007	Fraser Ave Slip	0.35	0.35	Mercury	FS-2	0	6	24.005676			Yes	Include
HB2B_17	6 - 24	5/12/2007	Fraser Ave Slip	0.084	0.084	Mercury	FS-2	6	24	24.005676			Yes	Include
HB2B_18	0 - 6	5/7/2007	Area 2	0.49	0.49	Mercury	FP-1	0	6	47.997552			Yes	Include
HB2B_18	6 - 24	5/7/2007	Area 2	0.84	0.84	Mercury	FP-1	6	24	47.997552			Yes	Include
HB2B_18	24 - 48	5/7/2007	Area 2	0.53	0.53	Mercury	FP-1	24	48	47.997552			Yes	Include
HB2B_19	0 - 6	5/2/2007	Area 2	0.44	0.44	Mercury	OC-1	0	6	6.001728			Yes	Include
HB2B_19	6 - 24	5/2/2007	Area 2	0.11	0.11	Mercury	OC-1	6	24	6.001728			Yes	Include
HB2B_20	0 - 6	5/2/2007	Area 2	0.56	0.56	Mercury	OC-9	0	6	23.997336			Yes	Include
HB2B_20	6 - 24	5/2/2007	Area 2	0.43	0.43	Mercury	OC-9	6	24	23.997336			Yes	Include
HB2B_20	24 - 48	5/2/2007	Area 2	0.27	0.27	Mercury	OC-9	24	48	23.997336			No	Exclude
HB2B_21	0 - 5	5/2/2007	Area 2	0.13	0.13	Mercury		0	5					Exclude
HB2B_22	0 - 5	5/2/2007	Area 2	0.17	0.17	Mercury	OC-5	0	5	5.0028204			Yes	Include
HB3A_GENES	0 - 5	9/6/2007	Cummings Ave Slip	0.055	0.055	Mercury		0	5					Exclude
HB10-1-01	0 - 6	10/16/2010	Area 1	0.23	0.23	Mercury		0	6					Exclude
HB10-1-01	0 - 12	10/16/2010	Area 1	0.060 J	0.06	Mercury		0	12					Exclude
HB10-1-01	36 - 40	10/16/2010	Area 1	0.028 J	0.028	Mercury		36	40					Exclude
HB10-1-02	0 - 6	10/16/2010	Area 1	0.15 J	0.15	Mercury		0	6	23.0027508			Yes	Include
HB10-1-02	12 - 23	10/16/2010	Area 1	0.23	0.23	Mercury		12	23	23.0027508			Yes	Include
HB10-1-03	0 - 6	10/16/2010	Area 1	0.12 J	0.12	Mercury	FC-17	0	6	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	0 - 12	10/16/2010	Area 1	0.14 J	0.14	Mercury	FC-17	0	12	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	12 - 36	10/16/2010	Area 1	0.10 J	0.1	Mercury	FC-17	12	36	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	36 - 60	10/16/2010	Area 1	0.2	0.2	Mercury	FC-17	36	60	59.99475	49.872	include	Yes	Include
HB10-1-03	60 - 84	10/16/2010	Area 1	0.2	0.2	Mercury	FC-17	60	84	59.99475	49.872	include	No	Exclude
HB10-1-04	0 - 6	10/17/2010	Area 1	0.061 J	0.061	Mercury		0	6					Exclude
HB10-1-04	0 - 12	10/17/2010	Area 1	0.15	0.15	Mercury		0	12					Exclude
HB10-1-04	12 - 36	10/17/2010	Area 1	0.22	0.22	Mercury		12	36					Exclude
HB10-1-04	36 - 50	10/17/2010	Area 1	0.19	0.19	Mercury		36	50					Exclude
HB10-1-05	0 - 6	10/16/2010	Area 1	0.094 J	0.094	Mercury	OC-17	0	6	5.9987496			Yes	Include
HB10-1-07	0 - 6	10/17/2010	Area 1	0.23	0.23	Mercury	OC-15	0	6	6.0057			Yes	Include
HB10-1-07	0 - 12	10/17/2010	Area 1	0.44	0.44	Mercury	OC-15	0	12	6.0057			Yes	Include
HB10-1-07	12 - 36	10/17/2010	Area 1	0.39	0.39	Mercury	OC-15	12	36	6.0057			No	Exclude
HB10-1-07	60 - 64	10/17/2010	Area 1	0.015 J	0.015	Mercury	OC-15	60	64	6.0057			No	Exclude
HB10-1-08	0 - 6	10/17/2010	Area 1	0.16 J	0.16	Mercury		0	6	36.0057			Yes	Include
HB10-1-08	0 - 12	10/17/2010	Area 1	0.23	0.23	Mercury		0	12	36.0057			Yes	Include
HB10-1-08	12 - 36	10/17/2010	Area 1	0.68	0.68	Mercury		12	36	36.0057			Yes	Include
HB10-1-10	0 - 6	10/18/2010	Area 1	0.34 J-	0.34	Mercury	SND-1	0	6					Exclude
HB10-1-11	0 - 6	10/16/2010	Area 1	0.32	0.32	Mercury		0	6	20.9987496			Yes	Include
HB10-1-11	12 - 21	10/16/2010	Area 1	0.37	0.37	Mercury		12	21	20.9987496			Yes	Include
HB10-1-12	0 - 6	10/17/2010	Area 1	0.21	0.21	Mercury		0	6					Exclude
HB10-1-12	0 - 12	10/17/2010	Area 1	0.59	0.59	Mercury		0	12					Exclude
HB10-1-12	12 - 34	10/17/2010	Area 1	0.062 J-	0.062	Mercury		12	34					Exclude
HB10-1-13	0 - 6	10/18/2010	Area 1	0.29 J-	0.29	Mercury	FC-12/FC-13	0	6	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	0 - 12	10/18/2010	Area 1	0.45 J-	0.45	Mercury	FC-12/FC-13	0	12	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	12 - 36	10/18/2010	Area 1	0.20 J-	0.2	Mercury	FC-12/FC-13	12	36	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	60 - 67	10/18/2010	Area 1	0.34 J-	0.34	Mercury	FC-12/FC-13	60	67	36.0053004	42.816	include	No	Exclude
HB10-1-14	0 - 6	10/17/2010	Area 1	0.19 J	0.19	Mercury		0	6	66.0057			Yes	Include
HB10-1-14	0 - 12	10/17/2010	Area 1	0.21	0.21	Mercury		0	12	66.0057			Yes	Include
HB10-1-14	12 - 36	10/17/2010	Area 1	0.26	0.26	Mercury		12	36	66.0057			Yes	Include
HB10-1-14	60 - 66	10/17/2010	Area 1	0.48	0.48	Mercury		60	66	66.0057			Yes	Include
HB10-1-15	0 - 6	10/18/2010	Area 1	0.059 J	0.059	Mercury	OC-13	0	6	16.0056996			Yes	Include
HB10-1-15	12 - 16	10/18/2010	Area 1	0.15 J	0.15	Mercury	OC-13	12	16	16.0056996			Yes	Include
HB10-1-16	0 - 6	10/17/2010	Hughitt Ave Slip	0.11 J	0.11	Mercury	HS-3	0	6	31.0056996			Yes	Include
HB10-1-16	0 - 12	10/17/2010	Hughitt Ave Slip	0.3	0.3	Mercury	HS-3	0	12	31.0056996			Yes	Include
HB10-1-16	12 - 31	10/17/2010	Hughitt Ave Slip	58	58	Mercury	HS-3	12	31	31.0056996			Yes	Include
HB10-1-17	0 - 6	10/17/2010	Area 1	0.25	0.25	Mercury	OC-14	0	6	12			Yes	Include
HB10-1-20	0 - 6	10/17/2010	Hughitt Ave Slip	0.074 J	0.074	Mercury		0	6	6.0057			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB10-1-21	0 - 6	10/18/2010	Cummings Ave Slip	0.12 J	0.12	Mercury		0	6	6.0012996			Yes	Include
HB10-1-21	12 - 23	10/18/2010	Cummings Ave Slip	0.29	0.29	Mercury		12	23	6.0012996			No	Exclude
HB10-1-23	0 - 6	10/17/2010	Area 1	0.12 J	0.12	Mercury		0	6	36.0057			Yes	Include
HB10-1-23	0 - 12	10/17/2010	Area 1	0.45	0.45	Mercury		0	12	36.0057			Yes	Include
HB10-1-23	12 - 36	10/17/2010	Area 1	0.47	0.47	Mercury		12	36	36.0057			Yes	Include
HB10-1-24	0 - 6	10/18/2010	Cummings Ave Slip	0.74 J-	0.74	Mercury	CS-4	0	6	36.0047496			Yes	Include
HB10-1-24	0 - 12	10/18/2010	Cummings Ave Slip	0.67 J-	0.67	Mercury	CS-4	0	12	36.0047496			Yes	Include
HB10-1-24	12 - 36	10/18/2010	Cummings Ave Slip	2.5 J-	2.5	Mercury	CS-4	12	36	36.0047496			Yes	Include
HB10-1-25	0 - 6	10/17/2010	Baxter Ave Embayment	0.26	0.26	Mercury		0	6	6.0057			Yes	Include
HB10-1-27	0 - 6	10/18/2010	Area 1	0.11 J-	0.11	Mercury		0	6	-0.0027			No	Exclude
HB10-1-28	0 - 6	10/17/2010	Hughitt Ave Slip	0.23	0.23	Mercury	HS-1	0	6	84.0057			Yes	Include
HB10-1-28	0 - 12	10/17/2010	Hughitt Ave Slip	0.34	0.34	Mercury	HS-1	0	12	84.0057			Yes	Include
HB10-1-28	12 - 36	10/17/2010	Hughitt Ave Slip	0.62	0.62	Mercury	HS-1	12	36	84.0057			Yes	Include
HB10-1-28	36 - 60	10/17/2010	Hughitt Ave Slip	0.78	0.78	Mercury	HS-1	36	60	84.0057			Yes	Include
HB10-1-28	60 - 84	10/17/2010	Hughitt Ave Slip	1.8	1.8	Mercury	HS-1	60	84	84.0057			Yes	Include
HB10-1-28	60 - 96	10/17/2010	Hughitt Ave Slip	0.13 J	0.13	Mercury	HS-1	60	96	84.0057			Yes	Include
HB10-1-29	0 - 6	10/17/2010	Cummings Ave Slip	0.88	0.88	Mercury	CS-1	0	6	83.9937			Yes	Include
HB10-1-29	0 - 12	10/17/2010	Cummings Ave Slip	0.82	0.82	Mercury	CS-1	0	12	83.9937			Yes	Include
HB10-1-29	12 - 36	10/17/2010	Cummings Ave Slip	1.9	1.9	Mercury	CS-1	12	36	83.9937			Yes	Include
HB10-1-29	36 - 60	10/17/2010	Cummings Ave Slip	1.8 J	1.8	Mercury	CS-1	36	60	83.9937			Yes	Include
HB10-1-29	60 - 93	10/17/2010	Cummings Ave Slip	5.9	5.9	Mercury	CS-1	60	93	83.9937			Yes	Include
HB10-1-30	0 - 6	10/18/2010	Baxter Ave Embayment	0.46 J-	0.46	Mercury		0	6	60.0053004			Yes	Include
HB10-1-30	0 - 12	10/18/2010	Baxter Ave Embayment	1.1 J-	1.1	Mercury		0	12	60.0053004			Yes	Include
HB10-1-30	12 - 36	10/18/2010	Baxter Ave Embayment	0.45 J-	0.45	Mercury		12	36	60.0053004			Yes	Include
HB10-1-30	36 - 60	10/18/2010	Baxter Ave Embayment	0.36 J-	0.36	Mercury		36	60	60.0053004			Yes	Include
HB10-1-30	60 - 77	10/18/2010	Baxter Ave Embayment	0.075 J-	0.075	Mercury		60	77	60.0053004			Yes	Include
HB10-1-31	0 - 6	10/18/2010	Baxter Ave Embayment	0.43 J-	0.43	Mercury	OC-11	0	6	35.9973			Yes	Include
HB10-1-31	0 - 12	10/18/2010	Baxter Ave Embayment	0.58 J-	0.58	Mercury	OC-11	0	12	35.9973			Yes	Include
HB10-1-31	12 - 36	10/18/2010	Baxter Ave Embayment	0.30 J-	0.3	Mercury	OC-11	12	36	35.9973			Yes	Include
HB10-2-18	0 - 6	10/18/2010	Area 2	0.25 J-	0.25	Mercury	OC-2	0	6	6.0053004			Yes	Include
HB10-2-26	0 - 6	10/16/2010	Area 2	0.21	0.21	Mercury		0	6					Exclude
HB10-2-26	12 - 17	10/16/2010	Area 2	0.048 J	0.048	Mercury		12	17					Exclude
HB10-2-32	0 - 6	10/18/2010	Area 2	0.22 J-	0.22	Mercury		0	6					Exclude
HB10-2-33	0 - 6	10/18/2010	Area 2	0.086 J-	0.086	Mercury		0	6	6.0012996			Yes	Include
HB10-2-33	12 - 22	10/18/2010	Area 2	0.45 J-	0.45	Mercury		12	22	6.0012996			No	Exclude
HB10-2-34	0 - 6	10/18/2010	Area 2	0.29	0.29	Mercury	FC-7	0	6	6.0053004	0.816	include	Yes	Include
HB10-2-35	0 - 6	10/18/2010	Area 2	0.035 J-	0.035	Mercury		0	6	30.0012996			Yes	Include
HB10-2-35	0 - 12	10/18/2010	Area 2	0.15 J-	0.15	Mercury		0	12	30.0012996			Yes	Include
HB10-2-35	12 - 30	10/18/2010	Area 2	0.41 J-	0.41	Mercury		12	30	30.0012996			Yes	Include
HB10-2-36	0 - 6	10/18/2010	Area 2	0.40 J-	0.4	Mercury	FC-5	0	6	6.0053004	-29.184	include	Yes	Include
HB10-2-37	0 - 6	10/18/2010	Area 2	0.020 J-	0.02	Mercury		0	6	23.0013			Yes	Include
HB10-2-37	12 - 23	10/18/2010	Area 2	0.13 J-	0.13	Mercury		12	23	23.0013			Yes	Include
HB10-2-38	0 - 6	10/18/2010	Area 2	0.40 J-	0.4	Mercury	OC-6	0	6	38.0013			Yes	Include
HB10-2-38	0 - 12	10/18/2010	Area 2	0.61 J-	0.61	Mercury	OC-6	0	12	38.0013			Yes	Include
HB10-2-38	36 - 38	10/18/2010	Area 2	0.42 J-	0.42	Mercury	OC-6	36	38	38.0013			Yes	Include
HB10-2-39	0 - 6	10/18/2010	Area 2	0.082 J-	0.082	Mercury		0	6	6.0012996			Yes	Include
HB10-2-39	0 - 12	10/18/2010	Area 2	0.27 J-	0.27	Mercury		0	12	6.0012996			Yes	Include
HB10-2-39	12 - 28	10/18/2010	Area 2	0.17 J-	0.17	Mercury		12	28	6.0012996			No	Exclude
HB10-2-40	0 - 6	10/18/2010	Area 2	0.43 J-	0.43	Mercury	OC-5	0	6	48.0053004			Yes	Include
HB10-2-40	0 - 12	10/18/2010	Area 2	0.52 J-	0.52	Mercury	OC-5	0	12	48.0053004			Yes	Include
HB10-2-40	12 - 36	10/18/2010	Area 2	0.014 J-	0.014	Mercury	OC-5	12	36	48.0053004			Yes	Include
HB10-2-40	36 - 48	10/18/2010	Area 2	0.0085 J-	0.0085	Mercury	OC-5	36	48	48.0053004			Yes	Include
HB10-2-41	0 - 6	10/18/2010	Area 2	0.33	0.33	Mercury	FP-2	0	6	31.0012992			Yes	Include
HB10-2-41	0 - 12	10/18/2010	Area 2	0.048 J	0.048	Mercury	FP-2	0	12	31.0012992			Yes	Include
HB10-2-41	12 - 31	10/18/2010	Area 2	0.098 J	0.098	Mercury	FP-2	12	31	31.0012992			Yes	Include
HB10-2-42	0 - 6	10/18/2010	Area 2	0.18 J-	0.18	Mercury	FP-1	0	6	12.0012996			Yes	Include
HB10-2-42	0 - 12	10/18/2010	Area 2	0.32 J-	0.32	Mercury	FP-1	0	12	12.0012996			Yes	Include
HB10-2-42	12 - 30	10/18/2010	Area 2	0.35 J-	0.35	Mercury	FP-1	12	30	12.0012996			Yes	Include
HB10-2-43	0 - 6	10/17/2010	Area 2	0.037 J	0.037	Mercury		0	6	22.0056996			Yes	Include
HB10-2-43	12 - 22	10/17/2010	Area 2	0.17	0.17	Mercury		12	22	22.0056996			Yes	Include
HB10-2-44	0 - 6	10/18/2010	Area 2	0.26 J-	0.26	Mercury	FP-2	0	6	16.0012992			Yes	Include
HB10-2-44	12 - 16	10/18/2010	Area 2	0.41 J-	0.41	Mercury	FP-2	12	16	16.0012992			Yes	Include
HB10-2-45	0 - 6	10/18/2010	Area 2	0.13 J	0.13	Mercury	FP-2	0	6	19.0012992			Yes	Include
HB10-2-45	12 - 19	10/18/2010	Area 2	0.26	0.26	Mercury	FP-2	12	19	19.0012992			Yes	Include
HB13-01	0 - 6 *	9/11/2013	Area 2	NA	NA	Mercury	FP-1	0	6	48			Yes	Include
HB13-01	6 - 12 *	9/11/2013	Area 2	NA	NA	Mercury	FP-1	6	12	48			Yes	Include
HB13-01	12 - 18 *	9/11/2013	Area 2	NA	NA	Mercury	FP-1	12	18	48			Yes	Include
HB13-01	18 - 24 *	9/11/2013	Area 2	NA	NA	Mercury	FP-1	18	24	48			Yes	Include
HB13-01	24 - 30 *	9/11/2013	Area 2	NA	NA	Mercury	FP-1	24	30	48			Yes	Include
HB13-01	30 - 36 *	9/11/2013	Area 2	NA	NA	Mercury	FP-1	30	36	48			Yes	Include
HB13-01	36 - 42 *	9/11/2013	Area 2	NA	NA	Mercury	FP-1	36	42	48			Yes	Include
HB13-01	42 - 48 *	9/11/2013	Area 2	NA	NA	Mercury	FP-1	42	48	48			Yes	Include
HB13-01	48 - 54 *	9/11/2013	Area 2	NA	NA	Mercury	FP-1	48	54	48			No	Exclude
HB13-01	54 - 60 *	9/11/2013	Area 2	NA	NA	Mercury	FP-1	54	60	48			No	Exclude
HB13-01	60 - 66 *	9/11/2013	Area 2	NA	NA	Mercury	FP-1	60	66	48			No	Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-01	66 - 72 *	9/11/2013	Area 2	NA	NA	Mercury	FP-1	66	72	48			No	Exclude
HB13-01	72 - 74 *	9/11/2013	Area 2	NA	NA	Mercury	FP-1	72	74	48			No	Exclude
HB13-02	0 - 6 *	9/9/2013	Area 2	NA	NA	Mercury		0	6	29.9960004			Yes	Include
HB13-02	6 - 12 *	9/9/2013	Area 2	NA	NA	Mercury		6	12	29.9960004			Yes	Include
HB13-02	12 - 18 *	9/9/2013	Area 2	NA	NA	Mercury		12	18	29.9960004			Yes	Include
HB13-02	18 - 24 *	9/9/2013	Area 2	NA	NA	Mercury		18	24	29.9960004			Yes	Include
HB13-02	24 - 30 *	9/9/2013	Area 2	NA	NA	Mercury		24	30	29.9960004			Yes	Include
HB13-02	30 - 36 *	9/9/2013	Area 2	NA	NA	Mercury		30	36	29.9960004			No	Exclude
HB13-02	36 - 42 *	9/9/2013	Area 2	NA	NA	Mercury		36	42	29.9960004			No	Exclude
HB13-02	42 - 48 *	9/9/2013	Area 2	NA	NA	Mercury		42	48	29.9960004			No	Exclude
HB13-03	0 - 6 *	9/9/2013	Area 2	0.53	0.53	Mercury	FP-2	0	6	46.0040004			Yes	Include
HB13-03	0 - 24	9/9/2013	Area 2	NA	NA	Mercury	FP-2	0	24	46.0040004			Yes	Include
HB13-03	6 - 12 *	9/9/2013	Area 2	0.51	0.51	Mercury	FP-2	6	12	46.0040004			Yes	Include
HB13-03	12 - 18 *	9/9/2013	Area 2	0.75	0.75	Mercury	FP-2	12	18	46.0040004			Yes	Include
HB13-03	18 - 24 *	9/9/2013	Area 2	0.75	0.75	Mercury	FP-2	18	24	46.0040004			Yes	Include
HB13-03	24 - 30 *	9/9/2013	Area 2	1.1	1.1	Mercury	FP-2	24	30	46.0040004			Yes	Include
HB13-03	24 - 46	9/9/2013	Area 2	NA	NA	Mercury	FP-2	24	46	46.0040004			Yes	Include
HB13-03	30 - 36 *	9/9/2013	Area 2	0.88	0.88	Mercury	FP-2	30	36	46.0040004			Yes	Include
HB13-03	36 - 42 *	9/9/2013	Area 2	0.51	0.51	Mercury	FP-2	36	42	46.0040004			Yes	Include
HB13-03	42 - 46 *	9/9/2013	Area 2	1.6	1.6	Mercury	FP-2	42	46	46.0040004			Yes	Include
HB13-03	46 - 51 *	9/9/2013	Area 2	0.15 U	0.15	Mercury	FP-2	46	51	46.0040004			Yes	Include
HB13-04	0 - 6 *	9/9/2013	Area 2	NA	NA	Mercury	OC-1	0	6	41.9960004			Yes	Include
HB13-04	6 - 12 *	9/9/2013	Area 2	NA	NA	Mercury	OC-1	6	12	41.9960004			Yes	Include
HB13-04	12 - 18 *	9/9/2013	Area 2	NA	NA	Mercury	OC-1	12	18	41.9960004			Yes	Include
HB13-04	18 - 24 *	9/9/2013	Area 2	NA	NA	Mercury	OC-1	18	24	41.9960004			Yes	Include
HB13-04	24 - 30 *	9/9/2013	Area 2	NA	NA	Mercury	OC-1	24	30	41.9960004			Yes	Include
HB13-04	30 - 36 *	9/9/2013	Area 2	NA	NA	Mercury	OC-1	30	36	41.9960004			Yes	Include
HB13-04	36 - 42 *	9/9/2013	Area 2	NA	NA	Mercury	OC-1	36	42	41.9960004			Yes	Include
HB13-04	42 - 44 *	9/9/2013	Area 2	NA	NA	Mercury	OC-1	42	44	41.9960004			No	Exclude
HB13-05	0 - 32 *	9/9/2013	Area 2	NA	NA	Mercury	FC-1	0	32	43.8	33.156	exclude	Yes	Exclude
HB13-05	32 - 38 *	9/9/2013	Area 2	NA	NA	Mercury	FC-1	32	38	43.8	33.156	include	Yes	Include
HB13-05	38 - 44 *	9/9/2013	Area 2	NA	NA	Mercury	FC-1	38	44	43.8	33.156	include	Yes	Include
HB13-05	44 - 50 *	9/9/2013	Area 2	NA	NA	Mercury	FC-1	44	50	43.8	33.156	include	No	Exclude
HB13-05	50 - 56 *	9/9/2013	Area 2	NA	NA	Mercury	FC-1	50	56	43.8	33.156	include	No	Exclude
HB13-05	56 - 62	9/9/2013	Area 2	NA	NA	Mercury	FC-1	56	62	43.8	33.156	include	No	Exclude
HB13-05	62 - 66	9/9/2013	Area 2	NA	NA	Mercury	FC-1	62	66	43.8	33.156	include	No	Exclude
HB13-05	68 - 74 *	9/9/2013	Area 2	NA	NA	Mercury	FC-1	68	74	43.8	33.156	include	No	Exclude
HB13-05	74 - 77 *	9/9/2013	Area 2	NA	NA	Mercury	FC-1	74	77	43.8	33.156	include	No	Exclude
HB13-06	0 - 6 *	9/9/2013	Area 2	NA	NA	Mercury	OC-2	0	6	48			Yes	Include
HB13-06	6 - 12 *	9/9/2013	Area 2	NA	NA	Mercury	OC-2	6	12	48			Yes	Include
HB13-06	12 - 18 *	9/9/2013	Area 2	NA	NA	Mercury	OC-2	12	18	48			Yes	Include
HB13-06	18 - 24 *	9/9/2013	Area 2	NA	NA	Mercury	OC-2	18	24	48			Yes	Include
HB13-06	24 - 30 *	9/9/2013	Area 2	NA	NA	Mercury	OC-2	24	30	48			Yes	Include
HB13-06	30 - 36 *	9/9/2013	Area 2	NA	NA	Mercury	OC-2	30	36	48			Yes	Include
HB13-06	36 - 42 *	9/9/2013	Area 2	NA	NA	Mercury	OC-2	36	42	48			Yes	Include
HB13-06	42 - 48 *	9/9/2013	Area 2	NA	NA	Mercury	OC-2	42	48	48			Yes	Include
HB13-07	0 - 6 *	9/10/2013	Area 2	NA	NA	Mercury		0	6					Exclude
HB13-07	6 - 12 *	9/10/2013	Area 2	NA	NA	Mercury		6	12					Exclude
HB13-07	12 - 18 *	9/10/2013	Area 2	NA	NA	Mercury		12	18					Exclude
HB13-07	18 - 24 *	9/10/2013	Area 2	NA	NA	Mercury		18	24					Exclude
HB13-07	24 - 30 *	9/10/2013	Area 2	NA	NA	Mercury		24	30					Exclude
HB13-07	30 - 36 *	9/10/2013	Area 2	NA	NA	Mercury		30	36					Exclude
HB13-07	36 - 42 *	9/10/2013	Area 2	NA	NA	Mercury		36	42					Exclude
HB13-07	42 - 48 *	9/10/2013	Area 2	NA	NA	Mercury		42	48					Exclude
HB13-08	0 - 18	9/11/2013	Area 2	0.34	0.34	Mercury	FC-2	0	18	38.28	21.756	exclude	Yes	Exclude
HB13-08	18 - 36	9/11/2013	Area 2	0.47	0.47	Mercury	FC-2	18	36	38.28	21.756	include	Yes	Include
HB13-08	36 - 60	9/11/2013	Area 2	0.68	0.68	Mercury	FC-2	36	60	38.28	21.756	include	Yes	Include
HB13-08	60 - 92	9/11/2013	Area 2	0.46	0.46	Mercury	FC-2	60	92	38.28	21.756	include	No	Exclude
HB13-10	0 - 6 *	9/10/2013	Area 2	NA	NA	Mercury		0	6	0.0039996			Yes	Include
HB13-11	0 - 18	9/11/2013	Area 2	0.27	0.27	Mercury	FC-4	0	18	25.2	23.964	exclude	Yes	Exclude
HB13-11	18 - 24 *	9/11/2013	Area 2	2.2	2.2	Mercury	FC-4	18	24	25.2	23.964	include	Yes	Include
HB13-11	18 - 42	9/11/2013	Area 2	NA	NA	Mercury	FC-4	18	42	25.2	23.964	include	Yes	Include
HB13-11	24 - 30 *	9/11/2013	Area 2	0.58	0.58	Mercury	FC-4	24	30	25.2	23.964	include	Yes	Include
HB13-11	30 - 36 *	9/11/2013	Area 2	0.76	0.76	Mercury	FC-4	30	36	25.2	23.964	include	No	Exclude
HB13-11	36 - 42 *	9/11/2013	Area 2	0.39	0.39	Mercury	FC-4	36	42	25.2	23.964	include	No	Exclude
HB13-11	42 - 48 *	9/11/2013	Area 2	0.25	0.25	Mercury	FC-4	42	48	25.2	23.964	include	No	Exclude
HB13-11	42 - 60	9/11/2013	Area 2	NA	NA	Mercury	FC-4	42	60	25.2	23.964	include	No	Exclude
HB13-11	48 - 54 *	9/11/2013	Area 2	0.14 U	0.14	Mercury	FC-4	48	54	25.2	23.964	include	No	Exclude
HB13-11	54 - 60 *	9/11/2013	Area 2	0.23	0.23	Mercury	FC-4	54	60	25.2	23.964	include	No	Exclude
HB13-12	0 - 6 *	9/10/2013	Area 2	NA	NA	Mercury		0	6	5.9960004			Yes	Include
HB13-13	0 - 1 *	9/11/2013	Area 2	NA	NA	Mercury	SND-5	0	1	0.9999996			Yes	Include
HB13-14	0 - 6 *	9/12/2013	Area 2	0.17 U	0.17	Mercury	FC-6	0	6	45.9999996	-5.316	include	Yes	Include
HB13-14	0 - 24	9/12/2013	Area 2	NA	NA	Mercury	FC-6	0	24	45.9999996	-5.316	include	Yes	Include
HB13-14	6 - 24 *	9/12/2013	Area 2	0.5	0.5	Mercury	FC-6	6	24	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 42 *	9/12/2013	Area 2	0.36	0.36	Mercury	FC-6	24	42	45.9999996	-5.316	include	Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-14	24 - 46	9/12/2013	Area 2	NA	NA	Mercury	FC-6	24	46	45.9999996	-5.316	include	Yes	Include
HB13-14	42 - 46 *	9/12/2013	Area 2	NA	NA	Mercury	FC-6	42	46	45.9999996	-5.316	include	Yes	Include
HB13-15	0 - 6 *	9/12/2013	Area 2	NA	NA	Mercury	FC-7	0	6	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	6 - 12 *	9/12/2013	Area 2	NA	NA	Mercury	FC-7	6	12	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	12 - 19 *	9/12/2013	Area 2	NA	NA	Mercury	FC-7	12	19	18.9999996	18.516	include	Yes	Include
HB13-16	0 - 6 *	9/12/2013	Area 2	NA	NA	Mercury		0	6	26.0000004			Yes	Include
HB13-16	6 - 12 *	9/12/2013	Area 2	NA	NA	Mercury		6	12	26.0000004			Yes	Include
HB13-16	12 - 18 *	9/12/2013	Area 2	NA	NA	Mercury		12	18	26.0000004			Yes	Include
HB13-16	18 - 24 *	9/12/2013	Area 2	NA	NA	Mercury		18	24	26.0000004			Yes	Include
HB13-16	24 - 27 *	9/12/2013	Area 2	NA	NA	Mercury		24	27	26.0000004			Yes	Include
HB13-17	0 - 12 *	9/12/2013	Area 2	NA	NA	Mercury	FC-7	0	12	24	16.2	exclude	Yes	Exclude
HB13-17	12 - 18 *	9/12/2013	Area 2	NA	NA	Mercury	FC-7	12	18	24	16.2	include	Yes	Include
HB13-17	18 - 24 *	9/12/2013	Area 2	NA	NA	Mercury	FC-7	18	24	24	16.2	include	Yes	Include
HB13-17	24 - 47 *	9/12/2013	Area 2	NA	NA	Mercury	FC-7	24	47	24	16.2	include	No	Exclude
HB13-18	0 - 6	9/12/2013	Area 2	NA	NA	Mercury		0	6	9.9999996			Yes	Include
HB13-18	6 - 10	9/12/2013	Area 2	NA	NA	Mercury		6	10	9.9999996			Yes	Include
HB13-18	10 - 16	9/12/2013	Area 2	NA	NA	Mercury		10	16	9.9999996			No	Exclude
HB13-19	0 - 6 *	9/13/2013	Area 2	NA	NA	Mercury		0	6					Exclude
HB13-19	6 - 24 *	9/13/2013	Area 2	NA	NA	Mercury		6	24					Exclude
HB13-19	18 - 20 *	9/13/2013	Area 2	NA	NA	Mercury		18	20					Exclude
HB13-19	24 - 42 *	9/13/2013	Area 2	NA	NA	Mercury		24	42					Exclude
HB13-19	42 - 61 *	9/13/2013	Area 2	NA	NA	Mercury		42	61					Exclude
HB13-19	61 - 67 *	9/13/2013	Area 2	NA	NA	Mercury		61	67					Exclude
HB13-20	0 - 6 *	9/12/2013	Area 2	0.4	0.4	Mercury		0	6	24			Yes	Include
HB13-20	0 - 12	9/12/2013	Area 2	NA	NA	Mercury		0	12	24			Yes	Include
HB13-20	6 - 12 *	9/12/2013	Area 2	0.16 U	0.16	Mercury		6	12	24			Yes	Include
HB13-20	12 - 18 *	9/12/2013	Area 2	0.42	0.42	Mercury		12	18	24			Yes	Include
HB13-20	12 - 24	9/12/2013	Area 2	NA	NA	Mercury		12	24	24			Yes	Include
HB13-20	18 - 24 *	9/12/2013	Area 2	0.29	0.29	Mercury		18	24	24			Yes	Include
HB13-20	24 - 30 *	9/12/2013	Area 2	0.25	0.25	Mercury		24	30	24			No	Exclude
HB13-20	24 - 36	9/12/2013	Area 2	NA	NA	Mercury		24	36	24			No	Exclude
HB13-20	30 - 36 *	9/12/2013	Area 2	0.32	0.32	Mercury		30	36	24			No	Exclude
HB13-20	36 - 42 *	9/12/2013	Area 2	0.49	0.49	Mercury		36	42	24			No	Exclude
HB13-20	36 - 48	9/12/2013	Area 2	NA	NA	Mercury		36	48	24			No	Exclude
HB13-20	42 - 48 *	9/12/2013	Area 2	0.26	0.26	Mercury		42	48	24			No	Exclude
HB13-21	0 - 6 *	9/13/2013	Area 2	NA	NA	Mercury	OC-10	0	6	24			Yes	Include
HB13-21	6 - 24 *	9/13/2013	Area 2	NA	NA	Mercury	OC-10	6	24	24			Yes	Include
HB13-21	24 - 48 *	9/13/2013	Area 2	NA	NA	Mercury	OC-10	24	48	24			No	Exclude
HB13-21	48 - 72 *	9/13/2013	Area 2	NA	NA	Mercury	OC-10	48	72	24			No	Exclude
HB13-21	72 - 88 *	9/13/2013	Area 2	NA	NA	Mercury	OC-10	72	88	24			No	Exclude
HB13-22	0 - 28 *	9/12/2013	Area 2	NA	NA	Mercury	FC-7	0	28	24	36.72	exclude	Yes	Exclude
HB13-22	28 - 31 *	9/12/2013	Area 2	NA	NA	Mercury	FC-7	28	31	24	36.72	exclude	No	Exclude
HB13-23	0 - 12 *	9/12/2013	Area 2	NA	NA	Mercury	SND-5	0	12	27			Yes	Include
HB13-23	12 - 18 *	9/12/2013	Area 2	NA	NA	Mercury	SND-5	12	18	27			Yes	Include
HB13-23	18 - 24 *	9/12/2013	Area 2	NA	NA	Mercury	SND-5	18	24	27			Yes	Include
HB13-23	24 - 32 *	9/12/2013	Area 2	NA	NA	Mercury	SND-5	24	32	27			Yes	Include
HB13-24	0 - 6	9/12/2013	Hughitt Ave Slip	0.36	0.36	Mercury	HS-3	0	6	6			Yes	Include
HB13-24	0 - 24 *	9/12/2013	HUGHITT AVE SLIP	NA	NA	Mercury	HS-3	0	24	6			Yes	Include
HB13-24	6 - 24	9/12/2013	Hughitt Ave Slip	0.57	0.57	Mercury	HS-3	6	24	6			No	Exclude
HB13-25	0 - 6 *	9/12/2013	Area 1	0.64	0.64	Mercury	OC-11	0	6	57			Yes	Include
HB13-25	0 - 18	9/12/2013	Area 1	NA	NA	Mercury	OC-11	0	18	57			Yes	Include
HB13-25	6 - 18 *	9/12/2013	Area 1	0.78	0.78	Mercury	OC-11	6	18	57			Yes	Include
HB13-25	18 - 36 *	9/12/2013	Area 1	0.48	0.48	Mercury	OC-11	18	36	57			Yes	Include
HB13-25	18 - 57	9/12/2013	Area 1	NA	NA	Mercury	OC-11	18	57	57			Yes	Include
HB13-25	36 - 57 *	9/12/2013	Area 1	0.24 U	0.24	Mercury	OC-11	36	57	57			Yes	Include
HB13-26	0 - 12	9/13/2013	Area 1	NA	NA	Mercury	FC-10	0	12	33	17.04	exclude	Yes	Exclude
HB13-26	12 - 18	9/13/2013	Area 1	NA	NA	Mercury	FC-10	12	18	33	17.04	include	Yes	Include
HB13-26	18 - 33	9/13/2013	Area 1	NA	NA	Mercury	FC-10	18	33	33	17.04	include	Yes	Include
HB13-27	0 - 6 *	9/13/2013	Area 1	NA	NA	Mercury		0	6					Exclude
HB13-27	0 - 32	9/13/2013	Area 1	NA	NA	Mercury		0	32					Exclude
HB13-28	0 - 8 *	9/13/2013	Area 1	NA	NA	Mercury	FC-11	0	8	14.0000004	13.68	exclude	Yes	Exclude
HB13-28	8 - 14 *	9/13/2013	Area 1	NA	NA	Mercury	FC-11	8	14	14.0000004	13.68	include	Yes	Include
HB13-28	14 - 26 *	9/13/2013	Area 1	NA	NA	Mercury	FC-11	14	26	14.0000004	13.68	include	Yes	Include
HB13-28	26 - 40 *	9/13/2013	Area 1	NA	NA	Mercury	FC-11	26	40	14.0000004	13.68	include	No	Exclude
HB13-29	0 - 6	9/13/2013	Area 1	0.23	0.23	Mercury	FC-12/FC-13	0	6	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 12 *	9/13/2013	Area 1	NA	NA	Mercury	FC-12/FC-13	0	12	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 18 *	9/13/2013	Area 1	NA	NA	Mercury	FC-12/FC-13	0	18	44.0000004	1.044	include	Yes	Include
HB13-29	6 - 12	9/13/2013	Area 1	0.38	0.38	Mercury	FC-12/FC-13	6	12	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 24	9/13/2013	Area 1	0.55	0.55	Mercury	FC-12/FC-13	12	24	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 44 *	9/13/2013	Area 1	NA	NA	Mercury	FC-12/FC-13	12	44	44.0000004	1.044	include	Yes	Include
HB13-29	24 - 44	9/13/2013	Area 1	0.46	0.46	Mercury	FC-12/FC-13	24	44	44.0000004	1.044	include	Yes	Include
HB13-30	0 - 6	9/10/2013	Area 1	NA	NA	Mercury	SND-1	0	6	60			Yes	Include
HB13-30	6 - 24	9/10/2013	Area 1	NA	NA	Mercury	SND-1	6	24	60			Yes	Include
HB13-30	24 - 42	9/10/2013	Area 1	NA	NA	Mercury	SND-1	24	42	60			Yes	Include
HB13-30	42 - 60	9/10/2013	Area 1	NA	NA	Mercury	SND-1	42	60	60			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-30	60 - 78	9/10/2013	Area 1	NA	NA	Mercury	SND-1	60	78	60			No	Exclude
HB13-31	0 - 6	9/13/2013	Area 1	0.19	0.19	Mercury	FC-16	0	6	27	2.76	include	Yes	Include
HB13-31	6 - 18	9/13/2013	Area 1	0.3	0.3	Mercury	FC-16	6	18	27	2.76	include	Yes	Include
HB13-31	18 - 27	9/13/2013	Area 1	0.25	0.25	Mercury	FC-16	18	27	27	2.76	include	Yes	Include
HB13-31	27 - 33	9/13/2013	Area 1	0.16 U	0.16	Mercury	FC-16	27	33	27	2.76	include	No	Exclude
HB13-32	0 - 6	9/13/2013	Area 1	0.46	0.46	Mercury	FC-14	0	6	26.0000004	-2.52	include	Yes	Include
HB13-32	6 - 18	9/13/2013	Area 1	0.17	0.17	Mercury	FC-14	6	18	26.0000004	-2.52	include	Yes	Include
HB13-32	18 - 26	9/13/2013	Area 1	0.19	0.19	Mercury	FC-14	18	26	26.0000004	-2.52	include	Yes	Include
HB13-32	26 - 32	9/13/2013	Area 1	0.13 U	0.13	Mercury	FC-14	26	32	26.0000004	-2.52	include	Yes	Include
HB13-33	0 - 6	9/13/2013	Area 1	0.19 U	0.19	Mercury		0	6	12			Yes	Include
HB13-33	6 - 12	9/13/2013	Area 1	0.19 U	0.19	Mercury		6	12	12			Yes	Include
HB13-34	0 - 6	9/13/2013	Area 1	0.12 U	0.12	Mercury		0	6	0.5000004			Yes	Include
HB13-35	0 - 6	9/13/2013	Hughitt Ave Slip	0.13 U	0.13	Mercury		0	6	3.9999996			Yes	Include
HB13-35	6 - 12	9/13/2013	Hughitt Ave Slip	0.16 U	0.16	Mercury		6	12	3.9999996			No	Exclude
HB13-37	2 - 6	9/10/2013	Hughitt Ave Slip	0.16 U	0.16	Mercury	HS-3	2	6	6			Yes	Include
HB13-38	0 - 6	9/12/2013	Hughitt Ave Slip	0.14 U	0.14	Mercury	HS-3	0	6	6			Yes	Include
HB13-39	4 - 10	9/13/2013	Hughitt Ave Slip	0.3	0.3	Mercury	HS-2	4	10	27.9999996			Yes	Include
HB13-39	10 - 28	9/13/2013	Hughitt Ave Slip	0.19	0.19	Mercury	HS-2	10	28	27.9999996			Yes	Include
HB13-39	28 - 34	9/13/2013	Hughitt Ave Slip	0.13 U	0.13	Mercury	HS-2	28	34	27.9999996			No	Exclude
HB13-40	0 - 6	9/13/2013	Hughitt Ave Slip	0.25	0.25	Mercury	HS-2	0	6	86.0000004			Yes	Include
HB13-40	0 - 24 *	9/13/2013	Hughitt Ave Slip	NA	NA	Mercury	HS-2	0	24	86.0000004			Yes	Include
HB13-40	6 - 24	9/13/2013	Hughitt Ave Slip	0.63	0.63	Mercury	HS-2	6	24	86.0000004			Yes	Include
HB13-40	24 - 48	9/13/2013	Hughitt Ave Slip	0.49	0.49	Mercury	HS-2	24	48	86.0000004			Yes	Include
HB13-40	48 - 72	9/13/2013	Hughitt Ave Slip	0.24 U	0.24	Mercury	HS-2	48	72	86.0000004			Yes	Include
HB13-40	72 - 86	9/13/2013	Hughitt Ave Slip	0.21 U	0.21	Mercury	HS-2	72	86	86.0000004			Yes	Include
HB13-41	0 - 6	9/10/2013	Hughitt Ave Slip	0.62	0.62	Mercury	HS-2	0	6	29.0000004			Yes	Include
HB13-41	0 - 24 *	9/10/2013	Hughitt Ave Slip	NA	NA	Mercury	HS-2	0	24	29.0000004			Yes	Include
HB13-41	6 - 24	9/10/2013	Hughitt Ave Slip	2.5	2.5	Mercury	HS-2	6	24	29.0000004			Yes	Include
HB13-41	24 - 29	9/10/2013	Hughitt Ave Slip	1.8	1.8	Mercury	HS-2	24	29	29.0000004			Yes	Include
HB13-42	0 - 6	9/11/2013	Cummings Ave Slip	1.6	1.6	Mercury	CS-3	0	6	33			Yes	Include
HB13-42	6 - 24	9/11/2013	Cummings Ave Slip	0.88	0.88	Mercury	CS-3	6	24	33			Yes	Include
HB13-42	24 - 33	9/11/2013	Cummings Ave Slip	0.15 U	0.15	Mercury	CS-3	24	33	33			Yes	Include
HB13-42	33 - 36	9/11/2013	Cummings Ave Slip	0.15 U	0.15	Mercury	CS-3	33	36	33			No	Exclude
HB13-43	0 - 6	9/11/2013	Cummings Ave Slip	0.31	0.31	Mercury	CS-2	0	6	24			Yes	Include
HB13-43	0 - 24 *	9/11/2013	Cummings Ave Slip	NA	NA	Mercury	CS-2	0	24	24			Yes	Include
HB13-43	6 - 24	9/11/2013	Cummings Ave Slip	0.49	0.49	Mercury	CS-2	6	24	24			Yes	Include
HB13-45	0 - 6	9/11/2013	Cummings Ave Slip	1	1	Mercury	CS-2	0	6	21			Yes	Include
HB13-45	6 - 21	9/11/2013	Cummings Ave Slip	1.9	1.9	Mercury	CS-2	6	21	21			Yes	Include
HB13-47	0 - 6	9/10/2013	Fraser Ave Slip	NA	NA	Mercury	FS-1	0	6	30.996			Yes	Include
HB13-47	6 - 24	9/10/2013	Fraser Ave Slip	NA	NA	Mercury	FS-1	6	24	30.996			Yes	Include
HB13-47	24 - 31	9/10/2013	Fraser Ave Slip	NA	NA	Mercury	FS-1	24	31	30.996			Yes	Include
HB13-47	31 - 37 *	9/10/2013	Fraser Ave Slip	NA	NA	Mercury	FS-1	31	37	30.996			No	Exclude
HB13-48	0 - 6 *	9/10/2013	Fraser Ave Slip	0.39	0.39	Mercury	FS-2	0	6	45.9999996			Yes	Include
HB13-48	0 - 24	9/10/2013	FRASER AVE SLIP	NA	NA	Mercury	FS-2	0	24	45.9999996			Yes	Include
HB13-48	6 - 24 *	9/10/2013	Fraser Ave Slip	1.1	1.1	Mercury	FS-2	6	24	45.9999996			Yes	Include
HB13-48	24 - 42 *	9/10/2013	Fraser Ave Slip	1.6	1.6	Mercury	FS-2	24	42	45.9999996			Yes	Include
HB13-48	24 - 46 *	9/10/2013	FRASER AVE SLIP	NA	NA	Mercury	FS-2	24	46	45.9999996			Yes	Include
HB13-48	42 - 46 *	9/10/2013	Fraser Ave Slip	NA	NA	Mercury	FS-2	42	46	45.9999996			Yes	Include
HB13-49	0 - 6	9/11/2013	Fraser Ave Slip	NA	NA	Mercury	FS-2	0	6	30			Yes	Include
HB13-49	6 - 24	9/11/2013	Fraser Ave Slip	NA	NA	Mercury	FS-2	6	24	30			Yes	Include
HB13-49	24 - 30	9/11/2013	Fraser Ave Slip	NA	NA	Mercury	FS-2	24	30	30			Yes	Include
HB13-50	0 - 12 *	9/13/2013	Area 1	NA	NA	Mercury	OC-12	0	12	47.0000004			Yes	Include
HB13-50	12 - 24 *	9/13/2013	Area 1	NA	NA	Mercury	OC-12	12	24	47.0000004			Yes	Include
HB13-50	24 - 36 *	9/13/2013	Area 1	NA	NA	Mercury	OC-12	24	36	47.0000004			Yes	Include
HB13-50	36 - 47 *	9/13/2013	Area 1	NA	NA	Mercury	OC-12	36	47	47.0000004			Yes	Include
HB13-51	0 - 6 *	9/11/2013	Area 2	NA	NA	Mercury		0	6					Exclude
HB13-51	6 - 15 *	9/11/2013	Area 2	NA	NA	Mercury		6	15					Exclude
HB13-52	0 - 6 *	9/11/2013	Area 2	NA	NA	Mercury	OC-10	0	6	12			Yes	Include
HB13-52	6 - 12 *	9/11/2013	Area 2	NA	NA	Mercury	OC-10	6	12	12			Yes	Include
HB13-52	12 - 17 *	9/11/2013	Area 2	NA	NA	Mercury	OC-10	12	17	12			No	Exclude
HB14-01	0 - 6	8/18/2014	Area 1	NA	NA	Mercury	SND-1	0	6					Exclude
HB14-01	6 - 18	8/18/2014	Area 1	NA	NA	Mercury	SND-1	6	18					Exclude
HB14-02	0 - 6	8/18/2014	Area 1	NA	NA	Mercury	FC-15	0	6	17.004	-12.996	include	Yes	Include
HB14-02	6 - 14	8/18/2014	Area 1	NA	NA	Mercury	FC-15	6	14	17.004	-12.996	include	Yes	Include
HB14-03	0 - 6	8/18/2014	Area 1	NA	NA	Mercury	FC-15	0	6	29.997288	-2.472	include	Yes	Include
HB14-03	6 - 18	8/18/2014	Area 1	NA	NA	Mercury	FC-15	6	18	29.997288	-2.472	include	Yes	Include
HB14-03	18 - 30	8/18/2014	Area 1	NA	NA	Mercury	FC-15	18	30	29.997288	-2.472	include	Yes	Include
HB14-03	30 - 42	8/18/2014	Area 1	NA	NA	Mercury	FC-15	30	42	29.997288	-2.472	include	No	Exclude
HB14-03	42 - 54	8/18/2014	Area 1	NA	NA	Mercury	FC-15	42	54	29.997288	-2.472	include	No	Exclude
HB14-04	0 - 6	8/18/2014	Area 1	NA	NA	Mercury		0	6	29.904			Yes	Include
HB14-04	6 - 18	8/18/2014	Area 1	NA	NA	Mercury		6	18	29.904			Yes	Include
HB14-04	18 - 30	8/18/2014	Area 1	NA	NA	Mercury		18	30	29.904			Yes	Include
HB14-05 G		8/18/2014	Area 1	NA	NA	Mercury			#VALUE!					Exclude
HB14-06	0 - 6	8/18/2014	Area 1	NA	NA	Mercury		0	6	30.588			Yes	Include
HB14-06	6 - 24	8/18/2014	Area 1	NA	NA	Mercury		6	24	30.588			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB14-07	0 - 6	8/18/2014	Area 1	NA	NA	Mercury		0	6	78.012			Yes	Include
HB14-07	6 - 24	8/18/2014	Area 1	NA	NA	Mercury		6	24	78.012			Yes	Include
HB14-07	24 - 42	8/18/2014	Area 1	NA	NA	Mercury		24	42	78.012			Yes	Include
HB14-08	0 - 6	8/19/2014	Area 1	NA	NA	Mercury		0	6	34.416			Yes	Include
HB14-08	6 - 19	8/19/2014	Area 1	NA	NA	Mercury		6	19	34.416			Yes	Include
HB14-09	0 - 12	8/19/2014	Area 1	NA	NA	Mercury	OC-16	0	12	12.003804			Yes	Include
HB14-09	12 - 24	8/19/2014	Area 1	NA	NA	Mercury	OC-16	12	24	12.003804			Yes	Include
HB14-09	24 - 36	8/19/2014	Area 1	NA	NA	Mercury	OC-16	24	36	12.003804			No	Exclude
HB14-09	36 - 48	8/19/2014	Area 1	NA	NA	Mercury	OC-16	36	48	12.003804			No	Exclude
HB14-09	48 - 60	8/19/2014	Area 1	NA	NA	Mercury	OC-16	48	60	12.003804			No	Exclude
HB14-09	60 - 72	8/19/2014	Area 1	NA	NA	Mercury	OC-16	60	72	12.003804			No	Exclude
HB14-10	0 - 6	8/20/2014	Area 1	NA	NA	Mercury		0	6	54.005544			Yes	Include
HB14-10	6 - 18	8/20/2014	Area 1	NA	NA	Mercury		6	18	54.005544			Yes	Include
HB14-10	18 - 30	8/20/2014	Area 1	NA	NA	Mercury		18	30	54.005544			Yes	Include
HB14-10	30 - 42	8/20/2014	Area 1	NA	NA	Mercury		30	42	54.005544			Yes	Include
HB14-10	42 - 54	8/20/2014	Area 1	NA	NA	Mercury		42	54	54.005544			Yes	Include
HB14-10	54 - 66	8/20/2014	Area 1	NA	NA	Mercury		54	66	54.005544			Yes	Include
HB14-11	0 - 6	8/19/2014	Area 1	NA	NA	Mercury	SND-2	0	6					Exclude
HB14-11	6 - 18	8/19/2014	Area 1	NA	NA	Mercury	SND-2	6	18					Exclude
HB14-11	18 - 20	8/19/2014	Area 1	NA	NA	Mercury	SND-2	18	20					Exclude
HB14-12	0 - 6	8/19/2014	Area 1	NA	NA	Mercury	SND-4	0	6	26.34			Yes	Include
HB14-12	6 - 18	8/19/2014	Area 1	NA	NA	Mercury	SND-4	6	18	26.34			Yes	Include
HB14-12	18 - 32	8/19/2014	Area 1	NA	NA	Mercury	SND-4	18	32	26.34			Yes	Include
HB14-13	0 - 6	8/19/2014	Area 2	NA	NA	Mercury	SND-5	0	6	-0.648			No	Exclude
HB14-13	6 - 11	8/19/2014	Area 2	NA	NA	Mercury	SND-5	6	11	-0.648			No	Exclude
HB14-14	0 - 6	8/20/2014	Area 2	NA	NA	Mercury	OC-4	0	6	101.997672			Yes	Include
HB14-14	4 - 6	8/20/2014	Area 2	NA	NA	Mercury	OC-4	4	6	101.997672			Yes	Include
HB14-14	6 - 18	8/20/2014	Area 2	NA	NA	Mercury	OC-4	6	18	101.997672			Yes	Include
HB14-14	6 - 30	8/20/2014	Area 2	NA	NA	Mercury	OC-4	6	30	101.997672			Yes	Include
HB14-14	18 - 30	8/20/2014	Area 2	NA	NA	Mercury	OC-4	18	30	101.997672			Yes	Include
HB14-14	30 - 42	8/20/2014	Area 2	NA	NA	Mercury	OC-4	30	42	101.997672			Yes	Include
HB14-14	30 - 54	8/20/2014	Area 2	NA	NA	Mercury	OC-4	30	54	101.997672			Yes	Include
HB14-14	42 - 54	8/20/2014	Area 2	NA	NA	Mercury	OC-4	42	54	101.997672			Yes	Include
HB14-14	54 - 66	8/20/2014	Area 2	NA	NA	Mercury	OC-4	54	66	101.997672			Yes	Include
HB14-14	54 - 78	8/20/2014	Area 2	NA	NA	Mercury	OC-4	54	78	101.997672			Yes	Include
HB14-14	66 - 78	8/20/2014	Area 2	NA	NA	Mercury	OC-4	66	78	101.997672			Yes	Include
HB14-14	78 - 90	8/20/2014	Area 2	NA	NA	Mercury	OC-4	78	90	101.997672			Yes	Include
HB14-14	78 - 102	8/20/2014	Area 2	NA	NA	Mercury	OC-4	78	102	101.997672			Yes	Include
HB14-14	90 - 102	8/20/2014	Area 2	NA	NA	Mercury	OC-4	90	102	101.997672			Yes	Include
HB14-14	102 - 111	8/20/2014	Area 2	NA	NA	Mercury	OC-4	102	111	101.997672			No	Exclude
HB15-01	0 - 12	6/23/2015	Hughitt Ave Slip	0.41	0.41	Mercury	HS-1	0	12	51.096			Yes	Include
HB15-01	12 - 24	6/23/2015	Hughitt Ave Slip	0.8	0.8	Mercury	HS-1	12	24	51.096			Yes	Include
HB15-01	24 - 36	6/23/2015	Hughitt Ave Slip	1.3	1.3	Mercury	HS-1	24	36	51.096			Yes	Include
HB15-01	36 - 48	6/23/2015	Hughitt Ave Slip	2.2	2.2	Mercury	HS-1	36	48	51.096			Yes	Include
HB15-01	48 - 57	6/23/2015	Hughitt Ave Slip	3	3	Mercury	HS-1	48	57	51.096			Yes	Include
HB15-02	0 - 12	6/23/2015	Hughitt Ave Slip	0.99	0.99	Mercury	HS-1	0	12	48.000696			Yes	Include
HB15-02	12 - 24	6/23/2015	Hughitt Ave Slip	1.7	1.7	Mercury	HS-1	12	24	48.000696			Yes	Include
HB15-02	24 - 36	6/23/2015	Hughitt Ave Slip	1.6	1.6	Mercury	HS-1	24	36	48.000696			Yes	Include
HB15-02	36 - 48	6/23/2015	Hughitt Ave Slip	0.73	0.73	Mercury	HS-1	36	48	48.000696			Yes	Include
HB15-03	0 - 12	6/23/2015	Hughitt Ave Slip	0.27	0.27	Mercury	HS-1	0	12	67.9950564			Yes	Include
HB15-03	12 - 24	6/23/2015	Hughitt Ave Slip	0.45	0.45	Mercury	HS-1	12	24	67.9950564			Yes	Include
HB15-03	24 - 36	6/23/2015	Hughitt Ave Slip	0.550 F1	0.55	Mercury	HS-1	24	36	67.9950564			Yes	Include
HB15-03	36 - 48	6/23/2015	Hughitt Ave Slip	0.39	0.39	Mercury	HS-1	36	48	67.9950564			Yes	Include
HB15-03	48 - 60	6/23/2015	Hughitt Ave Slip	0.34	0.34	Mercury	HS-1	48	60	67.9950564			Yes	Include
HB15-03	60 - 68	6/23/2015	Hughitt Ave Slip	0.16	0.16	Mercury	HS-1	60	68	67.9950564			Yes	Include
HB15-03R	0 - 12	6/23/2015	Hughitt Ave Slip	0.190 J	0.19	Mercury	HS-1	0	12	67.9950564			Yes	Include
HB15-03R	12 - 24	6/23/2015	Hughitt Ave Slip	0.34	0.34	Mercury	HS-1	12	24	67.9950564			Yes	Include
HB15-03R	24 - 36	6/23/2015	Hughitt Ave Slip	1.5	1.5	Mercury	HS-1	24	36	67.9950564			Yes	Include
HB15-03R	36 - 48	6/23/2015	Hughitt Ave Slip	0.42	0.42	Mercury	HS-1	36	48	67.9950564			Yes	Include
HB15-03R	48 - 60	6/23/2015	Hughitt Ave Slip	0.55	0.55	Mercury	HS-1	48	60	67.9950564			Yes	Include
HB15-03R	60 - 68	6/23/2015	Hughitt Ave Slip	0.26	0.26	Mercury	HS-1	60	68	67.9950564			Yes	Include
HB15-04	0 - 12	6/23/2015	Hughitt Ave Slip	0.180 J	0.18	Mercury	HS-1	0	12	63.84			Yes	Include
HB15-04	12 - 24	6/23/2015	Hughitt Ave Slip	0.24	0.24	Mercury	HS-1	12	24	63.84			Yes	Include
HB15-04	24 - 36	6/23/2015	Hughitt Ave Slip	0.4	0.4	Mercury	HS-1	24	36	63.84			Yes	Include
HB15-04	36 - 48	6/23/2015	Hughitt Ave Slip	0.23	0.23	Mercury	HS-1	36	48	63.84			Yes	Include
HB15-04	48 - 59	6/23/2015	Hughitt Ave Slip	0.3	0.3	Mercury	HS-1	48	59	63.84			Yes	Include
HB15-05	0 - 12	6/23/2015	Hughitt Ave Slip	0.160 J	0.16	Mercury	HS-1	0	12	71.994852			Yes	Include
HB15-05	12 - 24	6/23/2015	Hughitt Ave Slip	0.78	0.78	Mercury	HS-1	12	24	71.994852			Yes	Include
HB15-05	24 - 36	6/23/2015	Hughitt Ave Slip	0.59	0.59	Mercury	HS-1	24	36	71.994852			Yes	Include
HB15-05	36 - 48	6/23/2015	Hughitt Ave Slip	2	2	Mercury	HS-1	36	48	71.994852			Yes	Include
HB15-05	48 - 60	6/23/2015	Hughitt Ave Slip	0.68	0.68	Mercury	HS-1	48	60	71.994852			Yes	Include
HB15-05	60 - 72	6/23/2015	Hughitt Ave Slip	0.580 F1	0.58	Mercury	HS-1	60	72	71.994852			Yes	Include
HB15-05	72 - 80	6/23/2015	Hughitt Ave Slip	0.0550 U	0.055	Mercury	HS-1	72	80	71.994852			No	Exclude
HB15-06	0 - 9	6/23/2015	Hughitt Ave Slip	0.23	0.23	Mercury	HS-2	0	9	9.000636			Yes	Include
HB15-07	0 - 12	6/23/2015	Cummings Ave Slip	1.1	1.1	Mercury	CS-1	0	12	90.9955116			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB15-07	12 - 24	6/23/2015	Cummings Ave Slip	1.5	1.5	Mercury	CS-1	12	24	90.9955116			Yes	Include
HB15-07	24 - 36	6/23/2015	Cummings Ave Slip	2.5	2.5	Mercury	CS-1	24	36	90.9955116			Yes	Include
HB15-07	36 - 48	6/23/2015	Cummings Ave Slip	4	4	Mercury	CS-1	36	48	90.9955116			Yes	Include
HB15-07	48 - 60	6/23/2015	Cummings Ave Slip	9	9	Mercury	CS-1	48	60	90.9955116			Yes	Include
HB15-07	60 - 72	6/23/2015	Cummings Ave Slip	6.7	6.7	Mercury	CS-1	60	72	90.9955116			Yes	Include
HB15-07	72 - 84	6/23/2015	Cummings Ave Slip	8.2	8.2	Mercury	CS-1	72	84	90.9955116			Yes	Include
HB15-07	84 - 91	6/23/2015	Cummings Ave Slip	7.1	7.1	Mercury	CS-1	84	91	90.9955116			Yes	Include
HB15-08	0 - 12	6/24/2015	Cummings Ave Slip	1.4	1.4	Mercury	CS-2	0	12	65.997804			Yes	Include
HB15-08	12 - 24	6/24/2015	Cummings Ave Slip	1.5	1.5	Mercury	CS-2	12	24	65.997804			Yes	Include
HB15-08	24 - 36	6/24/2015	Cummings Ave Slip	2.1	2.1	Mercury	CS-2	24	36	65.997804			Yes	Include
HB15-08	36 - 48	6/24/2015	Cummings Ave Slip	3.5	3.5	Mercury	CS-2	36	48	65.997804			Yes	Include
HB15-08	48 - 60	6/24/2015	Cummings Ave Slip	3.8	3.8	Mercury	CS-2	48	60	65.997804			Yes	Include
HB15-08	60 - 66	6/24/2015	Cummings Ave Slip	2.2	2.2	Mercury	CS-2	60	66	65.997804			Yes	Include
HB15-09	0 - 12	6/24/2015	Cummings Ave Slip	1.9	1.9	Mercury	CS-3	0	12	45.396			Yes	Include
HB15-09	12 - 17	6/24/2015	Cummings Ave Slip	3.7	3.7	Mercury	CS-3	12	17	45.396			Yes	Include
HB15-10	0 - 12	6/24/2015	Cummings Ave Slip	0.170 F1	0.17	Mercury		0	12	-0.936			No	Exclude
HB15-11	0 - 12	6/24/2015	Cummings Ave Slip	0.5	0.5	Mercury	CS-5	0	12	27.9944796			Yes	Include
HB15-11	12 - 24	6/24/2015	Cummings Ave Slip	1	1	Mercury	CS-5	12	24	27.9944796			Yes	Include
HB15-11	24 - 28	6/24/2015	Cummings Ave Slip	1.7	1.7	Mercury	CS-5	24	28	27.9944796			Yes	Include
HB15-12	0 - 12	6/24/2015	Area 2	NA	NA	Mercury	FP-1	0	12	29.994876			Yes	Include
HB15-12	12 - 24	6/24/2015	Area 2	NA	NA	Mercury	FP-1	12	24	29.994876			Yes	Include
HB15-12	24 - 30	6/24/2015	Area 2	NA	NA	Mercury	FP-1	24	30	29.994876			Yes	Include
HB15-13	0 - 12	6/24/2015	Area 2	NA	NA	Mercury	FP-1	0	12	64.0033716			Yes	Include
HB15-13	12 - 24	6/24/2015	Area 2	NA	NA	Mercury	FP-1	12	24	64.0033716			Yes	Include
HB15-13	24 - 36	6/24/2015	Area 2	NA	NA	Mercury	FP-1	24	36	64.0033716			Yes	Include
HB15-13	36 - 48	6/24/2015	Area 2	NA	NA	Mercury	FP-1	36	48	64.0033716			Yes	Include
HB15-13	48 - 60	6/24/2015	Area 2	NA	NA	Mercury	FP-1	48	60	64.0033716			Yes	Include
HB15-13	60 - 64	6/24/2015	Area 2	NA	NA	Mercury	FP-1	60	64	64.0033716			Yes	Include
HB15-14	0 - 12	6/24/2015	Area 2	NA	NA	Mercury	FP-1	0	12	23.996196			Yes	Include
HB15-14	12 - 24	6/24/2015	Area 2	NA	NA	Mercury	FP-1	12	24	23.996196			Yes	Include
HB15-14	24 - 28	6/24/2015	Area 2	NA	NA	Mercury	FP-1	24	28	23.996196			No	Exclude
HB15-14	28 - 35	6/24/2015	Area 2	NA	NA	Mercury	FP-1	28	35	23.996196			No	Exclude
HB15-15	0 - 12	6/24/2015	Area 2	NA	NA	Mercury	FP-2	0	12	19.0051356			Yes	Include
HB15-15	12 - 19	6/24/2015	Area 2	NA	NA	Mercury	FP-2	12	19	19.0051356			Yes	Include
HB15-15R	0 - 12	6/24/2015	Area 2	NA	NA	Mercury	FP-2	0	12	18.9999996			Yes	Include
HB15-15R	12 - 19	6/24/2015	Area 2	NA	NA	Mercury	FP-2	12	19	18.9999996			Yes	Include
HB15-16	0 - 12	6/24/2015	Area 2	NA	NA	Mercury	FP-1	0	12	8.304			Yes	Include
HB15-16	12 - 19	6/24/2015	Area 2	NA	NA	Mercury	FP-1	12	19	8.304			No	Exclude
HB15-17	0 - 12	6/24/2015	Area 2	NA	NA	Mercury	FP-2	0	12	36.004608			Yes	Include
HB15-17	12 - 24	6/24/2015	Area 2	NA	NA	Mercury	FP-2	12	24	36.004608			Yes	Include
HB15-17	24 - 36	6/24/2015	Area 2	NA	NA	Mercury	FP-2	24	36	36.004608			Yes	Include
HB15-17	36 - 48	6/24/2015	Area 2	NA	NA	Mercury	FP-2	36	48	36.004608			Yes	Include
HB15-17	48 - 54	6/24/2015	Area 2	NA	NA	Mercury	FP-2	48	54	36.004608			No	Exclude
HB15-18	0 - 12	6/24/2015	Area 2	NA	NA	Mercury	FP-2	0	12	23.999508			Yes	Include
HB15-18	12 - 24	6/24/2015	Area 2	NA	NA	Mercury	FP-2	12	24	23.999508			Yes	Include
HB15-19	0 - 12	6/24/2015	Area 2	NA	NA	Mercury		0	12					Exclude
HB15-19	12 - 24	6/24/2015	Area 2	NA	NA	Mercury		12	24					Exclude
HB15-19	24 - 32	6/24/2015	Area 2	NA	NA	Mercury		24	32					Exclude
HB15-20	0 - 12	6/25/2015	Area 2	NA	NA	Mercury	OC-3	0	12	33.864			Yes	Include
HB15-20	12 - 24	6/25/2015	Area 2	NA	NA	Mercury	OC-3	12	24	33.864			Yes	Include
HB15-20	24 - 28	6/25/2015	Area 2	NA	NA	Mercury	OC-3	24	28	33.864			Yes	Include
HB15-20B	0 - 6	6/25/2015	Area 2	NA	NA	Mercury	OC-13	0	6	11.996892			Yes	Include
HB15-20B	6 - 12	6/25/2015	Area 2	NA	NA	Mercury	OC-13	6	12	11.996892			Yes	Include
HB15-21G	15 - 21	6/29/2015	Fraser Ave Slip	NA	NA	Mercury		15	21					Exclude
HB15-22G	0 - 6	6/29/2015	Fraser Ave Slip	NA	NA	Mercury	OC-8	0	6	6			Yes	Include
HB15-23	0 - 12	6/25/2015	Fraser Ave Slip	NA	NA	Mercury	FS-1	0	12	55.02			Yes	Include
HB15-23	12 - 24	6/25/2015	Fraser Ave Slip	NA	NA	Mercury	FS-1	12	24	55.02			Yes	Include
HB15-23	24 - 36	6/25/2015	Fraser Ave Slip	NA	NA	Mercury	FS-1	24	36	55.02			Yes	Include
HB15-23	36 - 48	6/25/2015	Fraser Ave Slip	NA	NA	Mercury	FS-1	36	48	55.02			Yes	Include
HB15-23	48 - 56	6/25/2015	Fraser Ave Slip	NA	NA	Mercury	FS-1	48	56	55.02			Yes	Include
HB15-25	0 - 12	6/25/2015	Area 2	NA	NA	Mercury	OC-1	0	12	77.4			Yes	Include
HB15-25	12 - 24	6/25/2015	Area 2	NA	NA	Mercury	OC-1	12	24	77.4			Yes	Include
HB15-25	24 - 36	6/25/2015	Area 2	NA	NA	Mercury	OC-1	24	36	77.4			Yes	Include
HB15-25	36 - 48	6/25/2015	Area 2	NA	NA	Mercury	OC-1	36	48	77.4			Yes	Include
HB15-25	48 - 60	6/25/2015	Area 2	NA	NA	Mercury	OC-1	48	60	77.4			Yes	Include
HB15-25	60 - 72	6/25/2015	Area 2	NA	NA	Mercury	OC-1	60	72	77.4			Yes	Include
HB15-25	72 - 88	6/25/2015	Area 2	NA	NA	Mercury	OC-1	72	88	77.4			Yes	Include
HB15-26	0 - 12	6/25/2015	Area 2	NA	NA	Mercury	FC-2	0	12	38.28	6.36	include	Yes	Include
HB15-26	12 - 24	6/25/2015	Area 2	NA	NA	Mercury	FC-2	12	24	38.28	6.36	include	Yes	Include
HB15-26	24 - 36	6/25/2015	Area 2	NA	NA	Mercury	FC-2	24	36	38.28	6.36	include	Yes	Include
HB15-26	36 - 46	6/25/2015	Area 2	NA	NA	Mercury	FC-2	36	46	38.28	6.36	include	Yes	Include
HB15-27	0 - 12	6/25/2015	Area 2	NA	NA	Mercury	FC-3	0	12	33.6	14.64	exclude	Yes	Exclude
HB15-27	12 - 24	6/25/2015	Area 2	NA	NA	Mercury	FC-3	12	24	33.6	14.64	include	Yes	Include
HB15-27	24 - 36	6/25/2015	Area 2	NA	NA	Mercury	FC-3	24	36	33.6	14.64	include	Yes	Include
HB15-27	36 - 48	6/25/2015	Area 2	NA	NA	Mercury	FC-3	36	48	33.6	14.64	include	No	Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB15-27	48 - 60	6/25/2015	Area 2	NA	NA	Mercury	FC-3	48	60	33.6	14.64	include	No	Exclude
HB15-27	60 - 71	6/25/2015	Area 2	NA	NA	Mercury	FC-3	60	71	33.6	14.64	include	No	Exclude
HB15-28	0 - 12	6/25/2015	Area 2	NA	NA	Mercury	OC-7	0	12	11.994072			Yes	Include
HB15-28	12 - 24	6/25/2015	Area 2	NA	NA	Mercury	OC-7	12	24	11.994072			No	Exclude
HB15-28	24 - 30	6/25/2015	Area 2	NA	NA	Mercury	OC-7	24	30	11.994072			No	Exclude
HB15-30	0 - 12	6/25/2015	Area 2	NA	NA	Mercury		0	12	43.776			Yes	Include
HB15-30	12 - 24	6/25/2015	Area 2	NA	NA	Mercury		12	24	43.776			Yes	Include
HB15-30	24 - 36	6/25/2015	Area 2	NA	NA	Mercury		24	36	43.776			Yes	Include
HB15-30	36 - 50	6/25/2015	Area 2	NA	NA	Mercury		36	50	43.776			Yes	Include
HB15-31	0 - 12	6/25/2015	Area 2	NA	NA	Mercury		0	12					Exclude
HB15-31	12 - 20	6/25/2015	Area 2	NA	NA	Mercury		12	20					Exclude
HB15-32	0 - 12	6/25/2015	Area 1	NA	NA	Mercury	SND-4	0	12	11.995236			Yes	Include
HB15-32	12 - 26	6/25/2015	Area 1	NA	NA	Mercury	SND-4	12	26	11.995236			No	Exclude
HB15-33	0 - 12	6/25/2015	Area 1	0.26	0.26	Mercury		0	12	26.292			Yes	Include
HB15-33	12 - 24	6/25/2015	Area 1	0.55	0.55	Mercury		12	24	26.292			Yes	Include
HB15-33	24 - 39	6/25/2015	Area 1	0.100 U	0.1	Mercury		24	39	26.292			Yes	Include
HB15-34	0 - 12	6/25/2015	Area 1	NA	NA	Mercury	FC-11	0	12		35.52	exclude		Exclude
HB15-34	12 - 24	6/25/2015	Area 1	NA	NA	Mercury	FC-11	12	24		35.52	exclude		Exclude
HB15-34	24 - 32	6/25/2015	Area 1	NA	NA	Mercury	FC-11	24	32		35.52	exclude		Exclude
HB15-35	0 - 12	6/25/2015	Area 1	NA	NA	Mercury	FC-16	0	12	74.28	-6.48	include	Yes	Include
HB15-35	12 - 24	6/25/2015	Area 1	NA	NA	Mercury	FC-16	12	24	74.28	-6.48	include	Yes	Include
HB15-35	24 - 36	6/25/2015	Area 1	NA	NA	Mercury	FC-16	24	36	74.28	-6.48	include	Yes	Include
HB15-35	36 - 48	6/25/2015	Area 1	NA	NA	Mercury	FC-16	36	48	74.28	-6.48	include	Yes	Include
HB15-35	48 - 60	6/25/2015	Area 1	NA	NA	Mercury	FC-16	48	60	74.28	-6.48	include	Yes	Include
HB15-35	60 - 72	6/25/2015	Area 1	NA	NA	Mercury	FC-16	60	72	74.28	-6.48	include	Yes	Include
HB15-36G	15 - 36	6/29/2015	Area 2	NA	NA	Mercury		15	36					Exclude
HB15-37	0 - 12	6/25/2015	Area 2	NA	NA	Mercury	OC-9	0	12	51.048			Yes	Include
HB15-37	12 - 24	6/25/2015	Area 2	NA	NA	Mercury	OC-9	12	24	51.048			Yes	Include
HB15-37	24 - 36	6/25/2015	Area 2	NA	NA	Mercury	OC-9	24	36	51.048			Yes	Include
HB15-37	36 - 48	6/25/2015	Area 2	NA	NA	Mercury	OC-9	36	48	51.048			Yes	Include
HB15-37	48 - 60	6/25/2015	Area 2	NA	NA	Mercury	OC-9	48	60	51.048			Yes	Include
HB15-37	60 - 74	6/25/2015	Area 2	NA	NA	Mercury	OC-9	60	74	51.048			No	Exclude
HB15-38	0 - 12	6/25/2015	Area 2	NA	NA	Mercury	OC-9	0	12	83.184			Yes	Include
HB15-38	12 - 24	6/25/2015	Area 2	NA	NA	Mercury	OC-9	12	24	83.184			Yes	Include
HB15-38	24 - 36	6/25/2015	Area 2	NA	NA	Mercury	OC-9	24	36	83.184			Yes	Include
HB15-38	36 - 48	6/25/2015	Area 2	NA	NA	Mercury	OC-9	36	48	83.184			Yes	Include
HB15-38	48 - 60	6/25/2015	Area 2	NA	NA	Mercury	OC-9	48	60	83.184			Yes	Include
HB15-38	60 - 72	6/25/2015	Area 2	NA	NA	Mercury	OC-9	60	72	83.184			Yes	Include
HB15-38	72 - 84	6/25/2015	Area 2	NA	NA	Mercury	OC-9	72	84	83.184			Yes	Include
HB15-38	84 - 96	6/25/2015	Area 2	NA	NA	Mercury	OC-9	84	96	83.184			No	Exclude
HB15-G28	0 - 6	6/25/2015	Hughitt Ave Slip	0.120 J	0.12	Mercury		0	6					Exclude
HB15-HC20A	0 - 6	6/25/2015	Area 1	NA	NA	Mercury	OC-13	0	6	6.003036			Yes	Include
HB2A_4	0 - 6	5/12/2007	Hughitt Ave Slip	NA	NA	Thallium	HS-1	0	6	48.00432			Yes	Include
HB2A_4	6 - 24	5/12/2007	Hughitt Ave Slip	NA	NA	Thallium	HS-1	6	24	48.00432			Yes	Include
HB2A_4	24 - 48	5/12/2007	Hughitt Ave Slip	NA	NA	Thallium	HS-1	24	48	48.00432			Yes	Include
HB2A_6	0 - 5	5/2/2007	Area 1	NA	NA	Thallium		0	5					Exclude
HB2A_7	0 - 5	5/10/2007	Area 1	NA	NA	Thallium	SND-1	0	5					Exclude
HB2A_8	0 - 5	5/10/2007	Area 1	NA	NA	Thallium	FC-12/FC-13	0	5	4.9944804	79.824	exclude	Yes	Exclude
HB2A_11	0 - 5	5/10/2007	Area 1	NA	NA	Thallium		0	5					Exclude
HB2A_13	0 - 5	5/2/2007	Area 1	NA	NA	Thallium		0	5					Exclude
HB2A_16	0 - 5	5/2/2007	Area 1	NA	NA	Thallium		0	5					Exclude
HB2A_210	0 - 6	5/16/2007	Area 1	NA	NA	Thallium		0	6					Exclude
HB2A_210	6 - 24	5/16/2007	Area 1	NA	NA	Thallium		6	24					Exclude
HB2A_210	24 - 48	5/16/2007	Area 1	NA	NA	Thallium		24	48					Exclude
HB2A_GENES	0 - 5	5/22/2007	Cummings Ave Slip	NA	NA	Thallium		0	5					Exclude
HB2B_17	0 - 6	5/12/2007	Fraser Ave Slip	NA	NA	Thallium	FS-2	0	6	24.005676			Yes	Include
HB2B_17	6 - 24	5/12/2007	Fraser Ave Slip	NA	NA	Thallium	FS-2	6	24	24.005676			Yes	Include
HB2B_18	0 - 6	5/7/2007	Area 2	NA	NA	Thallium	FP-1	0	6	47.997552			Yes	Include
HB2B_18	6 - 24	5/7/2007	Area 2	NA	NA	Thallium	FP-1	6	24	47.997552			Yes	Include
HB2B_18	24 - 48	5/7/2007	Area 2	NA	NA	Thallium	FP-1	24	48	47.997552			Yes	Include
HB2B_19	0 - 6	5/2/2007	Area 2	NA	NA	Thallium	OC-1	0	6	6.001728			Yes	Include
HB2B_19	6 - 24	5/2/2007	Area 2	NA	NA	Thallium	OC-1	6	24	6.001728			Yes	Include
HB2B_20	0 - 6	5/2/2007	Area 2	NA	NA	Thallium	OC-9	0	6	23.997336			Yes	Include
HB2B_20	6 - 24	5/2/2007	Area 2	NA	NA	Thallium	OC-9	6	24	23.997336			Yes	Include
HB2B_20	24 - 48	5/2/2007	Area 2	NA	NA	Thallium	OC-9	24	48	23.997336			No	Exclude
HB2B_21	0 - 5	5/2/2007	Area 2	NA	NA	Thallium		0	5					Exclude
HB2B_22	0 - 5	5/2/2007	Area 2	NA	NA	Thallium	OC-5	0	5	5.0028204			Yes	Include
HB3A_GENES	0 - 5	9/6/2007	Cummings Ave Slip	NA	NA	Thallium		0	5					Exclude
HB10-1-01	0 - 6	10/16/2010	Area 1	4.3 U	4.3	Thallium		0	6					Exclude
HB10-1-01	0 - 12	10/16/2010	Area 1	5.3 U	5.3	Thallium		0	12					Exclude
HB10-1-01	36 - 40	10/16/2010	Area 1	3.5 U	3.5	Thallium		36	40					Exclude
HB10-1-02	0 - 6	10/16/2010	Area 1	4.2 U	4.2	Thallium		0	6	23.0027508			Yes	Include
HB10-1-02	12 - 23	10/16/2010	Area 1	3.8 U	3.8	Thallium		12	23	23.0027508			Yes	Include
HB10-1-03	0 - 6	10/16/2010	Area 1	3.9 U	3.9	Thallium	FC-17	0	6	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	0 - 12	10/16/2010	Area 1	3.4 U	3.4	Thallium	FC-17	0	12	59.99475	49.872	exclude	Yes	Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB10-1-03	12 - 36	10/16/2010	Area 1	3.1 U	3.1	Thallium	FC-17	12	36	59.99475	49.872	exclude	Yes	Exclude
HB10-1-03	36 - 60	10/16/2010	Area 1	3.6 U	3.6	Thallium	FC-17	36	60	59.99475	49.872	include	Yes	Include
HB10-1-03	60 - 84	10/16/2010	Area 1	3.6 U	3.6	Thallium	FC-17	60	84	59.99475	49.872	include	No	Exclude
HB10-1-04	0 - 6	10/17/2010	Area 1	0.67 J	0.67	Thallium		0	6					Exclude
HB10-1-04	0 - 12	10/17/2010	Area 1	3.1 U	3.1	Thallium		0	12					Exclude
HB10-1-04	12 - 36	10/17/2010	Area 1	3.6 U	3.6	Thallium		12	36					Exclude
HB10-1-04	36 - 50	10/17/2010	Area 1	3.4 U	3.4	Thallium		36	50					Exclude
HB10-1-05	0 - 6	10/16/2010	Area 1	3.8 U	3.8	Thallium	OC-17	0	6	5.9987496			Yes	Include
HB10-1-07	0 - 6	10/17/2010	Area 1	3.4 U	3.4	Thallium	OC-15	0	6	6.0057			Yes	Include
HB10-1-07	0 - 12	10/17/2010	Area 1	4.0 U	4	Thallium	OC-15	0	12	6.0057			Yes	Include
HB10-1-07	12 - 36	10/17/2010	Area 1	3.8 U	3.8	Thallium	OC-15	12	36	6.0057			No	Exclude
HB10-1-07	60 - 64	10/17/2010	Area 1	2.9 U	2.9	Thallium	OC-15	60	64	6.0057			No	Exclude
HB10-1-08	0 - 6	10/17/2010	Area 1	4.6 U	4.6	Thallium		0	6	36.0057			Yes	Include
HB10-1-08	0 - 12	10/17/2010	Area 1	4.5 U	4.5	Thallium		0	12	36.0057			Yes	Include
HB10-1-08	12 - 36	10/17/2010	Area 1	3.7 U	3.7	Thallium		12	36	36.0057			Yes	Include
HB10-1-10	0 - 6	10/18/2010	Area 1	5.1 U	5.1	Thallium	SND-1	0	6					Exclude
HB10-1-11	0 - 6	10/16/2010	Area 1	4.2 U	4.2	Thallium		0	6	20.9987496			Yes	Include
HB10-1-11	12 - 21	10/16/2010	Area 1	4.0 U	4	Thallium		12	21	20.9987496			Yes	Include
HB10-1-12	0 - 6	10/17/2010	Area 1	3.2 U	3.2	Thallium		0	6					Exclude
HB10-1-12	0 - 12	10/17/2010	Area 1	4.4 U	4.4	Thallium		0	12					Exclude
HB10-1-12	12 - 34	10/17/2010	Area 1	7.8 U	7.8	Thallium		12	34					Exclude
HB10-1-13	0 - 6	10/18/2010	Area 1	1.4 J-	1.4	Thallium	FC-12/FC-13	0	6	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	0 - 12	10/18/2010	Area 1	1.2 J-	1.2	Thallium	FC-12/FC-13	0	12	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	12 - 36	10/18/2010	Area 1	1.2 J-	1.2	Thallium	FC-12/FC-13	12	36	36.0053004	42.816	exclude	Yes	Exclude
HB10-1-13	60 - 67	10/18/2010	Area 1	0.85 J-	0.85	Thallium	FC-12/FC-13	60	67	36.0053004	42.816	include	No	Exclude
HB10-1-14	0 - 6	10/17/2010	Area 1	0.92 J	0.92	Thallium		0	6	66.0057			Yes	Include
HB10-1-14	0 - 12	10/17/2010	Area 1	1.3 J	1.3	Thallium		0	12	66.0057			Yes	Include
HB10-1-14	12 - 36	10/17/2010	Area 1	1.3 J	1.3	Thallium		12	36	66.0057			Yes	Include
HB10-1-14	60 - 66	10/17/2010	Area 1	1.0 J	1	Thallium		60	66	66.0057			Yes	Include
HB10-1-15	0 - 6	10/18/2010	Area 1	2.4 U	2.4	Thallium	OC-13	0	6	16.0056996			Yes	Include
HB10-1-15	12 - 16	10/18/2010	Area 1	3.8 U	3.8	Thallium	OC-13	12	16	16.0056996			Yes	Include
HB10-1-16	0 - 6	10/17/2010	Hughitt Ave Slip	2.6 U	2.6	Thallium	HS-3	0	6	31.0056996			Yes	Include
HB10-1-16	0 - 12	10/17/2010	Hughitt Ave Slip	4.2 U	4.2	Thallium	HS-3	0	12	31.0056996			Yes	Include
HB10-1-16	12 - 31	10/17/2010	Hughitt Ave Slip	3.5 U	3.5	Thallium	HS-3	12	31	31.0056996			Yes	Include
HB10-1-17	0 - 6	10/17/2010	Area 1	3.9 U	3.9	Thallium	OC-14	0	6	12			Yes	Include
HB10-1-20	0 - 6	10/17/2010	Hughitt Ave Slip	2.7 U	2.7	Thallium		0	6	6.0057			Yes	Include
HB10-1-21	0 - 6	10/18/2010	Cummings Ave Slip	2.4 U	2.4	Thallium		0	6	6.0012996			Yes	Include
HB10-1-21	12 - 23	10/18/2010	Cummings Ave Slip	2.4 U	2.4	Thallium		12	23	6.0012996			No	Exclude
HB10-1-23	0 - 6	10/17/2010	Area 1	4.1 U	4.1	Thallium		0	6	36.0057			Yes	Include
HB10-1-23	0 - 12	10/17/2010	Area 1	4.2 U	4.2	Thallium		0	12	36.0057			Yes	Include
HB10-1-23	12 - 36	10/17/2010	Area 1	4.2 U	4.2	Thallium		12	36	36.0057			Yes	Include
HB10-1-24	0 - 6	10/18/2010	Cummings Ave Slip	1.7 J-	1.7	Thallium	CS-4	0	6	36.0047496			Yes	Include
HB10-1-24	0 - 12	10/18/2010	Cummings Ave Slip	1.6 J-	1.6	Thallium	CS-4	0	12	36.0047496			Yes	Include
HB10-1-24	12 - 36	10/18/2010	Cummings Ave Slip	1.7 J-	1.7	Thallium	CS-4	12	36	36.0047496			Yes	Include
HB10-1-25	0 - 6	10/17/2010	Baxter Ave Embayment	4.9 U	4.9	Thallium		0	6	6.0057			Yes	Include
HB10-1-27	0 - 6	10/18/2010	Area 1	4.7 U	4.7	Thallium		0	6	-0.0027			No	Exclude
HB10-1-28	0 - 6	10/17/2010	Hughitt Ave Slip	3.8 U	3.8	Thallium	HS-1	0	6	84.0057			Yes	Include
HB10-1-28	0 - 12	10/17/2010	Hughitt Ave Slip	3.6 U	3.6	Thallium	HS-1	0	12	84.0057			Yes	Include
HB10-1-28	12 - 36	10/17/2010	Hughitt Ave Slip	4.5 U	4.5	Thallium	HS-1	12	36	84.0057			Yes	Include
HB10-1-28	36 - 60	10/17/2010	Hughitt Ave Slip	4.7 U	4.7	Thallium	HS-1	36	60	84.0057			Yes	Include
HB10-1-28	60 - 84	10/17/2010	Hughitt Ave Slip	3.9 U	3.9	Thallium	HS-1	60	84	84.0057			Yes	Include
HB10-1-28	60 - 96	10/17/2010	Hughitt Ave Slip	3.9 U	3.9	Thallium	HS-1	60	96	84.0057			Yes	Include
HB10-1-29	0 - 6	10/17/2010	Cummings Ave Slip	1.6 J	1.6	Thallium	CS-1	0	6	83.9937			Yes	Include
HB10-1-29	0 - 12	10/17/2010	Cummings Ave Slip	1.9 J	1.9	Thallium	CS-1	0	12	83.9937			Yes	Include
HB10-1-29	12 - 36	10/17/2010	Cummings Ave Slip	1.9 J	1.9	Thallium	CS-1	12	36	83.9937			Yes	Include
HB10-1-29	36 - 60	10/17/2010	Cummings Ave Slip	0.89 J	0.89	Thallium	CS-1	36	60	83.9937			Yes	Include
HB10-1-29	60 - 93	10/17/2010	Cummings Ave Slip	0.89 J	0.89	Thallium	CS-1	60	93	83.9937			Yes	Include
HB10-1-30	0 - 6	10/18/2010	Baxter Ave Embayment	3.3 U	3.3	Thallium		0	6	60.0053004			Yes	Include
HB10-1-30	0 - 12	10/18/2010	Baxter Ave Embayment	4.0 U	4	Thallium		0	12	60.0053004			Yes	Include
HB10-1-30	12 - 36	10/18/2010	Baxter Ave Embayment	3.5 U	3.5	Thallium		12	36	60.0053004			Yes	Include
HB10-1-30	36 - 60	10/18/2010	Baxter Ave Embayment	3.2 U	3.2	Thallium		36	60	60.0053004			Yes	Include
HB10-1-30	60 - 77	10/18/2010	Baxter Ave Embayment	12 U	12	Thallium		60	77	60.0053004			Yes	Include
HB10-1-31	0 - 6	10/18/2010	Baxter Ave Embayment	5.5 U	5.5	Thallium	OC-11	0	6	35.9973			Yes	Include
HB10-1-31	0 - 12	10/18/2010	Baxter Ave Embayment	4.7 U	4.7	Thallium	OC-11	0	12	35.9973			Yes	Include
HB10-1-31	12 - 36	10/18/2010	Baxter Ave Embayment	2.2 J-	2.2	Thallium	OC-11	12	36	35.9973			Yes	Include
HB10-2-18	0 - 6	10/18/2010	Area 2	4.6 U	4.6	Thallium	OC-2	0	6	6.0053004			Yes	Include
HB10-2-26	0 - 6	10/16/2010	Area 2	3.1 U	3.1	Thallium		0	6					Exclude
HB10-2-26	12 - 17	10/16/2010	Area 2	3.0 U	3	Thallium		12	17					Exclude
HB10-2-32	0 - 6	10/18/2010	Area 2	5.3 U	5.3	Thallium		0	6					Exclude
HB10-2-33	0 - 6	10/18/2010	Area 2	0.39 J-	0.39	Thallium		0	6	6.0012996			Yes	Include
HB10-2-33	12 - 22	10/18/2010	Area 2	0.98 J-	0.98	Thallium		12	22	6.0012996			No	Exclude
HB10-2-34	0 - 6	10/18/2010	Area 2	5.0 U	5	Thallium	FC-7	0	6	6.0053004	0.816	include	Yes	Include
HB10-2-35	0 - 6	10/18/2010	Area 2	2.5 U	2.5	Thallium		0	6	30.0012996			Yes	Include
HB10-2-35	0 - 12	10/18/2010	Area 2	2.4 U	2.4	Thallium		0	12	30.0012996			Yes	Include
HB10-2-35	12 - 30	10/18/2010	Area 2	2.9 U	2.9	Thallium		12	30	30.0012996			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB10-2-36	0 - 6	10/18/2010	Area 2	3.2 U	3.2	Thallium	FC-5	0	6	6.0053004	-29.184	include	Yes	Include
HB10-2-37	0 - 6	10/18/2010	Area 2	2.2 U	2.2	Thallium		0	6	23.0013			Yes	Include
HB10-2-37	12 - 23	10/18/2010	Area 2	7.9 U	7.9	Thallium		12	23	23.0013			Yes	Include
HB10-2-38	0 - 6	10/18/2010	Area 2	4.7 U	4.7	Thallium	OC-6	0	6	38.0013			Yes	Include
HB10-2-38	0 - 12	10/18/2010	Area 2	1.3 J-	1.3	Thallium	OC-6	0	12	38.0013			Yes	Include
HB10-2-38	36 - 38	10/18/2010	Area 2	2.6 U	2.6	Thallium	OC-6	36	38	38.0013			Yes	Include
HB10-2-39	0 - 6	10/18/2010	Area 2	2.2 U	2.2	Thallium		0	6	6.0012996			Yes	Include
HB10-2-39	0 - 12	10/18/2010	Area 2	2.6 U	2.6	Thallium		0	12	6.0012996			Yes	Include
HB10-2-39	12 - 28	10/18/2010	Area 2	1.7 J-	1.7	Thallium		12	28	6.0012996			No	Exclude
HB10-2-40	0 - 6	10/18/2010	Area 2	5.2 U	5.2	Thallium	OC-5	0	6	48.0053004			Yes	Include
HB10-2-40	0 - 12	10/18/2010	Area 2	4.5 U	4.5	Thallium	OC-5	0	12	48.0053004			Yes	Include
HB10-2-40	12 - 36	10/18/2010	Area 2	3.2 U	3.2	Thallium	OC-5	12	36	48.0053004			Yes	Include
HB10-2-40	36 - 48	10/18/2010	Area 2	2.6 U	2.6	Thallium	OC-5	36	48	48.0053004			Yes	Include
HB10-2-41	0 - 6	10/18/2010	Area 2	5.9 U	5.9	Thallium	FP-2	0	6	31.0012992			Yes	Include
HB10-2-41	0 - 12	10/18/2010	Area 2	3.2 U	3.2	Thallium	FP-2	0	12	31.0012992			Yes	Include
HB10-2-41	12 - 31	10/18/2010	Area 2	3.2 U	3.2	Thallium	FP-2	12	31	31.0012992			Yes	Include
HB10-2-42	0 - 6	10/18/2010	Area 2	2.8 U	2.8	Thallium	FP-1	0	6	12.0012996			Yes	Include
HB10-2-42	0 - 12	10/18/2010	Area 2	3.5 U	3.5	Thallium	FP-1	0	12	12.0012996			Yes	Include
HB10-2-42	12 - 30	10/18/2010	Area 2	3.2 U	3.2	Thallium	FP-1	12	30	12.0012996			Yes	Include
HB10-2-43	0 - 6	10/17/2010	Area 2	4.9 U	4.9	Thallium		0	6	22.0056996			Yes	Include
HB10-2-43	12 - 22	10/17/2010	Area 2	3.8 U	3.8	Thallium		12	22	22.0056996			Yes	Include
HB10-2-44	0 - 6	10/18/2010	Area 2	3.3 U	3.3	Thallium	FP-2	0	6	16.0012992			Yes	Include
HB10-2-44	12 - 16	10/18/2010	Area 2	2.8 U	2.8	Thallium	FP-2	12	16	16.0012992			Yes	Include
HB10-2-45	0 - 6	10/18/2010	Area 2	2.7 U	2.7	Thallium	FP-2	0	6	19.0012992			Yes	Include
HB10-2-45	12 - 19	10/18/2010	Area 2	2.9 U	2.9	Thallium	FP-2	12	19	19.0012992			Yes	Include
HB13-01	0 - 6 *	9/11/2013	Area 2	NA	NA	Thallium	FP-1	0	6	48			Yes	Include
HB13-01	6 - 12 *	9/11/2013	Area 2	NA	NA	Thallium	FP-1	6	12	48			Yes	Include
HB13-01	12 - 18 *	9/11/2013	Area 2	NA	NA	Thallium	FP-1	12	18	48			Yes	Include
HB13-01	18 - 24 *	9/11/2013	Area 2	NA	NA	Thallium	FP-1	18	24	48			Yes	Include
HB13-01	24 - 30 *	9/11/2013	Area 2	NA	NA	Thallium	FP-1	24	30	48			Yes	Include
HB13-01	30 - 36 *	9/11/2013	Area 2	NA	NA	Thallium	FP-1	30	36	48			Yes	Include
HB13-01	36 - 42 *	9/11/2013	Area 2	NA	NA	Thallium	FP-1	36	42	48			Yes	Include
HB13-01	42 - 48 *	9/11/2013	Area 2	NA	NA	Thallium	FP-1	42	48	48			Yes	Include
HB13-01	48 - 54 *	9/11/2013	Area 2	NA	NA	Thallium	FP-1	48	54	48			No	Exclude
HB13-01	54 - 60 *	9/11/2013	Area 2	NA	NA	Thallium	FP-1	54	60	48			No	Exclude
HB13-01	60 - 66 *	9/11/2013	Area 2	NA	NA	Thallium	FP-1	60	66	48			No	Exclude
HB13-01	66 - 72 *	9/11/2013	Area 2	NA	NA	Thallium	FP-1	66	72	48			No	Exclude
HB13-01	72 - 74 *	9/11/2013	Area 2	NA	NA	Thallium	FP-1	72	74	48			No	Exclude
HB13-02	0 - 6 *	9/9/2013	Area 2	NA	NA	Thallium		0	6	29.9960004			Yes	Include
HB13-02	6 - 12 *	9/9/2013	Area 2	NA	NA	Thallium		6	12	29.9960004			Yes	Include
HB13-02	12 - 18 *	9/9/2013	Area 2	NA	NA	Thallium		12	18	29.9960004			Yes	Include
HB13-02	18 - 24 *	9/9/2013	Area 2	NA	NA	Thallium		18	24	29.9960004			Yes	Include
HB13-02	24 - 30 *	9/9/2013	Area 2	NA	NA	Thallium		24	30	29.9960004			Yes	Include
HB13-02	30 - 36 *	9/9/2013	Area 2	NA	NA	Thallium		30	36	29.9960004			No	Exclude
HB13-02	36 - 42 *	9/9/2013	Area 2	NA	NA	Thallium		36	42	29.9960004			No	Exclude
HB13-02	42 - 48 *	9/9/2013	Area 2	NA	NA	Thallium		42	48	29.9960004			No	Exclude
HB13-03	0 - 6 *	9/9/2013	Area 2	2.4 U	2.4	Thallium	FP-2	0	6	46.0040004			Yes	Include
HB13-03	0 - 24	9/9/2013	Area 2	NA	NA	Thallium	FP-2	0	24	46.0040004			Yes	Include
HB13-03	6 - 12 *	9/9/2013	Area 2	1.5 U	1.5	Thallium	FP-2	6	12	46.0040004			Yes	Include
HB13-03	12 - 18 *	9/9/2013	Area 2	1.7 U	1.7	Thallium	FP-2	12	18	46.0040004			Yes	Include
HB13-03	18 - 24 *	9/9/2013	Area 2	1.3 U	1.3	Thallium	FP-2	18	24	46.0040004			Yes	Include
HB13-03	24 - 30 *	9/9/2013	Area 2	1.6 U	1.6	Thallium	FP-2	24	30	46.0040004			Yes	Include
HB13-03	24 - 46	9/9/2013	Area 2	NA	NA	Thallium	FP-2	24	46	46.0040004			Yes	Include
HB13-03	30 - 36 *	9/9/2013	Area 2	1.5 U	1.5	Thallium	FP-2	30	36	46.0040004			Yes	Include
HB13-03	36 - 42 *	9/9/2013	Area 2	1.5 U	1.5	Thallium	FP-2	36	42	46.0040004			Yes	Include
HB13-03	42 - 46 *	9/9/2013	Area 2	1.9 U	1.9	Thallium	FP-2	42	46	46.0040004			Yes	Include
HB13-03	46 - 51 *	9/9/2013	Area 2	1.3 U	1.3	Thallium	FP-2	46	51	46.0040004			Yes	Include
HB13-04	0 - 6 *	9/9/2013	Area 2	NA	NA	Thallium	OC-1	0	6	41.9960004			Yes	Include
HB13-04	6 - 12 *	9/9/2013	Area 2	NA	NA	Thallium	OC-1	6	12	41.9960004			Yes	Include
HB13-04	12 - 18 *	9/9/2013	Area 2	NA	NA	Thallium	OC-1	12	18	41.9960004			Yes	Include
HB13-04	18 - 24 *	9/9/2013	Area 2	NA	NA	Thallium	OC-1	18	24	41.9960004			Yes	Include
HB13-04	24 - 30 *	9/9/2013	Area 2	NA	NA	Thallium	OC-1	24	30	41.9960004			Yes	Include
HB13-04	30 - 36 *	9/9/2013	Area 2	NA	NA	Thallium	OC-1	30	36	41.9960004			Yes	Include
HB13-04	36 - 42 *	9/9/2013	Area 2	NA	NA	Thallium	OC-1	36	42	41.9960004			Yes	Include
HB13-04	42 - 44 *	9/9/2013	Area 2	NA	NA	Thallium	OC-1	42	44	41.9960004			No	Exclude
HB13-05	0 - 32 *	9/9/2013	Area 2	NA	NA	Thallium	FC-1	0	32	43.8	33.156	exclude	Yes	Exclude
HB13-05	32 - 38 *	9/9/2013	Area 2	NA	NA	Thallium	FC-1	32	38	43.8	33.156	include	Yes	Include
HB13-05	38 - 44 *	9/9/2013	Area 2	NA	NA	Thallium	FC-1	38	44	43.8	33.156	include	Yes	Include
HB13-05	44 - 50 *	9/9/2013	Area 2	NA	NA	Thallium	FC-1	44	50	43.8	33.156	include	No	Exclude
HB13-05	50 - 56 *	9/9/2013	Area 2	NA	NA	Thallium	FC-1	50	56	43.8	33.156	include	No	Exclude
HB13-05	56 - 62	9/9/2013	Area 2	NA	NA	Thallium	FC-1	56	62	43.8	33.156	include	No	Exclude
HB13-05	62 - 66	9/9/2013	Area 2	NA	NA	Thallium	FC-1	62	66	43.8	33.156	include	No	Exclude
HB13-05	68 - 74 *	9/9/2013	Area 2	NA	NA	Thallium	FC-1	68	74	43.8	33.156	include	No	Exclude
HB13-05	74 - 77 *	9/9/2013	Area 2	NA	NA	Thallium	FC-1	74	77	43.8	33.156	include	No	Exclude
HB13-06	0 - 6 *	9/9/2013	Area 2	NA	NA	Thallium	OC-2	0	6	48			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-06	6 - 12 *	9/9/2013	Area 2	NA	NA	Thallium	OC-2	6	12	48			Yes	Include
HB13-06	12 - 18 *	9/9/2013	Area 2	NA	NA	Thallium	OC-2	12	18	48			Yes	Include
HB13-06	18 - 24 *	9/9/2013	Area 2	NA	NA	Thallium	OC-2	18	24	48			Yes	Include
HB13-06	24 - 30 *	9/9/2013	Area 2	NA	NA	Thallium	OC-2	24	30	48			Yes	Include
HB13-06	30 - 36 *	9/9/2013	Area 2	NA	NA	Thallium	OC-2	30	36	48			Yes	Include
HB13-06	36 - 42 *	9/9/2013	Area 2	NA	NA	Thallium	OC-2	36	42	48			Yes	Include
HB13-06	42 - 48 *	9/9/2013	Area 2	NA	NA	Thallium	OC-2	42	48	48			Yes	Include
HB13-07	0 - 6 *	9/10/2013	Area 2	NA	NA	Thallium		0	6					Exclude
HB13-07	6 - 12 *	9/10/2013	Area 2	NA	NA	Thallium		6	12					Exclude
HB13-07	12 - 18 *	9/10/2013	Area 2	NA	NA	Thallium		12	18					Exclude
HB13-07	18 - 24 *	9/10/2013	Area 2	NA	NA	Thallium		18	24					Exclude
HB13-07	24 - 30 *	9/10/2013	Area 2	NA	NA	Thallium		24	30					Exclude
HB13-07	30 - 36 *	9/10/2013	Area 2	NA	NA	Thallium		30	36					Exclude
HB13-07	36 - 42 *	9/10/2013	Area 2	NA	NA	Thallium		36	42					Exclude
HB13-07	42 - 48 *	9/10/2013	Area 2	NA	NA	Thallium		42	48					Exclude
HB13-08	0 - 18	9/11/2013	Area 2	1.5 U	1.5	Thallium	FC-2	0	18	38.28	21.756	exclude	Yes	Exclude
HB13-08	18 - 36	9/11/2013	Area 2	1.4 U	1.4	Thallium	FC-2	18	36	38.28	21.756	include	Yes	Include
HB13-08	36 - 60	9/11/2013	Area 2	1.6 U	1.6	Thallium	FC-2	36	60	38.28	21.756	include	Yes	Include
HB13-08	60 - 92	9/11/2013	Area 2	1.1 U	1.1	Thallium	FC-2	60	92	38.28	21.756	include	No	Exclude
HB13-10	0 - 6 *	9/10/2013	Area 2	NA	NA	Thallium		0	6	0.0039996			Yes	Include
HB13-11	0 - 18	9/11/2013	Area 2	1.7	1.7	Thallium	FC-4	0	18	25.2	23.964	exclude	Yes	Exclude
HB13-11	18 - 24 *	9/11/2013	Area 2	1.5	1.5	Thallium	FC-4	18	24	25.2	23.964	include	Yes	Include
HB13-11	18 - 42	9/11/2013	Area 2	NA	NA	Thallium	FC-4	18	42	25.2	23.964	include	Yes	Include
HB13-11	24 - 30 *	9/11/2013	Area 2	1.5 U	1.5	Thallium	FC-4	24	30	25.2	23.964	include	Yes	Include
HB13-11	30 - 36 *	9/11/2013	Area 2	1.4 U	1.4	Thallium	FC-4	30	36	25.2	23.964	include	No	Exclude
HB13-11	36 - 42 *	9/11/2013	Area 2	1.4 U	1.4	Thallium	FC-4	36	42	25.2	23.964	include	No	Exclude
HB13-11	42 - 48 *	9/11/2013	Area 2	1.2 U	1.2	Thallium	FC-4	42	48	25.2	23.964	include	No	Exclude
HB13-11	42 - 60	9/11/2013	Area 2	NA	NA	Thallium	FC-4	42	60	25.2	23.964	include	No	Exclude
HB13-11	48 - 54 *	9/11/2013	Area 2	1.4 U	1.4	Thallium	FC-4	48	54	25.2	23.964	include	No	Exclude
HB13-11	54 - 60 *	9/11/2013	Area 2	1.2 U	1.2	Thallium	FC-4	54	60	25.2	23.964	include	No	Exclude
HB13-12	0 - 6 *	9/10/2013	Area 2	NA	NA	Thallium		0	6	5.9960004			Yes	Include
HB13-13	0 - 1 *	9/11/2013	Area 2	NA	NA	Thallium	SND-5	0	1	0.9999996			Yes	Include
HB13-14	0 - 6 *	9/12/2013	Area 2	1.5 U	1.5	Thallium	FC-6	0	6	45.9999996	-5.316	include	Yes	Include
HB13-14	0 - 24	9/12/2013	Area 2	NA	NA	Thallium	FC-6	0	24	45.9999996	-5.316	include	Yes	Include
HB13-14	6 - 24 *	9/12/2013	Area 2	1.6 U	1.6	Thallium	FC-6	6	24	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 42 *	9/12/2013	Area 2	1.2 U	1.2	Thallium	FC-6	24	42	45.9999996	-5.316	include	Yes	Include
HB13-14	24 - 46	9/12/2013	Area 2	NA	NA	Thallium	FC-6	24	46	45.9999996	-5.316	include	Yes	Include
HB13-14	42 - 46 *	9/12/2013	Area 2	1.2 U	1.2	Thallium	FC-6	42	46	45.9999996	-5.316	include	Yes	Include
HB13-15	0 - 6 *	9/12/2013	Area 2	NA	NA	Thallium	FC-7	0	6	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	6 - 12 *	9/12/2013	Area 2	NA	NA	Thallium	FC-7	6	12	18.9999996	18.516	exclude	Yes	Exclude
HB13-15	12 - 19 *	9/12/2013	Area 2	NA	NA	Thallium	FC-7	12	19	18.9999996	18.516	include	Yes	Include
HB13-16	0 - 6 *	9/12/2013	Area 2	NA	NA	Thallium		0	6	26.0000004			Yes	Include
HB13-16	6 - 12 *	9/12/2013	Area 2	NA	NA	Thallium		6	12	26.0000004			Yes	Include
HB13-16	12 - 18 *	9/12/2013	Area 2	NA	NA	Thallium		12	18	26.0000004			Yes	Include
HB13-16	18 - 24 *	9/12/2013	Area 2	NA	NA	Thallium		18	24	26.0000004			Yes	Include
HB13-16	24 - 27 *	9/12/2013	Area 2	NA	NA	Thallium		24	27	26.0000004			Yes	Include
HB13-17	0 - 12 *	9/12/2013	Area 2	NA	NA	Thallium	FC-7	0	12	24	16.2	exclude	Yes	Exclude
HB13-17	12 - 18 *	9/12/2013	Area 2	NA	NA	Thallium	FC-7	12	18	24	16.2	include	Yes	Include
HB13-17	18 - 24 *	9/12/2013	Area 2	NA	NA	Thallium	FC-7	18	24	24	16.2	include	Yes	Include
HB13-17	24 - 47 *	9/12/2013	Area 2	NA	NA	Thallium	FC-7	24	47	24	16.2	include	No	Exclude
HB13-18	0 - 6	9/12/2013	Area 2	NA	NA	Thallium		0	6	9.9999996			Yes	Include
HB13-18	6 - 10	9/12/2013	Area 2	NA	NA	Thallium		6	10	9.9999996			Yes	Include
HB13-18	10 - 16	9/12/2013	Area 2	NA	NA	Thallium		10	16	9.9999996			No	Exclude
HB13-19	0 - 6 *	9/13/2013	Area 2	NA	NA	Thallium		0	6					Exclude
HB13-19	6 - 24 *	9/13/2013	Area 2	NA	NA	Thallium		6	24					Exclude
HB13-19	18 - 20 *	9/13/2013	Area 2	3.2 U	3.2	Thallium		18	20					Exclude
HB13-19	24 - 42 *	9/13/2013	Area 2	NA	NA	Thallium		24	42					Exclude
HB13-19	42 - 61 *	9/13/2013	Area 2	NA	NA	Thallium		42	61					Exclude
HB13-19	61 - 67 *	9/13/2013	Area 2	NA	NA	Thallium		61	67					Exclude
HB13-20	0 - 6 *	9/12/2013	Area 2	2.1 U	2.1	Thallium		0	6	24			Yes	Include
HB13-20	0 - 12	9/12/2013	Area 2	NA	NA	Thallium		0	12	24			Yes	Include
HB13-20	6 - 12 *	9/12/2013	Area 2	1.7 U	1.7	Thallium		6	12	24			Yes	Include
HB13-20	12 - 18 *	9/12/2013	Area 2	2.0 U	2	Thallium		12	18	24			Yes	Include
HB13-20	12 - 24	9/12/2013	Area 2	NA	NA	Thallium		12	24	24			Yes	Include
HB13-20	18 - 24 *	9/12/2013	Area 2	1.7 U	1.7	Thallium		18	24	24			Yes	Include
HB13-20	24 - 30 *	9/12/2013	Area 2	1.6 U	1.6	Thallium		24	30	24			No	Exclude
HB13-20	24 - 36	9/12/2013	Area 2	NA	NA	Thallium		24	36	24			No	Exclude
HB13-20	30 - 36 *	9/12/2013	Area 2	1.5 U	1.5	Thallium		30	36	24			No	Exclude
HB13-20	36 - 42 *	9/12/2013	Area 2	5.7	5.7	Thallium		36	42	24			No	Exclude
HB13-20	36 - 48	9/12/2013	Area 2	NA	NA	Thallium		36	48	24			No	Exclude
HB13-20	42 - 48 *	9/12/2013	Area 2	1.6 U	1.6	Thallium		42	48	24			No	Exclude
HB13-21	0 - 6 *	9/13/2013	Area 2	NA	NA	Thallium	OC-10	0	6	24			Yes	Include
HB13-21	6 - 24 *	9/13/2013	Area 2	NA	NA	Thallium	OC-10	6	24	24			Yes	Include
HB13-21	24 - 48 *	9/13/2013	Area 2	NA	NA	Thallium	OC-10	24	48	24			No	Exclude
HB13-21	48 - 72 *	9/13/2013	Area 2	NA	NA	Thallium	OC-10	48	72	24			No	Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB13-21	72 - 88 *	9/13/2013	Area 2	NA	NA	Thallium	OC-10	72	88	24			No	Exclude
HB13-22	0 - 28 *	9/12/2013	Area 2	NA	NA	Thallium	FC-7	0	28	24	36.72	exclude	Yes	Exclude
HB13-22	28 - 31 *	9/12/2013	Area 2	NA	NA	Thallium	FC-7	28	31	24	36.72	exclude	No	Exclude
HB13-23	0 - 12 *	9/12/2013	Area 2	NA	NA	Thallium	SND-5	0	12	27			Yes	Include
HB13-23	12 - 18 *	9/12/2013	Area 2	NA	NA	Thallium	SND-5	12	18	27			Yes	Include
HB13-23	18 - 24 *	9/12/2013	Area 2	NA	NA	Thallium	SND-5	18	24	27			Yes	Include
HB13-23	24 - 32 *	9/12/2013	Area 2	NA	NA	Thallium	SND-5	24	32	27			Yes	Include
HB13-24	0 - 6	9/12/2013	Hughitt Ave Slip	1.6 U	1.6	Thallium	HS-3	0	6	6			Yes	Include
HB13-24	0 - 24 *	9/12/2013	HUGHITT AVE SLIP	NA	NA	Thallium	HS-3	0	24	6			Yes	Include
HB13-24	6 - 24	9/12/2013	Hughitt Ave Slip	2.3	2.3	Thallium	HS-3	6	24	6			No	Exclude
HB13-25	0 - 6 *	9/12/2013	Area 1	2.1	2.1	Thallium	OC-11	0	6	57			Yes	Include
HB13-25	0 - 18	9/12/2013	Area 1	NA	NA	Thallium	OC-11	0	18	57			Yes	Include
HB13-25	6 - 18 *	9/12/2013	Area 1	1.6 U	1.6	Thallium	OC-11	6	18	57			Yes	Include
HB13-25	18 - 36 *	9/12/2013	Area 1	1.8 U	1.8	Thallium	OC-11	18	36	57			Yes	Include
HB13-25	18 - 57	9/12/2013	Area 1	NA	NA	Thallium	OC-11	18	57	57			Yes	Include
HB13-25	36 - 57 *	9/12/2013	Area 1	1.9 U	1.9	Thallium	OC-11	36	57	57			Yes	Include
HB13-26	0 - 12	9/13/2013	Area 1	NA	NA	Thallium	FC-10	0	12	33	17.04	exclude	Yes	Exclude
HB13-26	12 - 18	9/13/2013	Area 1	NA	NA	Thallium	FC-10	12	18	33	17.04	include	Yes	Include
HB13-26	18 - 33	9/13/2013	Area 1	NA	NA	Thallium	FC-10	18	33	33	17.04	include	Yes	Include
HB13-27	0 - 6 *	9/13/2013	Area 1	NA	NA	Thallium		0	6					Exclude
HB13-27	0 - 32	9/13/2013	Area 1	NA	NA	Thallium		0	32					Exclude
HB13-28	0 - 8 *	9/13/2013	Area 1	NA	NA	Thallium	FC-11	0	8	14.0000004	13.68	exclude	Yes	Exclude
HB13-28	8 - 14 *	9/13/2013	Area 1	NA	NA	Thallium	FC-11	8	14	14.0000004	13.68	include	Yes	Include
HB13-28	14 - 26 *	9/13/2013	Area 1	NA	NA	Thallium	FC-11	14	26	14.0000004	13.68	include	Yes	Include
HB13-28	26 - 40 *	9/13/2013	Area 1	NA	NA	Thallium	FC-11	26	40	14.0000004	13.68	include	No	Exclude
HB13-29	0 - 6	9/13/2013	Area 1	1.7	1.7	Thallium	FC-12/FC-13	0	6	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 12 *	9/13/2013	Area 1	NA	NA	Thallium	FC-12/FC-13	0	12	44.0000004	1.044	include	Yes	Include
HB13-29	0 - 18 *	9/13/2013	Area 1	NA	NA	Thallium	FC-12/FC-13	0	18	44.0000004	1.044	include	Yes	Include
HB13-29	6 - 12	9/13/2013	Area 1	1.8 U	1.8	Thallium	FC-12/FC-13	6	12	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 24	9/13/2013	Area 1	1.7 U	1.7	Thallium	FC-12/FC-13	12	24	44.0000004	1.044	include	Yes	Include
HB13-29	12 - 44 *	9/13/2013	Area 1	NA	NA	Thallium	FC-12/FC-13	12	44	44.0000004	1.044	include	Yes	Include
HB13-29	24 - 44	9/13/2013	Area 1	1.3 U	1.3	Thallium	FC-12/FC-13	24	44	44.0000004	1.044	include	Yes	Include
HB13-30	0 - 6	9/10/2013	Area 1	NA	NA	Thallium	SND-1	0	6	60			Yes	Include
HB13-30	6 - 24	9/10/2013	Area 1	NA	NA	Thallium	SND-1	6	24	60			Yes	Include
HB13-30	24 - 42	9/10/2013	Area 1	NA	NA	Thallium	SND-1	24	42	60			Yes	Include
HB13-30	42 - 60	9/10/2013	Area 1	NA	NA	Thallium	SND-1	42	60	60			Yes	Include
HB13-30	60 - 78	9/10/2013	Area 1	NA	NA	Thallium	SND-1	60	78	60			No	Exclude
HB13-31	0 - 6	9/13/2013	Area 1	1.9	1.9	Thallium	FC-16	0	6	27	2.76	include	Yes	Include
HB13-31	6 - 18	9/13/2013	Area 1	1.2 U	1.2	Thallium	FC-16	6	18	27	2.76	include	Yes	Include
HB13-31	18 - 27	9/13/2013	Area 1	1.5 U	1.5	Thallium	FC-16	18	27	27	2.76	include	Yes	Include
HB13-31	27 - 33	9/13/2013	Area 1	NA	NA	Thallium	FC-16	27	33	27	2.76	include	No	Exclude
HB13-32	0 - 6	9/13/2013	Area 1	2.4	2.4	Thallium	FC-14	0	6	26.0000004	-2.52	include	Yes	Include
HB13-32	6 - 18	9/13/2013	Area 1	1.4 U	1.4	Thallium	FC-14	6	18	26.0000004	-2.52	include	Yes	Include
HB13-32	18 - 26	9/13/2013	Area 1	1.4 U	1.4	Thallium	FC-14	18	26	26.0000004	-2.52	include	Yes	Include
HB13-32	26 - 32	9/13/2013	Area 1	NA	NA	Thallium	FC-14	26	32	26.0000004	-2.52	include	Yes	Include
HB13-33	0 - 6	9/13/2013	Area 1	1.6 U	1.6	Thallium		0	6	12			Yes	Include
HB13-33	6 - 12	9/13/2013	Area 1	1.9 U	1.9	Thallium		6	12	12			Yes	Include
HB13-34	0 - 6	9/13/2013	Area 1	1.4	1.4	Thallium		0	6	0.5000004			Yes	Include
HB13-35	0 - 6	9/13/2013	Hughitt Ave Slip	1.2 U	1.2	Thallium		0	6	3.9999996			Yes	Include
HB13-35	6 - 12	9/13/2013	Hughitt Ave Slip	NA	NA	Thallium		6	12	3.9999996			No	Exclude
HB13-37	2 - 6	9/10/2013	Hughitt Ave Slip	1.5 U	1.5	Thallium	HS-3	2	6	6			Yes	Include
HB13-38	0 - 6	9/12/2013	Hughitt Ave Slip	1.4 U	1.4	Thallium	HS-3	0	6	6			Yes	Include
HB13-39	4 - 10	9/13/2013	Hughitt Ave Slip	0.85 U	0.85	Thallium	HS-2	4	10	27.9999996			Yes	Include
HB13-39	10 - 28	9/13/2013	Hughitt Ave Slip	0.91 U	0.91	Thallium	HS-2	10	28	27.9999996			Yes	Include
HB13-39	28 - 34	9/13/2013	Hughitt Ave Slip	0.91 U	0.91	Thallium	HS-2	28	34	27.9999996			No	Exclude
HB13-40	0 - 6	9/13/2013	Hughitt Ave Slip	1.4 U	1.4	Thallium	HS-2	0	6	86.0000004			Yes	Include
HB13-40	0 - 24 *	9/13/2013	Hughitt Ave Slip	NA	NA	Thallium	HS-2	0	24	86.0000004			Yes	Include
HB13-40	6 - 24	9/13/2013	Hughitt Ave Slip	1.5 U	1.5	Thallium	HS-2	6	24	86.0000004			Yes	Include
HB13-40	24 - 48	9/13/2013	Hughitt Ave Slip	1.7 U	1.7	Thallium	HS-2	24	48	86.0000004			Yes	Include
HB13-40	48 - 72	9/13/2013	Hughitt Ave Slip	2.0 U	2	Thallium	HS-2	48	72	86.0000004			Yes	Include
HB13-40	72 - 86	9/13/2013	Hughitt Ave Slip	1.7 U	1.7	Thallium	HS-2	72	86	86.0000004			Yes	Include
HB13-41	0 - 6	9/10/2013	Hughitt Ave Slip	1.8 U	1.8	Thallium	HS-2	0	6	29.0000004			Yes	Include
HB13-41	0 - 24 *	9/10/2013	Hughitt Ave Slip	NA	NA	Thallium	HS-2	0	24	29.0000004			Yes	Include
HB13-41	6 - 24	9/10/2013	Hughitt Ave Slip	1.6 U	1.6	Thallium	HS-2	6	24	29.0000004			Yes	Include
HB13-41	24 - 29	9/10/2013	Hughitt Ave Slip	1.8 U	1.8	Thallium	HS-2	24	29	29.0000004			Yes	Include
HB13-42	0 - 6	9/11/2013	Cummings Ave Slip	2	2	Thallium	CS-3	0	6	33			Yes	Include
HB13-42	6 - 24	9/11/2013	Cummings Ave Slip	1.4 U	1.4	Thallium	CS-3	6	24	33			Yes	Include
HB13-42	24 - 33	9/11/2013	Cummings Ave Slip	1.4 U	1.4	Thallium	CS-3	24	33	33			Yes	Include
HB13-42	33 - 36	9/11/2013	Cummings Ave Slip	NA	NA	Thallium	CS-3	33	36	33			No	Exclude
HB13-43	0 - 6	9/11/2013	Cummings Ave Slip	1.1	1.1	Thallium	CS-2	0	6	24			Yes	Include
HB13-43	0 - 24 *	9/11/2013	Cummings Ave Slip	NA	NA	Thallium	CS-2	0	24	24			Yes	Include
HB13-43	6 - 24	9/11/2013	Cummings Ave Slip	1.3 U	1.3	Thallium	CS-2	6	24	24			Yes	Include
HB13-45	0 - 6	9/11/2013	Cummings Ave Slip	2.5 U	2.5	Thallium	CS-2	0	6	21			Yes	Include
HB13-45	6 - 21	9/11/2013	Cummings Ave Slip	1.9 U	1.9	Thallium	CS-2	6	21	21			Yes	Include
HB13-47	0 - 6	9/10/2013	Fraser Ave Slip	NA	NA	Thallium	FS-1	0	6	30.996			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB13-47	6 - 24	9/10/2013	Fraser Ave Slip	NA	NA	Thallium	FS-1	6	24	30.996			Yes	Include
HB13-47	24 - 31	9/10/2013	Fraser Ave Slip	NA	NA	Thallium	FS-1	24	31	30.996			Yes	Include
HB13-47	31 - 37 *	9/10/2013	Fraser Ave Slip	NA	NA	Thallium	FS-1	31	37	30.996			No	Exclude
HB13-48	0 - 6 *	9/10/2013	Fraser Ave Slip	2.3	2.3	Thallium	FS-2	0	6	45.9999996			Yes	Include
HB13-48	0 - 24	9/10/2013	FRASER AVE SLIP	NA	NA	Thallium	FS-2	0	24	45.9999996			Yes	Include
HB13-48	6 - 24 *	9/10/2013	Fraser Ave Slip	2.3	2.3	Thallium	FS-2	6	24	45.9999996			Yes	Include
HB13-48	24 - 42 *	9/10/2013	Fraser Ave Slip	1.9 U	1.9	Thallium	FS-2	24	42	45.9999996			Yes	Include
HB13-48	24 - 46 *	9/10/2013	FRASER AVE SLIP	NA	NA	Thallium	FS-2	24	46	45.9999996			Yes	Include
HB13-48	42 - 46 *	9/10/2013	Fraser Ave Slip	1.4 U	1.4	Thallium	FS-2	42	46	45.9999996			Yes	Include
HB13-49	0 - 6	9/11/2013	Fraser Ave Slip	NA	NA	Thallium	FS-2	0	6	30			Yes	Include
HB13-49	6 - 24	9/11/2013	Fraser Ave Slip	NA	NA	Thallium	FS-2	6	24	30			Yes	Include
HB13-49	24 - 30	9/11/2013	Fraser Ave Slip	NA	NA	Thallium	FS-2	24	30	30			Yes	Include
HB13-50	0 - 12 *	9/13/2013	Area 1	NA	NA	Thallium	OC-12	0	12	47.0000004			Yes	Include
HB13-50	12 - 24 *	9/13/2013	Area 1	NA	NA	Thallium	OC-12	12	24	47.0000004			Yes	Include
HB13-50	24 - 36 *	9/13/2013	Area 1	NA	NA	Thallium	OC-12	24	36	47.0000004			Yes	Include
HB13-50	36 - 47 *	9/13/2013	Area 1	NA	NA	Thallium	OC-12	36	47	47.0000004			Yes	Include
HB13-51	0 - 6 *	9/11/2013	Area 2	NA	NA	Thallium		0	6					Exclude
HB13-51	6 - 15 *	9/11/2013	Area 2	NA	NA	Thallium		6	15					Exclude
HB13-52	0 - 6 *	9/11/2013	Area 2	NA	NA	Thallium	OC-10	0	6	12			Yes	Include
HB13-52	6 - 12 *	9/11/2013	Area 2	NA	NA	Thallium	OC-10	6	12	12			Yes	Include
HB13-52	12 - 17 *	9/11/2013	Area 2	NA	NA	Thallium	OC-10	12	17	12			No	Exclude
HB14-01	0 - 6	8/18/2014	Area 1	NA	NA	Thallium	SND-1	0	6					Exclude
HB14-01	6 - 18	8/18/2014	Area 1	NA	NA	Thallium	SND-1	6	18					Exclude
HB14-02	0 - 6	8/18/2014	Area 1	NA	NA	Thallium	FC-15	0	6	17.004	-12.996	include	Yes	Include
HB14-02	6 - 14	8/18/2014	Area 1	NA	NA	Thallium	FC-15	6	14	17.004	-12.996	include	Yes	Include
HB14-03	0 - 6	8/18/2014	Area 1	NA	NA	Thallium	FC-15	0	6	29.997288	-2.472	include	Yes	Include
HB14-03	6 - 18	8/18/2014	Area 1	NA	NA	Thallium	FC-15	6	18	29.997288	-2.472	include	Yes	Include
HB14-03	18 - 30	8/18/2014	Area 1	NA	NA	Thallium	FC-15	18	30	29.997288	-2.472	include	Yes	Include
HB14-03	30 - 42	8/18/2014	Area 1	NA	NA	Thallium	FC-15	30	42	29.997288	-2.472	include	No	Exclude
HB14-03	42 - 54	8/18/2014	Area 1	NA	NA	Thallium	FC-15	42	54	29.997288	-2.472	include	No	Exclude
HB14-04	0 - 6	8/18/2014	Area 1	NA	NA	Thallium		0	6	29.904			Yes	Include
HB14-04	6 - 18	8/18/2014	Area 1	NA	NA	Thallium		6	18	29.904			Yes	Include
HB14-04	18 - 30	8/18/2014	Area 1	NA	NA	Thallium		18	30	29.904			Yes	Include
HB14-05 G		8/18/2014	Area 1	NA	NA	Thallium			#VALUE!					Exclude
HB14-06	0 - 6	8/18/2014	Area 1	NA	NA	Thallium		0	6	30.588			Yes	Include
HB14-06	6 - 24	8/18/2014	Area 1	NA	NA	Thallium		6	24	30.588			Yes	Include
HB14-07	0 - 6	8/18/2014	Area 1	NA	NA	Thallium		0	6	78.012			Yes	Include
HB14-07	6 - 24	8/18/2014	Area 1	NA	NA	Thallium		6	24	78.012			Yes	Include
HB14-07	24 - 42	8/18/2014	Area 1	NA	NA	Thallium		24	42	78.012			Yes	Include
HB14-08	0 - 6	8/19/2014	Area 1	NA	NA	Thallium		0	6	34.416			Yes	Include
HB14-08	6 - 19	8/19/2014	Area 1	NA	NA	Thallium		6	19	34.416			Yes	Include
HB14-09	0 - 12	8/19/2014	Area 1	NA	NA	Thallium	OC-16	0	12	12.003804			Yes	Include
HB14-09	12 - 24	8/19/2014	Area 1	NA	NA	Thallium	OC-16	12	24	12.003804			Yes	Include
HB14-09	24 - 36	8/19/2014	Area 1	NA	NA	Thallium	OC-16	24	36	12.003804			No	Exclude
HB14-09	36 - 48	8/19/2014	Area 1	NA	NA	Thallium	OC-16	36	48	12.003804			No	Exclude
HB14-09	48 - 60	8/19/2014	Area 1	NA	NA	Thallium	OC-16	48	60	12.003804			No	Exclude
HB14-09	60 - 72	8/19/2014	Area 1	NA	NA	Thallium	OC-16	60	72	12.003804			No	Exclude
HB14-10	0 - 6	8/20/2014	Area 1	NA	NA	Thallium		0	6	54.005544			Yes	Include
HB14-10	6 - 18	8/20/2014	Area 1	NA	NA	Thallium		6	18	54.005544			Yes	Include
HB14-10	18 - 30	8/20/2014	Area 1	NA	NA	Thallium		18	30	54.005544			Yes	Include
HB14-10	30 - 42	8/20/2014	Area 1	NA	NA	Thallium		30	42	54.005544			Yes	Include
HB14-10	42 - 54	8/20/2014	Area 1	NA	NA	Thallium		42	54	54.005544			Yes	Include
HB14-10	54 - 66	8/20/2014	Area 1	NA	NA	Thallium		54	66	54.005544			Yes	Include
HB14-11	0 - 6	8/19/2014	Area 1	NA	NA	Thallium	SND-2	0	6					Exclude
HB14-11	6 - 18	8/19/2014	Area 1	NA	NA	Thallium	SND-2	6	18					Exclude
HB14-11	18 - 20	8/19/2014	Area 1	NA	NA	Thallium	SND-2	18	20					Exclude
HB14-12	0 - 6	8/19/2014	Area 1	NA	NA	Thallium	SND-4	0	6	26.34			Yes	Include
HB14-12	6 - 18	8/19/2014	Area 1	NA	NA	Thallium	SND-4	6	18	26.34			Yes	Include
HB14-12	18 - 32	8/19/2014	Area 1	NA	NA	Thallium	SND-4	18	32	26.34			Yes	Include
HB14-13	0 - 6	8/19/2014	Area 2	NA	NA	Thallium	SND-5	0	6	-0.648			No	Exclude
HB14-13	6 - 11	8/19/2014	Area 2	NA	NA	Thallium	SND-5	6	11	-0.648			No	Exclude
HB14-14	0 - 6	8/20/2014	Area 2	NA	NA	Thallium	OC-4	0	6	101.997672			Yes	Include
HB14-14	4 - 6	8/20/2014	Area 2	NA	NA	Thallium	OC-4	4	6	101.997672			Yes	Include
HB14-14	6 - 18	8/20/2014	Area 2	NA	NA	Thallium	OC-4	6	18	101.997672			Yes	Include
HB14-14	6 - 30	8/20/2014	Area 2	NA	NA	Thallium	OC-4	6	30	101.997672			Yes	Include
HB14-14	18 - 30	8/20/2014	Area 2	NA	NA	Thallium	OC-4	18	30	101.997672			Yes	Include
HB14-14	30 - 42	8/20/2014	Area 2	NA	NA	Thallium	OC-4	30	42	101.997672			Yes	Include
HB14-14	30 - 54	8/20/2014	Area 2	NA	NA	Thallium	OC-4	30	54	101.997672			Yes	Include
HB14-14	42 - 54	8/20/2014	Area 2	NA	NA	Thallium	OC-4	42	54	101.997672			Yes	Include
HB14-14	54 - 66	8/20/2014	Area 2	NA	NA	Thallium	OC-4	54	66	101.997672			Yes	Include
HB14-14	54 - 78	8/20/2014	Area 2	NA	NA	Thallium	OC-4	54	78	101.997672			Yes	Include
HB14-14	66 - 78	8/20/2014	Area 2	NA	NA	Thallium	OC-4	66	78	101.997672			Yes	Include
HB14-14	78 - 90	8/20/2014	Area 2	NA	NA	Thallium	OC-4	78	90	101.997672			Yes	Include
HB14-14	78 - 102	8/20/2014	Area 2	NA	NA	Thallium	OC-4	78	102	101.997672			Yes	Include
HB14-14	90 - 102	8/20/2014	Area 2	NA	NA	Thallium	OC-4	90	102	101.997672			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB14-14	102 - 111	8/20/2014	Area 2	NA	NA	Thallium	OC-4	102	111	101.997672			No	Exclude
HB15-01	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	0	12	51.096			Yes	Include
HB15-01	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	12	24	51.096			Yes	Include
HB15-01	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	24	36	51.096			Yes	Include
HB15-01	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	36	48	51.096			Yes	Include
HB15-01	48 - 57	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	48	57	51.096			Yes	Include
HB15-02	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	0	12	48.000696			Yes	Include
HB15-02	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	12	24	48.000696			Yes	Include
HB15-02	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	24	36	48.000696			Yes	Include
HB15-02	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	36	48	48.000696			Yes	Include
HB15-03	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	0	12	67.9950564			Yes	Include
HB15-03	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	12	24	67.9950564			Yes	Include
HB15-03	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	24	36	67.9950564			Yes	Include
HB15-03	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	36	48	67.9950564			Yes	Include
HB15-03	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	48	60	67.9950564			Yes	Include
HB15-03	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	60	68	67.9950564			Yes	Include
HB15-03R	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	0	12	67.9950564			Yes	Include
HB15-03R	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	12	24	67.9950564			Yes	Include
HB15-03R	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	24	36	67.9950564			Yes	Include
HB15-03R	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	36	48	67.9950564			Yes	Include
HB15-03R	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	48	60	67.9950564			Yes	Include
HB15-03R	60 - 68	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	60	68	67.9950564			Yes	Include
HB15-04	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	0	12	63.84			Yes	Include
HB15-04	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	12	24	63.84			Yes	Include
HB15-04	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	24	36	63.84			Yes	Include
HB15-04	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	36	48	63.84			Yes	Include
HB15-04	48 - 59	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	48	59	63.84			Yes	Include
HB15-05	0 - 12	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	0	12	71.994852			Yes	Include
HB15-05	12 - 24	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	12	24	71.994852			Yes	Include
HB15-05	24 - 36	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	24	36	71.994852			Yes	Include
HB15-05	36 - 48	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	36	48	71.994852			Yes	Include
HB15-05	48 - 60	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	48	60	71.994852			Yes	Include
HB15-05	60 - 72	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	60	72	71.994852			Yes	Include
HB15-05	72 - 80	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-1	72	80	71.994852			No	Exclude
HB15-06	0 - 9	6/23/2015	Hughitt Ave Slip	NA	NA	Thallium	HS-2	0	9	9.000636			Yes	Include
HB15-07	0 - 12	6/23/2015	Cummings Ave Slip	NA	NA	Thallium	CS-1	0	12	90.9955116			Yes	Include
HB15-07	12 - 24	6/23/2015	Cummings Ave Slip	NA	NA	Thallium	CS-1	12	24	90.9955116			Yes	Include
HB15-07	24 - 36	6/23/2015	Cummings Ave Slip	NA	NA	Thallium	CS-1	24	36	90.9955116			Yes	Include
HB15-07	36 - 48	6/23/2015	Cummings Ave Slip	NA	NA	Thallium	CS-1	36	48	90.9955116			Yes	Include
HB15-07	48 - 60	6/23/2015	Cummings Ave Slip	NA	NA	Thallium	CS-1	48	60	90.9955116			Yes	Include
HB15-07	60 - 72	6/23/2015	Cummings Ave Slip	NA	NA	Thallium	CS-1	60	72	90.9955116			Yes	Include
HB15-07	72 - 84	6/23/2015	Cummings Ave Slip	NA	NA	Thallium	CS-1	72	84	90.9955116			Yes	Include
HB15-07	84 - 91	6/23/2015	Cummings Ave Slip	NA	NA	Thallium	CS-1	84	91	90.9955116			Yes	Include
HB15-08	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Thallium	CS-2	0	12	65.997804			Yes	Include
HB15-08	12 - 24	6/24/2015	Cummings Ave Slip	NA	NA	Thallium	CS-2	12	24	65.997804			Yes	Include
HB15-08	24 - 36	6/24/2015	Cummings Ave Slip	NA	NA	Thallium	CS-2	24	36	65.997804			Yes	Include
HB15-08	36 - 48	6/24/2015	Cummings Ave Slip	NA	NA	Thallium	CS-2	36	48	65.997804			Yes	Include
HB15-08	48 - 60	6/24/2015	Cummings Ave Slip	NA	NA	Thallium	CS-2	48	60	65.997804			Yes	Include
HB15-08	60 - 66	6/24/2015	Cummings Ave Slip	NA	NA	Thallium	CS-2	60	66	65.997804			Yes	Include
HB15-09	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Thallium	CS-3	0	12	45.396			Yes	Include
HB15-09	12 - 17	6/24/2015	Cummings Ave Slip	NA	NA	Thallium	CS-3	12	17	45.396			Yes	Include
HB15-10	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Thallium		0	12	-0.936			No	Exclude
HB15-11	0 - 12	6/24/2015	Cummings Ave Slip	NA	NA	Thallium	CS-5	0	12	27.9944796			Yes	Include
HB15-11	12 - 24	6/24/2015	Cummings Ave Slip	NA	NA	Thallium	CS-5	12	24	27.9944796			Yes	Include
HB15-11	24 - 28	6/24/2015	Cummings Ave Slip	NA	NA	Thallium	CS-5	24	28	27.9944796			Yes	Include
HB15-12	0 - 12	6/24/2015	Area 2	NA	NA	Thallium	FP-1	0	12	29.994876			Yes	Include
HB15-12	12 - 24	6/24/2015	Area 2	NA	NA	Thallium	FP-1	12	24	29.994876			Yes	Include
HB15-12	24 - 30	6/24/2015	Area 2	NA	NA	Thallium	FP-1	24	30	29.994876			Yes	Include
HB15-13	0 - 12	6/24/2015	Area 2	NA	NA	Thallium	FP-1	0	12	64.0033716			Yes	Include
HB15-13	12 - 24	6/24/2015	Area 2	NA	NA	Thallium	FP-1	12	24	64.0033716			Yes	Include
HB15-13	24 - 36	6/24/2015	Area 2	NA	NA	Thallium	FP-1	24	36	64.0033716			Yes	Include
HB15-13	36 - 48	6/24/2015	Area 2	NA	NA	Thallium	FP-1	36	48	64.0033716			Yes	Include
HB15-13	48 - 60	6/24/2015	Area 2	NA	NA	Thallium	FP-1	48	60	64.0033716			Yes	Include
HB15-13	60 - 64	6/24/2015	Area 2	NA	NA	Thallium	FP-1	60	64	64.0033716			Yes	Include
HB15-14	0 - 12	6/24/2015	Area 2	NA	NA	Thallium	FP-1	0	12	23.996196			Yes	Include
HB15-14	12 - 24	6/24/2015	Area 2	NA	NA	Thallium	FP-1	12	24	23.996196			Yes	Include
HB15-14	24 - 28	6/24/2015	Area 2	NA	NA	Thallium	FP-1	24	28	23.996196			No	Exclude
HB15-14	28 - 35	6/24/2015	Area 2	NA	NA	Thallium	FP-1	28	35	23.996196			No	Exclude
HB15-15	0 - 12	6/24/2015	Area 2	NA	NA	Thallium	FP-2	0	12	19.0051356			Yes	Include
HB15-15	12 - 19	6/24/2015	Area 2	NA	NA	Thallium	FP-2	12	19	19.0051356			Yes	Include
HB15-15R	0 - 12	6/24/2015	Area 2	NA	NA	Thallium	FP-2	0	12	18.9999996			Yes	Include
HB15-15R	12 - 19	6/24/2015	Area 2	NA	NA	Thallium	FP-2	12	19	18.9999996			Yes	Include
HB15-16	0 - 12	6/24/2015	Area 2	NA	NA	Thallium	FP-1	0	12	8.304			Yes	Include
HB15-16	12 - 19	6/24/2015	Area 2	NA	NA	Thallium	FP-1	12	19	8.304			No	Exclude
HB15-17	0 - 12	6/24/2015	Area 2	NA	NA	Thallium	FP-2	0	12	36.004608			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB15-17	12 - 24	6/24/2015	Area 2	NA	NA	Thallium	FP-2	12	24	36.004608			Yes	Include
HB15-17	24 - 36	6/24/2015	Area 2	NA	NA	Thallium	FP-2	24	36	36.004608			Yes	Include
HB15-17	36 - 48	6/24/2015	Area 2	NA	NA	Thallium	FP-2	36	48	36.004608			Yes	Include
HB15-17	48 - 54	6/24/2015	Area 2	NA	NA	Thallium	FP-2	48	54	36.004608			No	Exclude
HB15-18	0 - 12	6/24/2015	Area 2	NA	NA	Thallium	FP-2	0	12	23.999508			Yes	Include
HB15-18	12 - 24	6/24/2015	Area 2	NA	NA	Thallium	FP-2	12	24	23.999508			Yes	Include
HB15-19	0 - 12	6/24/2015	Area 2	NA	NA	Thallium		0	12					Exclude
HB15-19	12 - 24	6/24/2015	Area 2	NA	NA	Thallium		12	24					Exclude
HB15-19	24 - 32	6/24/2015	Area 2	NA	NA	Thallium		24	32					Exclude
HB15-20	0 - 12	6/25/2015	Area 2	NA	NA	Thallium	OC-3	0	12	33.864			Yes	Include
HB15-20	12 - 24	6/25/2015	Area 2	NA	NA	Thallium	OC-3	12	24	33.864			Yes	Include
HB15-20	24 - 28	6/25/2015	Area 2	NA	NA	Thallium	OC-3	24	28	33.864			Yes	Include
HB15-20B	0 - 6	6/25/2015	Area 2	NA	NA	Thallium	OC-13	0	6	11.996892			Yes	Include
HB15-20B	6 - 12	6/25/2015	Area 2	NA	NA	Thallium	OC-13	6	12	11.996892			Yes	Include
HB15-21G	15 - 21	6/29/2015	Fraser Ave Slip	NA	NA	Thallium		15	21					Exclude
HB15-22G	0 - 6	6/29/2015	Fraser Ave Slip	NA	NA	Thallium	OC-8	0	6	6			Yes	Include
HB15-23	0 - 12	6/25/2015	Fraser Ave Slip	NA	NA	Thallium	FS-1	0	12	55.02			Yes	Include
HB15-23	12 - 24	6/25/2015	Fraser Ave Slip	NA	NA	Thallium	FS-1	12	24	55.02			Yes	Include
HB15-23	24 - 36	6/25/2015	Fraser Ave Slip	NA	NA	Thallium	FS-1	24	36	55.02			Yes	Include
HB15-23	36 - 48	6/25/2015	Fraser Ave Slip	NA	NA	Thallium	FS-1	36	48	55.02			Yes	Include
HB15-23	48 - 56	6/25/2015	Fraser Ave Slip	NA	NA	Thallium	FS-1	48	56	55.02			Yes	Include
HB15-25	0 - 12	6/25/2015	Area 2	NA	NA	Thallium	OC-1	0	12	77.4			Yes	Include
HB15-25	12 - 24	6/25/2015	Area 2	NA	NA	Thallium	OC-1	12	24	77.4			Yes	Include
HB15-25	24 - 36	6/25/2015	Area 2	NA	NA	Thallium	OC-1	24	36	77.4			Yes	Include
HB15-25	36 - 48	6/25/2015	Area 2	NA	NA	Thallium	OC-1	36	48	77.4			Yes	Include
HB15-25	48 - 60	6/25/2015	Area 2	NA	NA	Thallium	OC-1	48	60	77.4			Yes	Include
HB15-25	60 - 72	6/25/2015	Area 2	NA	NA	Thallium	OC-1	60	72	77.4			Yes	Include
HB15-25	72 - 88	6/25/2015	Area 2	NA	NA	Thallium	OC-1	72	88	77.4			Yes	Include
HB15-26	0 - 12	6/25/2015	Area 2	NA	NA	Thallium	FC-2	0	12	38.28	6.36	include	Yes	Include
HB15-26	12 - 24	6/25/2015	Area 2	NA	NA	Thallium	FC-2	12	24	38.28	6.36	include	Yes	Include
HB15-26	24 - 36	6/25/2015	Area 2	NA	NA	Thallium	FC-2	24	36	38.28	6.36	include	Yes	Include
HB15-26	36 - 46	6/25/2015	Area 2	NA	NA	Thallium	FC-2	36	46	38.28	6.36	include	Yes	Include
HB15-27	0 - 12	6/25/2015	Area 2	NA	NA	Thallium	FC-3	0	12	33.6	14.64	exclude	Yes	Exclude
HB15-27	12 - 24	6/25/2015	Area 2	NA	NA	Thallium	FC-3	12	24	33.6	14.64	include	Yes	Include
HB15-27	24 - 36	6/25/2015	Area 2	NA	NA	Thallium	FC-3	24	36	33.6	14.64	include	Yes	Include
HB15-27	36 - 48	6/25/2015	Area 2	NA	NA	Thallium	FC-3	36	48	33.6	14.64	include	No	Exclude
HB15-27	48 - 60	6/25/2015	Area 2	NA	NA	Thallium	FC-3	48	60	33.6	14.64	include	No	Exclude
HB15-27	60 - 71	6/25/2015	Area 2	NA	NA	Thallium	FC-3	60	71	33.6	14.64	include	No	Exclude
HB15-28	0 - 12	6/25/2015	Area 2	NA	NA	Thallium	OC-7	0	12	11.994072			Yes	Include
HB15-28	12 - 24	6/25/2015	Area 2	NA	NA	Thallium	OC-7	12	24	11.994072			No	Exclude
HB15-28	24 - 30	6/25/2015	Area 2	NA	NA	Thallium	OC-7	24	30	11.994072			No	Exclude
HB15-30	0 - 12	6/25/2015	Area 2	NA	NA	Thallium		0	12	43.776			Yes	Include
HB15-30	12 - 24	6/25/2015	Area 2	NA	NA	Thallium		12	24	43.776			Yes	Include
HB15-30	24 - 36	6/25/2015	Area 2	NA	NA	Thallium		24	36	43.776			Yes	Include
HB15-30	36 - 50	6/25/2015	Area 2	NA	NA	Thallium		36	50	43.776			Yes	Include
HB15-31	0 - 12	6/25/2015	Area 2	NA	NA	Thallium		0	12					Exclude
HB15-31	12 - 20	6/25/2015	Area 2	NA	NA	Thallium		12	20					Exclude
HB15-32	0 - 12	6/25/2015	Area 1	NA	NA	Thallium	SND-4	0	12	11.995236			Yes	Include
HB15-32	12 - 26	6/25/2015	Area 1	NA	NA	Thallium	SND-4	12	26	11.995236			No	Exclude
HB15-33	0 - 12	6/25/2015	Area 1	NA	NA	Thallium		0	12	26.292			Yes	Include
HB15-33	12 - 24	6/25/2015	Area 1	NA	NA	Thallium		12	24	26.292			Yes	Include
HB15-33	24 - 39	6/25/2015	Area 1	NA	NA	Thallium		24	39	26.292			Yes	Include
HB15-34	0 - 12	6/25/2015	Area 1	NA	NA	Thallium	FC-11	0	12		35.52	exclude		Exclude
HB15-34	12 - 24	6/25/2015	Area 1	NA	NA	Thallium	FC-11	12	24		35.52	exclude		Exclude
HB15-34	24 - 32	6/25/2015	Area 1	NA	NA	Thallium	FC-11	24	32		35.52	exclude		Exclude
HB15-35	0 - 12	6/25/2015	Area 1	NA	NA	Thallium	FC-16	0	12	74.28	-6.48	include	Yes	Include
HB15-35	12 - 24	6/25/2015	Area 1	NA	NA	Thallium	FC-16	12	24	74.28	-6.48	include	Yes	Include
HB15-35	24 - 36	6/25/2015	Area 1	NA	NA	Thallium	FC-16	24	36	74.28	-6.48	include	Yes	Include
HB15-35	36 - 48	6/25/2015	Area 1	NA	NA	Thallium	FC-16	36	48	74.28	-6.48	include	Yes	Include
HB15-35	48 - 60	6/25/2015	Area 1	NA	NA	Thallium	FC-16	48	60	74.28	-6.48	include	Yes	Include
HB15-35	60 - 72	6/25/2015	Area 1	NA	NA	Thallium	FC-16	60	72	74.28	-6.48	include	Yes	Include
HB15-36G	15 - 36	6/29/2015	Area 2	NA	NA	Thallium		15	36					Exclude
HB15-37	0 - 12	6/25/2015	Area 2	NA	NA	Thallium	OC-9	0	12	51.048			Yes	Include
HB15-37	12 - 24	6/25/2015	Area 2	NA	NA	Thallium	OC-9	12	24	51.048			Yes	Include
HB15-37	24 - 36	6/25/2015	Area 2	NA	NA	Thallium	OC-9	24	36	51.048			Yes	Include
HB15-37	36 - 48	6/25/2015	Area 2	NA	NA	Thallium	OC-9	36	48	51.048			Yes	Include
HB15-37	48 - 60	6/25/2015	Area 2	NA	NA	Thallium	OC-9	48	60	51.048			Yes	Include
HB15-37	60 - 74	6/25/2015	Area 2	NA	NA	Thallium	OC-9	60	74	51.048			No	Exclude
HB15-38	0 - 12	6/25/2015	Area 2	NA	NA	Thallium	OC-9	0	12	83.184			Yes	Include
HB15-38	12 - 24	6/25/2015	Area 2	NA	NA	Thallium	OC-9	12	24	83.184			Yes	Include
HB15-38	24 - 36	6/25/2015	Area 2	NA	NA	Thallium	OC-9	24	36	83.184			Yes	Include
HB15-38	36 - 48	6/25/2015	Area 2	NA	NA	Thallium	OC-9	36	48	83.184			Yes	Include
HB15-38	48 - 60	6/25/2015	Area 2	NA	NA	Thallium	OC-9	48	60	83.184			Yes	Include
HB15-38	60 - 72	6/25/2015	Area 2	NA	NA	Thallium	OC-9	60	72	83.184			Yes	Include
HB15-38	72 - 84	6/25/2015	Area 2	NA	NA	Thallium	OC-9	72	84	83.184			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth Inches	Date Collected	SubArea Units	Concentration mg/kg	Concentration (Numeric) mg/kg	Chemical	RD UNIT ID	Sample Starting Depth inches	Sample End Depth inches	Target Depth inches	Depth to 573.6 ft (FC units) ft	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
HB15-38	84 - 96	6/25/2015	Area 2	NA	NA	Thallium	OC-9	84	96	83.184			No	Exclude
HB15-G28	0 - 6	6/25/2015	Hughitt Ave Slip	NA	NA	Thallium		0	80					Exclude
HB15-HC20A	0 - 6	6/25/2015	Area 1	NA	NA	Thallium	OC-13	0	30	6.003036			Yes	Include
HB17-24	0-80	6/22/2017		1160	1.16	1-Methylnaphthalene	CS-1	0	80	86.76			Yes	Include
HB17-25	0-30	6/22/2017		307	0.307	1-Methylnaphthalene	CS-2	0	30	45.12			Yes	Include
HB17-09	0-30	6/22/2017		225	0.225	1-Methylnaphthalene	CS-5	0	30	32.4			Yes	Include
HB17-09DUP	0-30	6/22/2017		534	0.534	1-Methylnaphthalene	CS-5	0	30					Exclude
HB17-10	44-86	6/21/2017		260	0.26	1-Methylnaphthalene	FC-1	44	86	53.64	10.44	include	Yes	Include
HB17-12	0-31	6/21/2017		87.1	0.0871	1-Methylnaphthalene	FC-14	0	31	-2.88	1.92	include	No	Exclude
HB17-14	0-26	6/21/2017		52.7	0.0527	1-Methylnaphthalene	FC-15	0	26	31.2	-1.2	include	Yes	Include
HB17-16	0-63	6/21/2017		18.6	0.0186	1-Methylnaphthalene	FC-16	0	63	71.88	-8.52	include	Yes	Include
HB17-11	17-51	6/21/2017		265	0.265	1-Methylnaphthalene	FC-3	17	51	50.52	16.92	include	Yes	Include
HB17-21	0-20	6/22/2017		715	0.715	1-Methylnaphthalene	FS-1	0	20	19.2			Yes	Include
HB17-21 DUP	0-20	6/22/2017		489	0.489	1-Methylnaphthalene	FS-1	0	20					Exclude
HB17-22	0-33	6/22/2017		615	0.615	1-Methylnaphthalene	FS-1	0	33	44.88			Yes	Include
HB17-23	0-30	6/21/2017		477	0.477	1-Methylnaphthalene	FS-1	0	30	66.24			Yes	Include
HB17-28	0-63	6/22/2017		213	0.213	1-Methylnaphthalene	HS-1	0	63	74.4			Yes	Include
HB17-19	0-42	6/21/2017		196	0.196	1-Methylnaphthalene	OC-12	0	42	73.56			Yes	Include
HB17-20	0-16	6/21/2017		47.8	0.0478	1-Methylnaphthalene	OC-16	0	16	27			Yes	Include
HB17-17	0-16	6/21/2017		184	0.184	1-Methylnaphthalene	OC-3	0	16	17.88			Yes	Include
HB17-18	0-12	6/21/2017		65.4	0.0654	1-Methylnaphthalene	OC-7	0	12	-4.68			No	Exclude
HB17-24	0-80	6/22/2017		1750	1.75	2-Methylnaphthalene	CS-1	0	80	86.76			Yes	Include
HB17-25	0-30	6/22/2017		449	0.449	2-Methylnaphthalene	CS-2	0	30	45.12			Yes	Include
HB17-09	0-30	6/22/2017		347	0.347	2-Methylnaphthalene	CS-5	0	30	32.4			Yes	Include
HB17-09DUP	0-30	6/22/2017		1070	1.07	2-Methylnaphthalene	CS-5	0	30					Exclude
HB17-10	44-86	6/21/2017		360	0.36	2-Methylnaphthalene	FC-1	44	86	53.64	10.44	include	Yes	Include
HB17-12	0-31	6/21/2017		124	0.124	2-Methylnaphthalene	FC-14	0	31	-2.88	1.92	include	No	Exclude
HB17-14	0-26	6/21/2017		76.3	0.0763	2-Methylnaphthalene	FC-15	0	26	31.2	-1.2	include	Yes	Include
HB17-16	0-63	6/21/2017		26.4	0.0264	2-Methylnaphthalene	FC-16	0	63	71.88	-8.52	include	Yes	Include
HB17-11	17-51	6/21/2017		366	0.366	2-Methylnaphthalene	FC-3	17	51	50.52	16.92	include	Yes	Include
HB17-21	0-20	6/22/2017		993	0.993	2-Methylnaphthalene	FS-1	0	20	19.2			Yes	Include
HB17-21 DUP	0-20	6/22/2017		675	0.675	2-Methylnaphthalene	FS-1	0	20					Exclude
HB17-22	0-33	6/22/2017		849	0.849	2-Methylnaphthalene	FS-1	0	33	44.88			Yes	Include
HB17-23	0-30	6/21/2017		655	0.655	2-Methylnaphthalene	FS-1	0	30	66.24			Yes	Include
HB17-28	0-63	6/22/2017		304	0.304	2-Methylnaphthalene	HS-1	0	63	74.4			Yes	Include
HB17-19	0-42	6/21/2017		250	0.25	2-Methylnaphthalene	OC-12	0	42	73.56			Yes	Include
HB17-20	0-16	6/21/2017		74.7	0.0747	2-Methylnaphthalene	OC-16	0	16	27			Yes	Include
HB17-17	0-16	6/21/2017		255	0.255	2-Methylnaphthalene	OC-3	0	16	17.88			Yes	Include
HB17-18	0-12	6/21/2017		91.4	0.0914	2-Methylnaphthalene	OC-7	0	12	-4.68			No	Exclude
HB17-24	0-80	6/22/2017		644	0.644	Acenaphthene	CS-1	0	80	86.76			Yes	Include
HB17-25	0-30	6/22/2017		194	0.194	Acenaphthene	CS-2	0	30	45.12			Yes	Include
HB17-09	0-30	6/22/2017		114	0.114	Acenaphthene	CS-5	0	30	32.4			Yes	Include
HB17-09DUP	0-30	6/22/2017		238	0.238	Acenaphthene	CS-5	0	30					Exclude
HB17-10	44-86	6/21/2017		68.7	0.0687	Acenaphthene	FC-1	44	86	53.64	10.44	include	Yes	Include
HB17-12	0-31	6/21/2017		34.3	0.0343	Acenaphthene	FC-14	0	31	-2.88	1.92	include	No	Exclude
HB17-14	0-26	6/21/2017		40	0.04	Acenaphthene	FC-15	0	26	31.2	-1.2	include	Yes	Include
HB17-16	0-63	6/21/2017		9.25	0.00925	Acenaphthene	FC-16	0	63	71.88	-8.52	include	Yes	Include
HB17-11	17-51	6/21/2017		59.6	0.0596	Acenaphthene	FC-3	17	51	50.52	16.92	include	Yes	Include
HB17-21	0-20	6/22/2017		613	0.613	Acenaphthene	FS-1	0	20	19.2			Yes	Include
HB17-21 DUP	0-20	6/22/2017		397	0.397	Acenaphthene	FS-1	0	20					Exclude
HB17-22	0-33	6/22/2017		275	0.275	Acenaphthene	FS-1	0	33	44.88			Yes	Include
HB17-23	0-30	6/21/2017		116	0.116	Acenaphthene	FS-1	0	30	66.24			Yes	Include
HB17-28	0-63	6/22/2017		184	0.184	Acenaphthene	HS-1	0	63	74.4			Yes	Include
HB17-19	0-42	6/21/2017		59.1	0.0591	Acenaphthene	OC-12	0	42	73.56			Yes	Include
HB17-20	0-16	6/21/2017		19.3	0.0193	Acenaphthene	OC-16	0	16	27			Yes	Include
HB17-17	0-16	6/21/2017		35	0.035	Acenaphthene	OC-3	0	16	17.88			Yes	Include
HB17-18	0-12	6/21/2017		35	0.035	Acenaphthene	OC-7	0	12	-4.68			No	Exclude
HB17-24	0-80	6/22/2017		212	0.212	Acenaphthylene	CS-1	0	80	86.76			Yes	Include
HB17-25	0-30	6/22/2017		72	0.072	Acenaphthylene	CS-2	0	30	45.12			Yes	Include
HB17-09	0-30	6/22/2017		57.2	0.0572	Acenaphthylene	CS-5	0	30	32.4			Yes	Include
HB17-09DUP	0-30	6/22/2017		159	0.159	Acenaphthylene	CS-5	0	30					Exclude
HB17-10	44-86	6/21/2017		39.7	0.0397	Acenaphthylene	FC-1	44	86	53.64	10.44	include	Yes	Include
HB17-12	0-31	6/21/2017		31.4	0.0314	Acenaphthylene	FC-14	0	31	-2.88	1.92	include	No	Exclude
HB17-14	0-26	6/21/2017		15.3	0.0153	Acenaphthylene	FC-15	0	26	31.2	-1.2	include	Yes	Include
HB17-16	0-63	6/21/2017		10.1	0.0101	Acenaphthylene	FC-16	0	63	71.88	-8.52	include	Yes	Include
HB17-11	17-51	6/21/2017		42.9	0.0429	Acenaphthylene	FC-3	17	51	50.52	16.92	include	Yes	Include
HB17-21	0-20	6/22/2017		126	0.126	Acenaphthylene	FS-1	0	20	19.2			Yes	Include
HB17-21 DUP	0-20	6/22/2017		97.5	0.0975	Acenaphthylene	FS-1	0	20					Exclude
HB17-22	0-33	6/22/2017		103	0.103	Acenaphthylene	FS-1	0	33	44.88			Yes	Include
HB17-23	0-30	6/21/2017		77.9	0.0779	Acenaphthylene	FS-1	0	30	66.24			Yes	Include
HB17-28	0-63	6/22/2017		63	0.063	Acenaphthylene	HS-1	0	63	74.4			Yes	Include
HB17-19	0-42	6/21/2017		41.6	0.0416	Acenaphthylene	OC-12	0	42	73.56			Yes	Include
HB17-20	0-16	6/21/2017		13.8	0.0138	Acenaphthylene	OC-16	0	16	27			Yes	Include
HB17-17	0-16	6/21/2017		34.3	0.0343	Acenaphthylene	OC-3	0	16	17.88			Yes	Include
HB17-18	0-12	6/21/2017		19.5	0.0195	Acenaphthylene	OC-7	0	12	-4.68			No	Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB17-24	0-80	6/22/2017		1100	1.1	Anthracene	CS-1	0	80	86.76			Yes	Include
HB17-25	0-30	6/22/2017		440	0.44	Anthracene	CS-2	0	30	45.12			Yes	Include
HB17-09	0-30	6/22/2017		266	0.266	Anthracene	CS-5	0	30	32.4			Yes	Include
HB17-09DUP	0-30	6/22/2017		531	0.531	Anthracene	CS-5	0	30					Exclude
HB17-10	44-86	6/21/2017		153	0.153	Anthracene	FC-1	44	86	53.64	10.44	include	Yes	Include
HB17-12	0-31	6/21/2017		108	0.108	Anthracene	FC-14	0	31	-2.88	1.92	include	No	Exclude
HB17-14	0-26	6/21/2017		100	0.1	Anthracene	FC-15	0	26	31.2	-1.2	include	Yes	Include
HB17-16	0-63	6/21/2017		26.3	0.0263	Anthracene	FC-16	0	63	71.88	-8.52	include	Yes	Include
HB17-11	17-51	6/21/2017		174	0.174	Anthracene	FC-3	17	51	50.52	16.92	include	Yes	Include
HB17-21	0-20	6/22/2017		1400	1.4	Anthracene	FS-1	0	20	19.2			Yes	Include
HB17-21 DUP	0-20	6/22/2017		974	0.974	Anthracene	FS-1	0	20					Exclude
HB17-22	0-33	6/22/2017		527	0.527	Anthracene	FS-1	0	33	44.88			Yes	Include
HB17-23	0-30	6/21/2017		302	0.302	Anthracene	FS-1	0	30	66.24			Yes	Include
HB17-28	0-63	6/22/2017		444	0.444	Anthracene	HS-1	0	63	74.4			Yes	Include
HB17-19	0-42	6/21/2017		185	0.185	Anthracene	OC-12	0	42	73.56			Yes	Include
HB17-20	0-16	6/21/2017		58.9	0.0589	Anthracene	OC-16	0	16	27			Yes	Include
HB17-17	0-16	6/21/2017		132	0.132	Anthracene	OC-3	0	16	17.88			Yes	Include
HB17-18	0-12	6/21/2017		242	0.242	Anthracene	OC-7	0	12	-4.68			No	Exclude
HB17-24	0-80	6/22/2017		2190	2.19	Benzo(a)anthracene	CS-1	0	80	86.76			Yes	Include
HB17-25	0-30	6/22/2017		1210	1.21	Benzo(a)anthracene	CS-2	0	30	45.12			Yes	Include
HB17-09	0-30	6/22/2017		727	0.727	Benzo(a)anthracene	CS-5	0	30	32.4			Yes	Include
HB17-09DUP	0-30	6/22/2017		1410	1.41	Benzo(a)anthracene	CS-5	0	30					Exclude
HB17-10	44-86	6/21/2017		405	0.405	Benzo(a)anthracene	FC-1	44	86	53.64	10.44	include	Yes	Include
HB17-12	0-31	6/21/2017		314	0.314	Benzo(a)anthracene	FC-14	0	31	-2.88	1.92	include	No	Exclude
HB17-14	0-26	6/21/2017		243	0.243	Benzo(a)anthracene	FC-15	0	26	31.2	-1.2	include	Yes	Include
HB17-16	0-63	6/21/2017		90.6	0.0906	Benzo(a)anthracene	FC-16	0	63	71.88	-8.52	include	Yes	Include
HB17-11	17-51	6/21/2017		452	0.452	Benzo(a)anthracene	FC-3	17	51	50.52	16.92	include	Yes	Include
HB17-21	0-20	6/22/2017		3840	3.84	Benzo(a)anthracene	FS-1	0	20	19.2			Yes	Include
HB17-21 DUP	0-20	6/22/2017		4060	4.06	Benzo(a)anthracene	FS-1	0	20					Exclude
HB17-22	0-33	6/22/2017		1180	1.18	Benzo(a)anthracene	FS-1	0	33	44.88			Yes	Include
HB17-23	0-30	6/21/2017		798	0.798	Benzo(a)anthracene	FS-1	0	30	66.24			Yes	Include
HB17-28	0-63	6/22/2017		1600	1.6	Benzo(a)anthracene	HS-1	0	63	74.4			Yes	Include
HB17-19	0-42	6/21/2017		507	0.507	Benzo(a)anthracene	OC-12	0	42	73.56			Yes	Include
HB17-20	0-16	6/21/2017		171	0.171	Benzo(a)anthracene	OC-16	0	16	27			Yes	Include
HB17-17	0-16	6/21/2017		409	0.409	Benzo(a)anthracene	OC-3	0	16	17.88			Yes	Include
HB17-18	0-12	6/21/2017		264	0.264	Benzo(a)anthracene	OC-7	0	12	-4.68			No	Exclude
HB17-24	0-80	6/22/2017		2130	2.13	Benzo(a)pyrene	CS-1	0	80	86.76			Yes	Include
HB17-25	0-30	6/22/2017		1020	1.02	Benzo(a)pyrene	CS-2	0	30	45.12			Yes	Include
HB17-09	0-30	6/22/2017		651	0.651	Benzo(a)pyrene	CS-5	0	30	32.4			Yes	Include
HB17-09DUP	0-30	6/22/2017		1220	1.22	Benzo(a)pyrene	CS-5	0	30					Exclude
HB17-10	44-86	6/21/2017		356	0.356	Benzo(a)pyrene	FC-1	44	86	53.64	10.44	include	Yes	Include
HB17-12	0-31	6/21/2017		281	0.281	Benzo(a)pyrene	FC-14	0	31	-2.88	1.92	include	No	Exclude
HB17-14	0-26	6/21/2017		206	0.206	Benzo(a)pyrene	FC-15	0	26	31.2	-1.2	include	Yes	Include
HB17-16	0-63	6/21/2017		80.4	0.0804	Benzo(a)pyrene	FC-16	0	63	71.88	-8.52	include	Yes	Include
HB17-11	17-51	6/21/2017		384	0.384	Benzo(a)pyrene	FC-3	17	51	50.52	16.92	include	Yes	Include
HB17-21	0-20	6/22/2017		4040	4.04	Benzo(a)pyrene	FS-1	0	20	19.2			Yes	Include
HB17-21 DUP	0-20	6/22/2017		3440	3.44	Benzo(a)pyrene	FS-1	0	20					Exclude
HB17-22	0-33	6/22/2017		935	0.935	Benzo(a)pyrene	FS-1	0	33	44.88			Yes	Include
HB17-23	0-30	6/21/2017		722	0.722	Benzo(a)pyrene	FS-1	0	30	66.24			Yes	Include
HB17-28	0-63	6/22/2017		1310	1.31	Benzo(a)pyrene	HS-1	0	63	74.4			Yes	Include
HB17-19	0-42	6/21/2017		427	0.427	Benzo(a)pyrene	OC-12	0	42	73.56			Yes	Include
HB17-20	0-16	6/21/2017		156	0.156	Benzo(a)pyrene	OC-16	0	16	27			Yes	Include
HB17-17	0-16	6/21/2017		434	0.434	Benzo(a)pyrene	OC-3	0	16	17.88			Yes	Include
HB17-18	0-12	6/21/2017		213	0.213	Benzo(a)pyrene	OC-7	0	12	-4.68			No	Exclude
HB17-24	0-80	6/22/2017		3460	3.46	Benzo(b)fluoranthene	CS-1	0	80	86.76			Yes	Include
HB17-25	0-30	6/22/2017		1670	1.67	Benzo(b)fluoranthene	CS-2	0	30	45.12			Yes	Include
HB17-09	0-30	6/22/2017		1200	1.2	Benzo(b)fluoranthene	CS-5	0	30	32.4			Yes	Include
HB17-09DUP	0-30	6/22/2017		1630	1.63	Benzo(b)fluoranthene	CS-5	0	30					Exclude
HB17-10	44-86	6/21/2017		509	0.509	Benzo(b)fluoranthene	FC-1	44	86	53.64	10.44	include	Yes	Include
HB17-12	0-31	6/21/2017		503	0.503	Benzo(b)fluoranthene	FC-14	0	31	-2.88	1.92	include	No	Exclude
HB17-14	0-26	6/21/2017		327	0.327	Benzo(b)fluoranthene	FC-15	0	26	31.2	-1.2	include	Yes	Include
HB17-16	0-63	6/21/2017		135	0.135	Benzo(b)fluoranthene	FC-16	0	63	71.88	-8.52	include	Yes	Include
HB17-11	17-51	6/21/2017		594	0.594	Benzo(b)fluoranthene	FC-3	17	51	50.52	16.92	include	Yes	Include
HB17-21	0-20	6/22/2017		5760	5.76	Benzo(b)fluoranthene	FS-1	0	20	19.2			Yes	Include
HB17-21 DUP	0-20	6/22/2017		5190	5.19	Benzo(b)fluoranthene	FS-1	0	20					Exclude
HB17-22	0-33	6/22/2017		1330	1.33	Benzo(b)fluoranthene	FS-1	0	33	44.88			Yes	Include
HB17-23	0-30	6/21/2017		1150	1.15	Benzo(b)fluoranthene	FS-1	0	30	66.24			Yes	Include
HB17-28	0-63	6/22/2017		1870	1.87	Benzo(b)fluoranthene	HS-1	0	63	74.4			Yes	Include
HB17-19	0-42	6/21/2017		653	0.653	Benzo(b)fluoranthene	OC-12	0	42	73.56			Yes	Include
HB17-20	0-16	6/21/2017		262	0.262	Benzo(b)fluoranthene	OC-16	0	16	27			Yes	Include
HB17-17	0-16	6/21/2017		668	0.668	Benzo(b)fluoranthene	OC-3	0	16	17.88			Yes	Include
HB17-18	0-12	6/21/2017		341	0.341	Benzo(b)fluoranthene	OC-7	0	12	-4.68			No	Exclude
HB17-24	0-80	6/22/2017		1090	1.09	Benzo(g,h,i)perylene	CS-1	0	80	86.76			Yes	Include
HB17-25	0-30	6/22/2017		256	0.256	Benzo(g,h,i)perylene	CS-2	0	30	45.12			Yes	Include
HB17-09	0-30	6/22/2017		192	0.192	Benzo(g,h,i)perylene	CS-5	0	30	32.4			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than	Sample down	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft	573.6 ft (FC units)?	to target depth?	
HB17-09DUP	0-30	6/22/2017		312	0.312	Benzo(g,h,i)perylene	CS-5	0	30					Exclude
HB17-10	44-86	6/21/2017		129	0.129	Benzo(g,h,i)perylene	FC-1	44	86	53.64	10.44	include	Yes	Include
HB17-12	0-31	6/21/2017		94.1	0.0941	Benzo(g,h,i)perylene	FC-14	0	31	-2.88	1.92	include	No	Exclude
HB17-14	0-26	6/21/2017		66.4	0.0664	Benzo(g,h,i)perylene	FC-15	0	26	31.2	-1.2	include	Yes	Include
HB17-16	0-63	6/21/2017		25.3	0.0253	Benzo(g,h,i)perylene	FC-16	0	63	71.88	-8.52	include	Yes	Include
HB17-11	17-51	6/21/2017		148	0.148	Benzo(g,h,i)perylene	FC-3	17	51	50.52	16.92	include	Yes	Include
HB17-21	0-20	6/22/2017		2020	2.02	Benzo(g,h,i)perylene	FS-1	0	20	19.2			Yes	Include
HB17-21 DUP	0-20	6/22/2017		1840	1.84	Benzo(g,h,i)perylene	FS-1	0	20					Exclude
HB17-22	0-33	6/22/2017		532	0.532	Benzo(g,h,i)perylene	FS-1	0	33	44.88			Yes	Include
HB17-23	0-30	6/21/2017		198	0.198	Benzo(g,h,i)perylene	FS-1	0	30	66.24			Yes	Include
HB17-28	0-63	6/22/2017		326	0.326	Benzo(g,h,i)perylene	HS-1	0	63	74.4			Yes	Include
HB17-19	0-42	6/21/2017		197	0.197	Benzo(g,h,i)perylene	OC-12	0	42	73.56			Yes	Include
HB17-20	0-16	6/21/2017		50.6	0.0506	Benzo(g,h,i)perylene	OC-16	0	16	27			Yes	Include
HB17-17	0-16	6/21/2017		244	0.244	Benzo(g,h,i)perylene	OC-3	0	16	17.88			Yes	Include
HB17-18	0-12	6/21/2017		80	0.08	Benzo(g,h,i)perylene	OC-7	0	12	-4.68			No	Exclude
HB17-24	0-80	6/22/2017		1040	1.04	Benzo(k)fluoranthene	CS-1	0	80	86.76			Yes	Include
HB17-25	0-30	6/22/2017		599	0.599	Benzo(k)fluoranthene	CS-2	0	30	45.12			Yes	Include
HB17-09	0-30	6/22/2017		355	0.355	Benzo(k)fluoranthene	CS-5	0	30	32.4			Yes	Include
HB17-09DUP	0-30	6/22/2017		562	0.562	Benzo(k)fluoranthene	CS-5	0	30					Exclude
HB17-10	44-86	6/21/2017		196	0.196	Benzo(k)fluoranthene	FC-1	44	86	53.64	10.44	include	Yes	Include
HB17-12	0-31	6/21/2017		133	0.133	Benzo(k)fluoranthene	FC-14	0	31	-2.88	1.92	include	No	Exclude
HB17-14	0-26	6/21/2017		96.5	0.0965	Benzo(k)fluoranthene	FC-15	0	26	31.2	-1.2	include	Yes	Include
HB17-16	0-63	6/21/2017		46.9	0.0469	Benzo(k)fluoranthene	FC-16	0	63	71.88	-8.52	include	Yes	Include
HB17-11	17-51	6/21/2017		176	0.176	Benzo(k)fluoranthene	FC-3	17	51	50.52	16.92	include	Yes	Include
HB17-21	0-20	6/22/2017		2180	2.18	Benzo(k)fluoranthene	FS-1	0	20	19.2			Yes	Include
HB17-21 DUP	0-20	6/22/2017		1920	1.92	Benzo(k)fluoranthene	FS-1	0	20					Exclude
HB17-22	0-33	6/22/2017		450	0.45	Benzo(k)fluoranthene	FS-1	0	33	44.88			Yes	Include
HB17-23	0-30	6/21/2017		377	0.377	Benzo(k)fluoranthene	FS-1	0	30	66.24			Yes	Include
HB17-28	0-63	6/22/2017		569	0.569	Benzo(k)fluoranthene	HS-1	0	63	74.4			Yes	Include
HB17-19	0-42	6/21/2017		195	0.195	Benzo(k)fluoranthene	OC-12	0	42	73.56			Yes	Include
HB17-20	0-16	6/21/2017		72.8	0.0728	Benzo(k)fluoranthene	OC-16	0	16	27			Yes	Include
HB17-17	0-16	6/21/2017		181	0.181	Benzo(k)fluoranthene	OC-3	0	16	17.88			Yes	Include
HB17-18	0-12	6/21/2017		115	0.115	Benzo(k)fluoranthene	OC-7	0	12	-4.68			No	Exclude
HB17-24	0-80	6/22/2017		2560	2.56	Chrysene	CS-1	0	80	86.76			Yes	Include
HB17-25	0-30	6/22/2017		1390	1.39	Chrysene	CS-2	0	30	45.12			Yes	Include
HB17-09	0-30	6/22/2017		1040	1.04	Chrysene	CS-5	0	30	32.4			Yes	Include
HB17-09DUP	0-30	6/22/2017		1680	1.68	Chrysene	CS-5	0	30					Exclude
HB17-10	44-86	6/21/2017		506	0.506	Chrysene	FC-1	44	86	53.64	10.44	include	Yes	Include
HB17-12	0-31	6/21/2017		355	0.355	Chrysene	FC-14	0	31	-2.88	1.92	include	No	Exclude
HB17-14	0-26	6/21/2017		258	0.258	Chrysene	FC-15	0	26	31.2	-1.2	include	Yes	Include
HB17-16	0-63	6/21/2017		99.8	0.0998	Chrysene	FC-16	0	63	71.88	-8.52	include	Yes	Include
HB17-11	17-51	6/21/2017		565	0.565	Chrysene	FC-3	17	51	50.52	16.92	include	Yes	Include
HB17-21	0-20	6/22/2017		5170	5.17	Chrysene	FS-1	0	20	19.2			Yes	Include
HB17-21 DUP	0-20	6/22/2017		4570	4.57	Chrysene	FS-1	0	20					Exclude
HB17-22	0-33	6/22/2017		1370	1.37	Chrysene	FS-1	0	33	44.88			Yes	Include
HB17-23	0-30	6/21/2017		934	0.934	Chrysene	FS-1	0	30	66.24			Yes	Include
HB17-28	0-63	6/22/2017		1670	1.67	Chrysene	HS-1	0	63	74.4			Yes	Include
HB17-19	0-42	6/21/2017		532	0.532	Chrysene	OC-12	0	42	73.56			Yes	Include
HB17-20	0-16	6/21/2017		184	0.184	Chrysene	OC-16	0	16	27			Yes	Include
HB17-17	0-16	6/21/2017		434	0.434	Chrysene	OC-3	0	16	17.88			Yes	Include
HB17-18	0-12	6/21/2017		320	0.32	Chrysene	OC-7	0	12	-4.68			No	Exclude
HB17-24	0-80	6/22/2017		284	0.284	Dibenzo(a,h)anthracene	CS-1	0	80	86.76			Yes	Include
HB17-25	0-30	6/22/2017		83	0.083	Dibenzo(a,h)anthracene	CS-2	0	30	45.12			Yes	Include
HB17-09	0-30	6/22/2017		61.8	0.0618	Dibenzo(a,h)anthracene	CS-5	0	30	32.4			Yes	Include
HB17-09DUP	0-30	6/22/2017		107	0.107	Dibenzo(a,h)anthracene	CS-5	0	30					Exclude
HB17-10	44-86	6/21/2017		39.5	0.0395	Dibenzo(a,h)anthracene	FC-1	44	86	53.64	10.44	include	Yes	Include
HB17-12	0-31	6/21/2017		30	0.03	Dibenzo(a,h)anthracene	FC-14	0	31	-2.88	1.92	include	No	Exclude
HB17-14	0-26	6/21/2017		20.1	0.0201	Dibenzo(a,h)anthracene	FC-15	0	26	31.2	-1.2	include	Yes	Include
HB17-16	0-63	6/21/2017		7.65	0.00765	Dibenzo(a,h)anthracene	FC-16	0	63	71.88	-8.52	include	Yes	Include
HB17-11	17-51	6/21/2017		44.4	0.0444	Dibenzo(a,h)anthracene	FC-3	17	51	50.52	16.92	include	Yes	Include
HB17-21	0-20	6/22/2017		551	0.551	Dibenzo(a,h)anthracene	FS-1	0	20	19.2			Yes	Include
HB17-21 DUP	0-20	6/22/2017		480	0.48	Dibenzo(a,h)anthracene	FS-1	0	20					Exclude
HB17-22	0-33	6/22/2017		141	0.141	Dibenzo(a,h)anthracene	FS-1	0	33	44.88			Yes	Include
HB17-23	0-30	6/21/2017		64.4	0.0644	Dibenzo(a,h)anthracene	FS-1	0	30	66.24			Yes	Include
HB17-28	0-63	6/22/2017		100	0.1	Dibenzo(a,h)anthracene	HS-1	0	63	74.4			Yes	Include
HB17-19	0-42	6/21/2017		54.8	0.0548	Dibenzo(a,h)anthracene	OC-12	0	42	73.56			Yes	Include
HB17-20	0-16	6/21/2017		16.4	0.0164	Dibenzo(a,h)anthracene	OC-16	0	16	27			Yes	Include
HB17-17	0-16	6/21/2017		67.5	0.0675	Dibenzo(a,h)anthracene	OC-3	0	16	17.88			Yes	Include
HB17-18	0-12	6/21/2017		22.9	0.0229	Dibenzo(a,h)anthracene	OC-7	0	12	-4.68			No	Exclude
HB17-24	0-80	6/22/2017		8280	8.28	Fluoranthene	CS-1	0	80	86.76			Yes	Include
HB17-25	0-30	6/22/2017		2490	2.49	Fluoranthene	CS-2	0	30	45.12			Yes	Include
HB17-09	0-30	6/22/2017		1890	1.89	Fluoranthene	CS-5	0	30	32.4			Yes	Include
HB17-09DUP	0-30	6/22/2017		2630	2.63	Fluoranthene	CS-5	0	30					Exclude
HB17-10	44-86	6/21/2017		698	0.698	Fluoranthene	FC-1	44	86	53.64	10.44	include	Yes	Include
HB17-12	0-31	6/21/2017		588	0.588	Fluoranthene	FC-14	0	31	-2.88	1.92	include	No	Exclude

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than	Sample down	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft	573.6 ft (FC units)?	to target depth?	
HB17-14	0-26	6/21/2017		453	0.453	Fluoranthene	FC-15	0	26	31.2	-1.2	include	Yes	Include
HB17-16	0-63	6/21/2017		175	0.175	Fluoranthene	FC-16	0	63	71.88	-8.52	include	Yes	Include
HB17-11	17-51	6/21/2017		772	0.772	Fluoranthene	FC-3	17	51	50.52	16.92	include	Yes	Include
HB17-21	0-20	6/22/2017		10000	10	Fluoranthene	FS-1	0	20	19.2			Yes	Include
HB17-21 DUP	0-20	6/22/2017		8850	8.85	Fluoranthene	FS-1	0	20					Exclude
HB17-22	0-33	6/22/2017		2230	2.23	Fluoranthene	FS-1	0	33	44.88			Yes	Include
HB17-23	0-30	6/21/2017		1530	1.53	Fluoranthene	FS-1	0	30	66.24			Yes	Include
HB17-28	0-63	6/22/2017		3430	3.43	Fluoranthene	HS-1	0	63	74.4			Yes	Include
HB17-19	0-42	6/21/2017		830	0.83	Fluoranthene	OC-12	0	42	73.56			Yes	Include
HB17-20	0-16	6/21/2017		318	0.318	Fluoranthene	OC-16	0	16	27			Yes	Include
HB17-17	0-16	6/21/2017		654	0.654	Fluoranthene	OC-3	0	16	17.88			Yes	Include
HB17-18	0-12	6/21/2017		473	0.473	Fluoranthene	OC-7	0	12	-4.68			No	Exclude
HB17-24	0-80	6/22/2017		930	0.93	Fluorene	CS-1	0	80	86.76			Yes	Include
HB17-25	0-30	6/22/2017		276	0.276	Fluorene	CS-2	0	30	45.12			Yes	Include
HB17-09	0-30	6/22/2017		210	0.21	Fluorene	CS-5	0	30	32.4			Yes	Include
HB17-09DUP	0-30	6/22/2017		416	0.416	Fluorene	CS-5	0	30					Exclude
HB17-10	44-86	6/21/2017		116	0.116	Fluorene	FC-1	44	86	53.64	10.44	include	Yes	Include
HB17-12	0-31	6/21/2017		72.8	0.0728	Fluorene	FC-14	0	31	-2.88	1.92	include	No	Exclude
HB17-14	0-26	6/21/2017		62.1	0.0621	Fluorene	FC-15	0	26	31.2	-1.2	include	Yes	Include
HB17-16	0-63	6/21/2017		18.6	0.0186	Fluorene	FC-16	0	63	71.88	-8.52	include	Yes	Include
HB17-11	17-51	6/21/2017		126	0.126	Fluorene	FC-3	17	51	50.52	16.92	include	Yes	Include
HB17-21	0-20	6/22/2017		792	0.792	Fluorene	FS-1	0	20	19.2			Yes	Include
HB17-21 DUP	0-20	6/22/2017		567	0.567	Fluorene	FS-1	0	20					Exclude
HB17-22	0-33	6/22/2017		440	0.44	Fluorene	FS-1	0	33	44.88			Yes	Include
HB17-23	0-30	6/21/2017		207	0.207	Fluorene	FS-1	0	30	66.24			Yes	Include
HB17-28	0-63	6/22/2017		240	0.24	Fluorene	HS-1	0	63	74.4			Yes	Include
HB17-19	0-42	6/21/2017		126	0.126	Fluorene	OC-12	0	42	73.56			Yes	Include
HB17-20	0-16	6/21/2017		37.6	0.0376	Fluorene	OC-16	0	16	27			Yes	Include
HB17-17	0-16	6/21/2017		85.2	0.0852	Fluorene	OC-3	0	16	17.88			Yes	Include
HB17-18	0-12	6/21/2017		75.1	0.0751	Fluorene	OC-7	0	12	-4.68			No	Exclude
HB17-24	0-80	6/22/2017		1010	1.01	Indeno(1,2,3-cd)pyrene	CS-1	0	80	86.76			Yes	Include
HB17-25	0-30	6/22/2017		293	0.293	Indeno(1,2,3-cd)pyrene	CS-2	0	30	45.12			Yes	Include
HB17-09	0-30	6/22/2017		207	0.207	Indeno(1,2,3-cd)pyrene	CS-5	0	30	32.4			Yes	Include
HB17-09DUP	0-30	6/22/2017		355	0.355	Indeno(1,2,3-cd)pyrene	CS-5	0	30					Exclude
HB17-10	44-86	6/21/2017		129	0.129	Indeno(1,2,3-cd)pyrene	FC-1	44	86	53.64	10.44	include	Yes	Include
HB17-12	0-31	6/21/2017		102	0.102	Indeno(1,2,3-cd)pyrene	FC-14	0	31	-2.88	1.92	include	No	Exclude
HB17-14	0-26	6/21/2017		70.2	0.0702	Indeno(1,2,3-cd)pyrene	FC-15	0	26	31.2	-1.2	include	Yes	Include
HB17-16	0-63	6/21/2017		27.6	0.0276	Indeno(1,2,3-cd)pyrene	FC-16	0	63	71.88	-8.52	include	Yes	Include
HB17-11	17-51	6/21/2017		145	0.145	Indeno(1,2,3-cd)pyrene	FC-3	17	51	50.52	16.92	include	Yes	Include
HB17-21	0-20	6/22/2017		2050	2.05	Indeno(1,2,3-cd)pyrene	FS-1	0	20	19.2			Yes	Include
HB17-21 DUP	0-20	6/22/2017		1860	1.86	Indeno(1,2,3-cd)pyrene	FS-1	0	20					Exclude
HB17-22	0-33	6/22/2017		512	0.512	Indeno(1,2,3-cd)pyrene	FS-1	0	33	44.88			Yes	Include
HB17-23	0-30	6/21/2017		216	0.216	Indeno(1,2,3-cd)pyrene	FS-1	0	30	66.24			Yes	Include
HB17-28	0-63	6/22/2017		352	0.352	Indeno(1,2,3-cd)pyrene	HS-1	0	63	74.4			Yes	Include
HB17-19	0-42	6/21/2017		193	0.193	Indeno(1,2,3-cd)pyrene	OC-12	0	42	73.56			Yes	Include
HB17-20	0-16	6/21/2017		55.2	0.0552	Indeno(1,2,3-cd)pyrene	OC-16	0	16	27			Yes	Include
HB17-17	0-16	6/21/2017		237	0.237	Indeno(1,2,3-cd)pyrene	OC-3	0	16	17.88			Yes	Include
HB17-18	0-12	6/21/2017		83.8	0.0838	Indeno(1,2,3-cd)pyrene	OC-7	0	12	-4.68			No	Exclude
HB17-24	0-80	6/22/2017		302	0.302	Lead	CS-1	0	80	86.76			Yes	Include
HB17-25	0-30	6/22/2017		225	0.225	Lead	CS-2	0	30	45.12			Yes	Include
HB17-03	36-49	6/19/2017		52.8	0.0528	Lead	CS-4	36	49	36.12			Yes	Include
HB17-09	0-30	6/22/2017		95.6	0.0956	Lead	CS-5	0	30	32.4			Yes	Include
HB17-09DUP	0-30	6/22/2017		109	0.109	Lead	CS-5	0	30					Exclude
HB17-10	44-86	6/21/2017		175	0.175	Lead	FC-1	44	86	53.64	10.44	include	Yes	Include
HB17-06	53-60	6/19/2017		96.8	0.0968	Lead	FC-2	53	60	59.64	10.44	include	Yes	Include
HB17-11	17-51	6/21/2017		90.6	0.0906	Lead	FC-3	17	51	50.52	16.92	include	Yes	Include
HB17-26	0-12	6/23/2017		130	0.13	Lead	FP-2	0	12	37.92			Yes	Include
HB17-26 DUP	0-12	6/23/2017		121	0.121	Lead	FP-2	0	12					Exclude
HB17-26	12-24	6/23/2017		104	0.104	Lead	FP-2	12	24					Exclude
HB17-26	24-36	6/23/2017		90.3	0.0903	Lead	FP-2	24	36	37.92			Yes	Include
HB17-26	36-50	6/23/2017		80.6	0.0806	Lead	FP-2	36	50	37.92			Yes	Include
HB17-30	0-22	6/23/2017		114	0.114	Lead	FP-2	0	22	60.6			Yes	Include
HB17-31	0-28	6/23/2017		127	0.127	Lead	FP-2	0	28	26.04			Yes	Include
HB17-31	28-40	6/23/2017		59.6	0.0596	Lead	FP-2	28	40					Exclude
HB17-31	40-50	6/23/2017		19.9	0.0199	Lead	FP-2	40	50	26.04			No	Exclude
HB17-08	24-36	6/20/2017		243	0.243	Lead	FS-2	24	36	49.2			Yes	Include
HB17-08	36-41	6/20/2017		179	0.179	Lead	FS-2	36	41	49.2			Yes	Include
HB17-21	0-20	6/22/2017		333	0.333	Lead	FS-1	0	20	19.2			Yes	Include
HB17-21 DUP	0-20	6/22/2017		274	0.274	Lead	FS-1	0	20					Exclude
HB17-22	0-33	6/22/2017		310	0.31	Lead	FS-1	0	33	44.88			Yes	Include
HB17-22	33-45	6/22/2017		195	0.195	Lead	FS-1	33	45					Exclude
HB17-22	45-58	6/22/2017		175	0.175	Lead	FS-1	45	58	44.88			No	Exclude
HB17-23	0-30	6/21/2017		158	0.158	Lead	FS-1	0	30	66.24			Yes	Include
HB17-04	72-84	6/19/2017		94.2	0.0942	Lead	HS-1	72	84	84.24			Yes	Include
HB17-04	84-92	6/19/2017		17.9	0.0179	Lead	HS-1	84	92	84.24			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB17-28	39-51	6/22/2017		71.5	0.0715	Lead	HS-1	39	51					Exclude
HB17-28	51-63	6/22/2017		105	0.105	Lead	HS-1	51	63	74.4			Yes	Include
HB17-28	63-75	6/22/2017		211	0.211	Lead	HS-1	63	75	74.4			Yes	Include
HB17-28	75-87	6/22/2017		59.9	0.0599	Lead	HS-1	75	87	74.4			No	Exclude
HB17-28	87-99	6/22/2017		2	0.002	Lead	HS-1	87	99	74.4			No	Exclude
HB17-02	0-11	6/19/2017		45.8	0.0458	Lead	HS-3	0	11	22.08			Yes	Include
HB17-07	46-58	6/20/2017		39.3	0.0393	Lead	OC-11	46	58	36			No	Exclude
HB17-19	0-42	6/21/2017		94.3	0.0943	Lead	OC-12	0	42	73.56			Yes	Include
HB17-19	42-54	6/21/2017		101	0.101	Lead	OC-12	42	54	73.56			Yes	Include
HB17-19	54-66	6/21/2017		107	0.107	Lead	OC-12	54	66	73.56			Yes	Include
HB17-19	66-78	6/21/2017		129	0.129	Lead	OC-12	66	78					Exclude
HB17-19	78-90	6/21/2017		73.7	0.0737	Lead	OC-12	78	90	73.56			No	Exclude
HB17-19	90-102	6/21/2017		72.7	0.0727	Lead	OC-12	90	102	73.56			No	Exclude
HB17-19	102-112	6/21/2017		40.4	0.0404	Lead	OC-12	102	112					Exclude
HB17-17	0-16	6/21/2017		89.8	0.0898	Lead	OC-3	0	16	17.88			Yes	Include
HB17-18	0-12	6/21/2017		60.4	0.0604	Lead	OC-7	0	12	-4.68			No	Exclude
HB17-18	12-24	6/21/2017		20.1	0.0201	Lead	OC-7	12	24					Exclude
HB17-35	0-17	6/23/2017		297	0.297	Lead	OC-8	0	17	27.36			Yes	Include
HB17-24	0-80	6/22/2017		1.7	0.0017	Mercury	CS-1	0	80	86.76			Yes	Include
HB17-25	0-30	6/22/2017		0.86	0.00086	Mercury	CS-2	0	30	45.12			Yes	Include
HB17-03	36-49	6/19/2017		0.1	0.0001	Mercury	CS-4	36	49	36.12			Yes	Include
HB17-09	0-30	6/22/2017		0.52	0.00052	Mercury	CS-5	0	30	32.4			Yes	Include
HB17-09DUP	0-30	6/22/2017		0.41	0.00041	Mercury	CS-5	0	30					Exclude
HB17-10	44-86	6/21/2017		0.4	0.0004	Mercury	FC-1	44	86	53.64	10.44	include	Yes	Include
HB17-06	53-60	6/19/2017		0.61	0.00061	Mercury	FC-2	53	60	59.64	10.44	include	Yes	Include
HB17-11	17-51	6/21/2017		0.44	0.00044	Mercury	FC-3	17	51	50.52	16.92	include	Yes	Include
HB17-26	0-12	6/23/2017		1.1	0.0011	Mercury	FP-2	0	12	37.92			Yes	Include
HB17-26 DUP	0-12	6/23/2017		0.69	0.00069	Mercury	FP-2	0	12					Exclude
HB17-26	12-24	6/23/2017		0.55	0.00055	Mercury	FP-2	12	24					Exclude
HB17-26	24-36	6/23/2017		0.2	0.0002	Mercury	FP-2	24	36	37.92			Yes	Include
HB17-26	36-50	6/23/2017		0.13	0.00013	Mercury	FP-2	36	50	37.92			Yes	Include
HB17-30	0-22	6/23/2017		0.4	0.0004	Mercury	FP-2	0	22	60.6			Yes	Include
HB17-31	0-28	6/23/2017		0.53	0.00053	Mercury	FP-2	0	28	26.04			Yes	Include
HB17-31	28-40	6/23/2017		0.13	0.00013	Mercury	FP-2	28	40					Exclude
HB17-31	40-50	6/23/2017		0.09	0.00009	Mercury	FP-2	40	50	26.04			No	Exclude
HB17-08	24-36	6/20/2017		0.075	0.000075	Mercury	FS-2	24	36	49.2			Yes	Include
HB17-08	36-41	6/20/2017		0.3	0.0003	Mercury	FS-2	36	41	49.2			Yes	Include
HB17-21	0-20	6/22/2017		0.4	0.0004	Mercury	FS-1	0	20	19.2			Yes	Include
HB17-21 DUP	0-20	6/22/2017		0.28	0.00028	Mercury	FS-1	0	20					Exclude
HB17-22	0-33	6/22/2017		0.54	0.00054	Mercury	FS-1	0	33	44.88			Yes	Include
HB17-22	33-45	6/22/2017		0.58	0.00058	Mercury	FS-1	33	45					Exclude
HB17-22	45-58	6/22/2017		0.3	0.0003	Mercury	FS-1	45	58	44.88			No	Exclude
HB17-23	0-30	6/21/2017		0.75	0.00075	Mercury	FS-1	0	30	66.24			Yes	Include
HB17-04	72-84	6/19/2017		0.25	0.00025	Mercury	HS-1	72	84	84.24			Yes	Include
HB17-04	84-92	6/19/2017		0.061	0.000061	Mercury	HS-1	84	92	84.24			Yes	Include
HB17-28	39-51	6/22/2017		0.51	0.00051	Mercury	HS-1	39	51					Exclude
HB17-28	51-63	6/22/2017		0.97	0.00097	Mercury	HS-1	51	63	74.4			Yes	Include
HB17-28	63-75	6/22/2017		0.51	0.00051	Mercury	HS-1	63	75	74.4			Yes	Include
HB17-28	75-87	6/22/2017		0.25	0.00025	Mercury	HS-1	75	87	74.4			No	Exclude
HB17-28	87-99	6/22/2017		0.0017	0.0000017	Mercury	HS-1	87	99	74.4			No	Exclude
HB17-02	0-11	6/19/2017		0.22	0.00022	Mercury	HS-3	0	11	22.08			Yes	Include
HB17-07	46-58	6/20/2017		0.19	0.00019	Mercury	OC-11	46	58	36			No	Exclude
HB17-19	0-42	6/21/2017		0.37	0.00037	Mercury	OC-12	0	42	73.56			Yes	Include
HB17-17	0-16	6/21/2017		0.24	0.00024	Mercury	OC-3	0	16	17.88			Yes	Include
HB17-18	0-12	6/21/2017		0.12	0.00012	Mercury	OC-7	0	12	-4.68			No	Exclude
HB17-35	0-17	6/23/2017		0.47	0.00047	Mercury	OC-8	0	17	27.36			Yes	Include
HB17-24	0-80	6/22/2017		2180	2.18	Naphthalene	CS-1	0	80	86.76			Yes	Include
HB17-25	0-30	6/22/2017		495	0.495	Naphthalene	CS-2	0	30	45.12			Yes	Include
HB17-09	0-30	6/22/2017		394	0.394	Naphthalene	CS-5	0	30	32.4			Yes	Include
HB17-09DUP	0-30	6/22/2017		1010	1.01	Naphthalene	CS-5	0	30					Exclude
HB17-10	44-86	6/21/2017		294	0.294	Naphthalene	FC-1	44	86	53.64	10.44	include	Yes	Include
HB17-12	0-31	6/21/2017		159	0.159	Naphthalene	FC-14	0	31	-2.88	1.92	include	No	Exclude
HB17-14	0-26	6/21/2017		90.2	0.0902	Naphthalene	FC-15	0	26	31.2	-1.2	include	Yes	Include
HB17-16	0-63	6/21/2017		33.2	0.0332	Naphthalene	FC-16	0	63	71.88	-8.52	include	Yes	Include
HB17-11	17-51	6/21/2017		307	0.307	Naphthalene	FC-3	17	51	50.52	16.92	include	Yes	Include
HB17-21	0-20	6/22/2017		911	0.911	Naphthalene	FS-1	0	20	19.2			Yes	Include
HB17-21 DUP	0-20	6/22/2017		572	0.572	Naphthalene	FS-1	0	20					Exclude
HB17-22	0-33	6/22/2017		705	0.705	Naphthalene	FS-1	0	33	44.88			Yes	Include
HB17-23	0-30	6/21/2017		559	0.559	Naphthalene	FS-1	0	30	66.24			Yes	Include
HB17-28	0-63	6/22/2017		404	0.404	Naphthalene	HS-1	0	63	74.4			Yes	Include
HB17-19	0-42	6/21/2017		253	0.253	Naphthalene	OC-12	0	42	73.56			Yes	Include
HB17-20	0-16	6/21/2017		91.2	0.0912	Naphthalene	OC-16	0	16	27			Yes	Include
HB17-17	0-16	6/21/2017		227	0.227	Naphthalene	OC-3	0	16	17.88			Yes	Include
HB17-18	0-12	6/21/2017		94.9	0.0949	Naphthalene	OC-7	0	12	-4.68			No	Exclude
HB17-24	0-80	6/22/2017		7300	7.3	Phenanthrene	CS-1	0	80	86.76			Yes	Include

Table 5b: List of Samples Included in Arithmetic Average Calculations for Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Location ID	Sample Depth	Date Collected	SubArea	Concentration	Concentration (Numeric)	Chemical	RD UNIT ID	Sample Starting Depth	Sample End Depth	Target Depth	Depth to 573.6 ft (FC units)	Shallower than 573.6 ft (FC units)?	Sample down to target depth?	Include Sample?
	Inches		Units	mg/kg	mg/kg			inches	inches	inches	ft			
HB17-25	0-30	6/22/2017		1900	1.9	Phenanthrene	CS-2	0	30	45.12			Yes	Include
HB17-09	0-30	6/22/2017		1460	1.46	Phenanthrene	CS-5	0	30	32.4			Yes	Include
HB17-09DUP	0-30	6/22/2017		2170	2.17	Phenanthrene	CS-5	0	30					Exclude
HB17-10	44-86	6/21/2017		700	0.7	Phenanthrene	FC-1	44	86	53.64	10.44	include	Yes	Include
HB17-12	0-31	6/21/2017		381	0.381	Phenanthrene	FC-14	0	31	-2.88	1.92	include	No	Exclude
HB17-14	0-26	6/21/2017		386	0.386	Phenanthrene	FC-15	0	26	31.2	-1.2	include	Yes	Include
HB17-16	0-63	6/21/2017		104	0.104	Phenanthrene	FC-16	0	63	71.88	-8.52	include	Yes	Include
HB17-11	17-51	6/21/2017		754	0.754	Phenanthrene	FC-3	17	51	50.52	16.92	include	Yes	Include
HB17-21	0-20	6/22/2017		7270	7.27	Phenanthrene	FS-1	0	20	19.2			Yes	Include
HB17-21 DUP	0-20	6/22/2017		6050	6.05	Phenanthrene	FS-1	0	20					Exclude
HB17-22	0-33	6/22/2017		2210	2.21	Phenanthrene	FS-1	0	33	44.88			Yes	Include
HB17-23	0-30	6/21/2017		1340	1.34	Phenanthrene	FS-1	0	30	66.24			Yes	Include
HB17-28	0-63	6/22/2017		2400	2.4	Phenanthrene	HS-1	0	63	74.4			Yes	Include
HB17-19	0-42	6/21/2017		696	0.696	Phenanthrene	OC-12	0	42	73.56			Yes	Include
HB17-20	0-16	6/21/2017		195	0.195	Phenanthrene	OC-16	0	16	27			Yes	Include
HB17-17	0-16	6/21/2017		461	0.461	Phenanthrene	OC-3	0	16	17.88			Yes	Include
HB17-18	0-12	6/21/2017		345	0.345	Phenanthrene	OC-7	0	12	-4.68			No	Exclude
HB17-24	0-80	6/22/2017		7110	7.11	Pyrene	CS-1	0	80	86.76			Yes	Include
HB17-25	0-30	6/22/2017		2260	2.26	Pyrene	CS-2	0	30	45.12			Yes	Include
HB17-09	0-30	6/22/2017		1800	1.8	Pyrene	CS-5	0	30	32.4			Yes	Include
HB17-09DUP	0-30	6/22/2017		2590	2.59	Pyrene	CS-5	0	30					Exclude
HB17-10	44-86	6/21/2017		750	0.75	Pyrene	FC-1	44	86	53.64	10.44	include	Yes	Include
HB17-12	0-31	6/21/2017		579	0.579	Pyrene	FC-14	0	31	-2.88	1.92	include	No	Exclude
HB17-14	0-26	6/21/2017		462	0.462	Pyrene	FC-15	0	26	31.2	-1.2	include	Yes	Include
HB17-16	0-63	6/21/2017		171	0.171	Pyrene	FC-16	0	63	71.88	-8.52	include	Yes	Include
HB17-11	17-51	6/21/2017		790	0.79	Pyrene	FC-3	17	51	50.52	16.92	include	Yes	Include
HB17-21	0-20	6/22/2017		8880	8.88	Pyrene	FS-1	0	20	19.2			Yes	Include
HB17-21 DUP	0-20	6/22/2017		7580	7.58	Pyrene	FS-1	0	20					Exclude
HB17-22	0-33	6/22/2017		2130	2.13	Pyrene	FS-1	0	33	44.88			Yes	Include
HB17-23	0-30	6/21/2017		1520	1.52	Pyrene	FS-1	0	30	66.24			Yes	Include
HB17-28	0-63	6/22/2017		2840	2.84	Pyrene	HS-1	0	63	74.4			Yes	Include
HB17-19	0-42	6/21/2017		832	0.832	Pyrene	OC-12	0	42	73.56			Yes	Include
HB17-20	0-16	6/21/2017		324	0.324	Pyrene	OC-16	0	16	27			Yes	Include
HB17-17	0-16	6/21/2017		715	0.715	Pyrene	OC-3	0	16	17.88			Yes	Include
HB17-18	0-12	6/21/2017		454	0.454	Pyrene	OC-7	0	12	-4.68			No	Exclude
HB17-24	0-80	6/22/2017		<0.84	0.00084	Thallium	CS-1	0	80	86.76			Yes	Include
HB17-25	0-30	6/22/2017		<0.67	0.00067	Thallium	CS-2	0	30	45.12			Yes	Include
HB17-09	0-30	6/22/2017		<0.64	0.00064	Thallium	CS-5	0	30	32.4			Yes	Include
HB17-09DUP	0-30	6/22/2017		<0.53	0.00053	Thallium	CS-5	0	30					Exclude
HB17-10	44-86	6/21/2017		<0.44	0.00044	Thallium	FC-1	44	86	53.64	10.44	include	Yes	Include
HB17-11	17-51	6/21/2017		<0.59	0.00059	Thallium	FC-3	17	51	50.52	16.92	include	Yes	Include
HB17-21	0-20	6/22/2017		<0.74	0.00074	Thallium	FS-1	0	20	19.2			Yes	Include
HB17-21 DUP	0-20	6/22/2017		<0.81	0.00081	Thallium	FS-1	0	20					Exclude
HB17-22	0-33	6/22/2017		<0.59	0.00059	Thallium	FS-1	0	33	44.88			Yes	Include
HB17-23	0-30	6/21/2017		0.83	0.00083	Thallium	FS-1	0	30	66.24			Yes	Include
HB17-19	0-42	6/21/2017		<0.69	0.00069	Thallium	OC-12	0	42	73.56			Yes	Include
HB17-17	0-16	6/21/2017		<0.53	0.00053	Thallium	OC-3	0	16	17.88			Yes	Include
HB17-18	0-12	6/21/2017		<0.58	0.00058	Thallium	OC-7	0	12	-4.68			No	Exclude
HB17-24	0-80	6/22/2017		44430	44.43	Total PAH18	CS-1	0	80	86.76			Yes	Include
HB17-25	0-30	6/22/2017		15404	15.404	Total PAH18	CS-2	0	30	45.12			Yes	Include
HB17-09	0-30	6/22/2017		11197	11.197	Total PAH18	CS-5	0	30	32.4			Yes	Include
HB17-09DUP	0-30	6/22/2017		18624	18.624	Total PAH18	CS-5	0	30					Exclude
HB17-10	44-86	6/21/2017		5708.9	5.7089	Total PAH18	FC-1	44	86	53.64	10.44	include	Yes	Include
HB17-12	0-31	6/21/2017		3976.7	3.9767	Total PAH18	FC-14	0	31	-2.88	1.92	include	No	Exclude
HB17-14	0-26	6/21/2017		3024.8	3.0248	Total PAH18	FC-15	0	26	31.2	-1.2	include	Yes	Include
HB17-16	0-63	6/21/2017		1105.7	1.1057	Total PAH18	FC-16	0	63	71.88	-8.52	include	Yes	Include
HB17-11	17-51	6/21/2017		6164.9	6.1649	Total PAH18	FC-3	17	51	50.52	16.92	include	Yes	Include
HB17-21	0-20	6/22/2017		57311	57.311	Total PAH18	FS-1	0	20	19.2			Yes	Include
HB17-21 DUP	0-20	6/22/2017		49611.5	49.6115	Total PAH18	FS-1	0	20					Exclude
HB17-22	0-33	6/22/2017		16534	16.534	Total PAH18	FS-1	0	33	44.88			Yes	Include
HB17-23	0-30	6/21/2017		11243.3	11.2433	Total PAH18	FS-1	0	30	66.24			Yes	Include
HB17-28	0-63	6/22/2017		18319	18.319	Total PAH18	HS-1	0	63	74.4			Yes	Include
HB17-19	0-42	6/21/2017		6227.5	6.2275	Total PAH18	OC-12	0	42	73.56			Yes	Include
HB17-20	0-16	6/21/2017		2148.3	2.1483	Total PAH18	OC-16	0	16	27			Yes	Include
HB17-17	0-16	6/21/2017		5457	5.457	Total PAH18	OC-3	0	16	17.88			Yes	Include
HB17-18	0-12	6/21/2017		3335	3.335	Total PAH18	OC-7	0	12	-4.68			No	Exclude

Notes:

CS = Cummings Avenue Slip
FC = within Federal Channel and slopes

FP = Frog Pond Dock
ft = feet

FS = Fraser Slip
HS = Hughitt Avenue Slip

mg/kg = milligrams per kilogram
NM = not measured

OC = outside Federal Channel and slopes
RD = remedial design

SND = strategic navigation dredging

1. Sample intervals included in arithmetic average calculation for each DMU include all sample intervals down to the target dredge depths.
2. For FC Units, samples shallower than 573.6 ft were excluded from calculation (these will be addressed through the SND).

**Table 5c: Average Concentration for Contaminants of Concern in Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI**

RD Unit	Lead	Mercury	Tributyltin	Perylene	Acenaphthene
CS-1	329	3.67	0.002	0.504	0.742
CS-2	195	1.65	0.002	1.09	0.585
CS-3	147	1.37	--	0.273	0.126
CS-4	163	0.978	0.002	0.103	0.048
CS-5	104	0.640	--	--	0.176
FC-1	159	0.000	--	--	0.170
FC-2	121	0.390	0.009	--	0.096
FC-3	98.7	0.000	--	--	0.060
FC-4	176	0.594	0.001	--	0.052
FC-5	120	0.400	0.002	--	0.023
FC-6	93.0	0.315	0.001	--	0.005
FC-7	104	0.290	0.003	--	0.020
FC-9	53.4	0.000	--	--	0.059
FC-10	99.3	--	--	--	0.006
FC-11	64.7	--	--	--	--
FC-12/FC-13	88.6	0.339	0.002	0.115	0.033
FC-14	44.0	0.221	0.007	--	0.034
FC-15	--	--	0.004	--	0.040
FC-16	41.7	0.205	0.010	--	0.009
FC-17	38.4	0.152	0.004	--	0.013
FP-1	132	0.452	0.001	0.075	0.032
FP-2	144	0.330	0.002	0.390	0.093
FS-1	232	0.000	--	--	0.454
FS-2	341	0.503	0.003	--	0.209
HS-1	110	0.591	0.367	--	0.063
HS-2	152	0.608	0.004	--	0.091
HS-3	52.8	7.44	0.024	0.163	0.179
OC-1	274	0.275	--	--	0.008
OC-2	109	0.250	0.004	--	0.014
OC-3	80.5	0.000	--	--	0.035
OC-4	95.5	--	--	--	0.243
OC-5	73.5	0.229	0.002	0.153	0.011
OC-6	114	0.477	0.002	--	0.059
OC-7	23.9	0.000	--	--	0.035
OC-8	70.1	0.000	--	--	0.067
OC-9	81.9	0.420	--	--	0.017
OC-10	66.5	--	--	--	--
OC-11	137	0.416	0.002	--	0.018
OC-12	53.4	0.000	--	--	0.059
OC-13	117	0.105	0.002	0.006	0.015
OC-14	120	0.250	0.002	0.086	0.016
OC-15	35.5	0.269	0.001	0.480	0.210
OC-16	--	--	0.001	--	0.019
OC-17	32.000	0.094	0.004	0.060	0.024
SND-1	48.429	0.230	0.002	0.205	0.129
SND-2	46.000	--	--	--	--
SND-4	79.200	--	--	--	--
SND-5	43.271	--	--	--	--

Notes:

- = All sample intervals were excluded from average calculation or analyte was not analyzed in all sample intervals included in average
- CS = Cummings Avenue Slip
- FC = within Federal Channel and slopes
- FP = Frog Pond Dock
- FS = Fraser Slip
- HS = Hughitt Avenue Slip
- OC = outside Federal Channel and slopes
- RD = remedial design

1. All concentrations provided in milligrams per kilogram (mg/kg).
2. Sample intervals included in arithmetic average calculation for each DMU include all sample intervals down to the target dredge depth.
3. For FC Units, samples shallower than 573.6 ft were also excluded from calculation.

**Table 5c: Average Concentration for Contaminants of Concern in Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI**

RD Unit	Acenaphthylene	Anthracene	Chrysene	Fluoranthene	Fluorene
CS-1	0.178	1.64	3.76	9.44	0.899
CS-2	0.298	1.82	4.01	9.55	0.691
CS-3	0.072	0.306	0.690	1.45	0.119
CS-4	0.027	0.161	0.457	1.12	0.061
CS-5	0.108	0.399	1.36	2.26	0.313
FC-1	0.052	0.099	0.385	0.599	0.256
FC-2	0.040	0.163	0.530	0.878	0.130
FC-3	0.043	0.174	0.565	0.772	0.126
FC-4	0.033	0.133	0.397	0.677	0.075
FC-5	0.024	0.049	0.350	0.500	0.046
FC-6	0.005	0.018	0.055	0.091	0.011
FC-7	0.018	0.049	0.220	0.330	0.035
FC-9	0.042	0.185	0.532	0.830	0.126
FC-10	0.006	0.021	0.074	0.129	0.012
FC-11	--	--	--	--	--
FC-12/FC-13	0.018	0.091	0.282	0.507	0.047
FC-14	0.031	0.108	0.355	0.588	0.073
FC-15	0.015	0.100	0.258	0.453	0.062
FC-16	0.010	0.026	0.100	0.175	0.019
FC-17	0.014	0.051	0.184	0.352	0.021
FP-1	0.019	0.082	0.244	0.468	0.052
FP-2	0.026	0.342	0.550	1.19	0.129
FS-1	0.111	0.966	3.33	6.60	0.595
FS-2	0.081	0.647	1.76	3.22	0.304
HS-1	0.030	0.139	0.512	1.000	0.081
HS-2	0.027	0.181	0.471	0.968	0.119
HS-3	0.072	0.634	1.32	2.71	0.241
OC-1	0.005	0.022	0.048	0.094	0.013
OC-2	0.020	0.052	0.330	0.450	0.031
OC-3	0.034	0.132	0.434	0.654	0.085
OC-4	0.060	0.585	1.36	1.22	0.358
OC-5	0.012	0.048	0.145	0.219	0.017
OC-6	0.020	0.174	0.519	0.940	0.076
OC-7	0.020	0.242	0.320	0.473	0.075
OC-8	0.015	0.092	0.240	0.460	0.063
OC-9	0.011	0.038	0.106	0.214	0.022
OC-10	--	--	--	--	--
OC-11	0.020	0.064	0.284	0.423	0.032
OC-12	0.042	0.185	0.532	0.830	0.126
OC-13	0.013	0.046	0.135	0.329	0.022
OC-14	0.019	0.061	0.150	0.350	0.028
OC-15	0.024	0.562	0.791	2.10	0.363
OC-16	0.014	0.059	0.184	0.318	0.038
OC-17	0.013	0.120	0.340	0.970	0.031
SND-1	0.031	0.515	0.905	2.370	0.128
SND-2	--	--	--	--	--
SND-4	--	--	--	--	--
SND-5	--	--	--	--	--

Notes:

-- = All sample intervals were excluded from average calculation or analyte was not analyzed in all sample intervals included in average

CS = Cummings Avenue Slip

FC = within Federal Channel and slopes

FP = Frog Pond Dock

FS = Fraser Slip

1. All concentrations provided in milligrams per kilogram (mg/kg).
2. Sample intervals included in arithmetic average calculation for each DMU include all sample intervals down to the target dredge depth
3. For FC Units, samples shallower than 573.6 ft were also excluded from calculation.

**Table 5c: Average Concentration for Contaminants of Concern in Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI**

RD Unit	Naphthalene	Phenanthrene	Pyrene	Thallium
CS-1	0.994	7.39	7.49	1.20
CS-2	0.671	6.21	7.98	0.790
CS-3	0.193	1.05	1.33	1.13
CS-4	0.067	0.500	0.827	1.67
CS-5	0.702	1.82	2.20	0.000
FC-1	0.361	1.01	0.663	0.000
FC-2	0.203	0.685	0.845	0.700
FC-3	0.307	0.754	0.790	0.000
FC-4	0.138	0.500	0.660	0.906
FC-5	0.037	0.320	0.540	1.60
FC-6	0.031	0.073	0.098	0.688
FC-7	0.032	0.180	0.340	2.50
FC-9	0.253	0.696	0.832	0.000
FC-10	0.033	0.084	0.124	--
FC-11	--	--	--	--
FC-12/FC-13	0.045	0.329	0.494	1.09
FC-14	0.159	0.381	0.579	1.27
FC-15	0.090	0.386	0.462	--
FC-16	0.033	0.104	0.171	1.08
FC-17	0.031	0.166	0.284	1.76
FP-1	0.063	0.300	0.400	1.58
FP-2	0.119	0.923	1.07	1.21
FS-1	0.688	4.87	5.94	0.000
FS-2	0.396	2.26	3.03	1.56
HS-1	0.083	0.695	0.885	2.03
HS-2	0.171	0.770	0.908	0.735
HS-3	0.194	1.86	2.45	1.39
OC-1	0.023	0.083	0.082	--
OC-2	0.041	0.260	0.460	2.30
OC-3	0.227	0.461	0.715	0.000
OC-4	0.362	3.07	2.27	--
OC-5	0.025	0.095	0.191	1.94
OC-6	0.058	0.779	0.910	1.65
OC-7	0.095	0.345	0.454	0.000
OC-8	0.150	0.400	0.410	--
OC-9	0.041	0.128	0.183	--
OC-10	--	--	--	--
OC-11	0.045	0.238	0.460	1.72
OC-12	0.253	0.696	0.832	0.000
OC-13	0.018	0.176	0.321	1.55
OC-14	0.026	0.130	0.280	1.95
OC-15	0.161	2.20	1.54	1.76
OC-16	0.091	0.195	0.324	--
OC-17	0.021	0.480	0.660	1.900
SND-1	0.050	1.355	1.710	2.550
SND-2	--	--	--	--
SND-4	--	--	--	--
SND-5	--	--	--	--

Notes:

-- = All sample intervals were excluded from average calculation or analyte was not analyzed in all sample intervals

CS = Cummings Avenue Slip

FC = within Federal Channel and slopes

FP = Frog Pond Dock

FS = Fraser Slip

1. All concentrations provided in milligrams per kilogram (mg/kg).
2. Sample intervals included in arithmetic average calculation for each DMU include all sample intervals down to 10 ft.
3. For FC Units, samples shallower than 573.6 ft were also excluded from calculation.

**Table 5c: Average Concentration for Contaminants of Concern in Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI**

RD Unit	1-Methylnaphthalene	2-Methylnaphthalene	Benzo(a)anthracene	Benzo(a)pyrene
CS-1	0.342	0.712	1.96	3.11
CS-2	0.220	0.590	2.33	3.20
CS-3	0.091	0.190	0.348	0.579
CS-4	0.040	0.065	0.229	0.460
CS-5	0.380	0.709	1.07	0.936
FC-1	0.260	0.480	0.227	0.315
FC-2	--	0.260	0.228	0.418
FC-3	0.265	0.366	0.452	0.384
FC-4	--	0.167	0.177	0.320
FC-5	--	0.056	0.195	0.390
FC-6	--	0.028	0.026	0.041
FC-7	--	0.043	0.105	0.230
FC-9	0.196	0.250	0.507	0.427
FC-10	--	0.035	0.035	0.062
FC-11	--	--	--	--
FC-12/FC-13	0.032	0.037	0.154	0.304
FC-14	0.087	0.124	0.314	0.281
FC-15	0.053	0.076	0.243	0.206
FC-16	0.019	0.026	0.091	0.080
FC-17	--	0.026	0.091	0.155
FP-1	0.027	0.053	0.133	0.224
FP-2	0.170	0.155	0.290	0.536
FS-1	0.574	0.753	2.10	2.53
FS-2	--	0.580	0.858	1.39
HS-1	0.213	0.085	0.273	0.445
HS-2	--	0.128	0.246	0.392
HS-3	0.071	0.192	0.749	1.14
OC-1	--	--	0.027	0.041
OC-2	--	0.051	0.187	0.390
OC-3	0.184	0.255	0.409	0.434
OC-4	--	0.468	0.499	0.550
OC-5	0.024	0.013	0.065	0.103
OC-6	--	0.066	0.284	0.497
OC-7	0.065	0.091	0.264	0.213
OC-8	--	0.200	0.117	0.180
OC-9	--	--	0.062	0.091
OC-10	--	--	--	--
OC-11	--	0.047	0.162	0.328
OC-12	0.196	0.250	0.507	0.427
OC-13	0.002	0.018	0.077	0.155
OC-14	0.021	0.028	0.090	0.160
OC-15	0.350	0.128	0.463	0.701
OC-16	0.048	0.075	0.171	0.156
OC-17	0.009	0.013	0.184	0.370
SND-1	0.032	0.032	0.424	0.700
SND-2	--	--	--	--
SND-4	--	--	--	--
SND-5	--	--	--	--

Notes:

-- = All sample intervals were excluded from average calculation or analyte was not analyzed in all sample intervals included in ave
 CS = Cummings Avenue Slip
 FC = within Federal Channel and slopes
 FP = Frog Pond Dock
 FS = Fraser Slip

1. All concentrations provided in milligrams per kilogram (mg/kg).
2. Sample intervals included in arithmetic average calculation for each DMU include all sample intervals down to the target dredge
3. For FC Units, samples shallower than 573.6 ft were also excluded from calculation.

**Table 5c: Average Concentration for Contaminants of Concern in Each Dredge Management Unit
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI**

RD Unit	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Indeno(1,2,3-cd)pyrene
CS-1	4.17	1.28	1.636	1.372
CS-2	3.71	1.34	2.176	1.455
CS-3	0.711	0.337	0.476	0.341
CS-4	0.473	0.273	0.237	0.287
CS-5	1.42	0.252	0.459	0.281
FC-1	0.473	0.102	0.229	0.096
FC-2	0.618	0.195	0.168	0.188
FC-3	0.594	0.148	0.176	0.145
FC-4	0.470	0.150	0.153	0.154
FC-5	0.490	0.300	0.260	0.250
FC-6	0.052	0.025	0.021	0.022
FC-7	0.270	0.200	0.210	0.160
FC-9	0.653	0.197	0.195	0.193
FC-10	0.082	0.036	0.034	0.030
FC-11	--	--	--	--
FC-12/FC-13	0.360	0.209	0.221	0.183
FC-14	0.503	0.094	0.133	0.102
FC-15	0.327	0.066	0.097	0.070
FC-16	0.135	0.025	0.047	0.028
FC-17	0.200	0.115	0.079	0.098
FP-1	0.238	0.157	0.188	0.146
FP-2	0.682	0.316	0.320	0.294
FS-1	3.78	1.20	1.318	1.181
FS-2	1.79	0.723	0.633	0.673
HS-1	0.580	0.263	0.289	0.230
HS-2	0.551	0.214	0.238	0.191
HS-3	1.43	0.578	0.530	0.546
OC-1	0.034	0.029	0.039	0.027
OC-2	0.450	0.320	0.340	0.280
OC-3	0.668	0.244	0.181	0.237
OC-4	0.710	0.211	0.235	0.172
OC-5	0.107	0.066	0.081	0.060
OC-6	0.544	0.371	0.407	0.317
OC-7	0.341	0.080	0.115	0.084
OC-8	0.240	0.120	0.100	0.100
OC-9	0.075	0.062	0.084	0.057
OC-10	--	--	--	--
OC-11	0.422	0.237	0.231	0.213
OC-12	0.653	0.197	0.195	0.193
OC-13	0.177	0.163	0.123	0.088
OC-14	0.200	0.100	0.091	0.100
OC-15	0.711	0.321	0.363	0.311
OC-16	0.262	0.051	0.073	0.055
OC-17	0.430	0.220	0.200	0.190
SND-1	0.730	0.335	0.465	0.345
SND-2	--	--	--	--
SND-4	--	--	--	--
SND-5	--	--	--	--

Notes:

-- = All sample intervals were excluded from average calculation or analyte was not analyzed in all sample intervals included in average calculation

CS = Cummings Avenue Slip

FC = within Federal Channel and slopes

FP = Frog Pond Dock

FS = Fraser Slip

1. All concentrations provided in milligrams per kilogram (mg/kg).
2. Sample intervals included in arithmetic average calculation for each DMU include all sample intervals down to the target dredge depth
3. For FC Units, samples shallower than 573.6 ft were also excluded from calculation.

**Table 5c: Average Concentration for Contaminants of Conc
Design Document Report - Sediment Cleanup in Howards Bay**

RD Unit	Dibenzo(a,h)anthracene	Total PAH18
CS-1	0.284	44.430
CS-2	0.083	15.404
CS-3	--	--
CS-4	--	--
CS-5	0.084	14.911
FC-1	0.040	5.709
FC-2	--	--
FC-3	0.044	6.165
FC-4	--	--
FC-5	--	--
FC-6	--	--
FC-7	--	--
FC-9	0.055	6.228
FC-10	--	--
FC-11	--	--
FC-12/FC-13	--	--
FC-14	0.030	3.977
FC-15	0.020	3.025
FC-16	0.008	1.106
FC-17	--	--
FP-1	--	--
FP-2	--	--
FS-1	0.309	33.675
FS-2	--	--
HS-1	0.100	18.319
HS-2	--	--
HS-3	--	--
OC-1	--	--
OC-2	--	--
OC-3	0.068	5.457
OC-4	--	--
OC-5	--	--
OC-6	--	--
OC-7	0.023	3.335
OC-8	--	--
OC-9	--	--
OC-10	--	--
OC-11	--	--
OC-12	0.055	6.228
OC-13	--	--
OC-14	--	--
OC-15	--	--
OC-16	0.016	2.148
OC-17	--	--
SND-1	--	--
SND-2	--	--
SND-4	--	--
SND-5	--	--

Notes:

-- = All sample intervals were excluded from average calculation
 CS = Cummings Avenue Slip
 FC = within Federal Channel and slopes
 FP = Frog Pond Dock
 FS = Fraser Slip

1. All concentrations provided in milligrams per kilogram (mg/kg)
2. Sample intervals included in arithmetic average calculation for
3. For FC Units, samples shallower than 573.6 ft were also exc

Table 5d: Sample Concentration Exceedance the 5 Time Placement Criteria

Chemical	DMU Average Concentration	RD_UNITID	Location ID:	Sample Depth (Inches):	Date Collected:	SubArea:	Concentration	Concentration (numeric)	Group	Criteria	concentration> 5*criteria	Include
Benzo(a)pyrene	3.108	CS-1	HB10-1-29	12 - 36	10/17/2010	Cummings Ave Slip	5	5	PAHs	0.447	TRUE	Include
Benzo(a)pyrene		CS-1	HB10-1-29	36 - 60	10/17/2010	Cummings Ave Slip	2.5	2.5	PAHs	0.447	TRUE	Include
Benzo(a)pyrene		CS-1	HB10-1-29	60 - 93	10/17/2010	Cummings Ave Slip	2.7	2.7	PAHs	0.447	TRUE	Include
Benzo(a)pyrene		CS-1	HB15-07	36 - 48	6/23/2015	Cummings Ave Slip	3.2	3.2	PAHs	0.447	TRUE	Include
Benzo(a)pyrene		CS-1	HB15-07	48 - 60	6/23/2015	Cummings Ave Slip	5.3	5.3	PAHs	0.447	TRUE	Include
Benzo(a)pyrene		CS-1	HB15-07	60 - 72	6/23/2015	Cummings Ave Slip	3.4	3.4	PAHs	0.447	TRUE	Include
Benzo(a)pyrene		CS-1	HB15-07	72 - 84	6/23/2015	Cummings Ave Slip	3.8	3.8	PAHs	0.447	TRUE	Include
Benzo(a)pyrene		CS-1	HB15-07	84 - 91	6/23/2015	Cummings Ave Slip	4.4	4.4	PAHs	0.447	TRUE	Include
Benzo(a)pyrene	3.20	CS-2	HB13-43	0 - 6	9/11/2013	Cummings Ave Slip	10	10	PAHs	0.447	TRUE	Include
Benzo(a)pyrene		CS-2	HB13-45	6 - 21	9/11/2013	Cummings Ave Slip	3.5	3.5	PAHs	0.447	TRUE	Include
Benzo(a)pyrene		CS-2	HB15-08	12 - 24	6/24/2015	Cummings Ave Slip	3	3	PAHs	0.447	TRUE	Include
Benzo(a)pyrene		CS-2	HB15-08	24 - 36	6/24/2015	Cummings Ave Slip	2.8	2.8	PAHs	0.447	TRUE	Include
Benzo(a)pyrene	2.53	FS-1	HB13-47	0 - 6	9/10/2013	Fraser Ave Slip	2.5	2.5	PAHs	0.447	TRUE	Include
Benzo(a)pyrene		FS-1	HB13-47	6 - 24	9/10/2013	Fraser Ave Slip	2.7	2.7	PAHs	0.447	TRUE	Include
Benzo(a)pyrene		FS-1	HB13-47	24 - 31	9/10/2013	Fraser Ave Slip	3.4	3.4	PAHs	0.447	TRUE	Include
Benzo(a)pyrene		FS-1	HB17-21	0-20	6/22/2017	Fraser Ave Slip	4040	4.04	PAHs	0.447	TRUE	Include
Benzo(a)pyrene		FS-1	HB17-21 DUP	0-20	6/22/2017	Fraser Ave Slip	3440	3.44	PAHs	0.447	TRUE	Exclude
Benzo(a)pyrene	1.39	FS-2	HB13-48	24 - 46 *	9/10/2013	Fraser Ave Slip	3.3	3.3	PAHs	0.447	TRUE	Include
Benzo(a)pyrene	1.14	HS-3	HB13-37	2 - 6	9/10/2013	Hughitt Ave Slip	3.3	3.3	PAHs	0.447	TRUE	Include
Benzo(a)pyrene	0.04	OC-15	HB10-1-07	0 - 6	10/17/2010	Area 1	2.3	2.3	PAHs	0.447	TRUE	Include
Lead	35.48	OC-1	HB15-25	12 - 24	6/25/2015	Area 2	2700	2700	inorganics	400	TRUE	Include
Mercury	7.44	HS-3	HB10-1-16	12 - 31	10/17/2010	Hughitt Ave Slip	58	58	inorganics	3.13	TRUE	Include

1. All concentrations provided in milligrams per kilogram (mg/kg).
2. Sample intervals included in arithmetic average calculation for each DMU include all sample intervals down to the target dredge depths.
3. Only samples in DMUs that the average concentration exceeded the 5 times placement criteria are included

Table 7: Air Quality Action Levels and Response Actions
Design Document Report - Sediment Cleanup in Howards Bay, Superior, WI

Parameter	Perimeter Reading (15-minute average levels)	Action
Flammable Vapors, Lower Explosive Limit (LEL)	<p>< 10% LEL</p> <p>≥ 10% LEL</p>	<p>Normal operations.</p> <p>Stop work, ventilate area, investigate source of vapors. Take measurement at each perimeter location every 30 minutes until normal range is achieved.</p>
Airborne Particulates (above upwind location)	<p>0 to < 100 microgram per cubic meter ($\mu\text{g}/\text{m}^3$)</p> <p>100 $\mu\text{g}/\text{m}^3$ – 150 $\mu\text{g}/\text{m}^3$</p> <p>≥ 150 $\mu\text{g}/\text{m}^3$</p>	<p>Normal operations; continue continuous perimeter monitoring.</p> <p>Initiate dust suppression measures. Continue continuous perimeter monitoring.</p> <p>Continue dust suppression measures; if suppression measures are insufficient to reduce particulates below 150 $\mu\text{g}/\text{m}^3$, cease work. Continue continuous perimeter monitoring.</p>

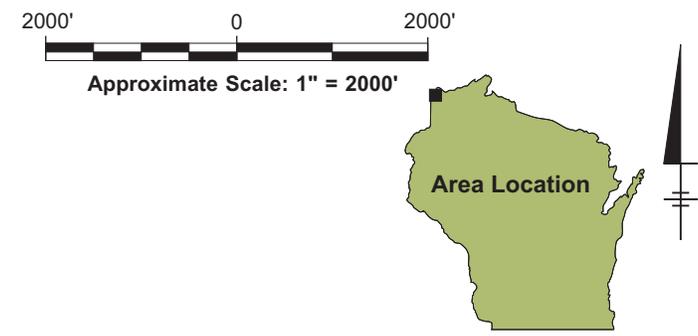
FIGURES



DRAFT
Lake Superior



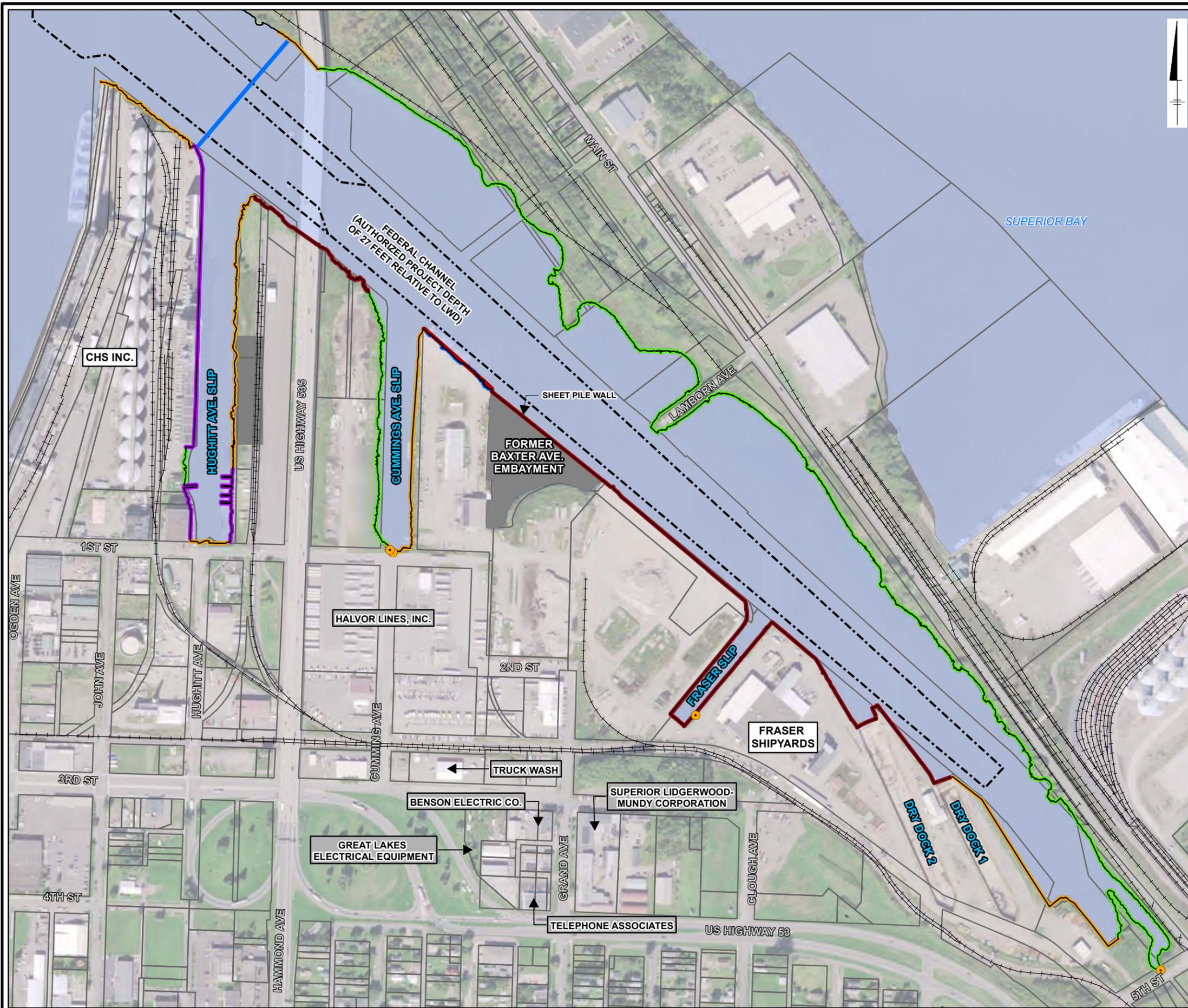
REFERENCE: BASE MAP USGS 7.5 MIN. QUADS., SUPERIOR, WI-MN, 2013 AND DULUTH, MN, 2013.



HOWARDS BAY SUPERIOR, WISCONSIN DESIGN DOCUMENT REPORT	
SITE LOCATION MAP	
	Design & Consultancy for natural and built assets
FIGURE 1	

06/01/2017 SYRACUSE, NY/GROUP: ENV/IM-DV/DJHOWES
16935001/0000/00003/CDR/16935N01.CDR

City: SYR Div/Group: SWG Created By: J.RAPP Last Saved By: kives
 FRASER SHIPYARD (C:\001796\0001_0003)
 Q:\FraserShipyard\Superior\W\Design\Document\Report\MainFeatures.mxd 6/5/2017 9:59:13 AM



★ SUPERIOR

WISCONSIN

SITE LOCATION

LEGEND:

- STORMWATER OUTFALL
- SHORELINE (APPROXIMATE)
- RAILROAD
- - - FEDERAL CHANNEL

BANK TYPE:

- EARTHEN BANK (APPROXIMATE)
- EARTHEN WITH RIP RAP AND MASONRY RUBBLE AND WOOD PILING (APPROXIMATE)
- CONCRETE (APPROXIMATE)
- STEEL SHEET PILING (APPROXIMATE)
- ▭ PARCEL BOUNDARY
- ▭ BAXTER AVE EMBAYMENT
- ▭ EXTENT OF PROJECT IN HOWARDS BAY

0 400 800 Feet

GRAPHIC SCALE

NOTES:

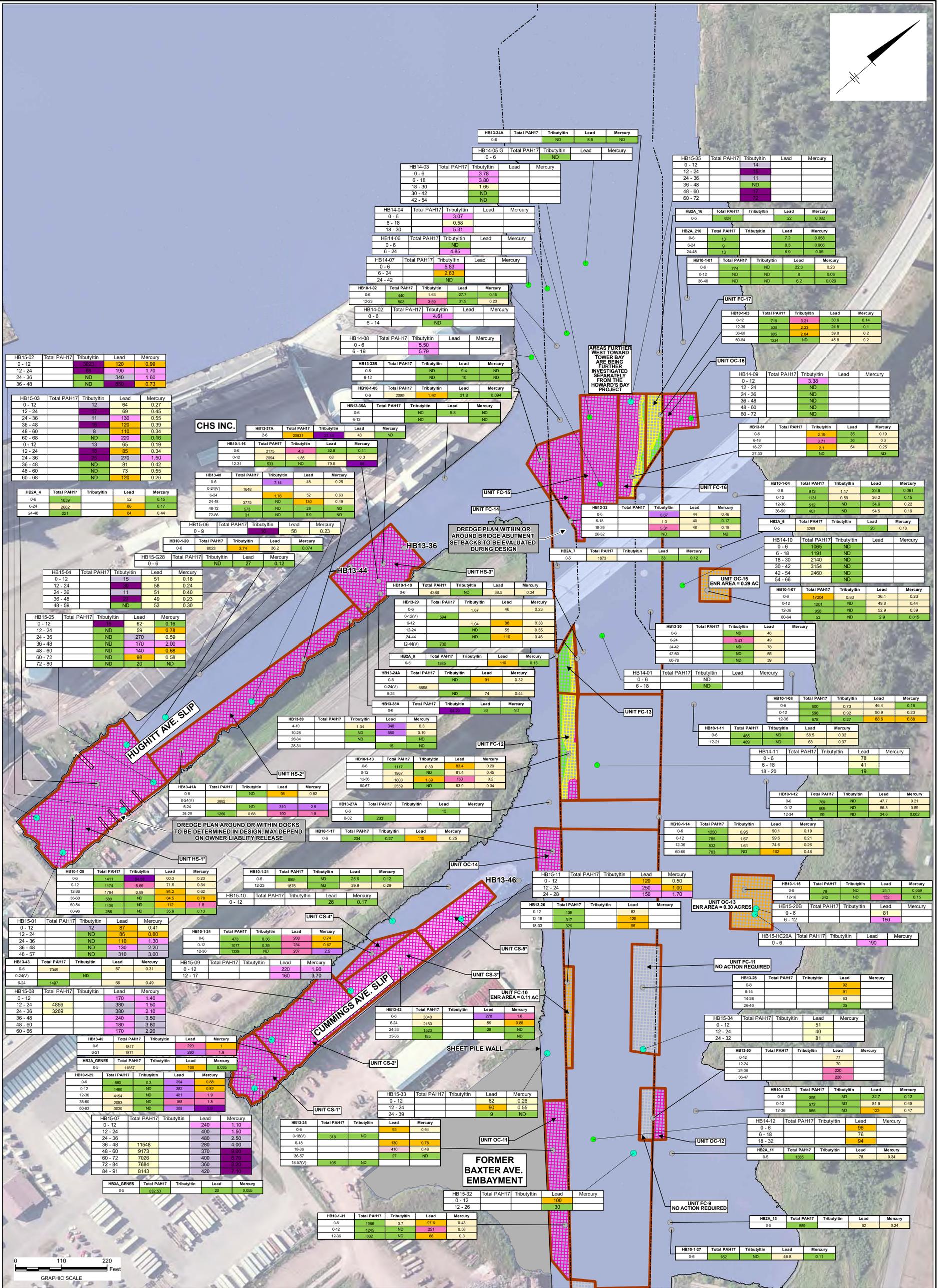
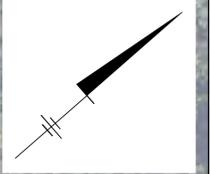
1. JULY 6, 2011 IMAGERY PROVIDED BY ESRI IMAGE SERVICE.
2. PARCELS, RAILROADS, AND OUTFALLS OBTAINED FROM <http://www.ci.superior.wi.us/>
3. CHANNEL BOUNDARY AND BATHYMETRY PROVIDED BY THE US ARMY CORPS OF ENGINEERS - DETROIT DISTRICT <http://www.lre.usace.army.mil>
4. LWD = LOW WATER DATUM OF 601.1 FEET (IGLD 85)

HOWARDS BAY
 SUPERIOR, WISCONSIN
DESIGN DOCUMENT REPORT

SITE AREAS AND MAIN FEATURES

Design & Consulting
for natural and built assets

FIGURE
2



- LEGEND**
- 2007, 2010, OR 2013 SAMPLE LOCATION
 - 2014 SEDIMENT SAMPLE LOCATION
 - 2015 SAMPLE LOCATION
 - SHORELINE (APPROXIMATE)
 - FEDERAL CHANNEL
 - BAXTER AVE EMBAYMENT
 - SEDIMENT MANAGEMENT UNIT
 - ADDITIONAL CLEAN-UP DREDGE AREA
 - STRATEGIC NAVIGATION DREDGE AREA
 - OVERLAPPING CLEAN-UP DREDGE AREA
 - STRATEGIC NAVIGATION DREDGE AREA
 - NO ACTION
 - ENHANCED NATURAL RECOVERY (ENR)

- NOTES:**
1. JULY 6, 2011 IMAGERY PROVIDED BY ESRI IMAGE SERVICE.
 2. SAMPLE INFORMATION FROM DATABASES PROVIDED BY WNDR ON MAY 23, 2013 AND 2014 AND 2015 DATA FROM WNDR.
 3. CHANNEL BOUNDARY PROVIDED BY THE US ARMY CORPS OF ENGINEERS - DETROIT DISTRICT HTTP://WWW.LRE.USACE.ARMY.MIL
 4. TOTAL PAHS WERE CALCULATED BY SUM OF 17 PAHS. THE ASSOCIATE VALUE TO NON-DETECT IS 1/2 REPORTING LIMIT.
 5. ORGANIC RESULTS WERE NORMALIZED TO TOC CONTENT PRIOR TO COMPARISON TO THE CRITERIA FOR SAMPLES WITH DETECTED TOC CONTENT GREATER THAN 2 G/G.
 6. 17 TOTAL PAHS WERE CALCULATED BY SUM OF THE FOLLOWING 17 PAHS: 2-METHYLNAPHTHALENE, ACENAPHTHENE, ACENAPHTHYLENE, ANTHRACENE, BENZO(A)ANTHRACENE, BENZO(B)FLUORANTHENE, BENZO(G,H,I)PERYLENE, BENZO(K)FLUORANTHENE, BENZO(A)PYRENE, CHRYSENE, DIBENZO(A,H)ANTHRACENE, FLUORANTHENE, FLUORENE, INDEN(1,2,3-CD)PYRENE, NAPHTHALENE, PHENANTHRENE, AND PYRENE.
 7. ALL DREDGE BOUNDARIES ARE SUBJECT TO REVISION DURING THE DESIGN PHASE AND WILL ACCOUNT FOR STRUCTURAL SETBACKS AS NEEDED.

8. AC = ACRES
CY = CUBIC YARDS
FT = FEET
ND = NON-DETECT
V = VERTICALLY COMPOSITE
R = REPLICATE
A = SECOND LOCATION ATTEMPT
B = THIRD LOCATION ATTEMPT
TEC = THRESHOLD EFFECT CONCENTRATION
MEC = MIDPOINT EFFECT CONCENTRATION
PEC = PROBABLE EFFECT CONCENTRATION
µg/g-GC = MICROGRAM PER KILOGRAM OF SEDIMENT (DRY WEIGHT) NORMALIZED TO TOTAL ORGANIC CARBON AT 1 PERCENT
PAH = POLYCYCLIC AROMATIC HYDROCARBONS
F = FINAL REMOVAL DEPTH TO BE DETERMINED DURING DESIGN OR BASED ON FIELD CONDITIONS

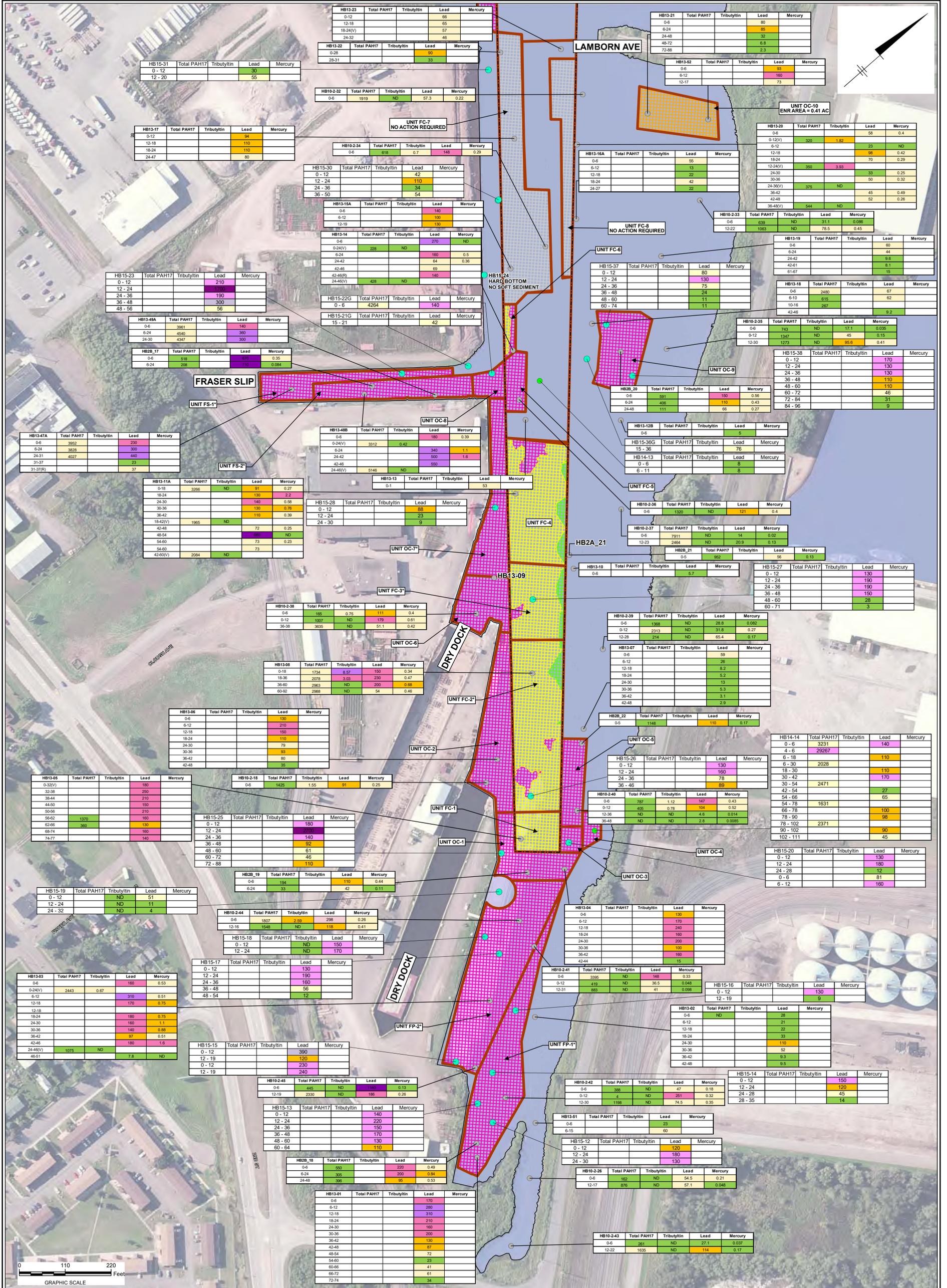
Location ID	Total PAH17 (µg/g-GC)	Tributyltin (µg/g-GC)	Lead (mg/kg)	Mercury (mg/kg)
NA	NA	NA	NA	NA
STEC1191-MEC	STEC1191-MEC	STEC1191-MEC	STEC1191-MEC	STEC1191-MEC
STEC12001-PEC	STEC12001-PEC	STEC12001-PEC	STEC12001-PEC	STEC12001-PEC
STEC22801-2PEC	STEC22801-2PEC	STEC22801-2PEC	STEC22801-2PEC	STEC22801-2PEC
STPEC48001-5AP-PEC	STPEC48001-5AP-PEC	STPEC48001-5AP-PEC	STPEC48001-5AP-PEC	STPEC48001-5AP-PEC
STPEC1001-5AP-PEC	STPEC1001-5AP-PEC	STPEC1001-5AP-PEC	STPEC1001-5AP-PEC	STPEC1001-5AP-PEC

**HOWARDS BAY
SUPERIOR, WISCONSIN
DESIGN DOCUMENT REPORT**

**SUMMARY OF ANALYTICAL DATA
(1 OF 2)**

**FIGURE
3**

ARCADIS Design & Consultancy
for natural and built assets

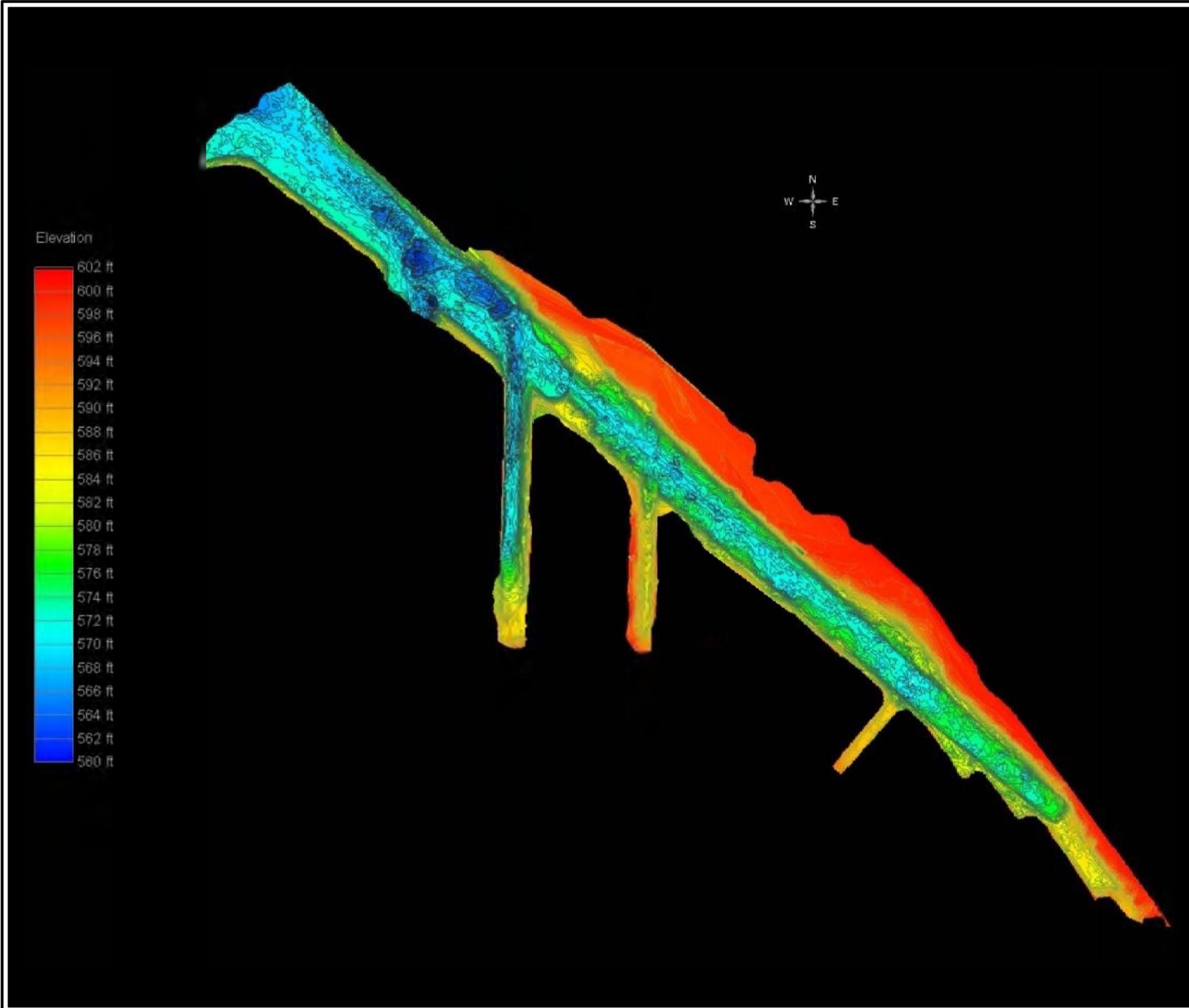


- LEGEND**
- 2007, 2010, or 2013 SAMPLE LOCATION
 - 2014 SEDIMENT SAMPLE LOCATION
 - 2015 SAMPLE LOCATION
 - SHORELINE (APPROXIMATE)
 - FEDERAL CHANNEL
 - SEDIMENT MANAGEMENT UNIT
 - ADDITIONAL CLEAN-UP DREDGE AREA
 - STRATEGIC NAVIGATION DREDGE AREA
 - OVERLAPPING CLEAN-UP DREDGE AREA
 - STRATEGIC NAVIGATION DREDGE AREA
 - NO ACTION
 - ENHANCED NATURAL COVER (ENR)

- NOTES:**
- JULY 6, 2011 IMAGERY PROVIDED BY ESRI IMAGE SERVICE
 - SAMPLE INFORMATION FROM DATABASES PROVIDED BY WNDR ON MAY 23, 2013 AND 2014 AND 2015 DATA FROM WNDR
 - CHANNEL BOUNDARY PROVIDED BY THE US ARMY CORPS OF ENGINEERS - DETROIT DISTRICT HTTP://WWW.LRE.USACE.ARMY.MIL
 - TOTAL PAHS WERE CALCULATED BY SUM OF 17 PAHS. THE ASSOCIATE VALUE TO NON-DETECT IS 1/2 REPORTING LIMIT.
 - ORGANIC RESULTS WERE NORMALIZED TO TOC CONTENT PRIOR TO COMPARISON TO THE CRITERIA FOR SAMPLES WITH DETECTED TOC CONTENT GREATER THAN 2 G/KG.
 - FINAL REMOVAL DEPTH TO BE DETERMINED BASED ON FIELD OBSERVATION AS TO PRESENCE OF SEDIMENT AND/OR SAMPLING FOR LEAD CONCENTRATIONS
 - 17 TOTAL PAHS WERE CALCULATED BY SUM OF THE FOLLOWING 17 PAHS: 2-METHYLNAPHTHALENE, ACENAPHTHENE, ACENAPHTHYLENE, ANTHRACENE, BENZO[A]ANTHRACENE, BENZO[B]FLUORANTHENE, BENZO[G]HIFERYLENE, BENZO[K]FLUORANTHENE, BENZO[A]PYRENE, CHRYSENE, DIBENZO[A,H]ANTHRACENE, FLUORANTHENE, INDENOV[1,2,3-C]DIPYRENE, NAPHTHALENE, PHENANTHRENE, AND PYRENE.
 - ALL DREDGE BOUNDARIES ARE SUBJECT TO REVISION DURING THE DESIGN PHASE AND WILL ACCOUNT FOR STRUCTURAL SETBACKS AS NEEDED.

9. AC = ACRES
CY = CUBIC YARDS
FT = FEET
ND = NON-DETECT
V = VERTICALLY COMPOSITE
R = REPLICATE
A = SECOND LOCATION ATTEMPT
B = THIRD LOCATION ATTEMPT
TEC = THRESHOLD EFFECT CONCENTRATION
MEC = MIDPOINT EFFECT CONCENTRATION
PEC = PROBABLE EFFECT CONCENTRATION
G/KG-OC = MICROGRAM PER KILOGRAM OF SEDIMENT (DRY WEIGHT) NORMALIZED TO TOTAL ORGANIC CARBON AT 1 PERCENT

Location ID	Total PAH17 (ug/kg-OC)	Tributyltin (ug/kg-OC)	Lead (mg/kg)	Mercury (mg/kg)
Depth (inches)	NA	NA	NA	NA
<TEC	<TEC	<TEC	<TEC	<TEC
2-TEC(1810) + MEC	2-TEC(50) + MEC	2-TEC(30) + MEC	2-TEC(18) + MEC	2-TEC(10) + MEC
3-TEC(1225) + PEC	3-TEC(75) + PEC	3-TEC(35) + PEC	3-TEC(15) + PEC	3-TEC(8) + PEC
4-TEC(830) + PEC	4-TEC(50) + PEC	4-TEC(25) + PEC	4-TEC(10) + PEC	4-TEC(5) + PEC
5-TEC(435) + PEC	5-TEC(25) + PEC	5-TEC(12.5) + PEC	5-TEC(5) + PEC	5-TEC(2.5) + PEC
6-TEC(240) + PEC	6-TEC(12.5) + PEC	6-TEC(6.25) + PEC	6-TEC(2.5) + PEC	6-TEC(1.25) + PEC
7-TEC(145) + PEC	7-TEC(6.25) + PEC	7-TEC(3.125) + PEC	7-TEC(1.25) + PEC	7-TEC(0.625) + PEC
8-TEC(100) + PEC	8-TEC(4.375) + PEC	8-TEC(2.1875) + PEC	8-TEC(0.875) + PEC	8-TEC(0.4375) + PEC
9-TEC(75) + PEC	9-TEC(3.1875) + PEC	9-TEC(1.5625) + PEC	9-TEC(0.625) + PEC	9-TEC(0.3125) + PEC
10-TEC(50) + PEC	10-TEC(2.1875) + PEC	10-TEC(1.09375) + PEC	10-TEC(0.4375) + PEC	10-TEC(0.21875) + PEC
11-TEC(25) + PEC	11-TEC(1.09375) + PEC	11-TEC(0.546875) + PEC	11-TEC(0.21875) + PEC	11-TEC(0.109375) + PEC
12-TEC(12.5) + PEC	12-TEC(0.546875) + PEC	12-TEC(0.2734375) + PEC	12-TEC(0.109375) + PEC	12-TEC(0.0546875) + PEC
13-TEC(6.25) + PEC	13-TEC(0.2734375) + PEC	13-TEC(0.13671875) + PEC	13-TEC(0.0546875) + PEC	13-TEC(0.02734375) + PEC
14-TEC(3.125) + PEC	14-TEC(0.13671875) + PEC	14-TEC(0.068359375) + PEC	14-TEC(0.02734375) + PEC	14-TEC(0.013671875) + PEC
15-TEC(1.5625) + PEC	15-TEC(0.068359375) + PEC	15-TEC(0.0341796875) + PEC	15-TEC(0.013671875) + PEC	15-TEC(0.0068359375) + PEC
16-TEC(0.78125) + PEC	16-TEC(0.0341796875) + PEC	16-TEC(0.01708984375) + PEC	16-TEC(0.0068359375) + PEC	16-TEC(0.00341796875) + PEC
17-TEC(0.390625) + PEC	17-TEC(0.01708984375) + PEC	17-TEC(0.008544921875) + PEC	17-TEC(0.00341796875) + PEC	17-TEC(0.001708984375) + PEC
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19-TEC(0.09765625) + PEC	19-TEC(0.0042724609375) + PEC	19-TEC(0.00213623046875) + PEC	19-TEC(0.0008544921875) + PEC	19-TEC(0.00042724609375) + PEC
20-TEC(0.048828125) + PEC	20-TEC(0.00213623046875) + PEC	20-TEC(0.001068115234375) + PEC	20-TEC(0.00042724609375) + PEC	20-TEC(0.000213623046875) + PEC
21-TEC(0.0244140625) + PEC	21-TEC(0.001068115234375) + PEC	21-TEC(0.0005340576171875) + PEC	21-TEC(0.000213623046875) + PEC	21-TEC(0.0001068115234375) + PEC
22-TEC(0.01220703125) + PEC	22-TEC(0.0005340576171875) + PEC	22-TEC(0.00026702880859375) + PEC	22-TEC(0.0001068115234375) + PEC	22-TEC(0.00005340576171875) + PEC
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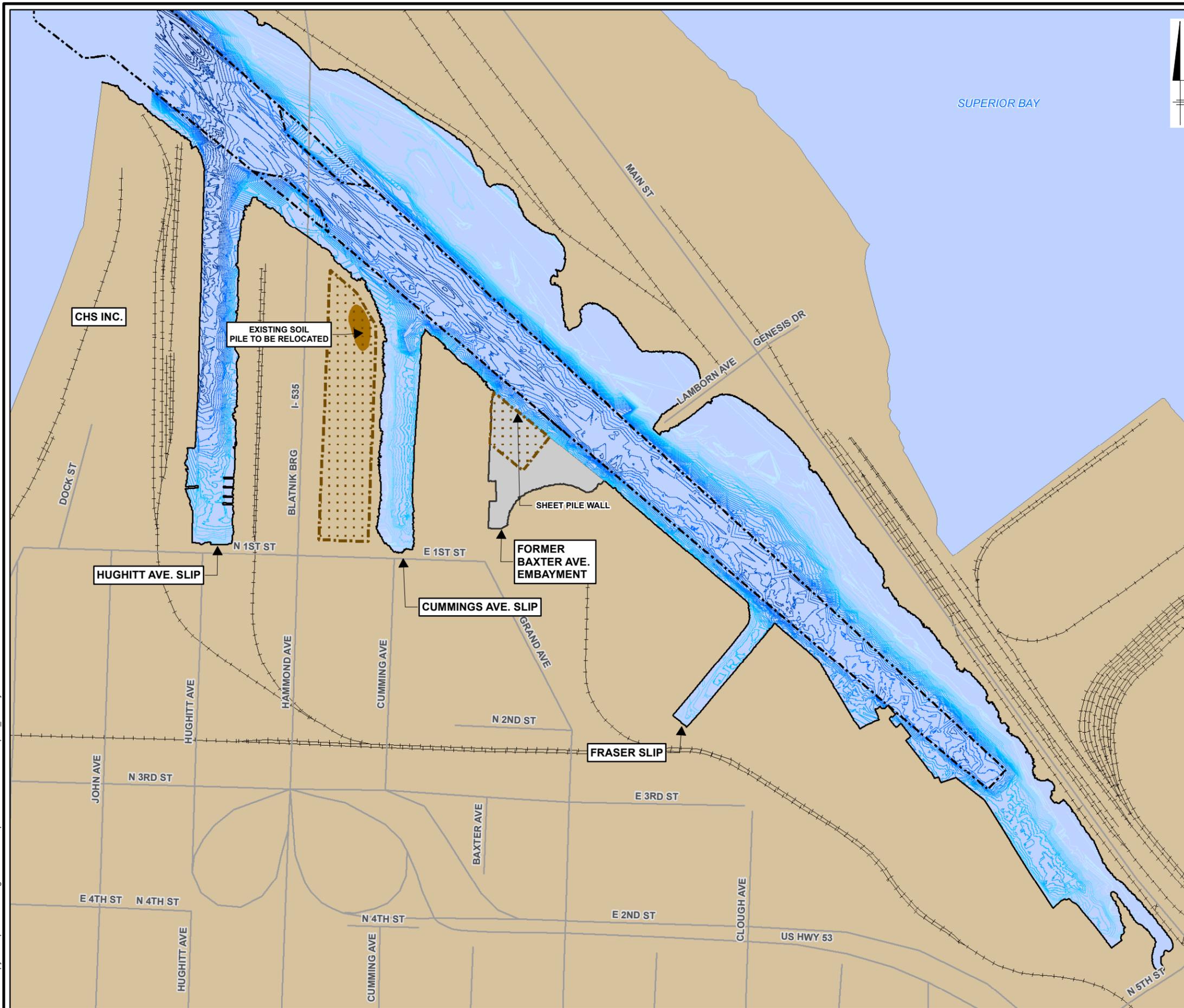
NOTES:

1. EXISTING BATHYMETRIC SURFACE CREATED FROM COMBINED SURVEY DATA COLLECTED BY USACE IN 2013, 2014, AND 2015.

HOWARDS BAY
SUPERIOR, WISCONSIN
DESIGN DOCUMENT REPORT

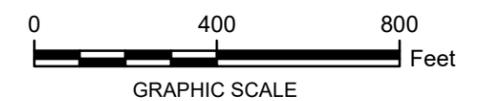
BATHYMETRIC SURFACE

CITY: SYR DIV/Group: SWG Created By: J.RAPP Last Saved By: kives
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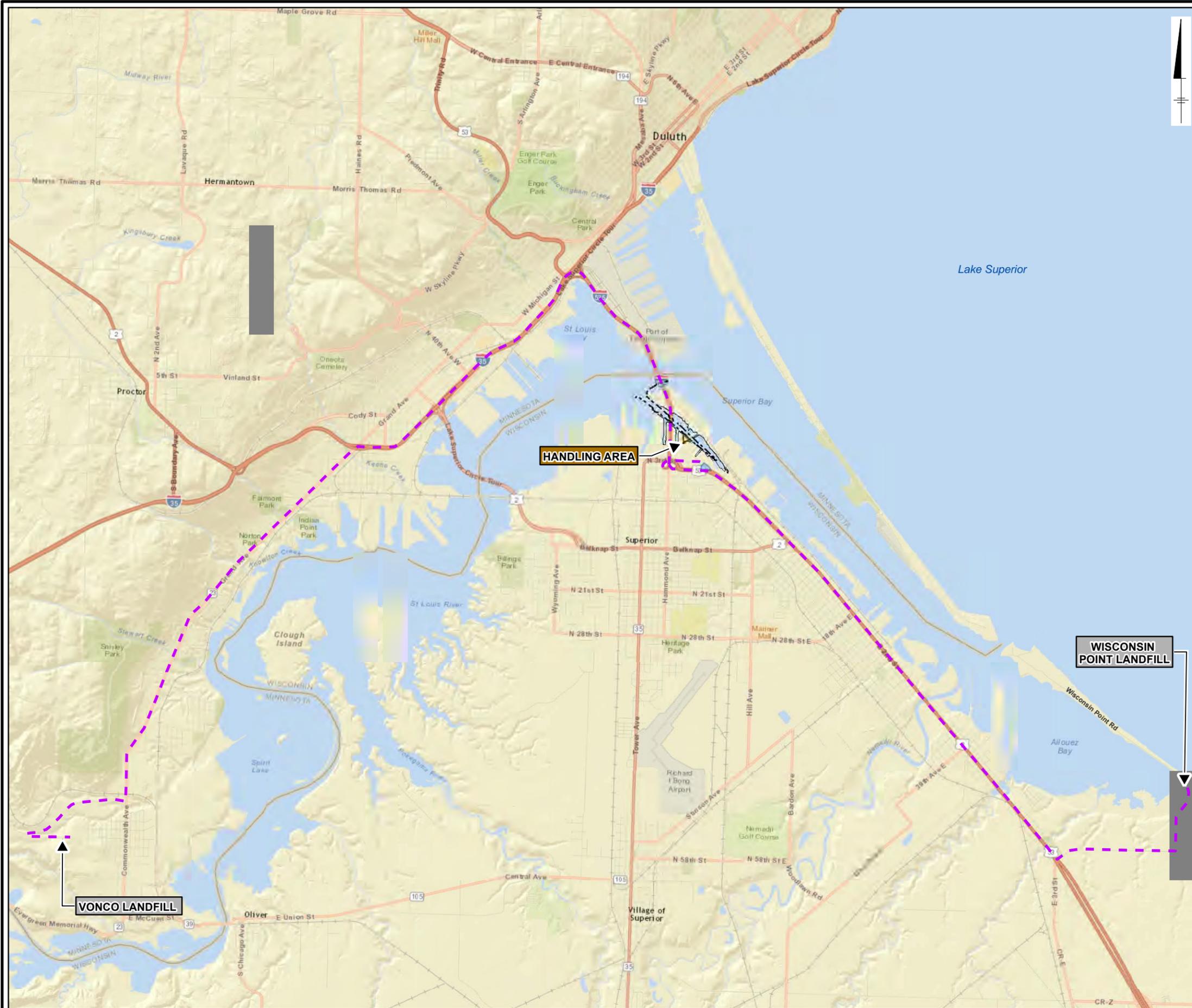
LEGEND:

- FEDERAL CHANNEL
- SHORELINE (APPROXIMATE)
- ROADS
- ++ RAILROAD
- ⋯ APPROXIMATE LOCATION OF AREA AVAILABLE FOR STAGING
- EXISTING SOIL PILE
- FORMER BAXTER AVE EMBAYMENT



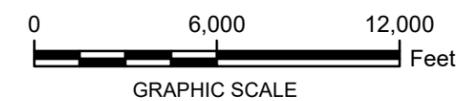
NOTE:
 1. CHANNEL BOUNDARY PROVIDED BY THE US ARMY CORPS OF ENGINEERS - DETROIT DISTRICT
[HTTP://WWW.LRE.USACE.ARMY.MIL](http://www.lre.usace.army.mil)

HOWARDS BAY SUPERIOR, WISCONSIN DESIGN DOCUMENT REPORT	
PROPOSED STAGING AREAS	
ARCADIS	FIGURE 7



LEGEND

- TRUCK ROUTE
- FEDERAL CHANNEL
- SHORELINE (APPROXIMATE)
- APPROXIMATE LOCATION OF DREDGED MATERIAL HANDLING/DEWATERING AREA
- ▶ BENEFICIAL REUSE/DISPOSAL OPTION LOCATION
- ▶ HANDLING AREA



- NOTES:**
1. BASEMAP PROVIDED BY ESRI IMAGE SERVICE.
 2. CHANNEL BOUNDARY PROVIDED BY THE US ARMY CORPS OF ENGINEERS - DETROIT DISTRICT
[HTTP://WWW.LRE.USACE.ARMY.MIL](http://www.lre.usace.army.mil)

**HOWARDS BAY
 SUPERIOR, WISCONSIN
 DESIGN DOCUMENT REPORT**

**PROPOSED OFF-SITE
 PLACEMENT LOCATIONS**

ARCADIS Design & Consulting
for natural and
built assets

**FIGURE
8**